Appendix B
Biological Resources Technical Report

Biological Resources Technical Report Addendum
for the
Silvergate/Main Street Substation Project
Associated Projects

June 2005

Prepared for:
San Diego Gas & Electric
101 Ash Street, HQ05C
San Diego, California 92101

Prepared by:
Essex Environmental
1903 Wright Place, Suite 190
Carlsbad, California 92008

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1. INTRODUCTION

1.1 BACKGROUND AND PURPOSE

The purpose of this Biological Resources Technical Report Addendum is to supplement the Biological Resources Technical Report previously prepared for the San Diego Gas & Electric (SDG&E) Silvergate/Main Street Substation Project (Substation Project). The initial Biological Resources Technical Report analyzed the species found within the substation areas; it did not assess the transmission line work associated with the Substation Project. This Addendum provides a complete assessment of the listed and sensitive species found within the Substation Project Associated Projects (project) to be included with the Proponent's Environmental Assessment (PEA) for the Substation Project. The PEA is a required component of an application for a Certificate of Public Convenience and Necessity (CPCN) from the California Public Utilities Commission (CPUC).

The previous findings from reconnaissance-level and focused biological surveys, as well as literature research conducted for the Otay Mesa Power Purchase Agreement (OMPPA) Transmission Project and the Miguel to Mission 230 kilovolt (kV) #2 Project (Miguel-Mission) provide the primary data for this report, because the project is substantially within the same route as these two projects. SDG&E previously submitted PEAs for both the Miguel-Mission and OMPPA Projects. The CPUC certified a Final EIR and issued a CPCN for the Miguel-Mission project. The CPUC issued a Final EIR for the OMPPA project and is expected to issue a CPCN in the next month.

1.2 PROJECT DESCRIPTION

The proposed project would reconductor portions of 138kV Transmission Line (TL13824) near the South Bay Substation in the City of Chula Vista, the Miguel Substation in the unincorporated community of Bonita, and the Los Coches Substation in the unincorporated community of Lakeside, all located within the County of San Diego, California. Additionally, approximately six wood pole structures would be replaced, and approximately three wood pole intersets will be placed near the Miguel Substation. The Project Overview Map in Figure 1 provides an overview of the project areas.

1.3 PROJECT COMPONENTS

SDG&E's existing South Bay Switchyard to Los Coches Substation (South Bay to Los Coches) 138kV transmission line capacity will need to be increased to 285 MVA. This will require the line to be reconductored with a higher ampacity conductor at various portions throughout the segment. TL13824 is an existing 138kV line on existing supporting steel-lattice towers and steel and wood pole structures within SDG&E's existing right-of-way (ROW).

The project will involve the installation of bundled 636 ACSR/AW throughout three portions of TL13824. All three of the reconductored portions will require the removal of the existing conductor and installation of new bundled (two conductors per phase) 636 ACSR/AW conductor to match the conductor to the rest of the existing line and accessories on existing structures. Additionally, all existing porcelain insulators will be replaced with polymer insulators to

improve reliability and reduce maintenance. There will be no increase in voltage above that originally permitted by the CPUC. This work is scheduled to be completed by approximately May 2008, and will take approximately six months to complete. Thus, work is expected to commence in November 2007. The exact timing for the reconductoring of the segments will be based on the ability to obtain outages on the existing overhead lines.

During the construction of the reconductor, all of the approximately 12 pull and stringing sites will be in or near pre-disturbed areas, such as existing access roads along existing ROW. The dimensions of each pull site will be approximately 300 feet by 150 feet. The locations of these pull sites are shown in Appendix A.

The following sections describe each segment in more detail.

Los Coches Segment

The Los Coches segment will involve:

- reconductoring of a 1-mile-long segment south of the Los Coches Substation.

Miguel Segment

The Miguel segment will involve:

- reconductoring of a 0.5-mile-long segment near the Miguel Substation,
- replacement of approximately six existing wood structures near the Miguel Substation with taller wood pole structures due to vertical clearance issues, and
- placement of approximately three new interset poles near the Miguel Substation.

South Bay Segment

The South Bay segment will involve:

- reconductoring of a 4-mile-long segment south of the South Bay Power Plant switchyard.

1.4 ENVIRONMENTAL SETTING

The project is located within the City of San Diego Habitat Conservation Plan (HCP)/Multiple Species Conservation Program (MSCP) Subarea Plan, the City of Chula Vista MSCP Subarea Plan, and the San Diego County MSCP South Subarea Plan MSCP areas. The project also falls within the jurisdiction of numerous city, community, and general land use plans and local subregional plans and HCPs.

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. The project area is within the south coast geographic floristic subdivision, which is dominated by Diegan coastal sage scrub and chaparral vegetation communities. The project segments traverse residential and commercial


Encinitas
Solana Beach
Del Mar
Poway
Los Penasquitos Canyon Preserve
Santee
Los Coches Substation
Los Coches Segment
San Diego
El Cajon
La Mesa
Lemon Grove
Miguel Substation
Miguel Segment
Coronado
National City
Chula Vista
South Bay
Power Plant
South Bay Segment
Imperial Beach
5
163
805
Figure 1: Project Overview Map
Silvergate/Main Street Associated Projects
Substation
Mainstreet-Silvergate
Associated Projects
Mainstreet-Silvergate Project
South Bay to I-5 Crossing
N
TRC
SDGE
0
2
4
Miles

THIS PAGE INTENTIONALLY LEFT BLANK

developments, disturbed habitat, nonnative grasslands, coastal sage scrub, chaparral, maritime succulent scrub, and drainages. The Los Coches, Miguel, and South Bay segments may cross drainages.

1.5 SDG&E NATURAL COMMUNITY CONSERVATION PLAN

In December 1995, the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) approved SDG&E's Subregional Natural Community Conservation Plan (NCCP), developed in coordination with such agencies, which addresses potential impacts to sensitive resources associated with SDG&E's ongoing installation, use, maintenance, and repair of its gas and electric systems and typical expansion to those systems throughout much of SDG&E's existing service territory. As a part of the NCCP, SDG&E has been issued incidental take permits (Permit PRT-809637) by the USFWS and the CDFG for 110 covered species, and an amendment to the permit is in process that would provide coverage for the quino checkerspot butterfly (*Euphydryas editha quino*). The NCCP was developed by following the multiple species and habitat conservation planning approach. The NCCP includes mitigation measures and operational protocols designed to avoid potential impacts and to provide appropriate mitigation where such impacts are unavoidable to ensure the protection and conservation of listed and covered species. The project falls within the area for which SDG&E's utility operations are governed by the NCCP. For this project, SDG&E has adopted the mitigation measures and operational protocols contained in the NCCP, as well as project-specific protocols (Project Protocols) based on the NCCP.

While the project area is located within areas included within the City of San Diego and the City of Chula Vista MSCP subarea plans, SDG&E's public utility activities are not subject to the regulatory jurisdiction of such local governments and, therefore, are not governed by the terms and conditions of such plans. However, in implementing its NCCP for the project, SDG&E will coordinate with the cities of San Diego and Chula Vista 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.

2. METHODS

2.1 LITERATURE SEARCH

Preliminary investigations included examination of aerial photographs, literature searches for projects and documentation of resources within 3 miles of the project area, and database searches, including:

- City of San Diego HCP/MSCP Subarea Plan, City of Chula Vista MSCP Subarea Plan, and the San Diego County MSCP Subarea Plan
- California Native Plant Society (CNPS)
- California Natural Diversity Data Base (CNDDB) records for the Alpine, El Cajon, El Cajon Mountains, Imperial Beach, Jamul Mountains, National City, and San Vicente Reservoir U.S. Geological Survey quadrangles.

Environmental documents, such as SDG&E's OMPPA Transmission Project PEA, Biological Resources Technical Report, and Interim Report for additional focused surveys; SDG&E's Miguel-Mission Project Biological Technical Report and compliance survey reports; and supporting documents were also reviewed. A comprehensive list of special-status species was compiled, including all species that are known to or have the potential to occur in the project region, including those species that are:

- listed as endangered or threatened, proposed for listing, or candidates for listing under the federal Endangered Species Act (ESA) (USFWS, 2005);
- listed as endangered or threatened, or candidates for listing under the California ESA (CDFG, 2004);
- included in one of the CDFG publications on species of special concern (Jennings and Hayes, 1994; Remsen, 1978; Williams, 1986);
- "fully protected" by the State of California (Fish and Game Code, Sections 355, 3503, 3511, 4700, and 5050);
- protected under the Migratory Bird Treaty Act (MBTA);
- included as a covered species in the SDG&E NCCP;
- included in the CNPS compilation (2004); and
- plants that meet the definition of rare or endangered under the California Environmental Quality Act.

In the spring of 2002 and 2003, fall/winter of 2004 and the spring of 2005, Essex conducted focused biological resource surveys for the following sensitive plant and wildlife species, which are designated as narrow endemics under SDG&E's NCCP for non-emergency work:

- San Diego thorn-mint (*Acanthomintha ilicifolia*)
- San Diego ambrosia (*Ambrosia pumila*)
- Coastal dunes milk-vetch (*Astragalus tener* var. *titi*)
- Salt marsh bird's-beak (*Cordylanthus maritimus* ssp. *maritimus*)
- Snake cholla (*Opuntia parryi* var. *serpentina*)
- Western burrowing owl (*Athene cunicularia hypugaea*)
- Coastal cactus wren (*Campylorhynchus brunneicapillus*)
- Quino checkerspot butterfly (*Euphydryas editha quino*)

Under SDG&E's NCCP, these species are considered narrow endemics and, as such, take authorization is limited to emergencies and unavoidable impacts from repairs to existing facilities. Take of the species for non-emergency work may not occur without first conferring with the USFWS and CDFG. Furthermore, for new projects, destruction of narrow endemic wildlife species or their supporting habitat would not be covered by the NCCP.

The OMPPA Transmission Project Interim Biological Focused Survey Reports were referenced for the survey findings from the fall/winter 2004 and spring 2005 surveys and the Miguel-Mission 203kV #2 Biological Technical Report, Proponent's Environmental Assessment and Quino Checkerspot Butterfly (*Euphydryas editha quino*) Protocol Survey Reports for 2002 and

2003 were referenced for the survey findings from the spring 2002 surveys (Miguel and Los Coches segments only).

2.2 AGENCY CONSULTATION

Prior to filing its CPCN application with the CPUC, SDG&E developed and instituted an outreach program for the project to ensure that the appropriate federal, state, and local agencies are contacted, consulted, and given ample opportunity to understand the project and to comment on the proposed substation location and route. Consultation by SDG&E is ongoing with the CPUC, USFWS, CDFG, and other agencies, as necessary.

2.3 RECONNAISSANCE-LEVEL AND HABITAT ASSESSMENT SURVEYS

Reconnaissance-level surveys and general habitat assessments were conducted by Essex Environmental (Essex) along the Los Coches segment in February, March, and April 2002 and along the Miguel and South Bay segments in December 2003 and January 2004. Reconnaissance-level and habitat assessments are being used to assess existing vegetation communities and the potential for sensitive or listed and covered plant or wildlife species to occur. Suitable habitat for covered species and special-status species was determined by the presence of diagnostic habitat elements. See the sensitive resources and vegetation maps in Appendix A for the results of these surveys. Suitable habitat for covered species and special-status species was determined by the presence of diagnostic habitat elements. For the purpose of this report, we have presumed that sensitive or listed species and covered species associated with vegetation communities along the existing project ROW are present. Prior to construction, additional surveys, including preactivity surveys, Project Protocols (see Appendix B: SDG&E Project Protocols), and focused surveys (where applicable), will be conducted in accordance with the appropriate presence/absence survey requirements for sensitive or listed species and covered species.

2.4 FOCUSED SURVEYS

Focused wildlife and plant surveys were conducted between March and September 2002 in the Los Coches segment. Focused wildlife surveys were conducted between February and April 2003 in the Los Coches segment. Focused wildlife and plant surveys were conducted in January, October, November, and December 2004 in the Miguel and South Bay segments. Additional focused plant and wildlife surveys were conducted in April and May 2005 in all segments.

Sensitive Plants

Karen D. Wilson, an Essex biologist, conducted focused plant surveys (refer to the list of species in Section 2.1) on November 10 and 11, 2004, April 21, 22, and 25, 2005, and May 5, 9, 12, and 14, 2005. All focused surveys were conducted between approximately 7:45 a.m. and 4:10 p.m. Weather conditions during the surveys consisted of temperatures from 61 to 76 degrees Fahrenheit, winds at 0 to 13 miles per hour, and sunny and clear to overcast with occasional drizzle.

Focused plant surveys were conducted within appropriate habitat of the transmission corridor ROW, around tower sites, plus an approximately 200-foot buffer on either side of the ROW and/or areas of impact where possible and appropriate. The surveys were conducted by vehicle and on foot in a series of transects across the survey area where possible. Sensitive plant surveys followed the protocol recommended in the CDFG, USFWS, and CNPS guidelines for rare plant surveys to ensure that the proposed project sites were adequately covered. All plants encountered were identified to a level necessary to ensure detection of sensitive species, if present.

Coastal Cactus Wren

Kirstie Reynolds and Paula Potenza, both Essex biologists, conducted assessment and focused coastal cactus wren surveys on October 25, 26, and November 18, 2004. On October 25 and 26, 2004, assessment surveys were conducted within the ROW, around tower sites and pull sites, plus an approximately 200-foot buffer on either side of the ROW and/or areas of impact where possible and appropriate to identify potential habitat[1]. The assessment surveys were conducted by vehicle and on foot. Paula Potenza and Adrianne Beazley (Essex biologist), conducted subsequent focused coastal cactus wren surveys on April 21, 2005. On November 18, 2004 and April 21, 2005 areas identified as potential habitat for coastal cactus wren during the assessment surveys were surveyed on foot. All assessment surveys were conducted between approximately 7:30 a.m. and 5:30 p.m. and focused surveys were conducted between approximately 7:30 a.m. and 1 p.m. Weather conditions during the surveys consisted of temperatures from 54 to 75 degrees Fahrenheit, winds at 0 to 5 miles per hour, and sunny and clear with no cloud cover.

Western Burrowing Owl

Scott Rowland (Essex biologist) and Adrianne Beazley conducted assessment and focused western burrowing owl surveys on December 8, 12, 15, and 18, 2004, April 21, 22, and 25, 2005, and May 2, 4, and 9, 2005 within the Miguel and South Bay segments (no suitable habitat was detected in the Los Coches segment). Surveys were conducted around tower and pull sites, plus an approximately 200-foot buffer on either side of the project and/or areas of impact where possible and appropriate to identify areas of potential habitat (open grasslands and scrublands with perches and burrows).

The assessment surveys were conducted by vehicle and on foot. All assessment surveys were conducted between approximately 6:30 a.m. and 2:45 p.m. and focused surveys were conducted between approximately 6:30 a.m. and 9 a.m. Weather conditions during the surveys consisted of temperatures from 50 to 66 degrees Fahrenheit, winds at 0 to 2 miles per hour, and sunny and clear to 100 percent cloud cover.

All focused surveys were conducted between approximately 6 a.m. and 8:30 a.m. and between 5:45 p.m. and 8 p.m. Weather conditions during the surveys consisted of temperatures from 52 to 66 degrees Fahrenheit, winds at 0 to 5 miles per hour, and sunny and clear to 100 percent cloud cover. Focused surveys were conducted in accordance with the *Burrowing Owl Survey Protocol and Mitigation Guidelines* prepared by The California Burrowing Owl Consortium (April, 1993).

[1] Coastal sage scrub or maritime succulent scrub with prickly pear and/or cholla cacti (*Opuntia* spp.)

Quino Checkerspot Butterfly

Quino checkerspot butterfly surveys were conducted in 2002, 2003, and 2005 in the Los Coches and Miguel segments.

Permitted biologists Paula Potenza (Permit No. TE-037508-0) and Lara Tikkanen Reising (Permit No. TE-039161-0) conducted site assessments from February 15, 2002 through March 13, 2002 according to the USFWS *Quino Checkerspot Butterfly Survey Protocol Information* (USFWS, 2002a) to determine potential habitat for Quino checkerspot butterfly. Quino checkerspot butterfly protocol-level surveys were conducted March 5 through May 8, 2002 in suitable habitat identified during the site assessment. Permitted biologists Paula Potenza, Lara Tikkanen Reising, Michael W. Klein (Permit No. TE-814215-2), David Faulkner (Permit No. TE-838743-3), and Chris Niemela (Permit No. TE-787376-8) conducted the surveys according to the USFWS *Quino Checkerspot Butterfly Survey Protocol Information.*

Permitted biologists Paula Potenza and David Faulkner conducted site assessments from December 16, 2002 through February 6, 2003 according to the USFWS *Quino Checkerspot Butterfly Survey Protocol Information* to determine potential habitat for Quino checkerspot butterfly. Based on the site assessment, there were no significant changes to the overall survey area identified from the previous year. Quino checkerspot butterfly protocol-level surveys were conducted February 7, 2003 through April 29, 2003 in suitable habitat identified during the site assessment. Permitted biologists David Faulkner, Maria Britton (Permit No. TE-037508-0), Karen D. Wilson (Permit No. TE-037508-0), Lara Tikkanen Reising, Kirstie Reynolds (Permit No. TE-037508-0), and Chris Niemela conducted the surveys according to the USFWS *Quino Checkerspot Butterfly Survey Protocol Information.*

Additional protocol-level surveys were conducted in February, March, and April 2005 by permitted biologist David Faulkner within the Miguel segment in suitable habitat identified during the habitat assessment, in accordance with the USFWS *Quino Checkerspot Butterfly Survey Protocol Information.*

The areas surveyed included the portions of the project located within the *Year 2002 Recommended Quino Survey Areas Map* (USFWS, 2002b). The Miguel segment falls within USFWS Quino Survey Area 1. In addition, the Los Coches segment falls within the USFWS Quino Survey Area 2 near the Los Coches Substation. The biologists excluded areas lacking appropriate habitat for Quino checkerspot butterfly during the site assessment.

Appropriate habitat for Quino checkerspot butterfly typically includes open coastal sage scrub or open chaparral; bare or sparsely vegetated areas between shrubs, hilltops, or ridgelines; and areas with cryptobiotic soil (USFWS, 2002b). The primary larvae host plants and blooming nectar plants were also identified when assessing appropriate habitat. According to the USFWS *Quino Checkerspot Butterfly Survey Protocol Information,* a protocol survey can be conducted at an average rate of 10 to 15 acres per hour. Five protocol surveys per area were conducted. For some areas, protocol surveys were conducted over approximately nine weeks because of inappropriate weather conditions (high winds and/or low temperatures) during one or more weeks. For the same reason, some weekly surveys for certain areas were conducted over the course of more than one day.

The area surveyed included the project area and, where appropriate, approximately 100 feet on either side. Existing access roads proposed for project-related activities and identified during the site assessment as having suitable Quino checkerspot butterfly habitat were also surveyed. The survey for the access roads included the width of the access road (approximately 12 feet) and, where appropriate, approximately 50 feet on either side.

3. RESULTS

Survey results include the major vegetation communities and cover types found within the segments and along project access roads. The potential to support listed, sensitive, or covered species was also addressed. Vegetation community types discussed in this report are generally based on SDG&E's NCCP, the MSCP, and on Holland's 1986 report on terrestrial natural communities of California.

3.1 RECONNAISSANCE-LEVEL AND HABITAT ASSESSMENT SURVEYS

Vegetation communities and sensitive, listed, and/or covered plant and wildlife species observed within and adjacent to the project route during the Spring 2002 and December 2003/January 2004 field surveys were compiled and plotted on aerial base maps. For lists of plant and wildlife species (common and sensitive) observed during the surveys, refer to the OMPPA Transmission Project Biological Resources Technical Report and the Miguel-Mission 230kV #2 Biological Resources Technical Report.

3.2 FOCUSED PLANT SURVEYS

Focused plant surveys were conducted for 10 sensitive plant species (including the five narrow endemic species listed in Section 2.1) considered rare and endangered by the CNPS, as follows:

- San Diego thorn-mint (*Acanthomintha ilicifolia*)
- San Diego ambrosia (*Ambrosia pumila*)
- Aphanasmia (*Aphanisma blitoides*)
- Coastal dunes milk-vetch (*Astragalus tener* var. *titi*)
- Salt marsh bird's-beak (*Cordylanthus maritimus*)
- Otay tarplant (*Deinandra [Hemizonia] conjugens*)
- Variegated dudleya (*Dudleya variegata*)
- Palmer's goldenbush (*Ericameria palmeri* ssp. *palmeri*)
- San Diego barrel cactus (*Ferocactus viridescens*)
- Willowy monardella (*Monardella linoides* ssp. *viminea*)
- San Diego golden star (*Muilla clevelandii*)
- Snake cholla (*Opuntia parryi* var. *serpentina*)

The focused plant surveys were conducted in appropriate habitat within the project route. No appropriate habitat is present for Palmer's goldenbush, aphanasmia, or willowy monardella along the project alignment; therefore, these species are not discussed further in this report. Focused surveys for sensitive and covered plant species were conducted in November 2004 and April and

May 2005. None of the sensitive species were observed within the segments during the plant surveys.

3.3 FOCUSED WILDLIFE SURVEYS

Focused surveys in the South Bay and Miguel segments were conducted for coastal cactus wren and western burrowing owl. These species are considered sensitive and are covered under SDG&E's NCCP. Focused surveys were conducted in fall/winter 2004 and spring 2005 in appropriate habitat within the Miguel and South Bay segments. See Appendix A for maps depicting focused survey areas.

Focused surveys in the Los Coches and Miguel segments were conducted for Quino checkerspot butterfly and coastal California gnatcatcher (*Polioptila californica californica*). The Quino checkerspot butterfly is federally endangered, and the coastal California gnatcatcher is federally threatened and a California Species of Concern. No focused surveys were conducted for burrowing owl along the Los Coches segment because the species has a low probability of occurrence. Coastal cactus wren was observed during the reconnaissance surveys in suitable habitat near the Los Coches Substation. Focused surveys for this species in the Los Coches are not required at this time, as its presence there has been confirmed.

3.4 VEGETATION COMMUNITIES AND ASSOCIATED WILDLIFE

The following sections discuss the vegetation communities and associated sensitive wildlife and plant species and sensitive vegetation communities that occur, or have the potential to occur, within project segments.

Upland Scrub and Chaparral

Diegan coastal sage scrub is the dominant sage scrub vegetation community within the existing ROW and in the immediate project vicinity. California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), white sage (*Salvia apiana*), and laurel sumac (*Malosma laurina*) typically characterize Diegan coastal sage scrub. Diegan coastal sage scrub vegetation can be found on isolated canyons and slopes surrounded by residential and commercial development and crossed by the existing overhead Los Coches and Miguel segments. Maritime succulent scrub occurs in the vicinity of the Los Coches Substation.

Dense chaparral scrub also occurs within and in the immediate vicinity of the Los Coches segment. Dominant species in this community typically include chamise (*Adenostoma fasciculatum*), buck brush (*Ceanothus cuneatus*), manzanita (*Arctostaphylos* sp.), coffeeberry (*Rhamnus californica*), and poison oak (*Toxicodendron diversilobum*).

Wildlife species most often associated with Diegan coastal sage scrub and chaparral habitats include several upland bird species, including California towhee (*Pipilo crissalis*), spotted towhee (*Pipilo maculatus*), California thrasher (*Toxostoma redivivum*), Bewick's wren (*Thryomanes bewickii*), and western scrub-jay (*Aphelocoma californica*). Scrub habitats also provide cover and forage for mammal species, including California ground squirrel

(*Spermophilus beecheyi*) and Audubon cottontail (*Sylvilagus audubonii*). Side-blotched lizard (*Uta stansburiana*) and western fence lizard (*Sceloporus occidentalis*) are also commonly found in these habitats. The coastal California gnatcatcher is strongly associated with sage scrub habitats. Wildlife species associated with maritime succulent scrub are similar to those listed above, with the addition of the coastal cactus wren.

Nonnative Grassland

Most of the nonnative (annual) grassland in the project segments and in the immediate vicinity of the project area appears to be abandoned agricultural and pasture land that is now dominated by nonnative ripgut grass (*Bromus diandrus*), slender oat (*Avena barbata*), wild oat (*Avena fatua*), and black mustard (*Brassica nigra*). Typically, nonnative grassland includes at least 50 percent cover of the entire herbaceous layer attributable to annual nonnative grass species, although other plant species (native and nonnative) may be intermixed. These annuals germinate with the onset of the rainy season and set seed in the late winter or spring. With a few exceptions, the plants die off through the summer to fall dry season, persisting as seeds in subsequent growing seasons.

Most of the nonnative grassland in the project segments and in the immediate project vicinity is bordered by chaparral or coastal sage scrub vegetation. Historically, the nonnative grassland areas may have been composed of chaparral and coastal sage scrub plant species, or by native grassland species. It is presumed that these areas had been cleared for agricultural use and subsequently abandoned. Nonnative grasslands are common and widespread and are found in valleys and foothills throughout most of California.

Wildlife species that occupy nonnative grasslands are characteristically found in other native habitats as well. Some species occurring in nonnative grasslands include the California vole (*Microtus californicus*), western meadowlark (*Sturnella neglecta*), mourning dove (*Zenaida macroura*), red-tailed hawk (*Buteo jamaicensis*), and house finch (*Carpodacus mexicanus*).

Woodland

Eucalyptus woodlands are found throughout the project segments and are dominated by several species of eucalyptus (*Eucalyptus* spp.). Generally, these trees were planted as a windbreak and for aesthetic and horticultural purposes around houses and other developed areas, but many species of eucalyptus have become naturalized and have invaded natural riparian areas. Eucalyptus woodlands provide nesting habitat for several bird and raptor species and are known to be roosting habitat for the monarch butterfly (*Danaus plexippus*).

Open Water, Marsh, and Wetlands

Open water, marsh, and wetlands habitats provide food, water, dispersal and escape corridors, and nesting and thermal cover for a diverse number of terrestrial and aquatic species. The CDFG and the U.S. Army Corps of Engineers (Corps) consider these wetland habitats sensitive.

A small pond and freshwater marsh are in a canyon north of the Miguel Substation, outside of the Miguel segment. This habitat is dominated by perennial, emergent monocots often forming completely closed canopies. Characteristic species include Olney's bulrush (*Scirpus americanus*)

and cattail (*Typha* sp.). Wildlife species often associated with freshwater marsh include great blue heron (*Ardea herodias*), great egret (*Ardea alba*), mallard (*Anas platyrhynchos*), American coot (*Fulica americana*), bullfrog (*Rana catesbeiana*), California tree frog (*Hyla cadaverina*), and western toad (*Bufo boreas*).

Disturbed and Developed

This vegetation category and cover type, found within and in the immediate vicinity of all project segments, consists of areas that have been previously disturbed and have not returned to native habitat or have been developed. This includes disturbed lands, agriculture (both active and abandoned), ruderal areas, and developed lands (residential and commercial) and their associated ornamental vegetation. These areas are dominated by herbaceous annuals and grasses, which include black mustard, radish (*Raphinus sativa*), wild oat, ripgut grass, foxtail chess (*Bromus madritensis* ssp. *rubens*), tocalote (*Centaurea melitensis*), fennel (*Foeniculum vulgare*), telegraph weed (*Heterotheca grandiflora*), garland daisy (*Chrysanthemum coronarium*), and Australian saltbush (*Atriplex semibaccata*).

3.5 SENSITIVE PLANTS, VEGETATION COMMUNITIES, AND WILDLIFE

Special-status plant species include those species listed by the USFWS or CDFG as endangered, threatened, proposed, or candidate, and those listed by federal land management agencies as sensitive or rare. Sensitive plant species include those occurring on the CNPS Inventory of Rare and Endangered Vascular Plants of California (2001), and covered plant species include those species considered sensitive in SDG&E's NCCP Permit (1995).

All 34 sensitive and special-status plant species known to occur or with the potential to occur in the existing ROW appear in Table 1: Special-Status and Covered Plant Species. Of these, 19 are covered by SDG&E's NCCP. Of the identified plants, three are listed as endangered and three are listed as threatened by the USFWS. Further, the CDFG has listed four of the plant species as endangered and one as rare. All of the endangered, threatened, and rare species are considered regionally sensitive species and are covered under SDG&E's NCCP.

Focused studies for sensitive and covered plant species were conducted in the spring of 2002 for the Los Coches and Miguel segments, in November 2004 for the Miguel and South Bay segments, and again in April and May 2005 for the Miguel and South Bay segments.

Sensitive plants that have the potential to occur in the project ROW were derived from literature research. Suitable habitat for covered and special-status plant species was identified during the reconnaissance-level and habitat assessment surveys and the focused surveys. Nearly all of the sensitive plant species in the immediate project vicinity are considered rare and endangered by the CNPS. Of the federally or state-listed or NCCP-covered plant species known to occur in the immediate vicinity of the project or with the potential to occur within the existing project ROW, 20 plant species are of particular interest because of their importance in regional planning, their resident status in the project area, their presence in critical habitat or preserve/management areas, or their rarity in the region. Plant nomenclature follows conventions used in the *Jepson Manual: Higher Plants of California* (Hickman, 1993) and Skinner and Pavlik (1994).

Thirty-four sensitive plant species and two sensitive vegetation communities, as described by the CNDDB Natural Communities Program (Tibor, 2001), have the potential to occur in or near the project area. See Table 1 for a list of the sensitive plant species. Fifteen of these 34 plant species are known to occur in the immediate vicinity of the project or have the potential to occur within the existing project ROW. They are:

- California adolphia (*Adolphia californica*)
- San Diego ambrosia (*Ambrosia pumila*)
- Otay manzanita (*Arctostaphylos otayenis*)
- Orcutt's brodiaea (*Brodiaea orcuttii*)
- Dunn's mariposa lily (*Calochortus dunnii*)
- Salt marsh bird's-beak (*Cordylanthus maritimus*)
- Orcutt's bird's beak (*Cordylanthus orcuttianus*)
- Otay tarplant (*Deinandra [Hemizonia] conjugens*)
- Variegated dudleya (*Dudleya variegata*)
- Palmer's goldenbush (*Ericameria palmeri* ssp. *palmeri*)
- San Diego barrel cactus (*Ferocactus viridescens*)
- Gander's pitcher-sage (*Lepechinia ganderi*)
- San Diego golden star (*Muilla clevelandii*)
- Snake cholla (*Opuntia parryi* var. *serpentina*)
- Parry's tetracoccus (*Tetracoccus dioicus*)

None of the 15 sensitive species with the potential to occur were detected within the project segments. Two rare natural plant communities, Diegan coastal sage scrub and maritime succulent scrub, were observed during the reconnaissance-level survey. The 15 species and two sensitive communities are described in the following sections because of their importance in regional planning, their resident status in the project area, their potential occurrence along the project segments, their presence in critical habitat or preserve/management areas, and/or their rarity in the region.

Five additional species are discussed because, although they have a low potential to occur, they are important in regional planning because they are federally or state-listed as threatened or endangered, or because they are considered narrow endemic species under SDG&E's NCCP and require additional mitigation. They are:

- San Diego thorn-mint (*Acanthomintha ilicifolia*)
- San Diego button-celery (*Eryngium aristulatum* var. *parishii*)
- Nuttall's lotus (*Lotus nuttallianus*)
- Spreading navarretia (*Navarretia fossalis*)
- San Miguel savory (*Satureja chandleri*)

Table 1: Special-Status and Covered Plant Species

Species	Listing Status Federal/State/ NCCP[1]	California Native Plant Society List Code[2]	Flowering/ Phenology	Presence	Habitat Type and Potential for Occurrence
San Diego thorn-mint *Acanthomintha ilicifolia*	FT SE RSS	1B R-E-D 2-3-2	April to June	None observed	Chaparral, coastal sage scrub, valley and foothill grassland, and vernal pools. Endemic to clay soils of mesas and valleys, usually on clay lenses within grassland or chaparral communities. Occurs from 30 to 3,000 feet in elevation. California Natural Diversity Data Base (CNDDB) records document occurrences within 1 mile of the Miguel and South Bay segments. Low to moderate potential for occurrence.
California adolphia *Adolphia californica*	None	2 R-E-D 1-3-1	December to April	None observed	Chaparral, coastal scrub, and valley and foothill grassland on clay soils. Found from 150 to 2,400 feet. Occurs on soils ranging from sandy/gravelly to clay. CNDDB records document occurrences within 1 mile of the Miguel segment. High potential for occurrence.

Species	Listing Status Federal/State/ NCCP[1]	California Native Plant Society List Code[2]	Flowering/ Phenology	Presence	Habitat Type and Potential for Occurrence
San Diego bur-sage *Ambrosia chenopodiifolia*	None	2 R-E-D 3-3-1	April to June	None observed	Coastal scrub, mostly associated with maritime succulent scrub. Slopes of canyons in open succulent scrub, usually with little herbaceous cover. Occurs between 180 and 500 feet. CNDDB records document occurrences within 3 miles of the Miguel segment and within 1 mile of the South Bay segment. Moderate potential for occurrence.
San Diego ambrosia *Ambrosia pumila*	FE RSS	1B R-E-D 3-3-2	June to September	None observed	Chaparral, coastal sage scrub, valley and foothill grassland, and vernal pools. Often found in slightly disturbed areas. Prefers sandy loam or clay soil. CNDDB records document occurrences within 3 miles of the Miguel and Los Coches segments, and within 1 mile of the South Bay segment. High potential for occurrence.
Otay Manzanita *Arctostaphylos otayenis*	RSS	1B R-E-D 3-2-3	January to March	None observed	Chaparral and cismontane woodland, on metavolcanic soils. Endemic to San Diego County. Occurs from 1,000 to 5,000 feet. CNDDB records document occurrences within 3 miles of the Miguel segment. High potential for occurrence.

Species	Listing Status Federal/State/ NCCP[1]	California Native Plant Society List Code[2]	Flowering/ Phenology	Presence	Habitat Type and Potential for Occurrence
Dean's milk-vetch *Astragalus deanei*	None	1B R-E-D 3-3-3	February to May	None observed	Chaparral, coastal scrub, riparian forest, in open, brushy south-facing slopes in Diegan coastal sage scrub. Sometimes found on recently burned-over hillsides. Occurs between 250 and 2,200 feet. CNDDB records document occurrences within 3 miles of the Miguel segment. Moderate potential for occurrence.
South Coast saltscale *Atriplex pacifica*	None	1B R-E-D 3-2-2	March to October	None observed	Coastal scrub, coastal bluff scrub, playas, and chenopod scrub. Occurs on alkali soils up to 1,600 feet. CNDDB records document occurrences within 3 miles of the Miguel and South Bay segments. Low to moderate potential for occurrence.
Orcutt's brodiaea *Brodiaea orcuttii*	RSS	1B R-E-D 1-3-2	March to September	None observed	Vernal pools, valley and foothill grassland, closed-cone coniferous forest, cismontane woodland, chaparral, and meadow. Usually observed in vernal pools and small drainages. Prefers mesic, clay habitats; sometimes serpentine substrate. Occurs from 100 to 5,300 feet. CNDDB records document occurrences within 3 miles of the Los Coches segment. Moderate potential for occurrence.

Species	Listing Status Federal/State/ NCCP[1]	California Native Plant Society List Code[2]	Flowering/ Phenology	Presence	Habitat Type and Potential for Occurrence
Dunn's mariposa lily *Calochortus dunnii*	SR RSS	1B R-E-D 2-2-2	May to June	None observed	Closed-cone coniferous forest and chaparral. Found on gabbro or metavolcanic soils. Often associated with chaparral. CNDDB records document occurrences within 3 miles of the Miguel segment. High potential for occurrence.
Otay Mountains ceanothus *Ceanothus otayensis*	None	1B R-E-D 3-2-2	January to April	None observed	Occurs in chaparral habitat, on metavolcanic or gabbroic soils. Found between 1,900 and 3,600 feet. CNDDB records document occurrences within 3 miles of the Miguel segment. Low to moderate potential for occurrence.
Delicate clarkia *Clarkia delicata*	None	1B R-E-D 2-2-2	April to June	None observed	Cismontane woodland and chaparral, from 800 to 3,200 feet. CNDDB records document occurrences within 3 miles of the Los Coches segment. Low to moderate potential for occurrence.
Summer holly *Comarostaphylis diversifolia* ssp. *diversifolia*	None	1B R-E-D 2-2-2	April to June	None observed	Chaparral. Often found in mixed chaparral in California, sometimes post-burn. Occurs between 100 and 1,800 feet. CNDDB records document occurrences within 3 miles of the Miguel segment. Low to moderate potential for occurrence.

Species	Listing Status Federal/State/ NCCP[1]	California Native Plant Society List Code[2]	Flowering/ Phenology	Presence	Habitat Type and Potential for Occurrence
Salt marsh bird's-beak *Cordylanthus maritimus* ssp. *maritimus*	FE SE RSS	1B R-E-D 2-2-2	March to October	None observed	Coastal dunes and coastal salt marshes. Critical habitat includes marshlands at the mouth of the Sweetwater River and Tijuana River Estuary. CNDDB records document occurrences within 3 miles of the South Bay segment. Moderate potential for occurrence.
Orcutt's bird's beak *Cordylanthus orcuttianus*	RSS	2 R-E-D 3-3-1	March to September	None observed	Found in coastal scrub associations on slopes; also reported from intermittently moist swales, and in washes. Occurs between 300 and 700 feet. CNDDB records document occurrences within 1 mile of the South Bay segment. Low to moderate potential for occurrence.
Otay tarplant *Deinandra* [*Hemizonia*] *conjugens*	FT SE RSS	1B R-E-D 3-3-2	May to June	None observed	Clay soils within coastal sage scrub, valley and foothill grassland. Occurs in coastal plains, mesas, and river bottoms, often in open, disturbed areas from 100 to 1,000 feet. CNDDB records document occurrences within 1 mile of the Miguel and South Bay segments Observed during 2002 and 2003 surveys near the Miguel Substation and along associated substation roads, but outside of the Miguel segment. High potential for occurrence.

Species	Listing Status Federal/State/ NCCP[1]	California Native Plant Society List Code[2]	Flowering/ Phenology	Presence	Habitat Type and Potential for Occurrence
Variegated dudleya *Dudleya variegata*	RSS	1B R-E-D 2-2-2	May to June	None observed	Chaparral, coastal sage scrub, cismontane woodland, valley and foothill grassland. Found in rocky or clay soil, sometimes associated with vernal pool margins. Occurs from 10 to 2,000 feet. CNDDB records document occurrences within 3 miles of the South Bay segment and within 1 mile of the Miguel segment. High potential for occurrence.
Palmer's goldenbush *Ericameria palmeri* ssp. *palmeri*	RSS	2 R-E-D 3-2-1	September to November	None observed	Coastal sage scrub and chaparral. Occurs in granitic soils on steep hillsides and mesic sites from 300 to 2,000 feet. CNDDB records document occurrences within 3 miles of the Los Coches segment. Moderate to high potential for occurrence.
San Diego button-celery *Eryngium aristulatum* var. *parishii*	FE SE RSS	1B R-E-D 2-3-2	April to June	None observed	Vernal pools, coastal sage scrub, and valley and foothill grassland. Occurs in San Diego mesa hardpan and claypan vernal pools and southern interior basalt flow vernal pools, and is usually surrounded by coastal sage scrub. Occurs from 50 to 2,000 feet. CNDDB records document occurrences within 3 miles of the South Bay segment. Low potential for occurrence.

Species	Listing Status Federal/State/ NCCP[1]	California Native Plant Society List Code[2]	Flowering/ Phenology	Presence	Habitat Type and Potential for Occurrence
San Diego barrel cactus *Ferocactus viridescens*	RSS	2 R-E-D 1-3-1	May to June	None observed	Chaparral, coastal sage scrub, and valley and foothill grassland. Often observed on exposed, level or south-sloping areas, often in coastal sage scrub near the crest of slopes. Occurs from 10 to 1,600 feet. CNDDB records document occurrences within 3 miles of the South Bay segment and within 1 mile of the Miguel segment. High potential for occurrence.
Ramona horkelia *Horkelia truncata*	None	1B 3-1-2	May to June	None observed	Chaparral, cismontane woodland. Habitats in California include mixed chaparral, vernal streams, and disturbed areas near roads. Occurs on clay soil from 1,300 to 4,300 feet. CNDDB records document occurrences within 1 mile of the Los Coches segment. Low to moderate potential for occurrence.
Decumbent goldenbush *Isocoma menziesii* var. *decumbens*	None	1B R-E-D 2-2-2	April to November	None observed	Found in coastal scrub. Associated with sandy soils, often in disturbed sites. Occurs from 30 to 3,000 feet. CNDDB records indicate occurrences within 3 miles of the Miguel segment and within 1 mile of the South Bay segment. Moderate potential for occurrence.

Species	Listing Status Federal/State/ NCCP[1]	California Native Plant Society List Code[2]	Flowering/ Phenology	Presence	Habitat Type and Potential for Occurrence
San Diego marsh-elder *Iva hayesiana*	None	2 R-E-D 2-2-1	April to September	None observed	Marshes and swamps, playas. Associated with river washes. Occurs between 30 and 1,600 feet. CNDDB records document occurrences within 1 mile of the Miguel and South Bay segments. Moderate probability for occurrence.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	None	1B R-E-D 2-3-2	February to June	None observed	Occurs in coastal salt marshes and swamps, playas, and vernal pools, usually on alkaline soils in playas, sinks, and grasslands up to 4,500 feet. CNDDB records indicate this species occurs within 3 miles of the South Bay segment and within 1 mile of the Miguel segment. Low to moderate probability for occurrence.
Gander's pitcher sage *Lepechinia ganderi*	RSS	1B R-E-D 3-1-2	June to July	None observed	Closed-cone coniferous forest, chaparral, coastal sage scrub, valley and foothill grassland. Usually found in chaparral or coastal sage scrub; sometimes in Tecate cypress woodland. Gabbro or metavolcanic substrate from 1,000 to 3,000 feet. CNDDB records document occurrences within 3 miles of the Miguel segment. Low to moderate potential for occurrence.

Species	Listing Status Federal/State/ NCCP[1]	California Native Plant Society List Code[2]	Flowering/ Phenology	Presence	Habitat Type and Potential for Occurrence
Robinson's pepper-grass *Lepidium virginicum* var. *robinsonii*	None	1B R-E-D 2-3-2	January to July	None observed	Chaparral, coastal scrub. Occurs on dry soils in shrubland, from 3 to 3,100 feet. CNDDB records document occurrences within 1 mile of the Miguel and South Bay segments. Low to moderate potential for occurrence.
Nuttall's lotus *Lotus nuttallianus*	RSS	1B R-E-D 2-3-2	March to June	None observed	Coastal dunes, coastal scrub. Occurs on sand dunes; plants are threatened by encroachment of exotics. Found between 0 and 30 feet. CNDDB records document occurrences within 1 mile of the South Bay segment. Low potential for occurrence.
Felt-leaved monardella *Monardella hypoleuca* ssp. *lanata*	None	1B R-E-D 2-2-2	June to August	None observed	Chaparral, cismontane woodland. Occurs in understory in mixed chaparral, chamise chaparral, and southern oak woodland, in sandy soil. Found between 1,000 and 5,200 feet. CNDDB records document occurrences of this species within 3 miles of the Miguel segment. Low to moderate potential for occurrence.

Species	Listing Status Federal/State/ NCCP[1]	California Native Plant Society List Code[2]	Flowering/ Phenology	Presence	Habitat Type and Potential for Occurrence
San Diego golden star *Muilla clevelandii*	RSS	1B R-E-D 2-3-2	May	None observed	Chaparral, coastal sage scrub, valley and foothill grassland, and vernal pools. Occurs on mesa grasslands at the edge of scrub vegetation. Prefers clay soils. Often found on mima mounds between vernal pools. Occurs from 150 to 3,500 feet. CNDDB records document occurrences within 3 miles of the South Bay and Los Coches segments, and within 1 mile of the Miguel segment. High potential for occurrence.
Spreading navarretia *Navarretia fossalis*	FT RSS	1B R-E-D 2-3-2	April to June	None observed	Vernal pools, chaparral scrub, and assorted shallow freshwater. Occurs in southwestern San Diego County in vernal pools and roadside depressions below 4,700 feet elevation. CNDDB records document occurrences within 3 miles of the South Bay segment and within 1 mile of the Miguel segment. Low potential for occurrence.
Snake cholla *Opuntia parryi* var. *serpentina*	RSS	1B R-E-D 3-3-2	April to May	None observed	Chaparral and coastal sage scrub, usually in more open vegetation on xeric hillsides. CNDDB records document occurrences within 3 miles of the Miguel and South Bay segments. Moderate potential for occurrence.

Species	Listing Status Federal/State/ NCCP[1]	California Native Plant Society List Code[2]	Flowering/ Phenology	Presence	Habitat Type and Potential for Occurrence
Munz's sage *Salvia munzii*	None	2 R-E-D 2-2-1	February to April	None observed	Coastal scrub, chaparral. Found on rolling hills and slopes in rocky soil, between 400 and 3,600 feet. CNDDB records document occurrences within 1 mile of the Miguel segment. Moderate to high potential for occurrence.
San Miguel savory *Satureja chandleri*	RSS	1B R-E-D 2-2-2	March to May	None observed	Chaparral, cismontane woodland, coastal sage scrub, riparian woodland, and valley and foothill grasslands. CNDDB records document occurrences within 3 miles of the Miguel segment. Rare shrub with low potential for occurrence.
Rayless ragwort *Senecio aphanactis*	None	2 R-E-D 3-2-1	January to April	None observed	Cismontane woodland, coastal scrub. Occurs on drying alkaline flats, from 60 to 2,000 feet. CNDDB records document occurrences within 3 miles of the Miguel and South Bay segments. Low to moderate potential for occurrence.
Estuary seablite *Sueda esteroa*	None	1B R-E-D 2-2-2	May to October	None observed	Found in marshes and swamps. Typically occurs in coastal salt marshes in clay, silt, and sand substrates, between 0 and 30 feet. CNDDB records document historical occurrences of this species within 3 miles of the South Bay segment. Low to moderate potential for occurrence.

Species	Listing Status Federal/State/ NCCP[1]	California Native Plant Society List Code[2]	Flowering/ Phenology	Presence	Habitat Type and Potential for Occurrence
Parry's tetracoccus *Tetracoccus dioicus*	RSS	1B R-E-D 3-2-2	April to May	None observed	Chaparral and coastal sage scrub. CNDDB records document occurrences within 1 mile of the Miguel and South Bay segments. Moderate potential for occurrence.

[1] **U.S. Fish And Wildlife Service**

FE	Federally listed, endangered: species in danger of extinction throughout a significant portion of its range
FT	Federally listed, threatened: species likely to become endangered within the foreseeable future

State of California

SE	State listed, endangered
SR	State listed, rare

California Department of Fish and Game

RSS	Regionally sensitive species covered under San Diego Gas & Electric's Natural Community Conservation Plan permit

[2] **California Native Plant Society**

List 1B	Rare, threatened, or endangered in California and elsewhere
List 2	Rare, threatened, or endangered in California but more common elsewhere
List 3	More information is needed
R	Rarity: 1=rare, but in sufficient number that extinction potential is low; 2=distribution in a limited number of occurrences; 3=distribution in highly restricted occurrences or present in small numbers
E	Endangerment: 1=not endangered; 2=endangered in a portion of range; 3=endangered throughout range
D	Distribution: 1=more or less widespread outside California; 2=rare outside California; 3=endemic to California

Sensitive Plants

San Diego Thorn-Mint (FT/SE/RSS)

San Diego thorn-mint occurs in chaparral, coastal sage scrub, valley and foothill grassland, and vernal pool habitat. This species is endemic to clay soils of mesas and valleys, usually on clay lenses within grassland or chaparral communities. It occurs from 30 to 3,000 feet in elevation. CNDDB records document occurrences of this species within 1 mile of the Miguel and South Bay segments, but it was not detected during surveys. Based on the habitat assessments and surveys conducted, this species is considered to have a low to moderate potential to occur in the project area. This plant is considered a narrow endemic species under SDG&E's NCCP, and, as such, take authorization is limited to emergencies and unavoidable impacts from repairs to existing facilities. Take of the species for non-emergency work may not occur without first conferring with the USFWS and the CDFG. Furthermore, in the case of new projects, destruction of narrow endemic plant species or their supporting habitat will not be covered by the NCCP.

California Adolphia

California adolphia is a deciduous shrub found in chaparral, coastal scrub, and valley and foothill grassland on clay soils. This species occurs primarily on clay soils, at an elevation between 150 and 2,400 feet. CNDDB records document occurrences within 1 mile of the Miguel segment.

San Diego Ambrosia (FE)

San Diego ambrosia occurs in chaparral, coastal sage scrub, valley and foothill grassland, and vernal pools. The microhabitat favored by San Diego ambrosia is sandy loam or clay soils and is often found in slightly disturbed areas. Populations are known to occur near the Sweetwater River, between the Los Coches and Miguel segments. CNDDB records document occurrences of this species within 3 miles of the Miguel and Los Coches segments, and within 1 mile of the South Bay segment.

This plant is considered a narrow endemic species under SDG&E's NCCP, and, as such, take authorization is limited to emergencies and unavoidable impacts from repairs to existing facilities. Take of the species for non-emergency work may not occur without first conferring with the USFWS and the CDFG. Furthermore, in the case of new projects, destruction of narrow endemic plant species or their supporting habitat will not be covered by the NCCP.

Otay Manzanita (RSS)

This species is found in chaparral and cismontane woodland vegetation in metavolcanic soils at elevations from 1,000 to 5,000 feet above sea level. Historical occurrences and known populations of Otay manzanita are found on San Miguel Mountain, which is near the Miguel segment. CNDDB records document this species within 3 miles of the Miguel segment.

Orcutt's Brodiaea (RSS)

Orcutt's brodiaea is a bulbiferous herb associated with vernal pools, valley and foothill grassland, closed-cone coniferous forest, cismontane woodland, chaparral, and meadow habitats. Typically, this species is observed in vernal pools and small drainages. Orcutt's brodiaea prefers

mesic, clay soils, and may be found on serpentine substrate, between 100 and 5,300 feet in elevation. CNDDB records document occurrences within 3 miles of the Los Coches segment. This species is considered to have a moderate potential for occurrence.

This plant is considered a narrow endemic species under SDG&E's NCCP, and, as such, take authorization is limited to emergencies and unavoidable impacts from repairs to existing facilities. Take of the species for non-emergency work may not occur without first conferring with the USFWS and the CDFG. Furthermore, in the case of new projects, destruction of narrow endemic plant species or their supporting habitat will not be covered by the NCCP.

Dunn's Mariposa Lily (SR/RSS)

Dunn's mariposa lily is a bulbiferous herb found in closed-cone coniferous forest and chaparral habitat, primarily in gabbroic or metavolcanic soils in rocky areas. CNDDB records document the presence of this species within 3 miles of the Miguel segment.

Salt Marsh Bird's-Beak (FE/SE)

Salt marsh bird's-beak is a low growing, semi-parasitic annual found primarily in salt marshes where it prefers to grow on hummocks, but is also known from coastal dune and salt pan habitats. CNDDB records document the presence of this species within 3 miles of the South Bay segment.

This plant is considered a narrow endemic species under SDG&E's NCCP, and, as such, take authorization is limited to emergencies and unavoidable impacts from repairs to existing facilities. Take of the species for non-emergency work may not occur without first conferring with the USFWS and the CDFG. Furthermore, in the case of new projects, destruction of narrow endemic plant species or their supporting habitat will not be covered by the NCCP.

Orcutt's Bird's Beak (RSS)

Orcutt's bird's beak is a hemiparasitic annual herb found in coastal scrub associations on slopes. It may also occur in intermittently moist swales and in washes. This species is found between 300 and 700 feet in elevation. CNDDB records document occurrences within 1 mile of the South Bay segment. Orcutt's bird's beak was not detected during surveys and is considered to have a low to moderate potential to occur.

Otay Tarplant (FT/SE)

Otay tarplant occurs in coastal sage scrub and valley and foothill grassland. The microhabitats favored by Otay tarplant are coastal plains, mesas, and river bottoms, often in open, disturbed areas and fractured clay soils. According to the CNDDB, historical occurrences and known populations have been documented near the Miguel Substation and within 1 mile of the Miguel and South Bay segments. Critical habitat for the Otay tarplant has been designated within 0.5 mile of the Miguel Substation. Populations of this species were observed during 2002 and 2003 surveys for the Miguel-Mission Project near the Miguel Substation and along associated substation access roads, but outside of the Miguel segment.

Variegated Dudleya (RSS)

Variegated dudleya is found in chaparral, coastal sage scrub, cismontane woodland, and valley and foothill grassland, and is restricted in distribution to San Diego County and Baja California, Mexico. This species prefers rocky or clay soils, and is sometimes associated with vernal pool margins. According to the CNDDB, historical occurrences and known populations have been documented near San Miguel Mountain and Mother Miguel Mountain, within 1 mile of the Miguel segment and within 3 miles of the South Bay segment.

Palmer's Goldenbush (RSS)

Palmer's goldenbush occurs in coastal sage scrub and chaparral habitats. Specifically, it can be found on granitic soils on steep hillsides and mesic sites from 300 to 2,000 feet. Records in the CNDDB include occurrences within 3 miles of the Los Coches segment of the project. This species has a moderate potential to occur within the project area.

This plant is considered a narrow endemic species under SDG&E's NCCP, and, as such, take authorization is limited to emergencies and unavoidable impacts from repairs to existing facilities. Take of the species for non-emergency work may not occur without first conferring with the USFWS and the CDFG. Furthermore, in the case of new projects, destruction of narrow endemic plant species or their supporting habitat will not be covered by the NCCP.

San Diego Button-Celery (FE/SE)

This species is associated with vernal pools, coastal sage scrub, and valley and foothill grassland. San Diego button-celery occurs in San Diego mesa hardpan and claypan vernal pools, as well as southern interior basalt flow vernal pools, and is usually surrounded by coastal sage scrub. The species is found between 50 and 2,000 feet. CNDDB records this species within 3 miles of the South Bay segment. However, based on the habitat assessment and surveys, this species is considered to have a low potential to occur in the project area.

San Diego Barrel Cactus (RSS)

San Diego barrel cactus occurs in chaparral, coastal sage scrub, and valley and foothill grassland. It often occurs on exposed, level or south-sloping areas, often in coastal sage scrub near the crest of slopes. CNDDB records document numerous occurrences within 3 miles of the South Bay segment, and within 1 mile of the Miguel segment.

Gander's Pitcher Sage (RSS)

Gander's pitcher sage is a shrub found in closed-cone coniferous forest, chaparral, coastal sage scrub, and valley and foothill grassland. This species is usually found in chaparral or coastal sage scrub on gabbro or metavolcanic substrate between 1,000 and 3,000 feet in elevation. CNDDB records document occurrences within 3 miles of the Miguel segment. This species was not detected during surveys, and is considered to have a low to moderate potential for occurrence.

Nuttall's Lotus (RSS)

Nuttall's lotus is an annual herb found in coastal dunes and coastal scrub. This species occurs on sand dunes between 0 and 30 feet in elevation. CNDDB records document occurrences within 1 mile of the South Bay segment. This species was not detected during surveys, and suitable microhabitat was not present. Therefore, it is considered to have a low potential for occurrence.

San Diego Golden Star (RSS)

San Diego golden star is associated with chaparral, coastal sage scrub, valley and foothill grassland, and vernal pools. It usually occurs on mesa grasslands at the edge of scrub vegetation on clay soils. It is often found on mima mounds between vernal pools, and is found from 150 to 3,500 feet. CNDDB records document this species within 3 miles of the Los Coches and South Bay segments, and within 1 mile of the Miguel segment.

Spreading Navarretia (FT/RSS)

Spreading navarretia is found in vernal pools, chaparral scrub, and shallow freshwater habitat. It is known from southwestern San Diego County in vernal pools and roadside depressions below 4,700 feet. CNDDB records place this species within 3 miles of the South Bay segment, and within 1 mile of the Miguel segment; however, based on the habitat assessment and surveys, this species is considered to have a low potential to occur in the project area.

Snake Cholla (RSS)

Snake cholla is found in chaparral and coastal sage scrub, typically in more open vegetation on xeric hillsides. Records in the CNDDB document this species within 3 miles of the South Bay and Miguel segments. Based on the habitat assessment and surveys, this species is considered to have a moderate potential to occur in the project area.

This plant is considered a narrow endemic species under SDG&E's NCCP, and, as such, take authorization is limited to emergencies and unavoidable impacts from repairs to existing facilities. Take of the species for non-emergency work may not occur without first conferring with the USFWS and the CDFG. Furthermore, in the case of new projects, destruction of narrow endemic plant species or their supporting habitat will not be covered by the NCCP.

San Miguel Savory (RSS)

San Miguel savory is a perennial herb found in chaparral, cismontane woodland, coastal sage scrub, riparian woodland, and valley and foothill grassland. CNDDB records document this species within 3 miles of the Miguel segment. This species was not detected during surveys, and is considered to have a low potential for occurrence within the project footprint.

Parry's Tetracoccus (RSS)

Parry's tetracoccus is a deciduous shrub found in chaparral and coastal sage scrub habitat on stony, decomposed gabbro soil. CNDDB records document occurrences of this species within 1 mile of the Miguel and South Bay segments. This species was not detected during surveys, but is considered to have a moderate potential for occurrence based on suitable habitat.

Sensitive Vegetation Communities

Two of the vegetation communities occurring within the existing ROW are considered sensitive and/or have special status due to their natural rarity and their decline as a result of development, and/or due to the number of sensitive plant or animal species dependent upon them. Sensitive habitats include those regulated by the federal government under the Clean Water Act (CWA) (i.e., jurisdictional wetlands and waters of the U.S.) or the ESA (i.e., site-specific designated critical habitat areas for federally listed wildlife species).

Diegan coastal sage scrub is characterized by low, aromatic, and drought-deciduous sub-shrubs. Coastal sage scrub provides habitat for the coastal California gnatcatcher, a federally threatened species, as well as a variety of other animal and plant species, which are candidates for federal listing, state species of special concern, or considered sensitive by local jurisdictions.

Maritime succulent scrub is a low, open scrub dominated by a drought-deciduous mixture of stem and leaf succulents found in extreme southwestern California and northern Baja California. The plant community usually occurs within a few miles of the coast and occurs on thin rocky or sandy soils, often on steep slopes of coastal headlands and bluffs.

Sensitive Wildlife

The majority of the vegetation communities within the project ROW provide habitat for one or more of the sensitive, listed, or covered wildlife species known to or with the potential to occur within the vicinity of the ROW. Based on the literature search and the site visits, special-status wildlife, aquatic, and insect species that could potentially occur within project area were identified. Table 2: Special-Status and Covered Wildlife Species summarizes the sensitive wildlife species, their status, documented occurrences, and the potential for their presence along the existing ROW.

Twenty-six animal species considered sensitive or listed by the USFWS or the CDFG are known to occur or have the potential to occur in the project ROW (see Table 2). Twenty-five species, including 21 of the 26 species considered sensitive or listed, are presently covered under SDG&E's NCCP. SDG&E is finalizing the NCCP amendment process to include coverage of the Quino checkerspot butterfly. Five of the 26 species, including the Quino checkerspot butterfly, are listed as endangered and two are listed as threatened by the USFWS. The CDFG has listed five of the species as endangered and considers 19 as species of special concern. Two species, golden eagle and California least tern, have the status of fully protected under the CDFG Code.

Of the NCCP-covered, sensitive, federally or state-listed wildlife species known to occur in the vicinity of the existing ROW, 23 wildlife species warrant description in the following subsections because of their documented occurrence, or potential for occurrence, during reconnaissance-level and habitat surveys; their importance in regional planning; their resident status in the project area; their presence in critical habitat or preserve/management areas; and/or their rarity in the region. Generally, suitable habitat is present for these species, or the project is within their known range.

The species discussed below include:

- Cooper's hawk (*Accipiter cooperi*)
- Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)
- Grasshopper sparrow (*Ammodramus savannarum*)
- Belding's orange-throated whiptail (*Aspidoscolis [Cnemidophorus] hyperythrus*)
- Golden eagle (*Aquila chrysaetos*)
- Western burrowing owl (*Athene cunicularia hypugaea*)
- Arroyo toad (*Bufo californicus*)
- Coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*)
- Western snowy plover (*Charadrius alexandrinus nivosus*)
- Northern harrier (*Circus cyaneus*)
- Southwestern willow flycatcher (*Empidonax traillii extimus*)
- Quino checkerspot butterfly (*Euphydryas editha quino*)
- San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)
- Coastal rosy boa (*Lichanura trivirgata roseofusca*)
- Hermes copper butterfly (*Lycaena hermes*)
- San Diego desert woodrat (*Neotoma lepida intermedia*)
- Salt marsh skipper (*Panoquina errans*)
- Belding's savannah sparrow (*Passerculus sandwichensis beldingi*)
- San Diego horned lizard (*Phrynosoma coronatum blainvillei*)
- Coastal California gnatcatcher (*Polioptila californica californica*)
- Light-footed clapper rail (*Rallus longirostris levipes*)
- California least tern (*Sterna antillarum browni*)
- Least Bell's vireo (*Vireo bellii pusillus*)

Cooper's Hawk (CSC/RSS)

Cooper's hawk is a breeding resident throughout most of the wooded portions of California. Preferred nesting habitat is dense stands of live oak, riparian, or other forest habitat near water. This species forages on small birds and mammals in open woodlands and edge habitats.

Appropriate nesting habitat occurs in eucalyptus woodlands, in residential areas, and in riparian woodlands near project segments. Cooper's hawk was observed perched near the Miguel and Los Coches substations during reconnaissance-level surveys, but outside of the Miguel and Los Coches segments. CNDDB records document occurrences within 1 mile of the Miguel segment.

Southern California Rufous-Crowned Sparrow (CSC/RSS)

The non-migratory southern California rufous-crowned sparrow, a California species of special concern, is a resident of sparse, mixed chaparral and coastal scrub habitats. This bird forages on the ground in vegetation and leaf litter beneath shrubs, eating seeds, insects, spiders, grass, and forb shoots. The southern California rufous-crowned sparrow feeds and breeds on steep, dry hillsides with scattered shrubs and rock outcrops. It conceals its nest at the base of shrubs.

Table 2: Special-Status and Covered Wildlife Species

Common Name/Scientific Name	Listing Status[1]	Potential for Species Occurrence Within the Project Area
Mammals		
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	CSC RSS	Present. Suitable habitat exists in native vegetation along the Los Coches and Miguel segments. This species was observed and documented near the Miguel Substation during 2002 surveys. California Natural Diversity Data Base (CNDDB) records document occurrence within 3 miles of the Miguel and South Bay segments, and within 1 mile of the Los Coches segment.
San Diego desert woodrat *Neotoma lepida intermedia*	CSC RSS	High. Suitable habitat exists throughout all project segments. CNDDB records document occurrence within 3 miles of the South Bay segment.
Southern mule deer *Odocoileus hemionus fuliginata*	Game species RSS	Present. Suitable habitat exists in native vegetation along the Los Coches and Miguel segments. Sign was observed throughout the segments in native vegetation during 2002 and 2003 surveys. Southern mule deer was observed near the Los Coches Substation during a 2003 survey.
Mountain lion *Puma concolor*	RSS	Low potential. Marginal habitat exists in the less disturbed areas of the Los Coches and Miguel segments. This species is not documented in the CNDDB in or near the project area.
Birds		
Cooper's hawk *Accipiter cooperi*	CSC RSS	Moderate to high potential. The riparian and eucalyptus woodland located near the Miguel and Los Coches segments provides suitable nesting habitat. CNDDB records document occurrence within 1 mile of the Miguel segment, and this species was observed near the Los Coches and Miguel substations, but outside of the segments, during 2002, 2003, and 2004 surveys.

Common Name/Scientific Name	Listing Status[1]	Potential for Species Occurrence Within the Project Area
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	CSC RSS	Present. Suitable habitat exists on the steep, rocky slopes near the Miguel Substation. CNDDB records document occurrences within 1 mile of the Miguel and Los Coches segments, and within 3 miles of the South Bay segment. This species was observed during 2002 and 2003 surveys near the Miguel Substation, but outside of the segment.
Grasshopper sparrow *Ammodramus savannarum*	RSS	Present. Suitable grassland habitat exists in the vicinity of the Miguel Substation. Grasshopper sparrow was observed during 2002 and 2003 surveys northeast of the Miguel Substation.
Bell's sage sparrow *Amphispiza belli belli*	CSC	Low to moderate potential. Suitable chaparral habitat exists in the Miguel and Los Coches segments. CNDDB records document occurrences within 1 mile of the Miguel segment.
Golden eagle *Aquila chrysaetos*	BEPA CSC SFP RSS	Low to moderate potential. No suitable nesting habitat occurs within the segments. Suitable foraging habitat may be available in the vicinity of the Miguel Substation.
Western burrowing owl *Athene cunicularia hypugaea*	CSC RSS	Low potential. Marginal grassland habitat may exist within the South Bay and Miguel segments. This species was not observed during focused surveys in December 2004 or April/May 2005. CNDDB records document occurrences within 3 miles of the South Bay segment.
Coastal cactus wren *Campylorhynchus brunneicapillus sandiegensis*	CSC RSS	Present. Suitable habitat exists in the cactus-covered slopes around the Los Coches Substation. CNDDB records document occurrences within 1 mile of the Los Coches Substation, and within 1 mile of all segments. Coastal cactus wren was observed near the Los Coches Substation during 2002, 2003, and 2004 surveys. No coastal cactus wrens were observed on the South Bay and Miguel segments during focused surveys in 2004 and 2005.

Common Name/Scientific Name	Listing Status[1]	Potential for Species Occurrence Within the Project Area
Western snowy plover *Charadrius alexandrinus nivosus*	FT CSC RSS	Moderate to low potential. CNDDB records document occurrences within 1 mile of the South Bay segment. No suitable nesting habitat was detected within the South Bay segment.
Northern harrier *Circus cyaneus*	CSC RSS	High potential. Suitable grasslands provide foraging habitat along all segments. Observed during 2005 survey near the Miguel Substation, but outside of the segment.
Southwestern willow flycatcher *Empidonax traillii extimus*	FE SE RSS	Low potential. CNDDB records document occurrence within 3 miles of the Miguel segment. However, no suitable riparian habitat occurs within the Miguel segment.
California horned lark *Eremophila alpestris actia*	CSC	Moderate potential. Suitable grasslands provide foraging and potential nesting habitat along the Miguel segment. CNDDB records document occurrences within 3 miles of the Miguel segment.
Belding's savannah sparrow *Passerculus sandwichensis beldingi*	SE RSS	Low potential. CNDDB records document occurrences within 1 mile of the South Bay segment. However, no suitable habitat exists within the South Bay segment.
Coastal California gnatcatcher *Polioptila californica californica*	FT CSC RSS	Present. Suitable coastal sage scrub vegetation occurs within the Los Coches and Miguel segments. Coastal California gnatcatchers have been observed and documented during the 2002, 2003, and 2004 surveys near the Miguel and Los Coches substations. CNDDB records document occurrences within 3 miles of the South Bay segment, and within 1 mile of the Miguel and Los Coches segments.
Light footed clapper rail *Rallus longirostris levipes*	FE SE RSS	Low potential. CNDDB records document occurrences within 1 mile of the South Bay segment within the Sweetwater Marsh National Wildlife Refuge. However, no suitable habitat exists within the South Bay segment.

Common Name/Scientific Name	Listing Status[1]	Potential for Species Occurrence Within the Project Area
California least tern *Sterna antillarum browni*	FE SE SFP RSS	Low to moderate potential. CNDDB records document occurrences within 1 mile of the South Bay segment. However, no suitable habitat occurs within the South Bay segment.
Least Bell's vireo *Vireo bellii pusillus*	FE SE RSS	Low potential. CNDDB records document occurrence within 3 miles of the South Bay and Los Coches segments, and within 1 mile of the Miguel segment. No suitable habitat occurs within the segments.
Reptiles		
Silvery legless lizard *Anniella pulchra pulchra*	CSC	Low to moderate potential. Suitable sandy or loose loamy soils may occur in the vicinity of the project. This species is seldom detected due to its secretive habits. CNDDB records document one occurrence within 1 mile of the Los Coches segment.
Belding's orange-throated whiptail *Aspidoscolis [Cnemidophorus] hyperythrus*	CSC RSS	High. Suitable scrub habitat is found throughout the existing project right-of-way (ROW). CNDDB records document occurrence within 3 miles of the Miguel segment, and within 1 mile of the Los Coches and South Bay segments. This species was observed during surveys near the Los Coches Substation.
Northern red-diamond rattlesnake *Crotalus ruber ruber*	CSC RSS	Moderate potential. Dense chaparral and large, rocky outcrops between the Los Coches and Miguel substations may provide suitable habitat within the Los Coches and Miguel segments. CNDDB records document occurrence within 3 miles of the Miguel segment and within 1 mile of the South Bay segment.
Coronado skink *Eumeces skiltonianus interparietalis*	CSC RSS	Moderate potential. Appropriate rocky chaparral and scrub habitats exist within the existing ROW and CNDDB records document occurrence within 1 mile of the Los Coches segment.

Common Name/Scientific Name	Listing Status[1]	Potential for Species Occurrence Within the Project Area
Coastal rosy boa *Lichanura trivirgata roseofusca*	RSS	High potential. Observed in 2004 within the project area between the Miguel Substation and State Route 94 on an unrelated San Diego Gas & Electric project. Suitable rocky chaparral and scrub habitat is found within the Miguel and Los Coches segments, and CNDDB records document occurrence within 3 miles of these segments.
San Diego horned lizard *Phrynosoma coronatum blainvillei*	CSC RSS	Moderate potential. Suitable habitat is found throughout the project area. CNDDB records document occurrences within 1 mile of all segments.
Amphibians		
Arroyo toad *Bufo californicus*	FE CSC RSS	None. CNDDB records document occurrence within 3 miles of the Miguel segment. However, no suitable habitat exists within any of the segments.
Western spadefoot *Spea hammondii*	FSSC CSC RSS	Low potential. CNDDB records document occurrence within 3 miles of the Miguel segments. Marginal habitat exists within the Miguel and Los Coches segments.
Terrestrial Insects		
Quino checkerspot butterfly *Euphydryas editha quino*	FE	Moderate to low potential. CNDDB records document occurrences within 3 miles of the Miguel segment. Historically, this species was found throughout area, but recent sightings (since 1990) have been recorded only north of the Miguel Substation. Presently, potentially suitable habitat may still be found near the Miguel Substation. This species was observed during a 2003 plant survey on an access road northeast of the Miguel Substation. However, three years of protocol-level Quino checkerspot butterfly surveys along this segment have been negative.

Common Name/Scientific Name	Listing Status[1]	Potential for Species Occurrence Within the Project Area
Hermes copper butterfly *Lycaena hermes*	FSSC	High potential. Moderate quality habitat is located throughout the Miguel, South Bay, and Los Coches segments. CNDDB records document occurrences within 3 miles of the Los Coches and Miguel segments. The host plant for this species, spiny redberry (*Rhamnus crocea*), was detected along the Los Coches and Miguel segments.
Salt marsh skipper *Panoquina errans*	RSS	Low potential. CNDDB records document occurrences within 3 miles of the South Bay segment. However, no habitat exists within the South Bay segment, and no salt marsh skippers were observed during focused surveys in the area in October 2004.

[1] **California Department of Fish and Game**

SE	State listed, endangered
CSC	California species of special concern
SFP	State listed, fully protected
RSS	Regionally sensitive species covered in San Diego Gas & Electric's Natural Community Conservation Plan

U.S. Fish and Wildlife Service

BEPA	Bald Eagle Protection Act
FE	Federally listed, endangered
FSSC	Federal species of special concern
FT	Federally listed, threatened

The southern California rufous-crowned sparrow was observed during 2002 and 2003 surveys in suitable habitat northeast of the Miguel Substation.

Grasshopper Sparrow (RSS)

The grasshopper sparrow occurs in grasslands and pastures as a spring and summer breeding resident, generally migrating south in the winter. This somewhat secretive species feeds and nests primarily on the ground. This species is not considered sensitive by the CDFG or USFWS, but is a covered species under the SDG&E NCCP. Grasshopper sparrow was observed during the 2002 and 2003 surveys northeast of the Miguel Substation, but outside of the Miguel segment.

Belding's Orange-Throated Whiptail (CSC/RSS)

The 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. An active forager, this lizard feeds largely on subterranean termites (*Reticulitermes hesperus*), which are common in coastal sage scrub and mulefat scrub habitats. It is most commonly found within coastal sage scrub, mulefat scrub, and riverwash scrub habitats.

Golden Eagle (BEPA/CSC/SFP/RSS)

The golden eagle is a permanent resident of open, wooded areas, and is found in hilly and mountainous regions with limited human populations. This species nests on rock ledges or within large trees, including oaks and eucalyptus. Golden eagles prey on small mammals, such as rabbits and ground squirrels. CNDDB records do not document golden eagle occurrences within 3 miles of the project alignment. This species may forage in the vicinity of the project; however, suitable nesting habitat is not present within the project alignment.

Western Burrowing Owl (CSC/RSS)

The western burrowing owl is a small, ground-dwelling owl with a round head and no ear tufts. Burrowing owls are often active in daylight, and may be bold and approachable. Burrowing owls are found in open, dry grasslands, agricultural and range lands, and desert habitats often associated with burrowing animals, particularly prairie dogs, ground squirrels, and badgers. They are also found in grass, forb, and shrub stages of pinyon and ponderosa pine habitats.

During reconnaissance surveys, it was determined that marginally suitable grassland habitat occurred near the South Bay segment and near the Miguel Substation. However, no burrowing owls were detected during focused surveys of these areas in 2004 or 2005.

Arroyo Toad (FE/CSC/RSS)

The arroyo toad is a small, light greenish-gray or tan toad restricted to rivers with shallow, gravelly pools with adjacent sand bars or terraces. During breeding season, from late March to mid-June, they can be found in large streams or rivers containing shallow pools with minimal current and a sand or pea-gravel bottom. The arroyo toad is of particular concern because it is difficult to detect during certain times in its lifecycle. The arroyo toad breeds in stream habitats,

but migrates through and hibernates in upland habitats up to 0.6 mile from known breeding sites, where it remains underground for much of the winter.

Standing or flowing water, appropriate sandbars, or other evidence of scouring events were not observed during habitat assessment and reconnaissance surveys. Therefore, arroyo toad is not expected to occur in any of the segments.

Coastal Cactus Wren (CSC/RSS)

Coastal cactus wren is typically found on arid slopes with stands of cactus. Cactus wrens build their nests in cholla or other large, branching cactus, yucca, or thorny shrubs and trees. Coastal cactus wrens were observed during 2002 and 2003 surveys on the cactus-covered slopes surrounding the Los Coches Substation. CNDDB records document coastal cactus wren occurrences within 1 mile of the Los Coches Substation near the Los Coches segment. Because presence of this species was confirmed during the reconnaissance surveys, no focused surveys were necessary along this segment. No coastal cactus wrens were detected during the focused surveys in 2004 and 2005 conducted from the South Bay and Miguel segments.

Under SDG&E's NCCP, this species is considered a narrow endemic and, as such, take authorization is limited to emergencies and unavoidable impacts from repairs to existing facilities. Take of the species for non-emergency work many not occur without first conferring with the USFWS and the CDFG. Furthermore, for new projects, destruction of narrow endemic wildlife species or their supporting habitat will not be covered by the NCCP.

Northern Harrier (CSC/RSS)

Northern harrier can be found foraging over meadows, grasslands, rangelands, desert sinks, and freshwater and emergent wetlands. Northern harriers nest on meadows and in both fresh and salt open marshlands. Constructed on the ground, nests are typically comprised of sticks and grass, or, within marsh vegetation, raised mounds of reeds. The harrier feeds primarily on voles and other rodents but also preys on insects, reptiles, and amphibians. CNDDB records do not show this species occurring in the vicinity of the project; however, suitable grassland habitat occurs along the Los Coches and Miguel segments, and this species was observed during a 2005 survey near the Miguel Substation.

Southwestern Willow Flycatcher (FE/SE/RSS)

The southwestern willow flycatcher is a breeding summer resident in San Diego County. This species breeds in dense riparian habitat, typically along streams, creeks, rivers, or other wetlands. Habitat composition may vary, but generally contains shrubs and medium-sized trees, and may contain an overstory of larger trees. Southwestern willow flycatchers nest in shrubs or trees.

CNDDB records document an occurrence along the Sweetwater River, between the Los Coches and Miguel segments. However, no appropriate habitat was found in this location, or within any of the project segments.

Quino Checkerspot Butterfly (FE)

The Quino checkerspot butterfly is a small butterfly with red, black, and cream-colored checker-patterned wings, which is currently only found in Riverside and San Diego counties and Baja California Norte, Mexico. The USFWS has designated critical habitat for Quino checkerspot butterfly that encompasses a portion of the existing Miguel segment, and extends northeast of the Miguel Substation to Campo Road, along the lower southwest slopes of Mother Miguel Mountain and San Miguel Mountain (USFWS, 2002c).

Once widely distributed in the inland valleys and coastal plains of southern California, Quino checkerspot butterflies are known to exist in a few isolated areas of southern San Diego and southwestern Riverside counties. This butterfly is found from sea level to 3,000 feet in elevation and requires open canopy scrub habitat with low-growing herbaceous annuals that include populations of the larval host plants, preferably dwarf plantain (*Plantago erecta*). Timing and abundance of rainfall affect host-plant germination, growth, and senescence, which in turn affect survivorship of butterfly larvae. The species typically requires a year to complete a lifecycle, but the larvae can undergo long periods, possibly lasting years, in a dormant stage during especially dry winters or drought years. Cool, wet weather and winter rainfall stimulate host-plant germination and feeding activities. Therefore, the larval stage of the Quino checkerspot butterfly may be present in areas where the host plants are not in bloom.

Protocol-level surveys for the Quino checkerspot butterfly were conducted during the adult flight season in 2002 and 2003 near the Los Coches Substation; however, no Quino checkerspot butterflies were found. RECON reported an incidental sighting of an adult male Quino checkerspot butterfly adjacent to an existing project-associated access road south of Campo Road south of the Miguel Substation during sensitive plant surveys conducted in the spring of 2003. However, focused surveys were again conducted in 2005 near the Miguel Substation and no Quino checkerspot butterflies were observed. Because no Quino checkerspot butterflies were found despite multiple years of surveys, potentially suitable habitat is presumed to be unoccupied, and therefore, impacts to this species are not anticipated. Furthermore, SDG&E anticipates coverage of the Quino checkerspot butterfly as soon as its pending NCCP amendment is finalized.

San Diego Black-Tailed Jackrabbit (CSC/RSS)

The San Diego black-tailed jackrabbit is a year-round resident within southern California. This species is found in a variety of open and arid habitats that include grasslands, Great Basin sage scrub, desert scrub, Riversidian sage scrub, Riversidian alluvial fan sage scrub, coastal sage scrub, and juniper and oak woodlands. During the 2002 surveys, San Diego black-tailed jackrabbit was observed on the San Diego National Wildlife Refuge Otay-Sweetwater Unit near the Miguel Substation. CNDDB records document additional occurrences within 3 miles of the Miguel and South Bay segments, and within 1 mile of the Los Coches segment.

Coastal Rosy Boa (RSS)

The coastal rosy boa is a resident of desert and chaparral habitat, ranging from the coast to the Mojave and Colorado deserts. This species prefers moderate to dense vegetation and rocky cover. Typically, this species is found in habitat with a mix of brushy cover and rocky soils, such

as coastal canyons and hillsides, desert canyons, washes, and mountains. This species was observed in 2004 between the Miguel Substation and State Route 94 during surveys for an unrelated SDG&E project. Suitable habitat for this species is found within the Miguel and Los Coches segments. CNDDB records document occurrences within 3 miles of the Los Coches and South Bay segments.

Hermes Copper Butterfly (FSSC)

The Hermes copper butterfly is in the gossamer-wing family, and lives in mixed woodlands, chaparral, and coastal scrub habitat in San Diego County and northern Baja California. This species has a wingspan of approximately 1 to 1.25 inches, is brown above with a yellow-orange patch surrounding black spots, and is bright yellow below.

One of the primary host plants for this species, spiny redberry (*Rhamnus crocea*), occurs along the Los Coches and Miguel segments. Additionally, CNDDB records document this species within 3 miles of these segments.

San Diego Desert Woodrat (CSC/RSS)

The San Diego desert woodrat is restricted to coastal slopes with coastal sage scrub and chaparral habitats within San Diego County. Woodrats make middens (nests) of twigs, sticks, cactus parts, and rocks, depending on the availability of building materials. This species prefers foraging on live oak, chamise, and buckwheat.

A San Diego desert woodrat nest was observed south of the Miguel Substation during the reconnaissance-level and habitat assessment surveys.

San Diego Horned Lizard (CSC/RSS)

The 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. Fine, loose, sandy soils where they can bury themselves, an abundance of native ants as a food source, and open areas for basking are typically required. The CNDDB records document this species within 1 mile of the Los Coches, South Bay, and Miguel segments.

Coastal California Gnatcatcher (FT/CSC/RSS)

The coastal California gnatcatcher is an obligate, permanent resident of coastal sage scrub vegetation, but will make limited use of adjacent habitats outside of the breeding season. The designation of critical habitat for the coastal California gnatcatcher specifically excluded areas within functioning HCPs, such as SDG&E's NCCP. Although not designated as critical habitat, habitat for the coastal California gnatcatcher is located within all segments. Potential habitat for the coastal California gnatcatcher is located throughout much of the project area.

The CNDDB documents sightings of coastal California gnatcatcher within 3 miles of the South Bay segment, and within 1 mile of the Los Coches and Miguel segments. Coastal California

gnatcatchers were observed in coastal sage scrub vegetation near the Miguel and Los Coches substations during reconnaissance-level and protocol-level surveys.

Least Bell's Vireo (FE/SE/RSS)

Least Bell's vireo is migratory, spending its winters in Mexico and returning to southern California as a summer resident. The least Bell's vireo can be found in the region during breeding season (March through August). They breed locally in willow riparian thickets with good over- and understory vegetation. Critical habitat for the least Bell's vireo has been designated along portions of the San Diego River and the Sweetwater River, but the project segments do not cross critical habitat for this species.

CNDDB records document occurrences along the Sweetwater River, between the Los Coches and the Miguel segments. No suitable riparian habitat occurs within any of the segments.

4. POTENTIAL IMPACTS

The following section discusses the significance criteria for project impacts, including temporary and permanent impacts within the project ROW, and describes the types of impacts that may occur to biological resources as a result of construction and operation of the project (particularly the Associated Projects). SDG&E has designed and incorporated Project Protocols (see Appendix B) into project construction and operation procedures to avoid or minimize potential impacts to biological resources. The Project Protocols are taken from SDG&E's NCCP and will be followed in accordance with the compliance procedures described in the NCCP.

Project impacts will occur from the following construction activities:

- Staging areas including pull sites (temporary impacts)
- Wood pole-structure replacement (temporary and permanent impacts)

4.1 CONSTRUCTION IMPACTS

This section describes the temporary and permanent impacts to biological resources within the project ROW. Refer to Section 1.3 Project Components for specific construction activities that will occur throughout the project segments.

Construction Impacts to Vegetation Communities

Temporary and permanent impacts to Diegan coastal sage scrub, chaparral, nonnative grassland, maritime succulent scrub, disturbed habitat, and developed habitat could occur within the project segments, as described below.

Los Coches Segment

Impacts to nonnative grasslands, coastal sage scrub, maritime succulent scrub, chaparral, disturbed habitat, and developed habitat could occur within this segment.

Miguel Segment

Impacts to chamise, coastal sage scrub, chaparral, nonnative grassland, and developed habitat could occur within this segment.

South Bay Segment

Impacts to disturbed habitat and developed habitat could occur within this segment.

Project impacts to vegetation communities are outlined in Table 3. These include impacts that will result from the replacement of wood pole structures in six locations near the Miguel Substation (100 feet by 100 feet of work space was assumed), the installation of three interset poles near the Miguel Substation (100 feet by 100 feet of work space was assumed), and the reconductoring of three portions of TL13824. There will be approximately 12 pull sites for the reconductoring, which will be 150 feet by 300 feet each (with the exception of one location in the South Bay segment, which is 150 feet by 500 feet).

Table 3: Impacts to Vegetation Communities

Vegetation Community	Pole Replacement – Temporary (acres)*	Pole Interset – Temporary Impacts (acres)*	South Bay Pull Sites – Temporary (acres)	Los Coches and Miguel Pull Sites – Temporary (acres)
Diegan coastal sage scrub	0.56	0.50	0	1.01
Maritime succulent scrub	0	0	0	1.31
Chaparral	0.13	0	0	0.26
Nonnative grassland	0.69	0.25	0	1.03
Disturbed	0	0	7.16	0
Developed	0	0	1.79	0.24
Total Impacts	**1.38**	**0.75**	**8.95**	**3.85**

*Permanent impacts resulting from pole replacements and intersets total less than 0.1 acre

Construction Impacts to Sensitive Vegetation Communities

Sensitive vegetation communities that will be impacted include Diegan coastal sage scrub (2.07-acre temporary) and maritime succulent scrub (1.31-acre temporary).

Impacts to sensitive vegetation communities will be minimized by the implementation of the Project Protocols detailed in SDG&E's NCCP (see Appendix B). Biologists will conduct preactivity surveys that evaluate the scope and nature of potential impacts in advance of

construction. These preactivity surveys will then be submitted to the USFWS and the CDFG to initiate consultation regarding potential impacts and feasible avoidance, minimization, and/or mitigation measures, as described in the NCCP.

As discussed in its NCCP, SDG&E will adhere to habitat enhancement measures as mitigation for potential project impacts that are not sufficiently addressed by the Project Protocols. Where habitat enhancement measures are not successful, SDG&E will provide sufficient mitigation credits, in accordance with the NCCP, to mitigate for impacts. These mitigation credits cover impacts to the following vegetation communities:

- Scrub/Chaparral: includes chaparral and Diegan coastal sage scrub
- Riverine/Wetlands: includes freshwater marsh, coastal salt marsh, southern riparian forest, southern sycamore/alder woodland, southern riparian scrub, and disturbed wetland
- Woodlands/Forests: includes oak woodland and oak forest
- Grass/Herb Communities: includes nonnative grassland, native grassland, and southern vernal pool
- Ruderal Areas: includes disturbed habitat, eucalyptus woodland, and field cropland

Upland Scrub, Woodland, and Annual Grassland

Project-related construction activities will result in impacts to Diegan coastal sage scrub, chaparral, maritime succulent scrub, and nonnative grassland habitats.

Ground disturbance will be minimized as much as possible by implementing the avoidance and minimization measures contained in Project Protocols 1, 4, 7, 10, 32, 33, 34, 35, 37, 38, 39, 40, 41, 48, 49, and 50 (see Appendix B). These Project Protocols include:

- minimizing disturbance due to access and new structure location,
- erosion control,
- training construction personnel on the environmental requirements,
- conducting preconstruction and focused species surveys,
- report documentation,
- resource monitoring, and
- avoiding sensitive resources and habitat.

The Project Protocols are consistent with SDG&E's NCCP. In addition, the NCCP provides mitigation measures for habitat enhancement (restoration/revegetation) and/or the utilization of mitigation credits, where impacts to habitat cannot be avoided. Implementation of the Project Protocols and the mitigation measures contained in the NCCP will reduce potential habitat impacts to less than significant.

Drainages

Project-related construction activities could result in impacts to small drainages. Existing access roads that cross ephemeral drainages and creeks may contain wetlands. These access roads may be regraded, if necessary, to improve construction access. However, access roads will not be widened as a result of this activity.

SDG&E will avoid physical disturbance in coastal salt marsh, wetlands, streams, and riparian areas to the extent feasible by implementing Project Protocols 7, 10, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 48, 49, 50, and 51 (see Appendix B). These Project Protocols include:

- minimizing disturbance to riparian vegetation, wetlands, and sensitive species associated with these habitats where avoidance is not feasible due to access and new structure location;
- erosion control;
- training construction personnel on the environmental requirements;
- conducting preconstruction and focused species surveys;
- report documentation;
- resource monitoring; and
- avoiding sensitive resources and habitat.

With effective implementation of these Project Protocols, the implementation of SDG&E's Best Management Practices, and the implementation of applicable mitigation measures pursuant to SDG&E's NCCP (including utilizing mitigation credits for permanent impacts), potential direct (i.e., removal of wetland vegetation) and indirect (i.e., siltation and erosion) impacts to riparian or wetland vegetation will be eliminated or reduced to less than significant. In addition, SDG&E will comply with any further mitigation measures that may be required by applicable state or federal agencies that have jurisdiction over the project.

Sensitive Plant Species

No sensitive plant species were observed during surveys. Several sensitive plant species, which include, but are not limited to, San Diego barrel cactus, California adolphia, Orcutt's brodiaea, Otay manzanita, San Diego ambrosia, Dunn's mariposa lily, Otay tarplant, variegated dudleya, San Diego golden star, salt marsh bird's-beak, Orcutt's bird's beak, Palmer's goldenbush, Gander's pitcher sage, snake cholla, and Parry's tetracoccus, are known to occur in the vicinity of SDG&E's existing ROW, or have the potential to occur within the existing ROW. The potential presence of these plant species is based on their known or recorded occurrence within the region and/or their association with the vegetation communities that occur in the vicinity of the project area. SDG&E will implement Project Protocols 7, 16, 19, 32, 35, 37, 39, 46, 48, 49, and 50 (see Appendix B) to protect sensitive plant species. These Project Protocols include:

- conducting preconstruction and focused species surveys,
- report documentation,
- resource monitoring,
- avoidance,
- minimization of impacts to sensitive plant species to the extent feasible,
- training construction personnel on the environmental requirements, and
- erosion control.

With the implementation of these Project Protocols and adherence to applicable mitigation measures in SDG&E's NCCP, impacts to sensitive plants are expected to be less than significant.

Invasive Plant Species

Any temporary, project-related surface disturbance could lead to invasion of the newly disturbed area by exotic weed species. In particular, in areas where potential ground disturbance is substantial or where recontouring is required, aggressive nonnative weed species could become established in areas where such species are not currently present. Once established, aggressive weed species can invade adjacent native habitats and degrade the condition of the surrounding area. Due to the small amount of disturbance that will occur at each existing tower site and new wood and steel pole site, and with the implementation of the NCCP's habitat enhancement and reclamation measures (refer to the SDG&E NCCP), the risk of exotic species invasion as a result of project construction is expected to be less than significant.

However, the increase in exotic species invasion that could occur due to disturbance associated with the access and spur roads could be considered a moderate or potentially significant impact if these areas were left in a disturbed condition. SDG&E will implement Project Protocols 32, 35, 37, 38, 49, and 51 (see Appendix B), which include avoidance and minimization of disturbance to resources, preconstruction surveys, report documentation, and resource monitoring, and will incorporate the postconstruction revegetation and restoration measures contained in the NCCP's Habitat Enhancement and Reclamation Procedures, as required. Therefore, the direct and indirect impacts to adjacent native plant communities as a result of project construction will be less than significant.

Construction Impacts to Sensitive Wildlife Species

Least Bell's Vireo and Other Riparian-Dependent Migratory Sensitive Wildlife

Potential impacts to the least Bell's vireo and other riparian-dependent migratory sensitive wildlife are not anticipated because suitable habitat does not occur within the project alignment. Project Protocol 50 (see Appendix B) requires adherence with any restoration, habitat enhancement, or mitigation developed during federal or state consultation. Impacts to least Bell's vireo and other riparian-dependent sensitive wildlife are expected to be less than significant.

Coastal Cactus Wren

Coastal cactus wrens were observed during surveys within and along the Los Coches segment at the Los Coches Substation. Under SDG&E's NCCP, this species is considered a narrow endemic and, as such, take authorization is limited to emergencies and unavoidable impacts from repairs to existing facilities. Take of the species for non-emergency work may not occur without first conferring with the USFWS and the CDFG. Furthermore, for new projects, destruction of narrow endemic wildlife species or their supporting habitat will not be covered by the NCCP.

Project Protocol 43 (see Appendix B) requires that SDG&E restrict vegetation clearing and construction, to the extent feasible, to the coastal cactus wren's non-breeding season, if preconstruction and/or focused species surveys determine the presence of the coastal cactus wren in suitable habitat within and along the existing ROW and associated access roads. If it is not feasible to avoid construction activities during the breeding season, SDG&E will consult with the applicable resource agencies in accordance with the NCCP to determine specific alternative mitigation measures. In accordance with Project Protocol 54 (see Appendix B), SDG&E will consult with the USFWS and the CDFG to determine whether any additional restoration, habitat

enhancement, or mitigation measures for construction of the project will be necessary in areas that are known to have or that have the potential to have coastal cactus wren.

With the incorporation of the Project Protocols noted above, the protective and mitigation measures in the NCCP, and any additional mitigation measures developed in consultation with the USFWS and the CDFG, the potential impacts to coastal cactus wren are expected to be less than significant.

Coastal California Gnatcatcher

Areas of the proposed pull sites and pole replacement locations are within coastal sage scrub habitat that is either occupied or has the potential to be occupied by coastal California gnatcatcher. Potential impacts to the coastal California gnatcatcher include habitat loss or disturbance, as well as mortality if the project is constructed during the breeding season.

Project Protocol 43 (see Appendix B) requires that SDG&E restrict vegetation clearing and construction, to the extent feasible, to the coastal California gnatcatcher's non-breeding season if preconstruction and/or focused surveys determine the presence of the coastal California gnatcatcher in suitable habitat within and along the existing ROW and associated access roads. If it is not feasible to avoid construction activities during the breeding season, SDG&E will consult with the applicable resource agencies in accordance with the NCCP to determine specific alternative mitigation measures. In accordance with Project Protocol 54 (see Appendix B) SDG&E will consult with the USFWS and the CDFG to determine whether any additional restoration, habitat enhancement, or mitigation measures for construction of the project will be necessary in areas that are known to have or that have the potential to have coastal California gnatcatchers and other coastal sage scrub-dependent bird species.

The coastal California gnatcatcher is a covered species under SDG&E's NCCP. With incorporation of the Project Protocols noted above, the protective and mitigation measures in the NCCP, and any additional mitigation measures developed in consultation with the USFWS and the CDFG, the potential impacts to coastal California gnatcatcher are expected to be less than significant.

Grasshopper Sparrow, San Diego Black-Tailed Jackrabbit, and Other Sensitive Coastal Sage Scrub and Chaparral Species

Several sensitive species occur or have the potential to occur in the coastal sage scrub and chaparral habitat within the proposed pull site and pole replacement areas. These species include grasshopper sparrow, Belding's orange-throated whiptail, coastal rosy boa, southern California rufous-crowned sparrow, San Diego desert woodrat, and San Diego horned lizard. All of these species are covered under SDG&E's NCCP. Compliance with the NCCP and implementation of the Project Protocols (see Appendix B) will ensure that impacts to these species are avoided, minimized, and mitigated to the maximum extent feasible. Therefore, impacts to these species are anticipated to be less than significant.

Quino Checkerspot Butterfly

Potential impacts to the Quino checkerspot butterfly due to construction activities include potential habitat loss, habitat disturbance, or species mortality during construction. As previously discussed, the proposed pull sites and pole replacement areas are within habitat that has been historically occupied or has the potential for occupation by the Quino checkerspot butterfly. However, based on the negative findings of three years of protocol-level surveys, potentially suitable habitat is presumed to be unoccupied. Therefore, direct impacts (*i.e.*, mortality) to the federally listed Quino checkerspot butterfly are not anticipated.

SDG&E is in the process of completing its NCCP amendment to include the Quino checkerspot butterfly as a covered species in consultation with the USFWS under Section 10. Project Protocol 42 (see Appendix B) requires SDG&E to conduct focused surveys to determine the presence or absence of the Quino checkerspot butterfly in suitable habitat along the existing ROW and in the immediate project vicinity. To date, such surveys have indicated that Quino checkerspot butterfly does not presently occur in the project vicinity. However, if this species is discovered, SDG&E will consult with the USFWS to determine whether any additional Project Protocols or mitigation measures for construction of the project are necessary and appropriate. Project Protocol 54 (see Appendix B) requires adherence to any such additional mitigation measures developed during federal consultation.

Further site-specific studies will be conducted prior to starting construction on the existing ROW as necessary and as determined through consultation with the USFWS. Therefore, it is expected that with the effective implementation of the Project Protocols and the implementation of the protective and mitigation measures in SDG&E's pending NCCP amendment for the Quino checkerspot butterfly, application of mitigation credits (contained in the draft amendment) if required, and any additional mitigation measures developed in consultation with the USFWS, potential impacts to the Quino checkerspot butterfly will be less than significant.

Hermes Copper Butterfly

Impacts to the Hermes copper butterfly could occur as a result of habitat loss (particularly of the host plant) and larval mortality. This species may be present in chaparral and coastal sage scrub habitat along the Miguel and Los Coches segments. Hermes copper butterfly is not a covered species under SDG&E's NCCP. However, while it is listed by the USFWS as a federal species of special concern, impacts to this species are not formally regulated. Consultation with the USFWS and/or CDFG will determine whether focused surveys for this species are required, and whether any additional Project Protocols or mitigation measures for construction of the project are necessary and appropriate. Provided all agency-recommended measures are enforced, significant impacts to Hermes copper butterfly are not anticipated.

Western Burrowing Owl

Western burrowing owls have a low potential to occur in marginally suitable grassland habitat within the proposed pull sites and pole replacement areas. This species was not detected during December 2004 focused surveys or in the April/May 2005 breeding season focused surveys. Western burrowing owl is a covered species under SDG&E's NCCP. SDG&E will comply with the MBTA, and implement protective and mitigation measures in the NCCP and in Project

Protocols 7, 20, 30, 36, 43, 50, 52, 53, and 54 (see Appendix B) to protect breeding and nesting avian species. With implementation of these measures, impacts to western burrowing owls are expected to be less than significant.

Construction Impacts to General Wildlife

Raptors and Other Nesting Bird Species

Construction activities could impact nesting raptors, passerines, and other sensitive bird species, if present. Potential impacts to raptor species will be considered significant due to their protection under the MBTA and California Fish and Game Code, and will need to be avoided. SDG&E will comply with the MBTA and implement protective and mitigation measures in its NCCP and avian protection program, as well as Project Protocols 7, 18, 28, 34, 41, 46, 48, 49, and 50 (see Appendix B) to protect breeding and nesting raptors and other avian species. These protocols include:

- crew training;
- preconstruction and focused surveys;
- report documentation;
- resource monitoring;
- avoidance during the bird breeding seasons to the extent feasible; and
- consultation with the USFWS to determine whether any additional restoration, habitat enhancement, or mitigation measures are needed.

With implementation of these measures, impacts to breeding and nesting birds are expected to be less than significant.

Trimming or Removal of Nest Trees

Preconstruction surveys will be conducted for tree-trimming activities that occur during the nesting season to determine presence of nests and nesting activities that will potentially be affected by the project. SDG&E will implement protective and mitigation measures in the NCCP and Project Protocols 7, 18, 28, 34, 41, 46, 48, 49, and 50 (see Appendix B) to protect breeding and nesting bird species. These protocols include:

- crew training;
- preconstruction and focused surveys;
- report documentation;
- resource monitoring;
- avoidance during the bird breeding seasons to the extent feasible; and
- consultation with the USFWS to determine whether any additional restoration, habitat enhancement, or mitigation measures are needed.

With implementation of these measures, impacts to breeding and nesting birds are expected to be less than significant.

Indirect Noise Impacts from Construction

Construction noise may cause potential short-term indirect impacts to nesting bird species, if present, including, but not limited to, the coastal California gnatcatcher and coastal cactus wren. Increased ambient noise levels during temporary short-term construction activities may mask the breeding songs used by sensitive riparian and upland birds. Additionally, intermittent loud noises from short-term construction activities may also cause nesting birds to become startled and abandon their nest. These potential temporary short-term impacts may be considered a take of listed species. Indirect noise impacts to these species may potentially be considered significant if construction-related noise levels cause abandonment of nests.

Project Protocol 41 (see Appendix B) requires SDG&E to conduct focused surveys in suitable habitat along the existing ROW and in the immediate vicinity to determine the presence or absence of sensitive, listed, and NCCP-covered bird species that could be adversely affected by noise. If sensitive bird species are present, SDG&E will consult with the USFWS or the CDFG in accordance with the NCCP to determine if any additional Project Protocols or mitigation measures will be appropriate during construction of the project, and to minimize temporary, short-term construction noise impacts. Project Protocol 50 (see Appendix B) requires adherence with any additional restoration, habitat enhancement, or mitigation measures developed during federal or state consultation. In areas where nesting birds are discovered, Project Protocol 63 prohibits helicopter use until after the breeding season. Indirect, temporary short-term construction noise impacts will not be considered significant if Project Protocol 41 and additional mitigation measures developed during federal consultation are followed. Therefore, the project's potential indirect noise impact to nesting bird species will be less than significant.

Wildlife Movement Corridors

Much of the existing SDG&E overhead transmission corridors, including the transmission corridors associated with this project, act as potential wildlife movement corridors or intersect with existing wildlife corridors. In many areas where the transmission corridor is adjacent to development, the transmission corridor itself connects urban canyons and other open space, allowing wildlife to travel unhindered through otherwise developed areas. In addition, wildlife movement through the region is facilitated by the presence of natural drainages and large bodies of water and by the presence of utility rights-of-way. The wood poles to be replaced are within SDG&E's ROW. Replacement of wood support structures for the new overhead transmission line immediately adjacent to an existing structure within the ROW will allow sufficiently wide natural areas to remain within the ROW, thereby permitting the continued movement of wildlife species.

Because the project will be located in an existing utility ROW, is currently occupied by numerous structures and circuits, and does not cross any large bodies of water, the addition of new circuits and structures will not significantly impact migrating birds. It is expected that regional wildlife movement will not be significantly impacted by the project through loss of any protective cover, roosts, forage habitat, or movement corridors.

Predation

Transmission lines and support structures provide potential perching opportunities for raptor species as well as crows and ravens, which can increase the potential for predation of wildlife by these avian predators. In areas where current perching sites are few or rare, the construction of a new transmission line increases the potential for avian predator perching and hence, predation opportunities in the area. Because this project is located in SDG&E's existing ROW, replacement of existing wood-pole support structures and the upgrading of existing structures will not significantly increase perching opportunities for avian predators in the area.

Indirect impacts from new perch sites on pole or tower support structures for nest parasitism are also unlikely because many perch sites already occur on the existing utility towers and poles within the existing ROW and in trees in the vicinity of the existing ROW.

4.2 OPERATIONS AND MAINTENANCE IMPACTS

Standard operational and maintenance activities, such as road grading, tree trimming, structure installation, and replacement and repairs, could impact sensitive, listed, and covered species if present in the project area. However, potential impacts from SDG&E's standard operations and maintenance activities are already mitigated in SDG&E's NCCP. With the incorporation of SDG&E's Project Protocols and the protective and mitigation measures in the NCCP as well as implementation of SDG&E's avian protection program, the potential impact to sensitive species is expected to be less than significant.

Wildlife Electrocution

Concerns regarding potential electrocution impacts to wildlife are primarily focused on avian species. An electric circuit (and resultant electrocution) is created when a bird simultaneously touches an energized conductor and the neutral wire or grounded hardware. Most bird electrocutions occur on distribution systems at the relatively lower voltages. This is due primarily to the spacing of the electrical conductors. On transmission towers, the wires are separated by 7 to 30 feet. On distribution systems, the spacing is 2 to 6 feet. The closer spacing is more of a potential hazard to raptors and other large birds because their body size and wingspan are big enough to span the distance between the conductor wires, completing an electrical circuit. A second shock hazard exists if a neutral wire and metal hardware that is connected to a ground wire are contacted simultaneously.

The new poles to be installed will have conductors that are spaced at least 9 feet apart. Therefore, there is no risk of electrocution from the installation of these poles.

Electrocution of nonavian species is rare. When it occurs, it is generally caused by climbing animals that come into contact with energized components at substations rather than on transmission lines. Typical nonavian electrocution impacts could occur to nonsensitive wildlife species, such as squirrels (*Spermophilus* sp.), raccoons (*Procyon lotor*), and domestic cats (*Felis domesticus*). Infrequent electrocution of nonsensitive wildlife species is not considered a significant impact.

Collision

Collision impacts of avian species with existing transmission facilities can be a significant impact. Collision impacts typically occur to migratory bird species and are generally due to poor visibility of electrical lines. Factors leading to avian collisions with existing transmission lines include a lack of visual cues that make the lines stand out against the surrounding environment. Disorientation of avian species can be caused by "light dazzle" from city/industrial light sources during evening hours, by spatial configuration of the electrical lines, and by proximity to heavily used major avian flyways.

The existing overhead ROW crosses areas that provide foraging habitat for generally solitary raptors. Project activities are limited to replacement and addition of structures and lines within the existing ROW where electrical lines are already in place. No new overhead electrical lines will be introduced into an area outside of the existing overhead ROW. Therefore, the project is not likely to significantly increase the frequency of avian collisions.

5. MITIGATION MEASURES

5.1 PROJECT PROTOCOLS AND THE NCCP

SDG&E has designed and incorporated the Project Protocols discussed in this chapter and listed in Appendix B, and the Environmental Standards of NCCP Compliance into project construction, operation, and maintenance procedures. SDG&E will implement these Project Protocols and the protective and mitigation measures contained in the NCCP to avoid or minimize potential impacts to biological resources to less than significant levels.

Project Protocols and mitigation measures in the NCCP specific to biological resources include measures to avoid and protect sensitive resources, additional surveys for sensitive resources, documentation of preconstruction and postconstruction habitat conditions in the form of preactivity survey reports and postconstruction survey reports, and habitat enhancement (e.g., vegetation restoration and habitat reclamation).

5.2 HABITAT ENHANCEMENT AND RECLAMATION

As discussed in its NCCP, SDG&E will, as its primary mitigation strategy, provide habitat enhancement measures as mitigation for potential project impacts that are not sufficiently mitigated and addressed by the Project Protocols. As its secondary mitigation strategy, SDG&E will provide sufficient mitigation credits, in accordance with the NCCP, to mitigate for impacts where habitat enhancement measures are not successful. For temporary impacts to wetlands falling within the jurisdiction of the Corps pursuant to Section 401 and 404 of the CWA, SDG&E holds separate wetland mitigation credits. Further, under the NCCP, SDG&E may provide existing mitigation credits or procure new mitigation credits for use as mitigation for potential project impacts, as necessary and appropriate.

6. CONCLUSION

SDG&E's proposed Silvergate/Main Street Substation Project Associated Projects will result in less than significant impacts to biological resources. During the field surveys, no sensitive plant or wildlife species were observed during the surveys. Temporary and/or permanent impacts to the following vegetation communities may occur as a result of project construction activities: Diegan coastal sage scrub, maritime succulent scrub, chaparral, and nonnative grassland. Additionally, impacts to disturbed habitat and developed habitat would occur.

Although the transmission portion of the proposed project traverses sensitive habitats, adherence to the Project Protocols, SDG&E's NCCP, project mitigation measures, and any applicable regulatory requirements will result in avoiding or minimizing any potential impacts to biological resources to less than significant levels. Wherever avoidance is not feasible, SDG&E will obtain and comply with all necessary state and federal permits to protect biological resources. In addition, except for certain access roads, the project will be located within an existing ROW or on previously developed parcels at the Silvergate Power Plant site. Therefore, its potential effect on existing wildlife movement will be less than significant.

A combination of Project Protocols, SDG&E's NCCP, and mitigation measures will reduce potential impacts to the federally listed and/or proposed plant and wildlife species that are known to occur or have a high potential to occur in the project ROW to a less than significant level. For any unavoidable impacts to covered species, SDG&E will implement the mitigation in its agency-approved NCCP to reduce potential impacts to an insignificant level.

7. REFERENCES

Atwood, J.L. 1990. *Status review of the California gnatcatcher* (Polioptila californica). Unpublished technical report, Manomet Bird Observatory, Manomet, Massachusetts. 79 pp.

Baicich, Paul J. and Colin J.O. Harrison. 1997. *A Guide to the Nests, Eggs, and Nestling of North American Birds*. San Diego: Academic Press.

Beauchamp, R.M. 1986. *A Flora of San Diego County, California.* Sweetwater River Press. National City, California. 241 pp.

Begon, M., J.L. Harper, and C.P. Townsend. 1996. *Ecology, Third Edition.* Massachusetts: Blackwell Science Ltd.

Benton, A.H. 1954. *Relationships of birds to power and communication lines.* Kingbird 4(3): 65–66.

Bostic, D.L. 1964. The Ecology and Behavior of *Cnemidophorus hyperythrus beldingi*. Cope (Sauria: Teiidae). 112 pp. Unpublished master's thesis.

Burt, W.H. and R.P. Grossenheider. 1976. *A Field Guide to the Mammals of America North of Mexico.* The Peterson Field Guide Series. Houghton Mifflin Company. Boston, Massachusetts. 288 pp.

California Department of Fish and Game. 1990. *California's Wildlife. Volume II, Birds.* Zeiner, David C., William F. Laudenslayer, Jr., Kenneth E. Mayer, and Marshall White, eds. California Department of Fish and Game, Sacramento, California. 732 pp.

California Department of Fish and Game. 1990. *California's Wildlife. Volume III, Mammals.* Zeiner, David C., William F. Laudenslayer, Jr., Kenneth E. Mayer, and Marshall White, eds. California Department of Fish and Game, Sacramento, California. 732 pp.

California Department of Fish and Game. 1991. Fish and Game Code of California. Gould Publications, Inc.

California Department of Fish and Game. 2004. State and Federally Listed Endangered and Threatened Animals of California.

California Department of Fish and Game. 2004. State and Federally Listed Endangered, Threatened, and Rare Plants of California.

California Native Plant Society. 2004. *Electronic Inventory of Rare and Endangered Vascular Plants of California.* Search for 7.5-minute USGS quadrangles for Alpine, El Cajon, El Cajon Mountains, Imperial Beach, Jamul Mountains, National City, and San Vicente Reservoir.

California Native Plant Society. 2004. On-Line Inventory, 6th Edition. Online: http://www.cnps.org/inventory. Last updated November 12, 2004.

California Natural Diversity Data Base. 2005. California Department of Fish and Game. Search for the county of San Diego and the following 7.5-minute USGS quadrangles: Alpine, El Cajon, El Cajon Mountains, Imperial Beach, Jamul Mountains, National City, and San Vicente Reservoir.

CaliforniaHerps.com. California Reptiles and Amphibians. Online: http://www.californiaherps.com/lizards/pages/a.h.beldingi.html. Site visited February 6, 2004.

Cassel, J.F., D.W. Kiel, J.J. Knodel, and J.M. Wiehe. 1979. *Relation of birds to certain power lines in central North Dakota.* Zoology Department, North Dakota State University, Fargo. Prepared for the United Power Association, Environment and Lands Division, Elk River, Minnesota. 50 pp.

City of Chula Vista. 1995. *General Plan.*

City of Chula Vista. 2003. *City of Chula Vista MSCP Subarea Plan.*

City of San Diego. *Multiple Species Conservation Program; Subarea Plan.* Online: http://www.sannet.gov/mscp/pdf/subarea.pdf. Site visited on January 6, 2004.

Crother, B. I., et al. 2003. Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico: Update. *Herpetological Review* 34 (3): 196-203.

Essex Environmental, Inc. 2002. Miguel–Mission 230kV #2 Project Quino Checkerspot Butterfly (*Euphydryas editha quino*) Protocol Survey Report. July.

Essex Environmental, Inc. 2002. *Miguel-Mission 230kV #2 Project 230kV #2 Project Proponent's Environmental Assessment.* July.

Essex Environmental, Inc. 2003. Miguel–Mission 230kV #2 Project Quino Checkerspot Butterfly (*Euphydryas editha quino*) Protocol Survey Report. June.

Essex Environmental, Inc. 2004. *Otay Mesa Power Purchase Agreement Transmission Project Biological Resources Technical Report.* July.

Essex Environmental, Inc. 2005. Otay Mesa Power Purchase Agreement Transmission Project Interim Biological Focused Survey Report (Fall/Winter 2004 Surveys). January.

Essex Environmental, Inc. 2005. Otay Mesa Power Purchase Agreement Transmission Project Interim Biological Focused Survey Report (Spring 2005 Surveys). May.

Hickman, J.C. 1993. *The Jepson Manual: Higher Plants of California.* University of California Press, Berkeley and Los Angeles, California.

Holland, R. F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California.* Nongame-Heritage Program, California Department of Fish and Game. October.

James, B.W. and B.A. Haak. 1979. *Factors affecting avian flight behavior and collision mortality at transmission lines.* Final report. Bonneville Power Administration, Portland, Oregon. 106 pp.

Jennings, M. R., and M. P. Hayes. 1994. *Amphibian and reptiles species of special concern in California.* California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California.

Jones, C., R. S. Hoffman, D. W. Rice, R. J. Baker, M. D. Engstrom, R. D. Bradley, D.J. Schmidly, and C. A. Jones. 1997. Revised Checklist of North American Mammals North of Mexico. *Occasional Papers, Museum of Texas Tech University* No. 173. December.

Keeler-Wolf, T. 1991. *Recent Changes in the Extent of Coastal Sage Scrub, San Diego County, California.* California Department of Fish and Game, Natural Diversity Data Base, Natural Heritage Division, March.

Larkin, R.P., and P.J. Sutherland. 1977. Migrating birds respond to Project Seafarer's electromagnetic field. Science 195: 777.

Massey, B. W. 1979. *The Belding's Savannah Sparrow.* Prepared for the U.S. Army Corps of Engineers, Los Angeles District. January.

Mattoni, R., G. F. Pratt, T. R. Longcore, J. F. Emmel, and J. N. George. 1997. The Endangered Quino Checkerspot Butterfly, *Euphydryas editha quino* (Lepidoptera: Nymphalidae). Miller, M.W. and G.E. Kaufman. 1978. *High voltage overhead.* Environment 20(1): 6–36.

Minnesota Environmental Quality Board. 1980. *Considerations in transmission line routing: biological effects and physical characteristics of fields, ions, and shock.* Prepared by Dow Associates, Inc., Berkeley, California. 151 pp.

Munz, P. A. 1974. *A Flora of Southern California.* University of California Press, Berkeley.

National Geographic. 1999. *Field Guide to the Birds of North America.* Third edition. National Geographic Society, Washington, D.C.

NatureServer Explorer. Comprehensive Report. Undated a. Desert woodrat. Online: http://www.natureserver.org/. Site visited September 6, 2002.

NatureServer Explorer. Comprehensive Report. Undated b. Golden eagle. Online: http://www.natureserver.org/. Site visited September 6, 2002.

Olendorff, R.R., A.D. Miller, and R.N. Lehman. 1981. *Suggested practices for raptor protection on power lines: the state of the art in 1981.* Raptor Res. Rept. No. 4. 111 pp.

Opler, P. A., and A. B. Wright. 1999. *A Field Guide to Western Butterflies.* Peterson Field Guide Series. Houghton Mifflin, Boston.

Page, G.W., J.S. Warriner, J.C. Warriner, and P.W. Paton. 1995. Snowy Plover (*Charadrius alexandrinus*). In A. Poole and F. Gill, eds. The Birds of North America, no. 154. The Birds of North America, Inc., Philadelphia, Pennsylvania.

Reiser, C. H. 2001. *Rare Plants of San Diego County.* Aquafir Press, Imperial Beach, California.

Remsen, J.V. 1978. *Bird species of special concern in California: an annotated list of declining or vulnerable bird species.* Nongame Wildlife Investigation, Wildlife Management Branch Administrative Report 78–1. California Department of Fish and Game, Sacramento, California.

Rowland, Scott D. 1992. Activity, Behavior, Ecology, and Home Range of the Orange-throated Whiptail, Cnemidophorus hyperythrus beldingi Cope.125 pp. Unpublished master's thesis.

San Diego Association of Governments. 1995. Geographical Information System map VEG95.

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

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

San Diego Gas & Electric. 1995. Subregional Natural Community Conservation Plan. December 15, 1995.

San Diego Natural History Museum. 2005. Online Field Guides, Arthropod Illustrated Guide, *Lycaena hermes* entry. Online: http://www.sdnhm.org/fieldguide/inverts/lyca-her.html. Accessed March 2005.

Sands, A., 1977 *Riparian Forests in California: Their Ecology and Conservation.* Institute of Ecology Publication No. 15. University of California, Davis.

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

Sedgwick, J.A. 2000. Willow Flycatcher (*Empidonax traillii*). In Birds of North America, No. 533 (A. Poole, P. Stettenheim, and F. Gill, Eds.). The Birds of North America, Inc. Philadelphia, PA.

Sempra Energy. 2002. Geographical Information System maps for sensitive plants and wildlife.

Sempra Energy. 2003. Geographical Information System maps for Quino checkerspot butterfly.

Simpson, M.G. and J.P. Rebman. 2001. *Checklist of the Vascular Plants of San Diego County.* Third edition. San Diego State University Herbarium Press, San Diego, California. 97 pp.

Skinner, M., and B. Pavlik. 1994. *Inventory of Rare and Endangered Plants of California.* California Native Plant Society Special Publication No. 1, 5th ed. Sacramento.

Small, Arnold. 1994. *California Birds: Their Status and Distribution.* Ibis Publishing Company, Vista, California. 342 pp.

Smith, Robert Leo. 1996. *Ecology and Field Biology*. New York: Harper Collins College Publishing. Pages 70–78.

Stebbins, Robert C. 2003. *A Field Guide to Western Reptiles and Amphibians*. 3rd Edition, Houghton Mifflin Company, Boston, Massachusetts.

Sweet, S. S. 1992. Initial Report on the Ecology and Status of the Arroyo Toad (*Bufo microscaphus californicus*) on the Los Padres National Forest of Southern California, with Management Recommendations. Contract Report to the U.S. Department of Agriculture, Forest Service, Los Padres National Forest, Goleta, CA. Revised March.

The Raptor Center at the University of Minnesota, College of Veterinary Medicine. *Raptor Facts*. Online: http://www.raptor.cvm.umn.edu/content.asp?page=2516. Site visited September 9, 2002.

Thompson, B.C., J.A. Jackson, J. Burger, L.A. Hill, E.M. Kirsch, and J.L. Atwood. 1997. Least Tern (*Sterna antillarum*). In Birds of North America, No. 290 (A. Poole, P. Stettenheim, and F. Gill, Eds.). The Birds of North America, Inc. Philadelphia, PA.

Thorne, F. 1963. The Distribution of an Endemic Butterfly *Lycaena hermes. J. Res. Lepid.* 2: 143 – 150.

Tibor, Davis P. 2001. California Native Plant Society's Inventory of Rare and Endangered Plants of California. California: California Native Plant Society.

U.S. Department of the Interior, U.S. Fish and Wildlife Service. 1993. *Coastal California Gnatcatcher Presence/Absence Survey Protocol.*

USFWS. 2005. Threatened and Endangered Species database System. Listings by State and Territory - California. Accessed May 13, 2005.

U.S. Fish and Wildlife Service. 1994. Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for the Arroyo Southwestern Toad; Final Rule. *Federal Register* 59(241): 64589-64866.

U.S. Fish and Wildlife Service. 1995. Endangered and Threatened Wildlife and Plants; Final Rule Determining Endangered Status for the Southwestern Willow Flycatcher. *Federal Register*: Vol. 60 (38): 10694 – 10715.

U.S. Fish and Wildlife Service. 1996. Endangered and Threatened Wildlife and Plants; Determination of Endangered or Threatened status for Four Southern Maritime Chaparral Plant Taxa from Coastal Southern California and Northwestern Baja California, Mexico. *Federal Register* 61(195): 52370 – 52384.

U.S. Fish and Wildlife Service. 1997. Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for the Laguna Mountains Skipper and Quino Checkerspot Butterfly, Final Rule. *Federal Register* 62, (11).

U.S. Fish and Wildlife Service. 1997. Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for the Arroyo Southwestern Toad, Final Rule. *Federal Register* 59 (241).

U.S. Fish and Wildlife Service. 1998. *Draft Recovery Plan for the Least Bell's Vireo*. Portland, Oregon.

U.S. Fish and Wildlife Service. 1999. *Endangered and Threatened Wildlife and Plants*. 50 CFR 17.11 and 17.12.

U.S. Fish and Wildlife Service 1999. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Pacific Coast Population of the Western Snowy Plover; Final Rule. *Federal Register* 64(234): 68507-68544.

U.S. Fish and Wildlife Service. 2002a. Quino Checkerspot Butterfly Survey Protocol Information.

U.S. Fish and Wildlife Service. 2002b. Year 2002 *Quino Checkerspot Butterfly* (Euphydryas editha quino) *Recommended Quino Survey Areas Map*.

U.S. Fish and Wildlife Service. 2002c. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Quino Checkerspot Butterfly (*Euphydryas editha quino*), Final Rule. *Federal Register* 67(72): 18355-18395.

U.S. Fish and Wildlife Service. 2002d. *Quino Checkerspot Butterfly 2002 Monitored Reference Site Information.* Online: http://carlsbad.fws.gov./. Site visited June 2002.

U.S. Fish and Wildlife Service. 2002e. Quino Checkerspot Butterfly 2002 Survey Recommendations.

Unitt, P. A. 1984. *Birds of San Diego County.* Memoir No. 13. San Diego Society of Natural History.

Wheelwright, N.T. and J.D. Rising. 1993. Savannah sparrow (*Passerculus sandwichensis*). In the Birds of North America, No. 45.

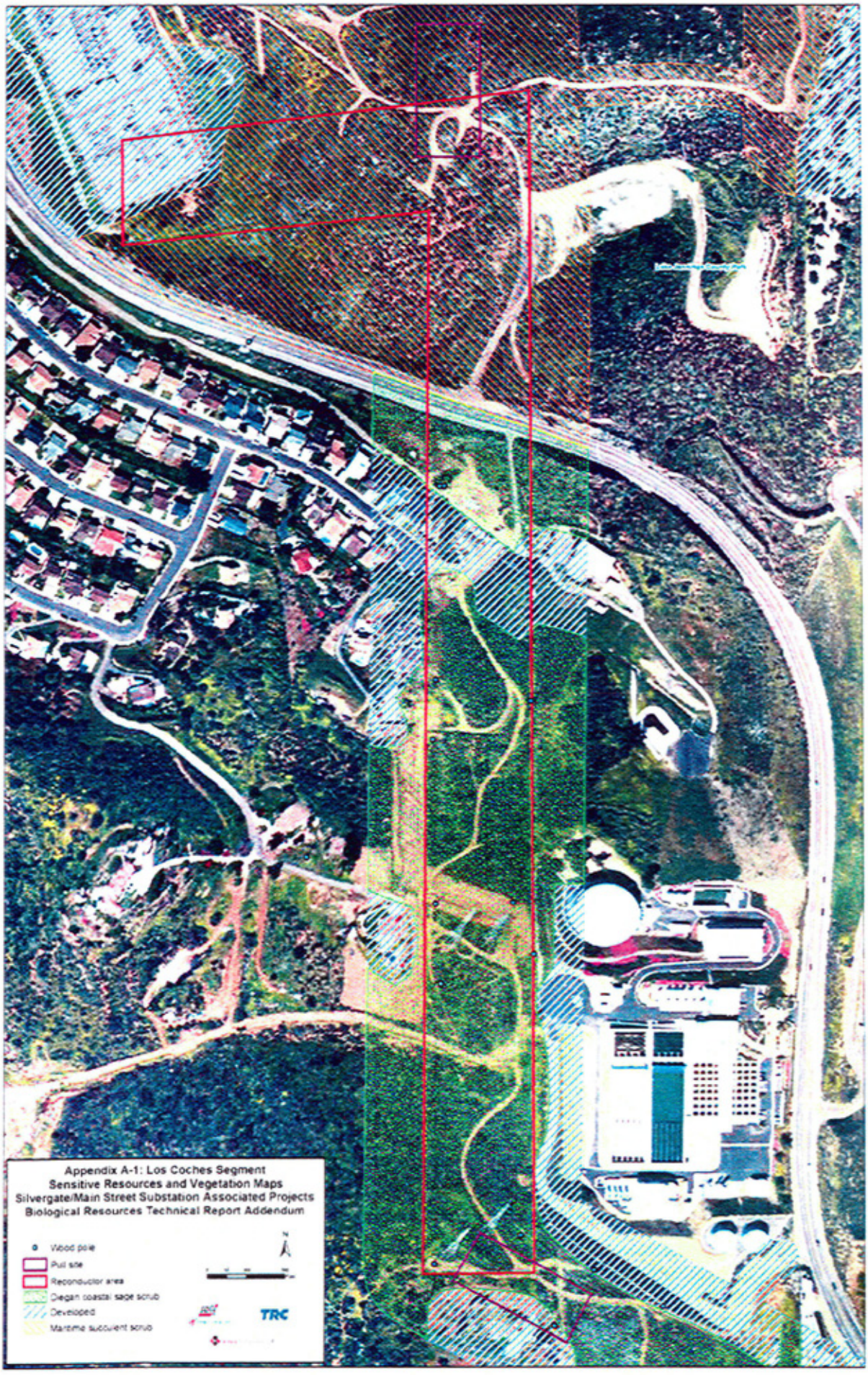
Williams, D.F. 1986. *Mammalian Species of Special Concern in California.* California Department of Fish and Game, Wildlife Management Division Admin. Rep. 86–1. 112 pp.

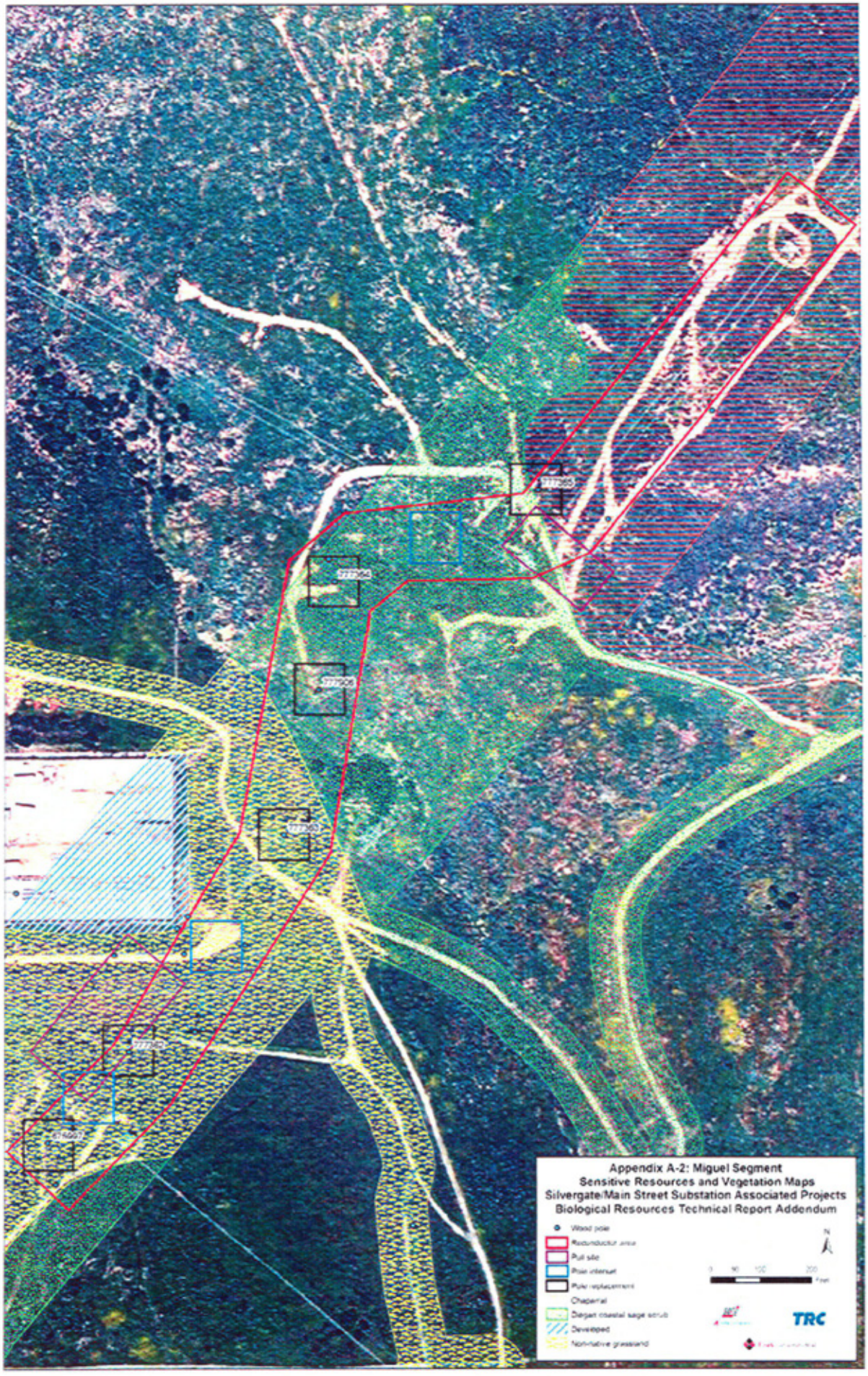
Williams, R.D. and E.W. Colson. 1989. *Raptor associations with linear rights-of-way*. Pages 173–192 in B.G. Pendleton, et al. [eds.], Proc. Western Raptor Management Symposium and Workshop. National Wildlife Federation, Washington, D.C.

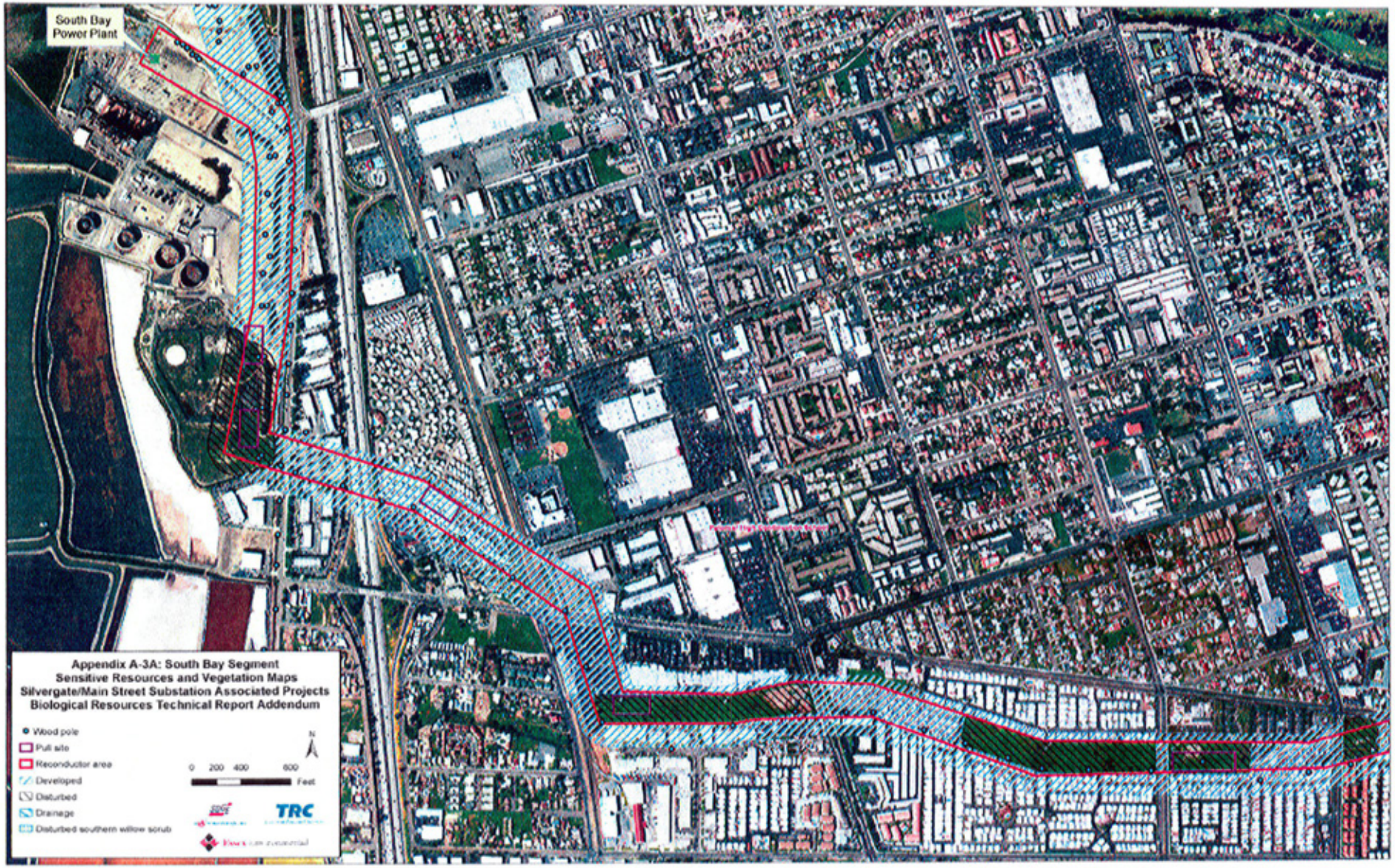
Zedler, J. B., and C. S. Nordby. 1986. *The Ecology of Tijuana Estuary, California: An Estuarine Profile.* Prepared for the U.S. Fish and Wildlife Service and California Sea Grant College Program. Biological Report 85 (7.5), June.

Zedler, P., and T. Ebert. 1987. *The Ecology of Southern California Vernal Pools: A Community Profile.* U.S. Fish and Wildlife Biological Report 85 (7.11), May.

Appendix A: Sensitive Resources and Vegetation Maps


Appendix A-1: Los Coches Segment
Sensitive Resources and Vegetation Maps
Silvergate/Main Street Substation Associated Projects
Biological Resources Technical Report Addendum
Wood pole
Pull site
Reconductor area
Diegan coastal sage scrub
Developed
Maritime succulent scrub
N
TRC


Appendix A-2: Miguel Segment
Sensitive Resources and Vegetation Maps
Silvergate/Main Street Substation Associated Projects
Biological Resources Technical Report Addendum
Wood pole
Reconductor area
Pull site
Pole interset
Pole replacement
Chaparral
Diegan coastal sage scrub
Developed
Non-native grassland
N
0
90
180
360
Feet
TRC


South Bay
Power Plant
Appendix A-3A: South Bay Segment
Sensitive Resources and Vegetation Maps
Silvergate/Main Street Substation Associated Projects
Biological Resources Technical Report Addendum
Wood pole
Pull site
Reconductor area
Developed
Disturbed
Drainage
Disturbed southern willow scrub
N
0 200 400 600
Feet
TRC


Appendix A-3D: South Bay Segment
Sensitive Resources and Vegetation Maps
Silvergate/Main Street Substation Associated Projects
Biological Resources Technical Report Addendum
Wood pole
Pull site
Reconductor area
Developed
Disturbed
Drainage
Disturbed southern willow scrub
0 200 400 800
Feet
TRC

Appendix B: SDG&E Project Protocols

SDG&E Project Protocols

Following are SDG&E's Project Protocols that will be implemented as appropriate throughout project design, construction, operation, and maintenance.

1. Except when not feasible, all project vehicle movement would be restricted to existing access roads and access roads constructed as a part of the project and determined and marked by SDG&E in advance for the contractor, contractor-acquired accesses, or public roads. New access road construction for the project would be allowed year-round. However, when feasible, every effort would be made to avoid constructing roads during the nesting season. When it is not feasible to keep vehicles on existing access roads or to avoid constructing new access roads during the nesting, breeding, or flight season, SDG&E would perform up to three site surveys if necessary in the area where the work is to occur. The surveys would be performed to determine presence or absence of endangered nesting birds or other endangered species in the work area. Endangered species for which surveys would be performed include western burrowing owl, Belding's savannah sparrow, California least tern, western snowy plover, light-footed clapper rail, salt marsh skipper, coastal California gnatcatcher, coastal cactus wren, Southern California rufous-crowned sparrow, Cooper's hawk, orange-throated whiptail, and San Diego horned lizard. SDG&E would submit results of those surveys to the USFWS and the CDFG in accordance with its NCCP and if Project Protocols and Project Mitigation Measures do not adequately address impacts consult if necessary on reasonable mitigation measures to avoid or minimize for potential impacts prior to vehicle use off existing access roads or the construction of new access roads during the nesting season. However, these site surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by other project protocols as appropriate. Parking or driving underneath oak trees is not allowed in order to protect root structures. In addition to regular watering to control fugitive dust created during clearing, grading, earth-moving, excavation, and other construction activities, which could interfere with plant photosynthesis, a speed limit of 15 miles per hour (mph) shall be observed on dirt access roads to allow reptiles and small mammals to disperse and reduce dust.

2. The area limits of project construction and survey activities would be predetermined based on the temporary and permanent disturbance areas noted on the construction package issued to SDG&E's contractor(s) to minimize environmental effects arising from the project, with activity restricted to and confined within those limits unless a Variance form the CPUC is obtained. Survey personnel shall keep survey vehicles on existing roads. During project surveying activities, brush clearing for footpaths, line-of-sight cutting, and land surveying panel point placement in sensitive habitat would require prior approval from the project biological resource monitor in conformance with Protocols 18 and 19. Hiking off roads or paths for survey data collection is allowed year-round as long as other Protocols are met. Stringing of new wire and reconductoring for the project would be allowed year-round in sensitive habitats if the conductor is not allowed to drag on the ground or in brush and all vehicles used during stringing remain on project access roads. Where stringing requires that existing conductor be dropped from structures or dropped or new conductor drag on the brush or ground or vehicles leave project access roads, SDG&E would perform one survey within the drop and drag zone immediately prior to dropping and dragging to determine

presence or absence of endangered nesting birds or other endangered species in the work area. Endangered species for which surveys would be performed include western burrowing owl, Belding's savannah sparrow, California least tern, western snowy plover, light-footed clapper rail, salt marsh skipper, coastal California gnatcatcher, coastal cactus wren, Southern California rufous-crowned sparrow, Cooper's hawk, orange-throated whiptail, and San Diego horned lizard. SDG&E would submit results of those surveys to the USFWS and CDFG in accordance with its NCCP and if Project Protocols and Project Mitigation Measures do not adequately address impacts consult on any additional reasonable and feasible mitigation measures for potential impacts, prior to dragging wire on the ground or through brush, or taking vehicles off project access roads during the nesting season. However, these site surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by other project protocols as appropriate. No paint or permanent discoloring agents would be applied to rocks or vegetation to indicate limits of survey or construction activity where any sensitive cultural resources or wildlife habitats are encountered in the field.

3. Project construction activities shall be designed and implemented to avoid or minimize new disturbance to sensitive or suitable habitats, erosion on manufactured slopes, and off-site degradation from accelerated sedimentation, and to reduce maintenance and repair costs. Maintenance of cut and fill slopes created by project construction activities would 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.

4. In areas where recontouring is not required, vegetation would be left in place wherever feasible and original ground contour would be maintained to avoid excessive root damage and allow for resprouting.

5. In areas where ground disturbance is substantial or where recontouring is required (e.g., marshaling yards, tower sites, spur roads from existing access roads), surface restoration would occur as required by the project-specific Stormwater Pollution Protection Plan (SWPPP). The method of restoration normally would consist of returning disturbed areas back to their original contour, reseeding (if required), installing cross drains for erosion control, placing water bars in the road, and filling ditches for erosion control. Erosion would be minimized on access roads and other locations primarily with water bars. The water bars would be constructed using mounds of soil shaped to direct the flow of runoff and prevent erosion. Soil spoils created during ground disturbance or recontouring shall be disposed of only on previously disturbed areas, or used immediately to fill eroded areas. However, material for filling in eroded areas in roads or road ruts should never be obtained from the sides of the road that contain suitable habitat without the approval of the on-site biological resource monitor. Cleared vegetation would be hauled off-site to a permitted disposal location. To limit impact to existing vegetation, appropriately sized equipment (e.g., bulldozers, scrapers, backhoes, bucket-loaders, etc.) would be used during all ground disturbance and recontouring activities.

6. Potential hydrologic impacts would be minimized through the use of BMPs contained in the project-specific SWPPP such as water bars, silt fences, staked straw bales, and mulching and seeding of all disturbed areas. These measures will be designed to minimize ponding,

eliminate flood hazards, and avoid erosion and siltation into any creeks, streams, rivers, or bodies of water.

7. Prior to construction, all SDG&E, contractor, and subcontractor project personnel would receive training regarding the appropriate work practices necessary to effectively implement the Protocols and to comply with the applicable environmental laws and regulations, including, without limitation, hazardous materials spill prevention and response measures, erosion control, dust suppression, and appropriate wildlife avoidance, impact minimization procedures, and SWPPP BMPs. To assist in this effort, the training would address: federal, state, local, and tribal laws regarding antiquities, fossils, plants, and wildlife, including collection and removal; the importance of these resources and the purpose and necessity of protecting them; and methods for protecting sensitive cultural, paleontological, and ecological resources.

8. SDG&E would respond to third-party complaints of radio or television interference generated by operation of the transmission line by investigating the complaints received over the project 800 toll-free phone number (if any) and by implementing feasible and appropriate measures. As a part of SDG&E's repair inspection and maintenance program, the transmission line would be patrolled and damaged insulators or other transmission line materials, which could cause interference, would be repaired or replaced.

9. At the time of construction, SDG&E would conduct a good faith investigation to identify the existing potential for induced currents and voltage hazards, which may arise from the operation of the transmission facilities, and educate property owners and occupants concerns regarding the probability of induced currents and voltage hazards within conductive objects sharing or within reasonable proximity to the existing ROW.

10. To the extent feasible, access roads would be built at right angles to the streambeds and washes. Where it is not feasible for access roads to cross at right angles, SDG&E would limit roads constructed parallel to streambeds or washes to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." or "waters of the state." Streambed crossings and roads constructed parallel to streambeds would require review and approval of necessary permits from the U.S. Army Corps of Engineers, CDFG, and RWQCB. Culverts would be installed where needed for right angle crossings, but rock crossings would be utilized across most right angle drainage crossings. All construction and maintenance activities would be conducted in a manner that would minimize disturbance to vegetation, drainage channels, and streambanks (e.g., towers would not be located within a stream channel; construction activities would avoid sensitive features). SDG&E will perform detailed on-the-ground surveys as required in other project protocols as appropriate. In addition, road construction would include dust-control measures (e.g., watering of construction areas to suppress dust) during construction in sensitive areas, as required. Erosion control during construction would be implemented according to the Project SWPPP and may include consideration of intermittent check dams and culverts to prevent alteration to natural drainage patterns and prevent siltation.

11. In the construction and operation of the project, SDG&E would comply with all applicable environmental laws and regulations where not otherwise pre-empted by the CPUC, including, without limitation, those regulating and protecting air quality, water quality, wildlife and its habitat, and cultural resources.

12. Fences and gates would be installed or repaired and replaced to their original condition to the extent agreed upon between the owner of the fences or gates and SDG&E if they are damaged or destroyed by construction activities. Any temporary gates located outside of the ROW would be installed only with the permission of the landowner and, to the extent feasible, would be restored to original condition following construction.

13. Littering is not allowed. Project personnel would not deposit or leave any food or waste in the project area, and no biodegradable or nonbiodegradable debris would remain in the right-of-way following completion of construction.

14. If paleontological resources were encountered, appropriate field mitigation efforts would be implemented to protect the resources. For example, if significant resources were discovered, such as vertebrate fossils, construction would be stopped in this area only while SDG&E and its designated paleontologist determine the appropriate method and schedule to recover or protect the resource. However, construction activities outside of the paleontological discovery would be allowed to continue. When it is not feasible to avoid paleontological sites, SDG&E would consult with the appropriate federal, state, and resource agencies and specialists to either develop alternative construction techniques to avoid paleontological resources or develop appropriate mitigation measures. Appropriate mitigation field measures may include actions such as protection-in-place by covering with earthen fill, removal and cataloging, and/or removal and relocation.

15. Hazardous materials would not be disposed of or released onto the ground, the underlying groundwater, or any surface water. SDG&E will implement its BMP 2-05 (Hazardous Materials/Waste Management) to manage and control hazardous materials and wastes and will implement its BMP 204 (Solid Waste Management) to control solid waste.

16. Prior to construction, the boundaries of plant populations designated as sensitive by the USFWS or CDFG, cultural resources, and other resources designated sensitive by SDG&E and the resource agencies would be clearly delineated with clearly visible flagging or fencing. The flagging and fencing shall remain in place for the duration of construction. Flagged areas would be avoided to the extent practicable during construction and maintenance activities. Where these areas cannot be avoided, focused surveys for covered plant species shall be performed in conformance with Protocol 21, and the responsible resource agency(ies) would be consulted for appropriate mitigation and/or revegetation measures prior to disturbance. Notification of the presence of any covered plant species to be removed in the work area would occur within 10 working days prior to the project activity, during which time the USFWS or CDFG may remove such plant(s) or recommend measures to minimize or reduce the take. If neither the USFWS nor CDFG has removed such plant(s) within the 10 working days following the written notice, SDG&E may proceed with the work and cause a take of such plant(s), if minimization measures are not implemented.

17. Wildfires shall be prevented or minimized by exercising care when operating vehicles within the ROW and access roads and by not parking vehicles on or in close proximity to dry vegetation where hot catalytic converters can ignite a fire. In times of high fire hazard, it may be necessary for construction vehicles to carry water and shovels or fire extinguishers. Fire protective mats or shields would be used during grinding or welding to prevent or minimize the potential for fire.

18. Brush clearing around any project facilities (e.g., towers, poles, substations) for fire protection, visual inspection, or project surveying in areas which have been previously cleared or maintained within a two-year or shorter period shall not require a pre-activity survey. In areas not cleared or maintained within a two-year period, brush clearing shall not be conducted during the breeding season (March through August) without one pre-activity survey for vegetation containing active nests, burrows, or dens. The pre-activity survey performed by the on-site biological resource monitor would make sure that the vegetation to be cleared contains no active migratory bird nests, burrows, or active dens prior to clearing. If occupied migratory bird nests are present, fire protection or visual inspection brush clearing work would be avoided until after the nesting season or until the nest becomes inactive. If no nests are observed, clearing may proceed. Where burrows or dens are identified in the reconnaissance level survey, soil in the brush clearing area would be sufficiently dry before clearing activities occur to prevent mechanical damage to burrows that may be present.

19. In the event that SDG&E identifies a threatened, endangered, or species of special concern or a species of plant not previously identified in surveys performed for the project within the 10- foot radius for brush clearing around project facilities, SDG&E shall 1) notify the USFWS (for Endangered Species Act-listed plants) and the CDFG (for California Endangered Species Act-listed plants) in writing of that plant's location and identity, and 2) of the nature of the project activity that may affect the plant. Notification would occur within 10 working days prior to the project activity, during which time the USFWS or CDFG may remove such plant(s) or recommend measures to minimize or reduce the take. If neither USFWS nor CDFG have removed such plant(s) within the 10 working days following the written notice, SDG&E may proceed with the brush clearing for fire protection purposes or visual inspection and cause a take of such plant(s), if minimization measures are not implemented.

20. No wildlife, including rattlesnakes, may be harmed except to protect life and limb.

21. Firearms shall be prohibited in all project areas except for those used by security personnel.

22. Feeding of wildlife is not allowed.

23. Project personnel are not allowed to bring pets to any project area in order to minimize harassment or killing of wildlife and to prevent the introduction of destructive animal diseases to native wildlife populations.

24. Plant or wildlife species may not be collected for pets or any other reason.

25. Project supplies or equipment (e.g., foundation excavations, steel pole sections) where wildlife could hide 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 wildlife cannot escape or be removed, shall be covered or otherwise made secure from wildlife intrusion or entrapment at the end of each workday. Supplies or excavations that have been left open shall not be covered or otherwise made secure from wildlife intrusion or entrapment until inspected and any wildlife found therein is allowed to escape. If any wildlife are found entrapped in supplies, equipment, or excavations, those supplies, equipment, or excavations shall be avoided and the wildlife left to leave on their own accord, except as otherwise authorized by the USFWS and CDFG. Where project construction activities require that supplies, equipment, or excavations proceed despite the presence of hiding or entrapped wildlife, SDG&E may request that the USFWS and CDFG allow the on-site biological resource monitor, or a recognized wildlife rescue agency (such as Project Wildlife), to remove the wildlife and transport them safely to other suitable habitats.

26. 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 is located in the trench or excavation, the on-site biological resource monitor shall be called immediately to remove them if they cannot escape unimpeded. The on-site biological resource monitor would make the required contacts with the USFWS and CDFG resource personnel and obtain verbal approval prior to removing any entrapped wildlife. If the biological resource monitor is not qualified to remove the entrapped wildlife, a recognized wildlife rescue agency (such as Project Wildlife) may be employed to remove the wildlife and transport them to safely to other suitable habitats.

27. SDG&E, its contractors, subcontractors and their respective project personnel shall refer all environmental issues, including wildlife relocation, sick or dead wildlife, hazardous waste or questions about environmental impacts, to the on-site environmental or biological construction monitors. Experts in wildlife handling (such as Project Wildlife or Skyhunters) may need to be brought in by the project biological construction field monitor for assistance with wildlife relocations.

28. Emergency repairs may be required during the construction and maintenance of the project to address situations (e.g., downed lines, slides, slumps, major subsidence, access road washouts, etc.) that potentially or immediately threaten the integrity of the project facilities. During emergency repairs, the Protocols shall be followed to the fullest extent practicable. Once the emergency has been abated, any unavoidable environmental damage would be reported to the project environmental or biological construction monitor, who would promptly submit a written report of such impacts to the USFWS, and CDFG and any other government agencies having jurisdiction over the emergency actions and not otherwise pre-empted by the CPUC. If required by the government agencies, the biological construction monitor would develop a reasonable and feasible mitigation plan consistent with the Protocols and any permits previously issued for the project by the governmental agencies.

29. When critical habitat exists on either side of the project's existing ROW, SDG&E would not oppose dedication by the fee owner of the underlying property for conservation purposes provided that it shall acknowledge and except them from SDG&E's continued use of the property in a manner sufficient to reliably install, operate, maintain, and repair its existing and necessary public utility facilities within the ROW.

30. Hazardous substance management, handling, storage, disposal, and emergency response procedures would be prepared and implemented as a part of the project-specific SWPPP.

31. Hazardous materials spill kits would be maintained on-site for small spills.

32. In areas where soils and vegetation outside the roadbed are particularly sensitive to disturbance (as contemplated in the project), existing access roads would be repaired within the historic roadbed in areas where they are otherwise impassable or unsafe. However, this would not preclude routine maintenance grading of access roads in the project area.

33. To minimize ground disturbance impacts to streams in steep canyon areas, access roads in these areas would avoid streambed crossings to the extent feasible. Where it is not feasible for access roads to avoid streambed crossings in steep canyons, such crossings would be built at right angles to the streambeds. Where such crossings cannot be made at right angles, SDG&E would limit roads constructed parallel to streambeds to a maximum length of 500 feet at any one access road crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." Streambed crossings or roads constructed parallel to streambeds would require review and approval of necessary permits from the Corps, CDFG, and RWQCB.

34. Environmentally sensitive tree trimming locations for the project would be identified in SDG&E's existing vegetation management tree trim database utilized by tree trim contractors. The biological field construction monitor shall be contacted prior to trimming in environmentally sensitive areas. Whenever feasible, trees in environmentally sensitive areas, such as areas of riparian or native scrub vegetation, would be scheduled for trimming during non-sensitive (i.e., outside of breeding or nesting) times. Where trees cannot be trimmed during non-sensitive times, SDG&E would perform up to three site surveys to determine presence or absence of endangered nesting bird species in riparian or native scrub vegetation. Endangered nesting bird species for which surveys would be performed include Belding's savannah sparrow, coastal California gnatcatcher, Southern California rufous-crowned sparrow, coastal cactus wren, and Cooper's hawk. SDG&E would submit results of those surveys to the USFWS and CDFG in accordance with its NCCP and if Project Protocols and Project Mitigation Measures do not adequately address impacts consult on any additional mitigation measures for potential impacts prior to tree trimming in environmentally sensitive areas. However, these site surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by other protocols as appropriate. Where riparian areas with overstory vegetation are crossed, tree removal (i.e., clear-cut) widths would be varied where feasible to minimize visual landscape contrast and to maintain habitat diversity at established wildlife corridor edges. Where tree removal widths cannot be varied, SDG&E

would consult with the USFWS and CDFG to develop alternative tree removal options that could reasonably maintain edge diversity.

35. All new access roads constructed as part of the project that are not required as permanent access for future project maintenance and operation would be permanently closed upon completion of project construction. Where required, these roads would be permanently closed using the most effective feasible and least environmentally damaging methods appropriate to that area with the concurrence of the underlying private landowner or the governmental agency having jurisdiction. This would limit new or improved accessibility into the area. Mowing of vegetation can be an effective method for protecting the vegetative understory while at the same time creating access to the 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 would be necessary to maintain permanent access. The project biological construction monitor shall conduct checks on mowing procedures to ensure that mowing for temporary or permanent access roads is limited to a 12-foot-wide area on straight portions of the road (slightly wider on turns) and that the mowing height is no less than 4 inches from finished grade.

36. Secure any required General Permit for Storm Water Discharges Associated With Construction Activity (NPDES permit) authorization from the State Water Resources Control Board, RWQCB and/ or EPA to conduct construction-related activities to build the project and establish and implement BMP erosion control measures during construction to minimize hydrologic impacts in areas sensitive from flooding or siltation into waterbodies.

37. To the extent feasible, where the construction of access roads would disturb sensitive features, the route of the access road would be adjusted to avoid such impacts. Examples of sensitive features include, without limitation, cultural sites, identified habitats of endangered species, and streambeds. As another alternative, construction and maintenance traffic would use existing roads or cross-country access routes (including the ROW), which avoid impacts to the sensitive features. To minimize ground disturbance, construction traffic routes must be clearly marked with temporary markers, such as easily visible flagging. Construction routes, or other means of avoidance, must be approved by the authorized agency or landowner before use. When it is not feasible to avoid constructing access roads in sensitive habitats during the nesting/breeding season, SDG&E would perform up to three site pre-activity surveys, if necessary, to determine the presence or absence of nesting/breeding endangered or threatened species, or species of special concern, in those sensitive habitats. SDG&E would submit results of those surveys to the USFWS and CDFG in accordance with its NCCP and if Project Protocols and Project Mitigation Measures do not adequately address impacts consult on any additional reasonable and feasible mitigation measures for potential impacts prior to access road construction. However, these pre-activity surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by other project protocols as appropriate. Where it is not feasible for access roads to avoid streambed crossings in steep canyons, such crossings would be built at right angles to the streambeds. Where such crossings cannot be made at right angles, SDG&E would limit roads constructed parallel to

streambeds, to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." Streambed crossings or roads constructed parallel to streambeds would require review and approval of necessary permits from the Corps, CDFG, and RWQCB. When it is not feasible to avoid cultural sites, SDG&E would consult with the appropriate federal and State Historic Preservation Officer (SHPO) and local (indigenous Native American tribes) cultural resource agencies and specialists to either develop alternative construction techniques to avoid cultural resources or develop appropriate mitigation measures. Appropriate mitigation measures may include actions such as removal and cataloging and/or removal and relocation.

38. To minimize ground disturbance and/or reduce scarring (visual contrast) of the landscape, the alignment of any new access roads (i.e., bladed road) or cross-country route (i.e., unbladed route) would follow the landform contours in designated areas to the extent feasible, providing that such alignment does not additionally impact sensitive features (e.g., riparian area, habitat of sensitive species, cultural site). To the extent feasible, new access roads would be designed to be placed in previously disturbed areas and areas that require the least amount of grading in sensitive areas. Whenever feasible, in areas where there are existing access roads, preference shall be given to the use of new spur roads rather than linking facilities tangentially with new, continuous roads. Where it is infeasible to locate roads along contours, or in previously disturbed areas, or use spur roads to limit grading, the revegetation/seeding plans for the project would incorporate plant species in areas adjacent to access roads that are capable of screening the visual impacts of the roads.

39. In areas designated as sensitive by SDG&E or the resource agencies, to the extent feasible structures and access roads would be designed to avoid sensitive and/or to reduce visual contrast. These areas of sensitive features include but are not limited to high- value wildlife habitats and cultural sites, and/or to allow conductors to clearly span the features, within limits of standard tower or pole design (also see Protocol 48 for avoidance of sensitive water resource features). If the sensitive features cannot be completely avoided, poles and access roads would be placed to minimize the disturbance to the extent feasible. When it is not feasible to avoid constructing poles or access roads in high-value wildlife habitats, SDG&E would perform up to three site surveys, if necessary, to determine presence or absence of endangered species in those sensitive habitats. SDG&E would submit results of those surveys to the USFWS and CDFG in accordance with its NCCP and if Project Protocols and Project Mitigation Measures do not adequately address impacts consult on any additional mitigation measures for potential impacts, prior to constructing poles or access roads. However, these site surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by other project protocols as appropriate. Where it is not feasible for access roads to avoid sensitive water resource features, such as streambed crossings, such crossings would be built at right angles to the streambeds. Where such crossings cannot be made at right angles, roads constructed parallel to streambeds would be limited to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." Streambed crossings or roads constructed parallel to streambeds would require review and approval of necessary permits from the Corps, CDFG, and RWQCB. When it is

not feasible for poles or access roads to avoid cultural sites, SDG&E would consult with the appropriate federal, state SHPO and local (indigenous Native American tribes) cultural resource agencies and specialists to either modify the project or develop alternative construction techniques to avoid cultural resources or develop appropriate mitigation measures. Appropriate mitigation measures may include actions such as data recovery studies, cultural resource removal and cataloging, and/or cultural resource removal and relocation.

40. Conduct detailed on-the-ground surveys (focused or protocol surveys), as required by the applicable government environmental resource agencies, to determine whether the salt marsh skipper and San Diego horned lizard are present within the project's route. If these species habitats are determined to be potentially affected by project activities, specific alternative strategies to avoid such habitat and, where avoidance of such impacts is unavoidable, and Project Protocols and Project Mitigation Measures do not adequately address impacts, additional specific mitigation measures would be determined through consultation if required, in accordance with SDG&E's NCCP, with the USFWS and CDFG. If it is determined that Project Protocols and Project Mitigation Measures do not adequately address impacts and, it is not feasible to avoid such habitat impacts, the project biologist would recommend mitigation in consultation with applicable resource agencies if required. In those situations where more than one site visit may be necessary to identify a given species, no more than three site visits shall be required. It is expected that the typical USFWS search protocols would not be utilized in most situations due to the priority of these protocols to avoid where feasible.

41. Conduct surveys as required by the applicable government environmental resource agencies to determine whether quino checkerspot butterfly, coastal California gnatcatcher, coastal cactus wren, Southern California rufous-crowned sparrow, Cooper's hawk, Belding's savannah sparrow, California least tern, western snowy plover, western burrowing owl, and light-footed clapper rail, are present within the project route. If these species are present and unavoidable impacts to suitable habitat would occur, SDG&E would, to the extent feasible, cause such impacts to suitable habitat to occur during the non-breeding season for each species. Specific alternative mitigation measures (e.g., off-site restoration or enhancement of these species' habitats) would be determined through consultation if required, in accordance with SDG&E's NCCP, with the USFWS and CDFG. If it is determined that Project Protocols and Project Mitigation Measures do not adequately address impacts and, if it is not feasible to avoid habitats during the breeding season, the project biologist would recommend alternative mitigation approaches to SDG&E, and a decision on how to proceed would be made in consultation with the applicable resource agencies if required. In those situations where more than one site visit may be necessary to identify a given species or its habitat, such as certain birds, no more than three site visits shall be required. It is expected that the typical USFWS search protocols would not be utilized in most situations due to the priority of these protocols to avoid where feasible.

42. Conduct surveys as required by the applicable government environmental resource agencies to determine whether vernal pools containing San Diego fairy shrimp are present within the project route. If vernal pools and/or San Diego fairy shrimp are determined to be potentially

affected by project activities, specific avoidance strategies and mitigation measures would be identified in accordance with SDG&E's NCCP Clarification Document for vernal pools and the Scope of Incidental Take Coverage for vernal pools issued June 4, 2004 by the USFWS. Project facilities and activities shall be planned to avoid disturbance to vernal pools, their watersheds, or impacts to their natural regeneration. Continued maintenance of the project's facilities, utilizing existing access roads and access routes constructed as a part of the project, are allowed to continue in areas containing vernal pool habitats. Construction and maintenance of the project's facilities spanning vernal pool habitats is allowed as long as the placement of the facilities or location of associated construction activities avoids impacts to vernal pools to the extent feasible. Where avoidance of vernal pools is not feasible, the mitigation measures contained in the NCCP Clarification Document for vernal pools shall be implemented.

43. To the extent feasible, project facilities would be installed along the edges or borders of private property, open space parks, and recreation areas. When it is not feasible to locate project facilities along property borders, SDG&E would consult with affected property owners to identify facility locations that create the least potential impact to property and are mutually acceptable to property owners. When SDG&E cannot mutually resolve facility locations with property owners, SDG&E would consult with those property owners based on the facility locations identified by SDG&E.

44. To the extent feasible during final engineering design, coordinate the installation location of the project facilities line with landowners and/or the government agency having jurisdiction and/or the local government having an interest in the location of the facilities. When SDG&E cannot resolve facility locations in coordination with affected property owners that create the least potential impact to property and that are mutually acceptable to property owners, SDG&E would consult with those property owners based on the facility locations identified by SDG&E.

45. High-visibility devices, where required by the Federal Aviation Administration (FAA), would be used to minimize the potential for aircraft to collide with the transmission line.

46. Where necessary to avoid significant protected environmental land use impacts, limit potential visual impacts and reduce the footprint of structures, use steel pole support structures in place of steel lattice tower structures.

47. To minimize perching opportunities for raptors near habitats supporting sensitive prey species, select structures incorporating a design to discourage raptor perching.

48. To the extent feasible, design structure locations to avoid wetlands, streams, and riparian areas. These sensitive water resource features include riparian areas, habitats of endangered species, streambeds, cultural resources, and wetlands. If these areas cannot be avoided, a qualified biological contractor shall conduct site-specific assessments for each affected site. These assessments shall be conducted in accordance with Corps wetland delineation guidelines, as well as CDFG streambed and lake assessment guidelines, and shall include impact minimization measures to reduce wetland impacts to a less than significant effect

(e.g., creation and restoration of wetlands). Though construction or maintenance vehicle access through shallow creeks or streams is allowed, staging/storage areas for equipment and materials shall be located outside of riparian areas. Construction of new access through streambeds that require filling for access purposes would require a Streambed Alteration Agreement from the CDFG and/or consultation with the Corps. Where filling is required for new access, the installation of properly sized culverts and the use of geotextile matting should be considered in the CDFG/Corps consultation process.

49. Known and potential cultural and biological resources, which may be affected by the project, would be monitored during project implementation. This would involve pedestrian surveys (i.e., Class III) to inventory and evaluate these resources along the selected route and any impacted area (e.g., access roads, substation sites, staging areas, etc.) beyond the ROW. In consultation with appropriate land managing agencies, SHPO officers, and applicable resource agencies, specific avoidance strategies and mitigation measures would be developed and implemented to avoid or mitigate identified adverse impacts on private, state, Bureau of Land Management, tribal, or other lands. The primary goal is to avoid impacts to environmental resources, and secondarily to mitigate for unavoidable impacts. These may include project modifications to avoid adverse impacts, monitoring construction activities, or data recovery studies.

50. In addition to the restoration and habitat enhancement measures included in the NCCP, SDG&E would also implement any additional mitigation measures developed during the consultation period with the USFWS and CDFG as part of its Pre-Activity Study Report submittal under the NCCP.

51. A SWPPP will be prepared for the Project. Implementation of the SWPPP would help stabilize soil in graded areas and waterways and reduce erosion and sedimentation. The SWPPP would designate BMPs that would be implemented during construction activities. Erosion control efforts, such as hay bales, water bars, covers, sediment fences, sensitive area access restrictions (e.g., flagging), vehicle mats in wet areas, and retention/settlement ponds, would be installed before extensive soil clearing and grading begins. Mulching, seeding, or other suitable stabilization measures would be used to protect exposed areas during construction activities. Revegetation plans, the design and location of retention ponds and grading plans would be submitted to the CDFG and Corps for review in the event of construction within Waters of the U.S. or bed or bank of a lake, river or stream.

52. Although the release of particulate matter (PM_{10}) associated with project construction is insignificant relative to ambient PM_{10} levels, the following protocols would be employed:

    a. Prohibiting construction grading on days when the wind is significant, where feasible.

    b. Covering all trucks hauling soil and other loose material, or requiring at least 2 feet of freeboard.

    c. Erecting snow-fence type windbreaks in areas identified as needed by SDG&E.

d. Limiting vehicle speeds to 15 mph on unpaved roads.

e. Treating unpaved roads with chemical stabilizers or by watering as necessary.

f. Applying soil stabilizers or seed mixes to inactive construction areas on an as-needed basis.

g. Placing perimeter silt fencing, watering as necessary, adding soil binders to exposed stockpiles of soil and other excavated materials, or covering exposed stockpiles of soil and other excavated materials.

53. To minimize mud and dust from being transported onto paved roadway surfaces, SDG&E will implement its BMP 1-07 (Tracking Controls).

54. To the extent feasible, any other air pollution control measures approved by the district and the Environmental Protection Agency as equivalent may be used.

55. If suitable park and ride facilities were available in the project vicinity, construction workers would be encouraged to carpool to the job site to the extent feasible. The ability to develop an effective carpool program for the project would depend upon the proximity of carpool facilities to the job site, the geographical commute departure points of construction workers, and the extent to which carpooling would not adversely affect worker show-up time and the project's construction schedule.

56. To the extent feasible, unnecessary construction vehicle and idling time would be minimized. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel-powered vehicles (over 10,000 pounds), have extended warm-up times following start-up that limit their availability for use following start-up. Where such diesel-powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The project would apply a "common sense" approach to vehicle use; if a vehicle is not required for use immediately or continuously for construction activities, its engine would be shut off. Construction foremen would include briefings to crews on vehicle use as a part of preconstruction conferences. Those briefings would include discussion of a "common sense" approach to vehicle use. For example, operators of large (over 10,000 pounds) on-road diesel trucks will be instructed to turn off their engines when not in use or powering auxiliary equipment or when it is impractical to shut down the engine for short periods of time.

57. To reduce visual contrast, new pole locations would correspond with spacing of existing transmission line structures where feasible and within the limit of pole design. The normal span would be modified to correspond with existing towers where feasible, but not necessarily at every new pole location.

58. To reduce potential visual impacts at highway, canyon, and trail crossings, poles would be placed at the maximum feasible distance from the crossing within limits of pole design.

59. In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site where such remains are encountered or any nearby area reasonably suspected to overlie the adjacent human remains until the remains have been investigated, as outlined in Section 10564.5 of the CEQA Guidelines, the Native American Grave Protection Act and its implementing regulations, California Health and Safety Code 7050.5, and California Public Resources Code Section 5097.98. However construction may continue within areas that are outside the discovery area and/or outside nearby areas reasonably suspected to overlie the adjacent human remains.

60. During construction, SDG&E would remove boulders uphill of structures that pose potentially high risk of landslide damage to those structures and would position structures to span over potential landslide areas to the greatest extent feasible.

61. In disturbed areas where construction equipment has caused compaction of soils (e.g., staging areas, structure sites, temporary spur roads), soils would be decompacted as necessary prior to seeding and reclamation would occur to enhance revegetation and reduce potential for erosion.

62. Underground Service Alert would be notified a minimum of 48 hours in advance of earth-disturbing activities in order to identify buried utilities.

63. The use of helicopters within 500 feet of suitable nesting habitat for birds protected under the Migratory Bird Treaty Act shall not be conducted during the breeding season (March through August) except under the following condition. A pre-activity survey (PSR) must be completed to determine if active nests or burrows are present within the affected disruption zone. The PSR should be conducted a maximum of one week prior to any helicopter work. The pre-activity survey performed by the on-site biological resource monitor would assure that the area affected by helicopter noise and downdrafts contains no active bird nests. If occupied bird nests are present; helicopter work will be avoided until after the nesting season or until the nest becomes inactive. If no nests are observed during the breeding season, work may proceed. An additional pre-activity survey will be required if helicopter work does not occur within seven consecutive days of a previously completed PSR. This additional PSR is necessary to document any newly established active nests and must be conducted a maximum of one week prior to resuming work.

Appendix C
Cultural Resources Technical Report

CULTURAL RESOURCES TECHNICAL REPORT

FOR THE

SAN DIEGO GAS & ELECTRIC

SILVERGATE SUBSTATION – MAIN STREET REPLACEMENT PROJECT

SAN DIEGO COUNTY, CALIFORNIA

PREPARED FOR:

CHRISTOPHER P. TERZICH, REA
SENIOR ENVIRONMENTAL SPECIALIST - LAND PLANNING
SAN DIEGO GAS & ELECTRIC
8315 CENTURY PARK COURT, CP21E
SAN DIEGO, CALIFORNIA 92123

PREPARED BY:

JUDY BERRYMAN, PH.D, RPA
SENIOR ARCHAEOLOGIST

DAYLE CHEEVER, MA, RPA
ARCHAEOLOGICAL PROGRAM MANAGER

ENGINEERING-ENVIRONMENTAL MANAGEMENT, INC.
5897 OBERLIN DRIVE, SUITE 210
SAN DIEGO, CA 92121
PH: 858.623.1188
FAX: 858.453.8648

MAY 2005

NATIONAL ARCHAEOLOGICAL DATABASE (NADB) INFORMATION

Report Author:	Judy Berryman
Consulting Firm:	engineering-environmental Management (e^2M), Inc. 5897 Oberlin Dr., Ste. 210 San Diego, CA 92121
Report Date:	May 2005
Report Title:	Cultural Resources Technical Report for the San Diego Gas and Electric (SDG&E) Silvergate Substation – Main Street Replacement Project
Submitted to:	Christopher P. Terzich, REA Senior Environmental Specialist - Land Planning San Diego Gas & Electric 8315 Century Park Court, CP21E San Diego, California 92123
Contract Number:	SDGE 15404/VIN67892
USGS Quadrangle Maps:	National City, Point Loma
Acreage:	Non-contiguous linear project area
Keywords:	San Diego Gas and Electric, SDG&E, Silvergate Substation, Main Street Substation, Transmission Line 13815, no impact, no adverse effect, CEQA, NRHP, CPUC, prehistoric site, historic site.

MANAGEMENT SUMMARY

This document contains the results of a cultural resources impact evaluation conducted in support of the proposed San Diego Gas and Electric (SDG&E) Silvergate Substation Expansion Project. The evaluation was designed to identify cultural resources within the project area, determine potential project impacts to cultural resources, and propose mitigation measures that reduce potential impacts to cultural resources to a less than significant level. The Silvergate and Main Street Substations are located on the north side of Sampson Street, in the City of San Diego, California. The Silvergate Substation is on the west side, and the Main Street Substation is on the east side of Harbor Drive. The underground portion of the proposed Project is located in the city of Chula Vista, and is partially within the San Diego National Wildlife Refuge and the Sweetwater Marsh National Wildlife Refuge. Proposed project actions involving subsurface disturbance are located within existing SDG&E rights-of-way or under existing city streets. Components of the proposed Project that have the potential to impact cultural resources include:

- Structural utility demolition, removal, and replacement at the Silvergate and Main Street Substation facilities, and associated underground construction in the immediate vicinity.
- Underground installation of a portion of Transmission Line (TL) 13815 from the South Bay Substation to the Sweetwater River Area (Horizontal Directional Drilling).

There is no potential for direct impacts to known cultural resources associated with the implementation of the proposed project. The potential for direct impacts to unknown cultural resources is low for ground disturbing activities at the Silvergate and Main Street Substations and the installation of the underground portion of TL 13815 from the South Bay Substation to the Sweetwater River area.

Cultural resources research and field study conducted in association with the proposed project included an archaeological site record search and archival research at the South Coastal Information Center (SCIC) and a visual inspection of the Silvergate and Main Street Substation properties and the proposed underground portion of TL 13815 from the South Bay Substation to the Sweetwater River area. Field survey confirmed that there are no archaeological sites corresponding with the specifically identified areas of subsurface construction or disturbance in these portions of the proposed Project area. Impacts to known cultural resources identified in the vicinity (within 200 feet) of these portions of the proposed Project area will not occur during construction related activities based on information contained in the project description. All known archaeological sites are outside of identified work areas, and/or have been determined to be insignificant and ineligible for nomination to the National Register.

Although the potential for project impacts to unknown cultural resources associated with the proposed demolition and construction at the Silvergate and Main Street Substations and the underground boring from the South Bay Substation to the Sweetwater River area is considered to be low, specified construction activities in these areas will be monitored by a qualified archaeologist. The specified archaeological monitoring and the development and implementation of a Cultural Resources Treatment Plan (CRTP) for inadvertently discovered, potentially significant cultural resources will reduce potential impacts to unknown cultural resources that may exist within the proposed Project area to a less than significant level.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ATTACHMENT A: California Historical Resources Information System Site Files Record Search Documentation (SCIC)

This page intentionally left blank.

1.0 INTRODUCTION

1.1 Location

The Silvergate and Main Street Substations are located in the Barrio Logan community of the City of San Diego, California. The Silvergate Substation is on the west side of Harbor Drive and the Main Street Substation is on the east side (Figures 1-1 through 1-3). The portion of Transmission Line (TL) 13815 that will be undergrounded is located in the City of Chula Vista, and is partially within the San Diego National Wildlife Refuge Otay - Sweetwater Unit and the Sweetwater Marsh National Wildlife Refuge (Figure 1-4). These ground disturbing components of the proposed Project will be located on SDG&E property, within existing SDG&E rights-of-way, or in-franchise position with a joint use agreement (under existing city streets).

1.2 Project Description

The proposed project would reconductor portions of 138KV Transmission Line (TL 13824) near the South Bay Substation in the City of Chula Vista, the Miguel Substation in the unincorporated community of Bonita, and the Los Coches Substation in the unincorporated community of Lakeside, all in the County of San Diego, California. The proposed San Diego Gas and Electric (SDG&E) Silvergate Substation Expansion Project also includes the demolition of the existing buildings located on the SDG&E Silvergate Substation site. The demolition would involve the removal of the office building, the power house, three control houses, and the existing steel structures that are on the Substation property. Utility structures at the Main Street Substation will be removed and upgraded.

The proposed replacement for the Silvergate Substation would encompass a 500 by 442 ft (5.07 acre) area on SDG&E owned property and currently held private property. This property is south of Harbor Drive at the intersection of Sampson Street and Harbor Drive in an industrial area. The SDG&E property currently contains a de-commissioned power house and an electrical Substation. The private property currently contains a parking lot and a machine shop warehouse. This property is currently used for intermittent parking and machine shop business operation. The use of this property will require the demolition of the existing power house, existing Substation control houses, and affiliated Substation equipment.

After demolition, this SDG&E-owned property would be graded to accommodate the new Substation layout. The grading would comprise of approximately 7,385 cubic yards of cut material and 288 cubic yards of fill material. A total of 7,097 cubic yards would be required to be exported off site. The grading would complete to accommodate onsite surface water runoff drainage, using an approximate 1.8 to 2.3 percent cross-slope gradient with runoff to be collected by a new underground storm drain located along the western property boundary.

The new Silvergate Substation perimeter wall/fence will enclose an area approximately 500 feet by 442 feet for a total of 5.07 acres. Additional subsurface construction will be conducted in the vicinity of the Silvergate and Main Street Substations in order to connect the upgraded facilities with existing utility lines. This construction will involve trenching, boring, and auguring in the vicinity of both Substations in order to connect the upgraded facilities with existing utility lines.

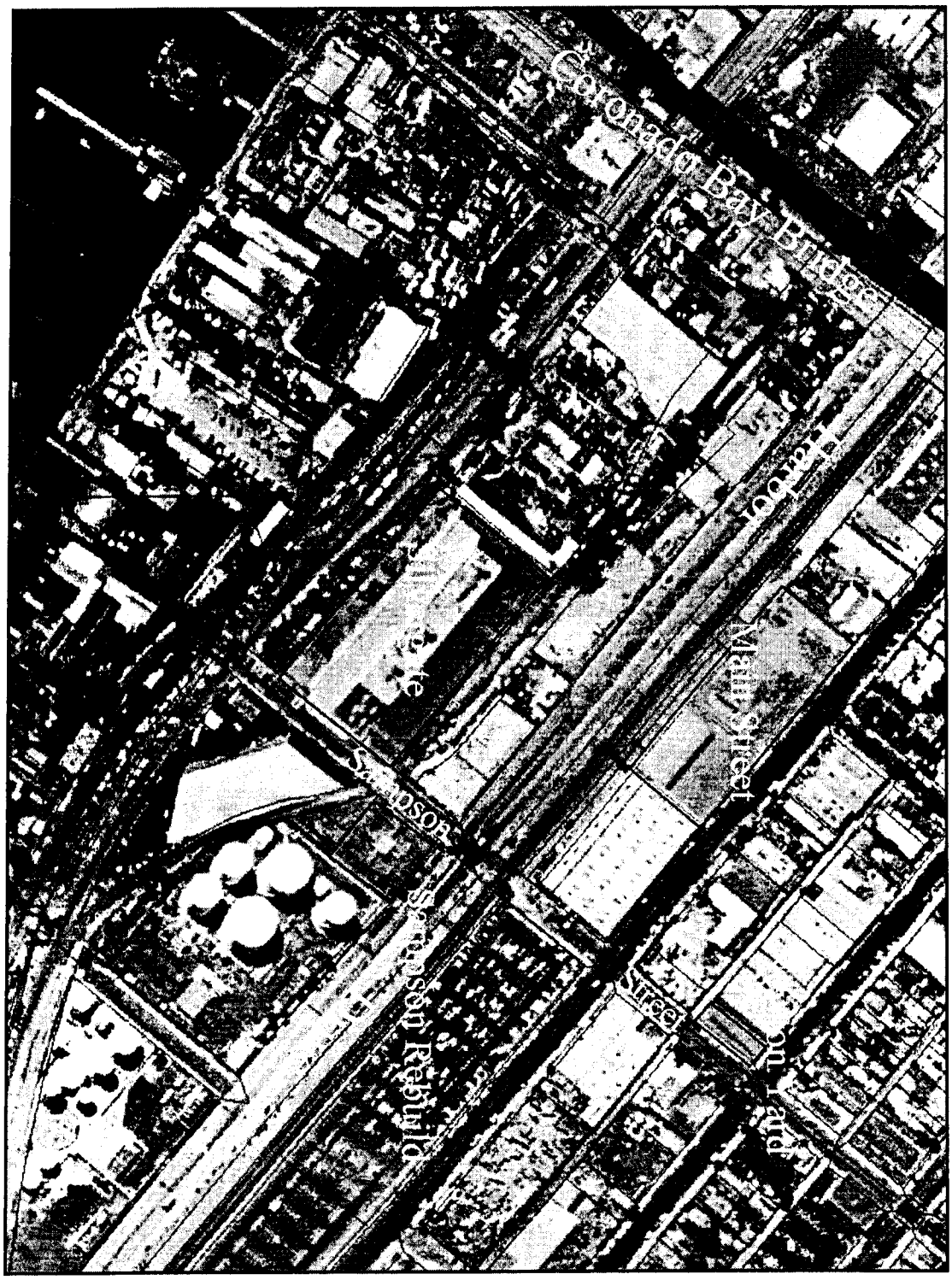


Figure 1-1. Silvergate and Main Street Substations location map.

Figure 1-1. Silvergate and Main Street Substations location map.

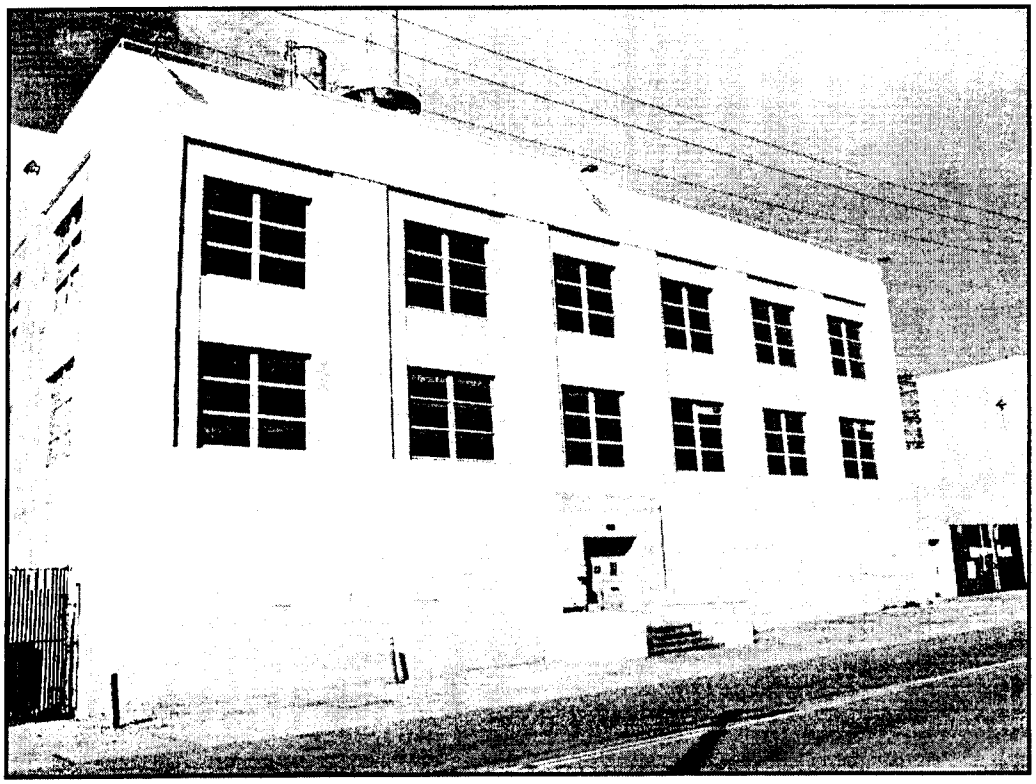


Figure 1-2. Silvergate Substation.

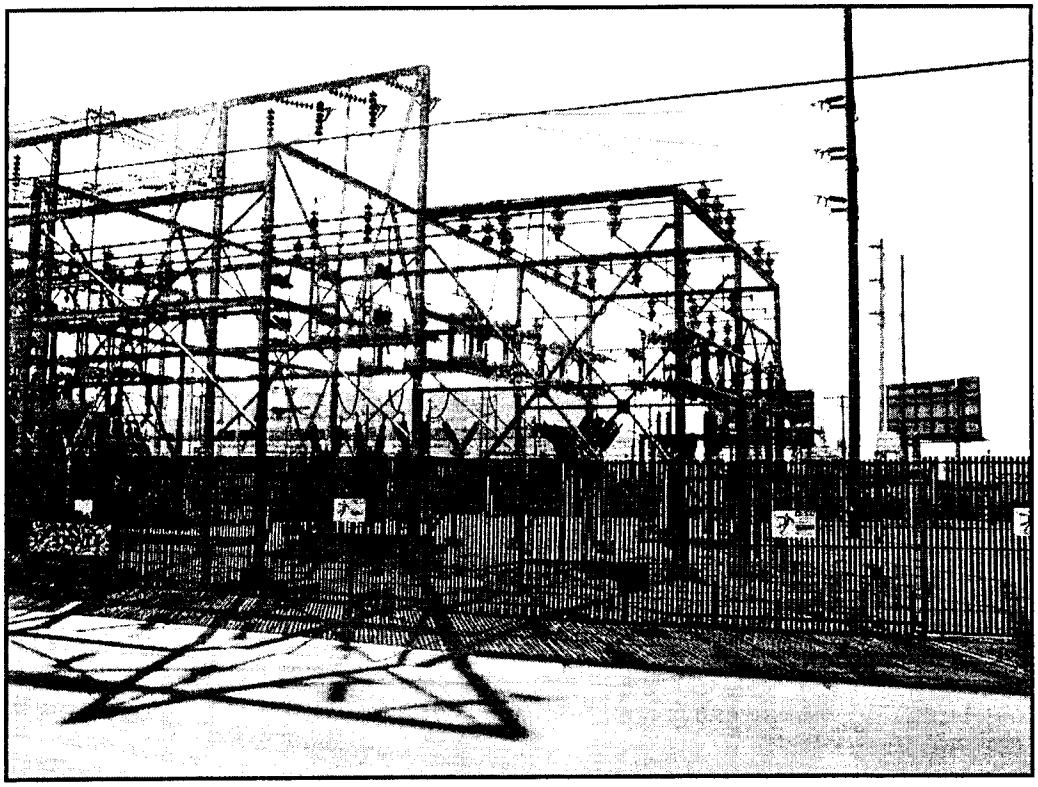


Figure 1-3. Main Street Substation

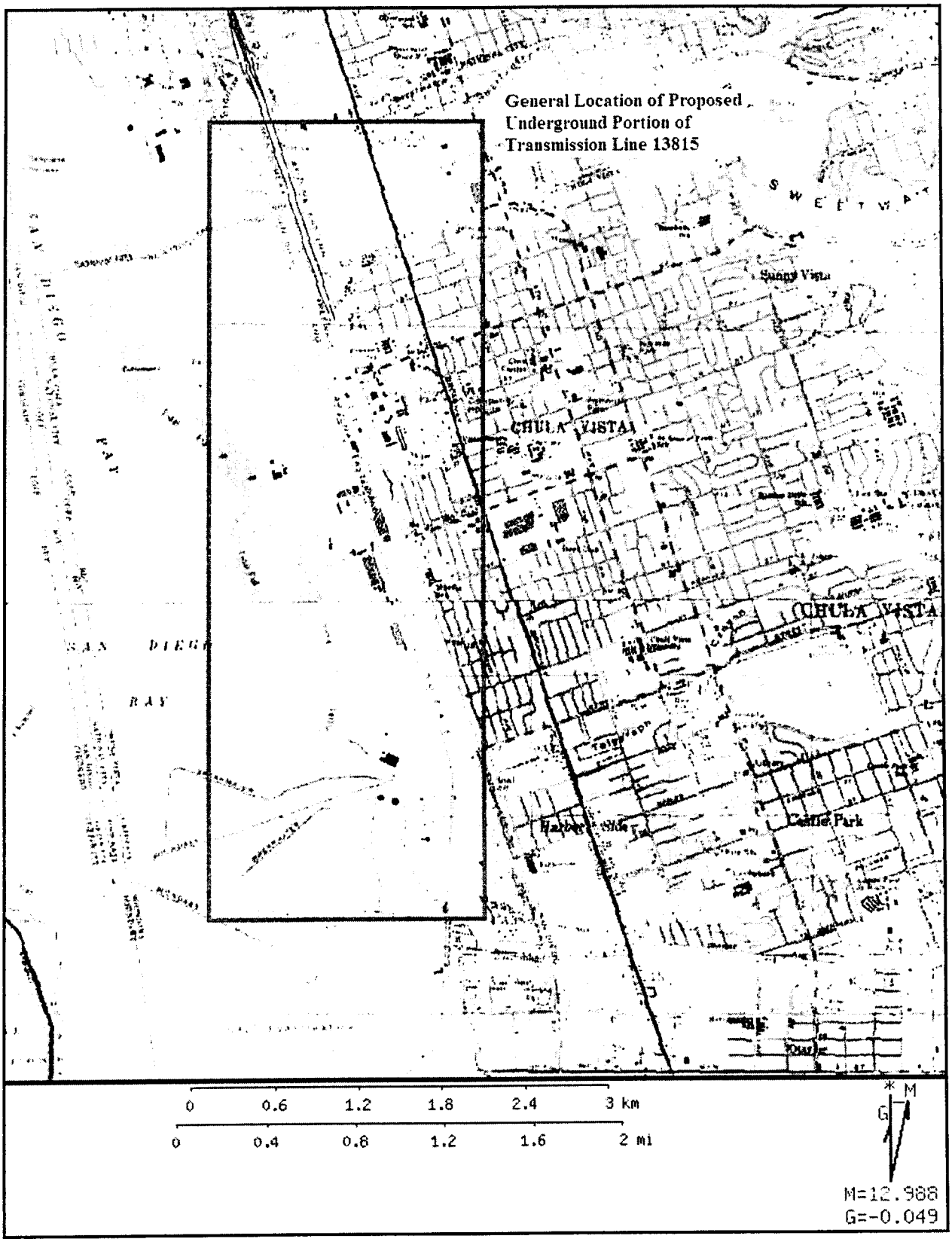


Figure 1-4. General location of underground portion of Transmission Line 13815.

The proposed Project also includes the underground installation of a portion of Transmission Line (TL) 13815 from the South Bay Substation to the Sweetwater River area and reconductor portions of the 138kV Transmission line (TL 13824) between the South Bay and the Los Coches Substations. The proposed underground portion of TL13815 from the South Bay Substation to the Sweetwater River area (South Bay to Sweetwater) will involve trenching and subsurface boring to accommodate the installation of approximately 2.5 miles of new 138kV cable primarily within existing easements in both commercial and undeveloped areas within the City of Chula Vista. The South Bay to Los Coches segment will involve the installation of bundled 636 ACSR/AW throughout three portions of TL13824.

The underground portion of TL13815 will begin at a new transition cable pole that will be installed within SDG&E's existing ROW near South Bay Substation. No new access roads will be required to provide access to the station during operations. From the South Bay Substation, the route runs north and parallel to the west side of I-5 within SDG&E's existing ROW. The 138kV underground alignment will be installed on the west side of the foundations of the existing 138kV bridge steel lattice structures. This alignment will continue until it reaches the southern portion of the Sweetwater Marsh National Wildlife Refuge on the south side of the Sweetwater River.

From the Sweetwater Marsh National Wildlife Refuge the route will continue in a northern direction under the refuge via an approximately 2,900 foot-long directional drill within SDG&E's existing ROW. The drill surfaces on the northern portion of the Sweetwater Marsh National Wildlife Refuge where it will enter a cable pole to transition from underground to overhead and continue along the alignment to the north. This segment terminates at the proposed underground to overhead transition area, located in SDG&E's existing ROW on the south side of Sweetwater River and on the west side of I-5. SDG&E will use Horizontal Directional Drill (HDD) construction techniques to install the conduit within SDG&E's ROW to cross the Sweetwater Marsh National Wildlife Refuge.

Work areas in this portion of the proposed Project area would be cleared and graded as necessary to allow movement and erection of equipment. The pieces of drilling equipment include a drill rig, control cab, hydraulic power unit, drill pipe, mud pump, mud system, water storage, bentonite storage, auxiliary equipment, tools/parts, and vacuum parts. Pipe handling equipment would typically include two or more backhoe loaders, excavators, or side boom tracks, which are used during pullback operations to maneuver the pull section and guide it into the bore hole.

The South Bay Substation to SDG&E's existing Los Coches Substation (South Bay to Los Coches) transmission line will be reconductored with a higher ampacity rating at various portions throughout the segment. The proposed work will reconductor various portions of TL 13824 with a higher ampacity conductor. The South Bay segment will involve reconductoring of a 4-mile long segment south of the South Bay Power Plant switchyard.

The South Bay to Los Coches segment will involve the installation of bundled 636 ACSR/AW throughout three portions of TL13824. The Miguel segment will involve reconductoring a 0.5 mile-long segment near the Miguel Substation; replacement of approximately six existing wood

structures with taller, wood pole structures; and placement of approximately three new interest poles near the Miguel Substation.

All three of the reconductored portions would require the removal of the existing conductor and installation of new bundled (two conductors per phase) conductors of 636 ACSR/AW conductor and accessories on existing structures. Additionally, all existing porcelain insulators will be replaced with polymer insulators to improve reliability and reduce noise. During the construction of the reconductor, all of the pull and stringing sites will be in or near pre-disturbed areas such as existing access roads along existing ROW. The dimensions of each pull site would be approximately 300'x150'.

This page intentionally left blank.

2.0 SETTING

2.1 ENVIRONMENTAL SETTING

The project site is located within an urbanized area of the City of San Diego, known as the Barrio Logan community. The Silvergate and Main Street Substation sites are surrounded almost entirely by industrial uses. One exception is an existing multi-family residential complex that is located on the north side of Main Street across from the Main Street Substation. Both Silvergate and Main Street sites have been previously developed as Substation sites for SDG&E. As such the property contains no native vegetation, wetland habitat, steep slope land, or other natural features associated with undeveloped land.

The underground portion of TL13815 from SDG&E's South Bay Substation to the Sweetwater River area (South Bay to Sweetwater) is within existing SDG&E easements in commercial and undeveloped areas within the City of Chula Vista and the southern portion of the Sweetwater Marsh National Wildlife Refuge on the south side of the Sweetwater River. This portion of the project contains native and non-native vegetation and wetland habitats.

The entire project, including associated projects traverses residential and commercial developments, disturbed habitat, nonnative grasslands, coastal sage scrub, chaparral, maritime succulent scrub, and drainages. The Los Coches, Miguel, and South Bay segments may cross drainages.

2.2 CULTURAL SETTING

A brief discussion of the prehistoric and historic setting of the proposed Project area and vicinity is contained in the following sections.

2.2.1 Prehistoric Period

Paleo-Indian Period

The earliest well documented prehistoric sites in southern California are identified as belonging to the Paleo-Indian period, which has locally been termed the San Dieguito complex. The Paleo-Indian period is generally viewed as the period prior to 9,000 years before present (BP) in southern California. The cultural materials associated with the San Dieguito complex vary somewhat from well defined, fluted point complexes in the Great Basin region such as Clovis, but do reflect a large-game hunting based economy in which a limited use of seed grinding technology was employed. The subsistence strategy of the San Dieguito appears to have focused on highly ranked resources such as large mammals, and settlement patterns reflect a relatively high mobility rate associated with the migratory patterns of large game such as deer and elk. Archaeological evidence of the period has been found around inland dry lakes, on old terrace deposits of the California desert, and near the coast at locations such as the Harris site in northern San Diego County (Wallace 1955; Warren 1968).

Archaic Period

Human occupants of this region during the Archaic Period (8,000 to 1,500 BP) were characterized by a subsistence pattern focused on both hunting and the gathering of natural resources. Archaic period archaeological deposits are generally identified by an increase in artifacts associated with grinding and seed processing technology such as mortars, metates, manos, and pestles. Other diagnostic Archaic artifacts include Pinto and Elko series projectile (atlatl) points, large bifaces, and core tools. Archaic period archaeological sites located in the coastal region are also marked by an increase in the type and amount of marine vertebrate and invertebrate remains. Archaic period sites are typically rather homogenous, with major changes in technology being quite limited during what is a rather lengthy time period (approximately 6,500 years). Projectile point types and/or differences in artifact frequencies have been cited by various researchers as indicative of gradual shifts in subsistence patterns; however such relative dating techniques remain unreliable for the majority of sites attributed to this time period (True 1958; Moratto 1984).

Late Prehistoric Period

Archaeological sites associated with the Late Prehistoric Period (1,500 to 500 BP) reflect a continued focus on hunting and the gathering of natural resources, and are differentiated from Archaic period sites by the remains of several technological developments, including the use of ceramics, introduction of the bow and arrow and its distinctive types of projectile points, and the cremation burials. These technological changes appear to have been introduced into the region by groups that migrated west from the desert regions to the east. Cultural traits associated with the extant Kumeyaay and Luiseño, who are ancestral to early Shoshonean immigrants, include elaborate kinship systems, clan systems, rock art, and trade networks (Kroeber 1925; Meighan 1954).

2.2.2 Historic Period

Although European contact with indigenous groups in the coastal southern California region began in the mid-sixteenth century, documented contact does not exist prior to the late eighteenth century, with the Spanish influx of missionaries and military personnel into what was then referred to as Alta California. With the establishment of the San Diego Presidio and the San Diego de Alcala and San Luis Rey missions, Spain established a military and religious presence in the area in 1769, laying the foundation for a period of Spanish expansion, colonization, and the exploitation and almost complete decimation of the native groups in the region. This period of Spanish expansion continued until 1821, when California was officially annexed by Mexico, the mission system was secularized, and the Mexican military drove out or supplanted the majority of Spanish settlers that had established agricultural enterprises in the region.

The Mexican period was characterized by the retention of several of the Spanish institutions, including the granting of large tracts of land to Mexican individuals and families, and the establishment of the rancho system. Cattle ranching superseded agricultural enterprises, and most lands became open ranges that were seasonally utilized for cattle grazing, which severely restricted the mobility and access that native groups once had to prime hunting and collecting

areas. The loss of the Mexican-American War by the Mexicans in 1848 marked the end of the Mexican period in the region. Gold was soon discovered in California, and the massive influx of European and American immigrants into the region beginning in 1849 quickly eliminated the last vestiges of the rancho system and the free-range cattle system.

3.0 METHODS

3.1 RECORD SEARCH AND ARCHIVAL RESEARCH

Proposed project maps provided by SDG&E and United States Geological Survey (USGS) quadrangle maps were used to develop a general summary of previously completed cultural resource work in the proposed Project area and to plot previously recorded cultural resource sites within and in the vicinity of the proposed Project right-of-way. An archaeological site record search and archival research was completed at the South Coastal Information Center (SCIC) and the California Room of the Main San Diego Library. Technical reports completed for cultural resource projects that overlap portions of the proposed Project area were also collected and reviewed.

Data collected include information from primary archaeological site record maps, archaeological site records, and cultural resource reports completed for projects that overlap portions of the proposed Project area. Archival investigations included a review of applicable Sanborn Fire Insurance Maps and other applicable historic maps. Collected data and archaeological site record maps were reviewed and information regarding site locations and attributes was evaluated for work areas described in the proposed Project description for the purpose of determining potential project impacts to cultural resources and the development of appropriate mitigation measures.

3.2 FIELDWORK

Fieldwork, cultural resources evaluation, and assessment of potential impacts to cultural resources associated with the proposed Project focused on the relocation of previously recorded sites, a visual inspection of areas that had not been previously surveyed, and the inspection of all areas identified as surface work sites or locations of subsurface activities associated with the proposed Project. Cultural resources related inspection of the project area was conducted following the completion of the site record search in order to allow for the direct comparison of archival information with the existing field conditions within the proposed Project Area and vicinity. Developed portions of the proposed Project area were subjected to cursory inspection only, as proposed Project actions involving ground disturbance will be limited to disturbed contexts within the existing SDG&E right-of-way (ROW) or underground in-franchise right-of-way located beneath existing city streets.

This page intentionally left blank.

4.0 RESULTS

4.1 RECORD SEARCH AND ARCHIVAL RESEARCH

4.1.1 Silvergate Substation

The Silvergate Substation is a 500 by 280 ft structure located at 1348 Sampson Avenue, in the City of San Diego. The facility includes the main Substation, a 4 kilowatt (kV) Substation, intake and out-take discharge pipes, and associated support equipment. San Diego Marine Construction, Inc. is west of the plant. The entire area in and around the project has been developed with large-scale commercial companies. There are no recorded prehistoric or historic cultural resource sites, features, or isolates identified adjacent to this property. The existing Substation, built in 1943, is historic on the basis of its age (>50 years old). However, the Substation is not historically significant on a national, state, or local level, and is not eligible for listing on the California Register of Historical Places (CRHP) or the National Register of Historic Places (NRHP) (RECON 2002).

RECON completed a field and an archival investigation of the Silvergate Substation in order to gather sufficient information to evaluate the historical significance and potential eligibility of this property for nomination to the NRHP and/or the CRHP (RECON 2002). This work was completed in accordance with guidelines of the California Environmental Quality Act (CEQA) and Section 106 of the National Historic Preservation Act (NRHP). The primary objective of the study was to identify historic or architecturally significant elements associated with the Silvergate Substation. The RECON fieldwork consisted of an on-site visit and survey of both the exterior and interior elements of the Substation complex by two qualified archaeologists. A chain-of-title was not obtained for the property. The facility includes the main Substation, a 4 kilowatt (kV) Substation, intake and out-take discharge pipes, and associated support equipment.

Three cultural resources are recorded within a one-quarter mile radius of the Silvergate and Main Street Substations. These sites were originally identified as unknown prehistoric deposits containing sparse scatters of shell and artifacts (CA-SDI-53, 54, and 55).

Table 4-1. Cultural Resources in Vicinity of Silvergate and Main Street Substations

Site Number CA-SDI-	Temporal Association	Site Description	Site Status
53	Prehistoric	Possible campsite; cultural materials not identified	Unknown
54	Prehistoric	Possible campsite; cultural materials not identified	Unknown
55	Prehistoric	Possible campsite; cultural materials not identified	Unknown

All three resources were described as possible prehistoric deposits with sparse scatters of shell and artifacts. Cultural materials were not identified other than a generalized note of "traces of refuse heap". The date(s) of recordation and the names of the individual(s) who originally

recorded these resources are unknown. Due to the lack of data and the level of development in the areas that these sites are located in, the status of these sites is unknown.

The boundary of the portion of Barrio Logan that is considered to be a historic district is outside of the boundary of the proposed Project and none of the elements in the historic district will be impacted by the proposed demolition, removal, and construction proposed at the Silvergate Substation property.

4.1.2 Underground Portion of TL 13815

No cultural resources have been previously recorded within the boundary of the proposed underground portion of TL 13815. Two historic (CA-SDI-13,073H and CA-SDI-16,385H) and two prehistoric cultural resources (SDI-4886 and SDI-5512) have been previously recorded in the vicinity of this portion of the proposed Project area.

Table 4-2. Cultural Resources in Vicinity of Underground Portion of TL 13815

Site Number CA-SDI-	Temporal Association	Site Description	Site Status	References
4886	Prehistoric	Isolate Artifact	Not Significant	Toren (1977)
5512	Prehistoric	Sparse scatter of stone tools and shell	Not Significant	Corum (1978; update by Collett and Wade 1990)
13,073H	Historic	Remains of railroad bed.	Not Significant	Laylander (1993b); updated 2000)
16,385H	Historic	Remains of railroad tracks and bed.	Not Significant	Tang et al. (2002)

CA-SDI-4886 is a single stone artifact found in a disturbed context (Toren 1977). As defined by the State of California (SHPO), isolates are not considered significant and have no research value beyond the collection of data and recordation.

CA-SDI-5512 was described as a sparse scatter of stone tools and marine shell (Corum 1978; Collett and Wade 1990). This resource was found on a low rise, just west of the railroad tracks and south of the Sweetwater Marsh. The cultural materials were found scattered in an associated plowed field and in a "fill" area used by SDG&E to form a transmission power pad. A review by RECON concluded that because of the previous disturbance and the apparent lack of a subsurface depth, this resource was not significant.

CA-SDI-13,073H consists of a portion of the historic Coronado Railroad grade, which originally contained railroad grade, tracks, ties, and bridges, that extended over approximately 18 linear miles adjacent to the original shoreline of San Diego Bay. The Coronado Railroad was constructed in the late 1880s. This railroad route has been variously labeled on maps and in publications as the Coronado Belt Line, the Coronado Railroad, San Diego Southern, San Diego & Southeastern, San Diego and Arizona- Southern Pacific Lines, A.T. & S.F. - San Diego and Arizona Eastern (Pourade 1964; Hanft 1984). This site was originally recorded by Don

Laylander (1993b), and was relocated and inspected in 1999 and 2000 by Tierra Environmental Services. With the exception of limited pieces of track, only the bed of the railroad remains. This site has been heavily impacted by the construction of the Bayshore Bikeway and associated parking facilities.

CA-SDI-16,385H is comprised of the remains of an approximately 5.9 mile long portion of the Burlington Northern Santa Fe rail line that was first constructed in 1882 and 1883 (Gustafson and Serpico 1992). The Burlington segment was formerly part of the Atchison, Topeka, and Santa Fe Railroad Line. The existing tracks and other associated railroad features in the study area are mostly modern in origin (post 1975), and show no particularly significant historical characteristics. A short segment of the older tracks, now abandoned, still exists in front of the historic Santa Fe Depot in National City. The existing railroad line and its associated features recorded as comprising CA-SDI-16,385H were determined not to retain sufficient historic integrity, and the site was determined to be ineligible for nomination to the National Register (Tang et al. 2002).

4.1.3 Reconductor Portions of 138kV Transmission Line (TL 13824)

There are no recorded cultural resources within this segment or in the vicinity of the project corridor. No direct or indirect impacts to cultural resources will occur within the Los Coches, Miguel or South Bay segments of the project.

4.2 FIELDWORK

4.2.1 Silvergate Substation

The Silvergate and Main Street Substations and the associated warehouse slated for demolition were revisited by a qualified historian in association with the current study. There has been no change in the condition of the Silvergate Substation, as described in 2002 by RECON. The Silvergate Substation property is completely covered by the building and associated hardscape (i.e., drive-ways, asphalt, and cement). There were no exposed areas of ground surface observed. The Main Street Substation is also completely covered by the building and associated hardscape (i.e., drive-ways, asphalt, and cement), and there were no exposed areas of ground surface observed.

The existing manufacturing warehouse, located on the corner of Harbor Drive and Sampson Street, is a wood frame and stucco building with decorative brick trim. The warehouse has a wood roof supported by steel poles, large wooden sliding doors, and concrete walls along the sides and back of the structure. The structure is not significant, and collection of additional information regarding construction techniques or its association with a historically important person (architect or builder) is not expected during the demolition process.

4.2.3 Underground Portion of TL 13815

Accessible areas of exposed ground surface within the vicinity of the starting point near the South Bay Substation, and the ending point near the Sweetwater Marsh National Wildlife Refuge in this portion of the proposed Project area were examined for cultural resources. No prehistoric or historic isolates, features, or archaeological sites were identified in these areas.

4.2.4 Reconductor Portions of 138kV Transmission Line (TL 13824)

Cultural resources field study associated with the project was limited to a visual inspection of the ground surface in proposed work areas. The segments of the project right-of-way were visually inspected with a focus on the relocation of previously recorded sites and their correspondence with areas identified as proposed work sites or locations of ground disturbing activities associated with project actions. Developed portions of the project right-of-way, as well as areas of excessive slope or dense vegetation were subjected to cursory inspection only. All of the reconductor line was previously surveyed and reported on for the proposed San Diego Gas and Electric (SDG&E) Otay Mesa Power Purchase Agreement (OMPPA) Transmission Project (Berryman, Cheever, Harvey 2004).

This page intentionally left blank.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 POTENTIAL FOR IMPACTS

Construction related subsurface and surface disturbances associated with construction projects can result in a loss of the integrity of cultural deposits, a loss of scientific information, and the alteration of archaeological site setting, all of which are considered to be significant impacts to cultural resources. Potential indirect impacts to cultural resources can result from increased access and use of a project area and its vicinity during both project construction and long-term maintenance and operational activities. The potential for the inadvertent discovery of buried or masked unknown archaeological materials during ground disturbing construction activities always exists, regardless of whether or not cultural resources have been previously identified within a project area.

Ground-disturbing construction activities associated with the proposed Project that have the highest potential to impact cultural resources include the structural demolition and removal and construction-related subsurface excavation at the Silvergate Substation site, and the subsurface boring associated with the underground installation of a portion of TL 13815. The potential for impacts to cultural resources resulting from subsurface disturbance associated with construction activities conducted at assembly areas, conductoring and reconductoring pull sites, and any other construction activities associated with surface disturbance within the project area also exists. The most likely activities associated with ground disturbance in regard to reconductoring are vegetation clearing and grading activities at pull sites and laydown areas. Conductor stringing and reconductoring have a low to moderate potential to affect cultural resources depending on the type of construction techniques used for vegetation clearing and grading, and the limited spatial extent and location of access roads and surface work areas required for these activities.

5.2 IMPACTS TO CULTURAL RESOURCES

5.2.1 Silvergate and Main Street Substations

There are no recorded prehistoric or historic cultural resource sites, features, or isolates identified within the boundaries of the Silvergate or Main Street Substation properties. The Silvergate Substation, built in 1943, is considered historic on the basis of age, but is not historically significant on a national, state, or local level (RECON 2002). Therefore, there are no adverse effects to cultural resources associated with impacts resulting from the demolition and removal of the Silvergate Substation. Due to the extent of previous disturbance and the lack of previously recorded cultural resources within the boundary of the Silvergate and Main Street Substation properties, the potential for impacts to unknown cultural resources is considered to be low in association with proposed ground-disturbing construction activities in this portion of the proposed Project area.

5.2.2 Underground Portion of TL 13815

No cultural resources have been previously recorded within this portion of the proposed Project area. Four cultural resources have been previously recorded in the vicinity of this portion of the

proposed Project area. These resources are not significant or eligible for nomination to the National Register and will not be impacted by the proposed project. As a result, there are no adverse effects to cultural resources associated with the implementation of the boring required for the proposed underground portion of TL 13815. The potential for impacts to unknown cultural resources during the underground boring proposed within this portion of the Project area is considered to be low.

5.2.2 Reconductor Portions of 138kV Transmission Line (TL 13824)

No cultural resources have been previously recorded within this portion of the proposed Project area. The potential for impacts to unknown cultural resources during the reconductoring within this portion of the Project area is considered to be low.

5.3 IMPACTS TO NATIVE AMERICAN AND OTHER HUMAN REMAINS

No cemeteries, isolated Native American, or other human remains have been documented within the project area. Therefore, the potential for impacts to unrecorded Native American or other human remains during project is considered to be low. If Native American or other human remains are inadvertently discovered during the course of project actions, there will be no further excavation or disturbance of the site of the remains or the vicinity until the remains and the vicinity have been evaluated in accordance with CEQA Section 10564.5, California Health and Safety Code (CHSC) Section 7050.5, Public Resources Code (PRC) Section 5097.98, and the Native American Graves Protection and Repatriation Act (NAGPRA), as appropriate.

5.4 GENERAL PROTOCOLS

In addition to the specific mitigation measures presented in the following sections, SDG&E incorporates general cultural resources management protocols into all of its projects in an effort to minimize potential impacts to cultural resources in accordance with its environmental standard for cultural resources. In the construction and operation of projects, SDG&E complies with all applicable environmental laws and regulations, including, without limitation, those regulating and protecting air quality, water quality, wildlife and its habitat, and cultural resources. SDG&E implements all applicable cultural resources management related project protocols throughout project design, construction, operation, and maintenance as necessary, feasible, and appropriate to minimize potential impacts to cultural resources.

As part of SDG&E's commitment to protecting and preserving cultural resources, prior to construction, all SDG&E, contractor, and subcontractor project personnel will receive training regarding the appropriate work practices necessary to effectively implement applicable cultural resources management protocols and to comply with applicable cultural resources preservation and protection laws and regulations. To assist in this effort, the training addresses federal, state, local, and tribal laws regarding antiquities, fossils, plants, and wildlife, including collection and removal; the importance of these resources and the purpose and necessity of protecting them; and methods for protecting sensitive cultural resources.

Inadvertently discovered cultural resources will be immediately reported to the designated

environmental/cultural resources management point of contact at SDG&E, and will be evaluated for potential significance and eligibility for listing on the CRHR by a qualified archaeologist that meets the requirements of the SHPO. If evaluation indicates that the resource is potentially significant and/or potentially eligible for nomination to the CRHR, a Cultural Resources Treatment Plan (CRTP) will be developed in consultation with the State Historic Preservation Officer (SHPO). The CRTP will contain protocols for the treatment of the cultural resource, a detailed description of evaluation, reporting, documentation, and curation requirements for any cultural materials collected during treatment, and the qualifications for archaeologists involved in the proposed treatment activities, as mandated by CEQA, and the SHPO.

5.5 RECOMMENDATIONS

5.5.1 Silvergate and Main Street Substations

Additional, scientifically important information regarding construction techniques or types of materials used in the construction of the Silvergate Substation is not expected during the demolition process, and monitoring of this activity is not recommended. Although the potential for unknown cultural resources within the boundary of the Silvergate and Main Street Substation properties is considered to be low, these properties are within an area that is considered "archaeologically sensitive" by the City of San Diego Planning Department. Therefore, archaeological monitoring is recommended during any subsurface excavation outside of the area previously disturbed by the construction of the Substation. This would include all grading and all subsurface excavation associated with utility upgrades within and adjacent to both properties.

5.5.2 Underground Portion of TL13815

The potential for subsurface prehistoric or historic remains within the boundary of the underground portion of TL 13815 is also low. Although there are no previously recorded sites on the surface of the proposed underground route, a portion of this area is within the San Diego National Wildlife Refuge and the Sweetwater Marsh National Wildlife Refuge, and is therefore subject to state and federal regulations (CEQA and NHPA Section 106) regarding the preservation and protection of cultural resources. Therefore, archaeological monitoring of all excavation, including vegetation removal and site preparation work that results in subsurface disturbance is recommended for this portion of the proposed Project. Archaeological monitoring of the proposed boring associated with the underground portion of TL 13815 would be unlikely to result in the identification of cultural resources, and is not recommended.

5.5.3 Reconductor Portions of 138kV Transmission Line (TL13824)

The potential for subsurface prehistoric or historic remains within the boundary of the reconductor portions of TL 13824 is also low. Although there are no previously recorded sites in the area, archaeological monitoring of all excavation, including vegetation removal and site preparation work that results in subsurface disturbance is recommended for this portion of the proposed Project. Ground disturbance activities are not expected for this portion of the project.

5.6 CONCLUSIONS

There is no potential for direct impacts to known cultural resources associated with the implementation of proposed ground-disturbing construction activities within the proposed Project area. The potential for direct impacts to unknown cultural resources is low for ground disturbing activities associated with the demolition of the Silvergate Substation, the demolition of the associated commercial building (warehouse) and the installation of the underground portion of TL 13815 from the South Bay Substation to the Sweetwater River area. Implementation of the general protocols, the specified archaeological monitoring, and the development and implementation of a Cultural Resources Treatment Plan (CRTP) for inadvertently discovered, potentially significant cultural resources will reduce potential impacts to unknown cultural resources that may exist within the proposed Project area to a level that is less than significant.

This page intentionally left blank.

6.0 REFERENCES

Ballester, Daniel
1992 Archaeological Site Record Update for CA-SDI-16385H. On file at the South Coastal Information Center, San Diego.
2002 Archaeological Site Record Update for CA-SDI-5931. On file at the South Coastal Information Center, San Diego.

Bull, C.
1972 Archaeological Site Record for CA-SDI-4650. On file at the South Coastal Information Center, San Diego.

Eckhardt, Lesley.
1978 Archaeological Site Record for CA-SDI-5931. On file at the South Coastal Information Center, San Diego.

Gustafson, Lee and Philip Serpico
1992 *Santa Fe Coast Lines and Depots, Los Angeles Division.* Omni Publications, Palmdale.

Hanft, Robert
1984 San Diego and Arizona: The Impossible Railroad. *San Diego Historical Society Journal*, Spring 1984.

Kroeber, Alfred L.
1925 *Handbook of the Indians of California.* Bureau of American Ethnology Bulletin 78. Washington, D.C.

Laylander, Don
1993a *An Archaeological Survey for the Bay Route Bikeway, Chula Vista and National City, California.* On file at the South Coastal Information Center, San Diego.
1993b Archaeological Site Record for CA-SDI-13073H. On file at the South Coastal Information Center, San Diego.

Meighan, Clement
1954 A Late Complex in Southern California Prehistory. *The Southwestern Journal of Anthropology* 10:215-227.

Moratto, Michael
1984 *California Archaeology.* Academic Press. New York.

Nelson, N.C.
n.d. Archaeological Site Records for CA-SDI-36, CA-SDI-53 and CA-SDI-54. On file at the South Coastal Information Center, San Diego.

Pigniolo, Andrew, and Michael Baksh
2000 *Draft- Archaeological Survey Report for the Bayshore Bikeway Project, City of San Diego*. Submitted to the City of San Diego, Department of Planning and Land Use.

Pourade, Richard
1964 *The History of San Diego: The Glory Years*. Union-Tribune Publishing Company, San Diego.

RECON
2002 *Final- Cultural Resource Survey of the Silver Gate Power Plant*. On file at the South Coastal Information Center, San Diego.

Tang, Bai, Michael Hogan, Mariam Dahdul, Teresa Woodard and Daniel Ballester
2002 *Historical Resources Compliance Report: Track Improvements Between San Diego and National City and New Locomotive/Car Service and Inspection Facility in National City, San Diego County, California*. On file at the South Coastal Information Center, San Diego.

Tierra Environmental Services, Inc.
1999 Archaeological Site Record Update for CA-SDI-13,073. On file at the South Coastal Information Center, San Diego.
2003 Archaeological Site Record for CA-SDI-16,683. On file at the South Coastal Information Center, San Diego.

True,
1958 An Early Complex in San Diego County, California. *Society for American Archaeology* 23(3):255-263.

Wallace, W.J.
1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11:213-230.

Warren, Claude and D.L. True
1961 The San Dieguito Complex and Its Place in California Prehistory. *Archaeological Survey Annual Report* (1960-1961), pp. 246-338. Department of Anthropology, University of California, Los Angeles.

ATTACHMENT A

RECORD SEARCH DOCUMENTATION

This page intentionally left blank.

San Diego State University

South Coastal Information Center
College of Arts and Letters
4283 El Cajon Blvd., Suite 250 San Diego CA 92105
TEL: 619.594.5682

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

SITE FILES RECORD SEARCH

Source of Request: e2M (Steve Harvey)

Date of Request: January 26, 2005

Date Request Received: January 27, 2005

Project Identification: Silvergate Substation Expansion Project

Search Radius: within designated boundaries

( ) The South Coastal Information Center historical files DO NOT show recorded prehistoric or historic site location(s) within the project boundaries, nor prehistoric site location(s) within the specified radius of the project area.

(X) The South Coastal Information Center historical files DO show recorded prehistoric or historic site location(s) within the project boundaries and/or prehistoric site location(s) within the specified radius of the project area.

Historical Site Location(s) check: self Date: January 27,2005

Archaeological (CA-SDI) and Primary (P-37) site maps have been reviewed. All sites within the project boundaries and the specified radius of the project area have been plotted. Copies of the site record forms have been included for all recorded sites.

Bibliographic Materials check: self Date: January 27, 2005

Project boundary maps have been reviewed. The bibliographic materials for reports within the project boundaries and within the specified radius of the project area have been included.

Historic Map(s) check: self Date: January 27,2005

The historic maps on file at the South Coastal Information Center have been reviewed, and
copies have been included.

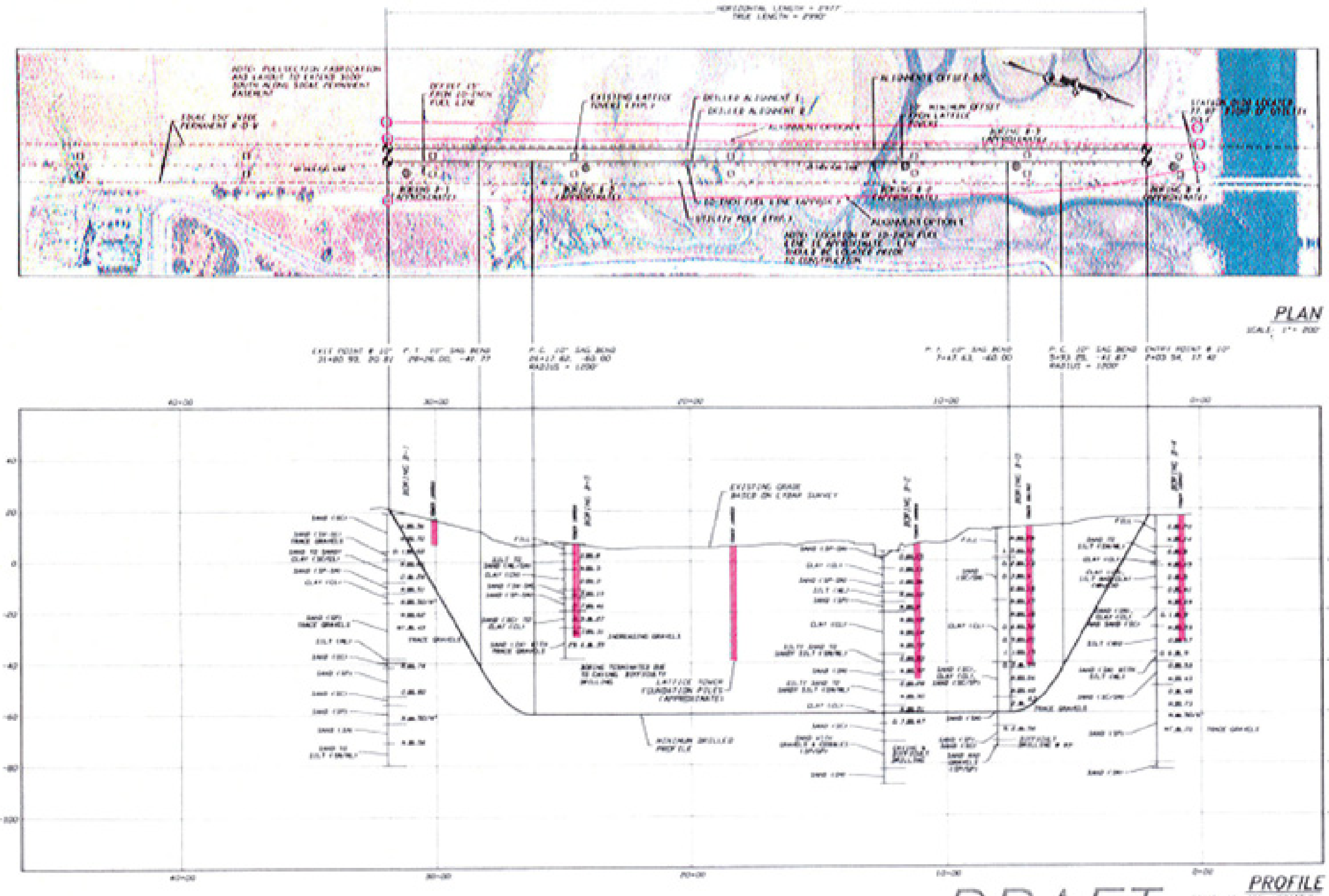
Historic Resources check: self Date: January 27, 2005

If there are historic resources within your project boundaries, information from the National Register of Historic Properties, California Register, California State Landmarks, California Points of Historic Interest, and other historic property lists, has been included. A map generated from Geofinder, a historic database and mapping program, has been included.

HOURS: 1 COPIES:21 RUSH: No

This is not an *invoice. Please pay from the monthly Billing Statement.*

ATTACHMENT 6



DRAFT

GENERAL LEGEND

DRILLED PATH ENTRY/EXIT POINT

GEOTECHNICAL LEGEND

BORING LOCATION

2.5" MODIFIED CALIFORNIA SPLIT SPOON SAMPLER

PENETRATION RESISTANCE IN BLOWS PER FOOT FOR A 140 POUND HAMMER FALLING 30 INCHES
PERCENTAGE OF GRAVEL BY WEIGHT FOR SAMPLES CONTAINING GRAVEL

2.0" STANDARD SPLIT SPOON SAMPLER

PENETRATION RESISTANCE IN BLOWS PER FOOT FOR A 140 POUND HAMMER FALLING 30 INCHES
PERCENTAGE OF GRAVEL BY WEIGHT FOR SAMPLES CONTAINING GRAVEL

GEOTECHNICAL NOTES

1. GEOTECHNICAL DATA PROVIDED BY URS CORPORATION, SAN DIEGO, CALIFORNIA. REFER TO THE PROJECT GEOTECHNICAL REPORT FOR MORE DETAILED SUBSURFACE INFORMATION.

2. THE LETTER "N" TO THE LEFT OF THE SPLIT SPOON SAMPLES INDICATES THAT NO GRAVEL WAS OBSERVED IN THE SAMPLE. THE LETTERS "NT" INDICATE THAT GRAVEL WAS OBSERVED BUT NO GRADATION TESTS WERE PERFORMED.

3. THE GEOTECHNICAL DATA IS ONLY DESCRIPTIVE OF THE LOCATIONS ACTUALLY SAMPLED. EXTENSION OF THIS DATA OUTSIDE OF THE ORIGINAL BORINGS MAY BE DONE TO CHARACTERIZE THE SOIL CONDITIONS. HOWEVER, COMPANY DOES NOT GUARANTEE THESE CHARACTERIZATIONS TO BE ACCURATE. CONTRACTOR MUST USE HIS OWN EXPERIENCE AND JUDGEMENT IN INTERPRETING THIS DATA.

TOPOGRAPHIC SURVEY NOTES

1. PROFILE GRADE BASED ON LYDAR SURVEY.

DRILLED PATH NOTES

1. DRILLED PATH STATIONING IS IN FEET BY HORIZONTAL MEASUREMENT AND IS REFERENCED TO CONTROL ESTABLISHED FOR THE DRILLED SEGMENT.

2. DRILLED PATH COORDINATES REFER TO CENTERLINE OF PIPE.

3. THE PILOT HOLE SHALL BE DRILLED TO THE TOLERANCES LISTED BELOW. IN ALL CASES, RIGHT-OF-WAY RESTRICTIONS AND CONCERN FOR ADJACENT UTILITIES SHALL TAKE PRECEDENCE OVER THE LISTED TOLERANCES.

PILOT HOLE TOLERANCES

1. ELEVATION - PLUS 5 FEET, MINUS 15 FEET.
2. ALIGNMENT - PLUS OR MINUS 15 FEET.
3. ENTRY POINT - AT THE STAKED LOCATION.
4. EXIT POINT - PLUS OR MINUS 5 FEET IN ALIGNMENT, PLUS 20 FEET AND MINUS 0 FEET IN LENGTH.
5. CURVE RADIUS - NO LESS THAN 600 FEET.

NO.	DATE	REVISION DESCRIPTION	BY	CHK'D	APP

PLAN AND PROFILE
SAN DIEGO GAS & ELECTRIC
SILVERGATE TRANSMISSION PROJECT
TL13815 SWEETWATER RIVER WETLAND CROSSING
BY HORIZONTAL DIRECTIONAL DRILLING

LOCATION: CHULA VISTA, CALIFORNIA

DRAWN	DATE	CHECKED	APPROVED	SCALE	DRAWING LABEL	REVISION
JWS	03/18/05	BLB	JDH	AS SHOWN	WETLAND	0

John D. Hair, P.E.
Consulting Engineer
2121 South Columbia Avenue
Suite 101
Tulsa, Oklahoma 74114

ATTACHMENT 7

San Diego Gas & Electric
Transmission Engineering

TL13815
SOUTH BAY - SWEETWATER RIVER

1 inch equals 2,000 feet

Sheet 1 of 5

LOCATION MAP

SKJL-13815_230a

San Diego Gas & Electric
Transmission Engineering

TL13815
SOUTH BAY - SWEETWATER RIVER

1 inch equals 400 feet

Sheet 2 of 5

LOCATION MAP

SKJL-13815_230a

San Diego Gas & Electric
Transmission Engineering

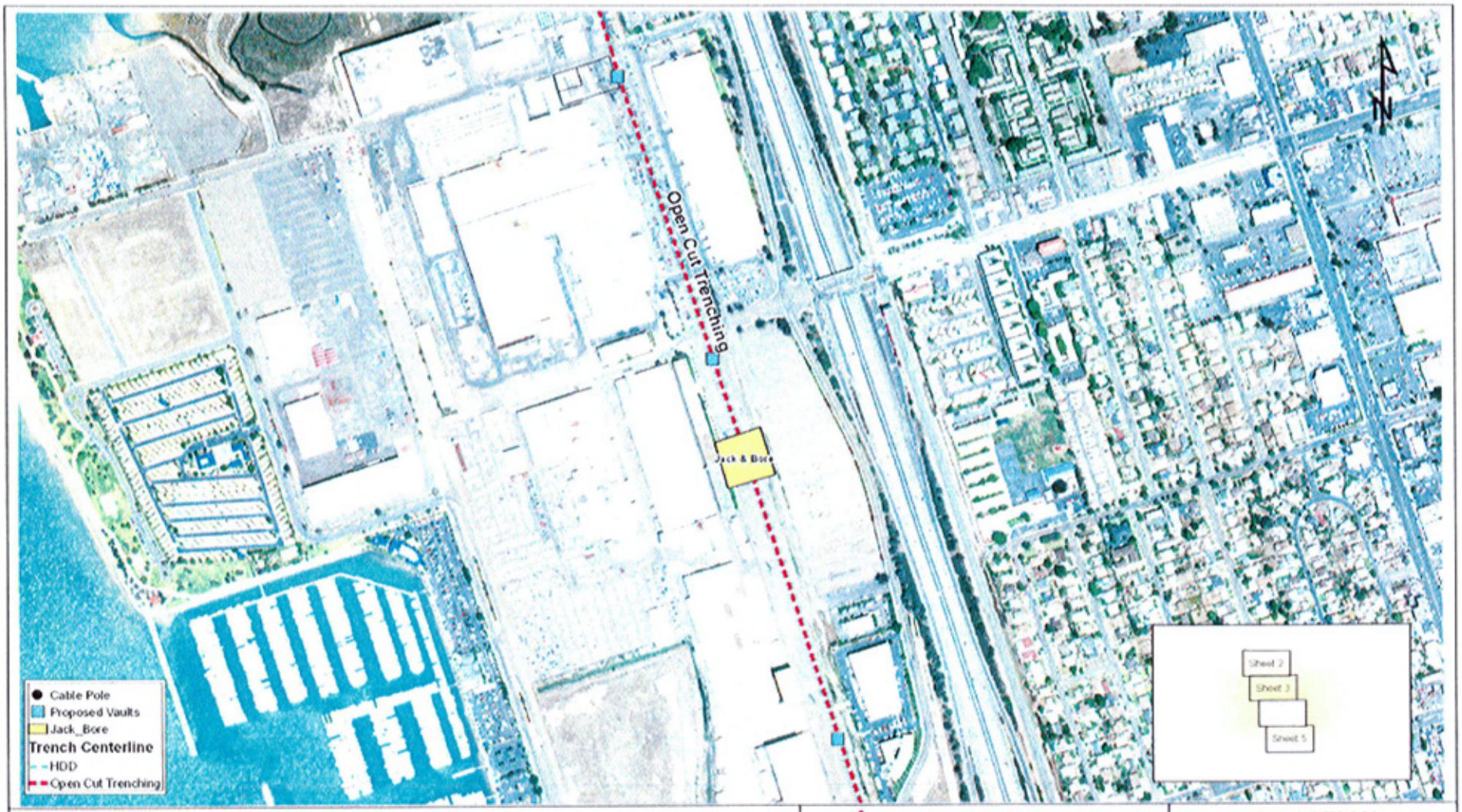
TL13815
SOUTH BAY - SWEETWATER RIVER

1 inch equals 400 feet

Sheet 3 of 5

LOCATION MAP

SKJL-13815_230a



San Diego Gas & Electric
Transmission Engineering

TL13815
SOUTH BAY - SWEETWATER RIVER

1 inch equals 400 feet

Sheet 4 of 5

LOCATION MAP

SKJL-13815_230a

San Diego Gas & Electric
Transmission Engineering

TL13815
SOUTH BAY - SWEETWATER RIVER

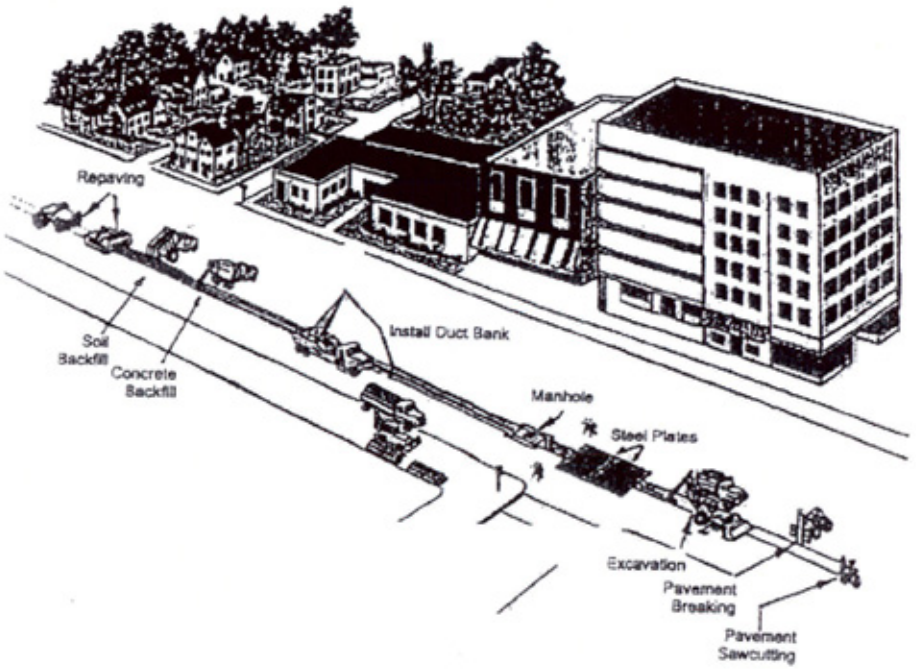
1 inch equals 400 feet

Sheet 5 of 5

LOCATION MAP

SKJL-13815_230a

ATTACHMENT 8



Attachment 8
Typical Underground Construction Process

ATTACHMENT 9

CPUC Question 1.5.7: Describe the possible impacts that may occur as a result of the cable installation method to be used.

Air Quality

The PEA provided a detailed discussion of air quality impacts related to the undergrounding of TL 138-15 on pages 6-11 and 6-12 as follows:

The undergrounding of the 138kV line will result in air quality emissions from trenching activity. Dust generated from trenching includes a potentially harmful constituent called PM_{10}, levels of which can be estimated for project trenching activity based on the following formula:

$PM_{10} = [0.00112 \times \{(G/5)^{1.3}/(H/2)^{1.4}\}] \times [I / J]$

G = Mean wind speed (7 miles per hour per the Western Regional Climate Center)

H = Moisture content of the soil

I = Pounds of soil handled per day (100 cubic yards of trench spoil per day at 120 pounds per cubic foot)

J = Conversion factor for pounds to tons

$PM_{10} = [0.00112 \times \{(7/5)^{1.3}/(0.11/2)^{1.4}\}] \times [36,000 / 2,000]$

Source: SCAQMD/USEPA

Using the previous formula, trenching activity would result in the production of 1.81 pounds per day of PM_{10}. As stated previously SDAPCD uses a threshold of 100 pounds of PM_{10} per day as a threshold, and, it can therefore be concluded that trenching activities for this project would be far below this level at 1.81 pounds per day and is not significant. Relative to construction equipment used during trenching and the horizontal directional drilling, the following estimated emissions are expected:

Activity	*NOx	*CO	*VOC	*SOx	*PM10
Trenching	14.2	11.5	17.5	1.1	1.1
Horizontal Directional Drilling	32.3	24.1	3.8	1.6	1.6

*Pounds per Day

Source: San Diego Harbor Deepening EIR/EIS, US Army Corps of Engineers, San Diego Unified Port District

SDG&E will also adhere to the SDAPCD dust control regulations which include, but are not limited to, restrictions on earthwork during periods of high wind, covering trucks hauling soil, limiting vehicle speeds, minimizing idling times, and

encouraging carpooling. Additionally, SDG&E will treat roads with chemical stabilizers or water as necessary and appropriate to the conditions, apply soil stabilizers to inactive construction areas on an as-needed basis, erect appropriate fencing, and minimize exposure of soil and other excavated materials.

The emissions from construction will not conflict with an applicable air quality plan and will not have a significant impact on nearby sensitive receptors. Though there are several residential areas and schools within 0.25 mile of the existing right-of-way (ROW), construction activities will move at a sufficiently rapid pace (approximately 200 feet per day for underground construction) to minimize the potential air quality impact to sensitive receptors. As a result, impacts will be less than significant.

Construction activities may also generate some localized site-specific odors associated with vehicle and equipment exhaust. Because these emissions will be very localized, short-term, periodic, and temporary, they will not adversely impact a substantial number of people in the project area. In addition, use of gas or diesel-powered portable engines during construction will be minimized. As a result, impacts will be less than significant.

Noise

Noise impacts from the undergrounding of TL138-15 are anticipated to be similar to the equipment noise levels shown on Table 13-4, page 13-6 of the PEA as follows:

Typical Construction Equipment Noise Levels

Equipment	Noise Level (dBA) Range at Approximately 50 Feet (Leq 12)
Earth-Moving	
Front loader	70
Backhoe	70
Paver	69
Truck	74
Materials-Handling	
Concrete mixer	78
Concrete pump	73
Stationary	
Pump	67
Impact	
Pneumatic tools	75
Jackhammers and rock drills	82

Compactors	77
Source: Acentech, 2004	

During the horizontal directional drilling (HDD) operations there would be construction noise from vehicles and portable and mobile equipment, including a small portable crane, backhoe, drill rig (estimated to be under 500 horsepower), a mixer/cleaner (for drilling mud), welders, pipe rollers and associated pipe handling, portable generator, portable pump, etc. For the pullback construction operations there would be noise from trucks, pipe rollers, pipe welding or fusing/bonding equipment, a small crane, and other miscellaneous construction equipment. Pullback operations would join sections of pipe into longer lengths for pullback into the drilled and reamed hole under the Marsh. Noise levels from the HDD process are anticipated to be similar to those associated with trenching activities as shown in the previous table.

Based on standard noise analysis calculation estimates, noise is reduced by 6 dBA for each doubling of distance. The results of the standard calculation show the distance required to reach 75 dBA, as indicated in the table below, Distances Required To Reach 75 dBA for Selected Construction Equipment Noise Levels. Based on the table calculation, 75dbA would be reached at approximately 200 feet based on 85 dBA, which is three dBA higher than the loudest piece of equipment listed in the table above. As an industrial area, there are no sensitive receptors within 200 feet of the proposed trench route. Relative to the HDD activity, there also no sensitive land use receptors within 200 feet of the bore or receiving pits and activity areas. Noise impacts to sensitive animal species have been addressed by numerous project protocols that have been identified to avoid or substantially minimize any adverse effects.

Based on these facts, construction equipment noise impacts for both trenching and HDD activities are considered less than significant.

Distances Required To Reach 75 dBA
for Selected Construction Equipment Noise Levels (@ 50 feet)

dBA (@ 50ft)	100 ft	200 ft	400 ft	800 ft	1,600 ft	3,200 ft	6,400 ft	12,800 ft	25,600 ft
110	104	98	92	86	80	74	68	62	56
105	99	93	87	81	75	69	63	57	51
100	94	88	82	76	70	64	58	52	46
95	89	83	77	71	65	59	53	47	41
90	84	78	72	66	60	54	48	42	36
85	79	73	67	61	55	49	43	37	31
80	74	68	62	56	50	44	38	32	26
75	69	63	57	51	45	39	33	27	21
70	64	58	52	46	40	34	28	22	16
65	59	53	47	41	35	29	23	17	11
60	54	48	42	36	30	24	18	12	6
* Worst-case noise levels based on hard site conditions with no intervening topography.									

Traffic and Circulation

SDG&E anticipates that an estimated 6 to 10 light duty truck trips per day will be required for transporting supplies to and from the ROW and hauling materials from the site. The majority of the trucks will be dump trucks used for transporting excavated material off-site. The remaining trucks will be light duty trucks. Truck traffic will be distributed fairly equally throughout the day. The increase in traffic due to project-related vehicles will be negligible (less than 1 percent) compared to existing traffic in the area. Therefore, project related traffic will not have a significant impact on traffic.

Parking will be temporarily displaced while portions of lots are closed during trenching activities. Where alternative parking is available close by, SDG&E will work with property owners to ensure work access and shuttling if necessary. SDG&E will coordinate with all property owners to minimize any adverse business effects associated with the loss of parking, as necessary, to ensure that impacts to parking in these lots are reduced to less than significant.

The trenching or HDD activity is not anticipated to result in impacts to sidewalks, designated trails or emergency vehicles access or response due to the location of these activities within designated utility right of way outside of existing roads.

Overall Construction Impacts

It is anticipated that the project will not result in more than nominal impacts on any other natural resources.

ATTACHMENT 10A, 10B & 10C

Figure A
South Bay Substation to I-5 Crossing
Silvergate/Main Street Substation Project
Biological Resources Technical Report

Figure B
South Bay Substation to I-5 Crossing
Silvergate/Main Street Substation Project
Biological Resources Technical Report


South Bay
Power Plant
Figure C
South Bay Substation to I-5 Crossing
Silvergate/Main Street Substation Project
Biological Resources Technical Report
South Bay Power Plant
Lattice Tower
South Bay - I-5 Crossing
N
TRC

ATTACHMENT 11A, 11B & 11C


South Bay
Power Plant
Appendix A-1: Sensitive Resources and Vegetation Maps
Silvergate/Main Street Substation Project
Biological Resources Technical Report
South Bay Power Plant
Lattice Tower
South Bay - I-5 Crossing
Developed
Disturbed
N
TRC


Appendix A-2: Sensitive Resources and Vegetation Maps
Silvergate/Main Street Substation Project
Biological Resources Technical Report
Lattice Tower
South Bay - I-5 Crossing
Developed
Disturbed
Drainage
Coastal Cactus Wren Survey
Salt Marsh Skipper Survey
Western Burrowing Owl Survey
N
TRC


Transition Cable Pole
Receiving Pit
Boring Pit
Appendix A-3: Sensitive Resources and Vegetation Maps
Silvergate/Main Street Substation Project
Biological Resources Technical Report
Lattice Tower
South Bay - I-5 Crossing
Baccharis scrub
Diegan coastal sage scrub
Disturbed Diegan coastal sage scrub
Developed
Disturbed
Disturbed salt marsh
Mud flats
Salt marsh
Sweetwater River
Coastal Cactus Wren Survey
Salt Marsh Skipper Survey
Western Burrowing Owl Survey
N
TRC

ATTACHMENT 12A & 12B

Photo 1:
Bay Boulevard and Marina Looking Norhwest

Photo 2:
Tower 5, I Street and Bay Boulevard Looking Northwest

Photo 3:
Tower 10, Corner of Lagoon Drive and F Street

RBF CONSULTING

Towers

SDG&E Silvergate Transmission Substation

Figure

Photo 4:
Tower 10, F Street and Lagoon Dr. Looking South

Photo 5:
Tower 13, E Street and Bay Boulevard Looking North

Photo 6:
Tower 15, Looking Northwest in Sweetwater Estuary

RBF CONSULTING

Towers

SDG&E Silvergate Transmission Substation

Figure

ATTACHMENT 13A & 13B

AIS

GIS

AIS

GIS

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing **SUPPLEMENT TO THE APPLICATION OF SAN DIEGO GAS & ELECTRIC COMPANY (U 902-E)** has been served electronically and by U.S. Mail on all parties of record on the Commission's Service List in proceeding A.05-03-024.

Executed this 5th day of July 2005 at San Diego, California.

Laurie Delaney