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4.4 BIOLOGICAL RESOURCES

Would the Proposed Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or United States (U.S.) Fish and Wildlife Service?			✓	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			✓	
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			✓	
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			✓	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				✓
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				✓

4.4.0 Introduction

This section describes the existing biological resources in the area of the San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company—hereinafter referred to as "the Applicants"—proposed Pipeline Safety & Reliability Project (Proposed Project). The Proposed Project involves construction, operation, and maintenance of an approximately 47-mile-long, 36-inch-diameter natural gas transmission pipeline that will carry natural gas from SDG&E's existing Rainbow Metering Station to the pipeline's terminus on Marine Corps Air Station (MCAS) Miramar. The potential impacts to existing biological resources resulting from the construction, operation, and maintenance of the Proposed Project are also discussed. With implementation of the Applicants-Proposed Measures (APMs) provided in Section 4.4.4 Applicants-Proposed Measures, impacts to biological resources will be less than significant.

4.4.1 Methodology

The Biological Resources Survey Area (BRSA) included all Proposed Project components described in Chapter 3 – Project Description, plus an approximately 150-foot buffer on each side of these components. In total, the BRSA covered approximately 2,264 acres. The potential for biological resources to occur within the BRSA was determined based on the results of a desktop-level review of biological literature and databases, a general habitat assessment survey, and several focused biological surveys. The following subsections describe the methods used to perform the literature review prior to biological surveys, as well as the methods used to perform the biological surveys, including the initial habitat assessment and subsequent focused surveys for the Proposed Project.

Definitions

Special-Status Species

Special-status species are defined as follows:

- Federally listed species (i.e., plants or animals listed as threatened or endangered under the federal Endangered Species Act [FESA]). The FESA provides regulatory authority over terrestrial species and non-anadromous fish to the United States (U.S.) Fish and Wildlife Service (USFWS). The National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NOAA Fisheries) has authority over marine mammals and anadromous fish.

- State-listed species (i.e., plants or animals listed as threatened or endangered under the California Endangered Species Act [CESA]). The CESA is enforced by the California Department of Fish and Wildlife (CDFW).

- Species that are candidates for possible future listing as threatened or endangered under the FESA (50 Code of Federal Regulations (CFR) Part 17; Federal Register Vol. 64, No. 205, pages 57533-57547, October 25, 1999) and under the CESA (California Fish and Game Code § 2068).

- Plants that meet the definition of rare or endangered under the California Environmental Quality Act (CEQA) (14 California Code of Regulations [CCR] § 15380), including:

  - Species considered by the California Native Plant Society (CNPS) to be "rare, threatened or endangered in California" (California Rare Plant Ranks [CRPR] 1A, 1B, 2A, and 2B).

  - Some species included on the California Natural Diversity Database (CNDDB) Special Vascular Plants, Bryophytes, and Lichens List (CDFW, 2014a).

  - Plants that are considered a locally significant species; that is, a species that is not rare from a statewide perspective, but is rare or uncommon in a local context, such as within a county or region (14 CCR § 15125 [c]), or is so designated in local or regional plans, policies, or ordinances (14 CCR CEQA Guidelines, Appendix G). This includes all List A, B, C, and D plants on the County of San Diego Sensitive Plant List (County of San Diego, 2010). Many of the County of San Diego List C and D plants are also CRPR 3 and 4 plant species.

- Animals that meet the definition of endangered, rare, or threatened under CEQA (14 CCR § 15380) that may include species not found on either the federal or state endangered species list, including:

  - Animals designated as Species of Special Concern (SSC) by the CDFW (2014b).

  - Animals designated as Fully Protected Animals by California Fish and Game Code Sections 3511, 4700, 5050, and 5515.

- Migratory birds and any of their parts, eggs, and nests protected by the USFWS under the Migratory Bird Treaty Act (MBTA).

- All raptors (e.g., hawks, eagles, and owls) and their nests, eggs, and young are protected under California Fish and Game Code Section 3503.5.

- Birds of prey (California Fish and Game Code § 3503, 3513, and 3800).

Sensitive Natural Communities

Sensitive natural communities are communities that have a limited distribution and are often vulnerable to the environmental effects of projects. These communities may or may not contain special-status species or their habitats. For purposes of this assessment, sensitive natural communities are considered to be any of the following:

- Vegetation communities listed in the CNDDB;
- Communities listed in the Natural Communities List with a rarity rank of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable);
- Tier I or Tier II vegetation communities, as defined by the City of San Diego Biology Guidelines (City of San Diego, 2001); or

- Any wetland/riparian community regulated by the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), or the CDFW.

Although vegetation mapping within the BRSA conforms to Oberbauer et al. (2008), which is more generalized than the Natural Communities List, areas exhibiting characteristics of sensitive alliances from the Natural Communities List were also documented during vegetation mapping to ensure proper documentation of sensitive natural communities potentially impacted by the Proposed Project.

Literature and Database Review

Preliminary investigations included a review of aerial photographs, U.S. Geological Survey (USGS) topographic maps, San Diego Association of Governments (SANDAG) 2012 vegetation mapping (SANDAG, 2012), and National Hydrology Dataset data.

A list of potentially occurring special-status wildlife species was developed by compiling all species that are documented in the CNDDB (CDFW, 2015a) within five miles of the Proposed Project, as well as special-status species listed as occurring within MCAS Miramar (U.S. Marine Corps [USMC], 2014)[1]. A list of potentially occurring special-status plant species was developed by compiling all species that are documented in the CNDDB (CDFW, 2015a) within five miles of the Proposed Project, as well as special-status plant species from the CNPS Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2014) Nine-Quad Search of the 7.5-minute USGS quadrangles spanned by the BRSA and the adjacent quadrangles.[2] CRPR 3 and 4 plant species were added to the potentially occurring list of plants if these species were identified during habitat assessments in the fall of 2014, or during special-status plant surveys in April 2015.

Other sources queried for potentially occurring special-status species and other sensitive resources within the vicinity of the Proposed Project included the following:

- CNDDB RareFind Version 5 (CDFW, 2015b),
- MCAS Miramar Integrated Natural Resources Management Plan (INRMP) (USMC, 2014),
- USFWS Environmental Conservation Online System (ECOS) Species Profiles (USFWS, 2015a) and associated documents,
- San Diego County Natural History Museum (SDNHM) herbarium and associated distribution mapping (SDNHM, 2015a) species accounts,
- Rare Plants of San Diego County online resource (Reiser, 1994),
- The San Diego County Bird Atlas (Unitt, 2004),

[1] The use of a five-mile buffer is intended to capture all known occurrences within the vicinity and surrounding areas of the Proposed Project. A larger buffer typically includes many species that would not actually occur within a Proposed Project area, and a smaller buffer may omit species with larger geographic ranges from the potential-to-occur lists.

[2] The CNPS Nine-Quad Search covered 27 quadrangles, including Temecula, Bonsall, San Marcos, Valley Center, Escondido, Poway, La Mesa, Wildomar, Murrieta, Bachelor Mountain, Fallbrook, Pechanga, Morro Hill, Pala, San Luis Rey, Encinitas, Rancho Santa Fe, Boucher Hill, Rodrigues Mountain, San Pasqual, Del Mar, San Vicente Reservoir, La Jolla, Point Loma, National City, Jamul Mountains, and El Cajon.

- Checklist of Mammal Species Recorded in San Diego County (SDNHM, 2015b),
- Mammals of California (Jameson and Peeters, 2004), and
- CDFW Species Lists and Accounts (CDFW, 2015c).

The USFWS Recovery Plan for the Quino Checkerspot Butterfly (QCB) (*Euphydryas editha quino*) (USFWS, 2003), and the Draft Recovery Plan for Stephens' Kangaroo Rat (*Dipodomys stephensi*) (USFWS, 1997a) were also reviewed, along with other relevant documents, including the County of San Diego General Plan, SDG&E's Subregional Natural Community Conservation Plan (NCCP), and workshop notes from the San Diego's Sensitive Butterflies Workshop (Faulkner and Klein, 2012).

The following criteria were used to determine the potential for special-status species to occur within the BRSA:

- **No Potential:** No suitable habitat exists or a species is not known to occur from the general area of the BRSA (generally more than 15 miles outside of the BRSA, or outside of San Diego County). The definition of habitat includes the major vegetation communities (e.g., chaparral or coastal scrub), as well as microhabitat conditions, such as specific edaphic (i.e., soil) requirements. In addition, the elevation range where the species occurs may be more than 300 feet above or below the elevation range within the BRSA, or the species is known to be extirpated from the BRSA.

- **Low Potential:** Habitat for the species is present, but the geographic and/or elevation ranges within the BRSA vary from those documented for the species. Specifically, the species occurs between five and 15 miles of the BRSA, if all occurrences within five miles of the BRSA are more than 30 years old, or if the elevation range where the species occurs is between 100 and 300 feet above or below the elevation range of the BRSA.

- **Moderate Potential:** Habitat for the species is present; the geographic and elevation ranges within the BRSA are consistent with those documented for the species; and the species has been documented within one to five miles of the BRSA.

- **High Potential:** Habitat for the species is present; the geographic and elevation ranges within the BRSA are consistent with those documented for the species; and the species has been documented within one mile of the BRSA.

Biological Surveys

Biological surveys were conducted within the BRSA to determine the potential for the BRSA to support special-status plant and wildlife species, as well as to determine the distribution and abundance of potential wetlands and water resources, as described in the subsections that follow.

Habitat Assessment

Biologists conducted a habitat assessment within the BRSA during September, October, and November 2014, as well as during February and March 2015. During the surveys, biologists focused on natural areas where ground disturbance is proposed, and walked the entirety of the BRSA with the exception of areas that were too steep to navigate, and areas that were developed

(e.g., public roads, private homes, or businesses). Steep areas that were not included in surveys include road cuts along I-15 and Old Highway 395, but are within the 150-foot buffer areas associated with the BRSA. No Proposed Project components are proposed within these areas. Active agricultural areas were also not surveyed unless native habitat was present in at least some portion of the agricultural area. Biologists mapped vegetation communities, hydrological features, potential wetland features, and vernal pools. In addition, areas were assessed for suitable habitat for special-status plant and animal species, including western burrowing owl (*Athene cunicularia*). In accordance with the Staff Report on Burrowing Owl Mitigation (CDFW, 2012), ground squirrel (*Otospermophilus beecheyi*) burrows were mapped using a submeter-accurate Global Positioning System (GPS) unit in many of the non-native grasslands where ground disturbance is proposed. Common and special-status plant and animal species were documented if observed directly or detected from calls, tracks, scat, nests, or other signs. Field surveys were performed during the day; therefore, nocturnal animals were identified by their sign.

Vegetation mapping on MCAS Miramar was conducted concurrently with the habitat assessment in the fall of 2014. Reconnaissance-level surveys were conducted within all areas north of MCAS Miramar on October 28, November 4, and November 11, 2014; and January 5, 2015. Vegetation mapping in these areas was finalized during habitat assessments and special-status plant surveys conducted in the spring of 2015. Biologists noted vegetation communities and boundaries on a hard-copy field map printed at a scale of one foot to 200 feet. These boundaries and vegetation community names were later recorded as a geographic information system (GIS) shapefile using ArcMap software. Minimum mapping units for upland vegetation communities were generally one acre or less. For riparian communities, the minimum mapping unit was generally smaller than 0.5 acre. Potential wetlands were mapped regardless of size.

Vegetation classification conform to Oberbauer et al. (2008). Vegetation community descriptions are also derived from Oberbauer et al. (2008), with additional information on wildlife habitat preferences from the CDFW's Wildlife Habitats – California Wildlife Habitat Relationship System (CDFW, 2015d). Vegetation codes provide a hierarchy for organizing vegetation communities by physiognomic group (e.g., woodlands) and general habitat type (e.g., oak woodland). Definitions of terms applying to species cover and species frequency by stratum (i.e., tree, shrub, and herbaceous) classes conform to the Vegetation Classification Manual for Western San Diego County (Sproul et al. 2011). Key terms (e.g., dominant and trace) used in the vegetation descriptions are also from Sproul et al. (2011).

Special-Status Plant Surveys

Special-status plant surveys were conducted in two passes during the spring of 2015 within 965 acres throughout the BRSA. Developed areas—including orchards and vineyards, intensive agricultural areas, and ornamental areas—are not being surveyed. Areas mapped as disturbed habitat, as well as eucalyptus woodlands and non-native woodlands, are being surveyed where there is potential for special-status plants to occur. The first pass started on April 6, 2015 and was completed on April 21, 2015. The second pass of surveys started on May 18 and was completed on June 2, 2015.

Special-status plant surveys were floristic in nature and were conducted in accordance with survey guidelines published by the CNPS (2001), CDFW (2009), and USFWS (1996). Prior to conducting surveys, reference populations for three federally listed plant species—San Diego ambrosia (*Ambrosia pumila*), San Diego button celery (*Eryngium aristulatum* var. *parishii*), and San Diego mesa mint (*Pogogyne abramsii*)—were conducted to verify that the surveys were conducted during the appropriate blooming period for these species. A summary of the survey schedule for special-status plant species is provided in Attachment B: Special-Status Plant Species Survey Report of Attachment 4.4-A: Biological Resources Technical Report.

Upon the completion of special-status plant surveys, one of the following determinations was made for each of the special-status species potentially occurring within the BRSA:

- **Present:** The species was observed in the BRSA during surveys.
- **Not Expected:** This species was not observed in the BRSA during surveys; however, its presence cannot be dismissed. This is applicable to annual herbs and perennial bulbs, which can remain present underground in seed or bulb form for many years while waiting for optimal germination and growth conditions (e.g., sufficient rainfall). This category is also applicable to special-status plant species that may occur within areas that were inaccessible to survey teams.
- **Not Present:** This species was not observed during surveys and its presence in the BRSA can be dismissed.

Due to the historic California drought, special-status plant surveys may underrepresent the total abundance and distribution of special-status plants. As described in more detail in Attachment 4.4-A: Biological Resources Technical Report, the combination of higher-than-normal temperatures and below-average precipitation resulted in earlier spring flowering, which can result in a reduction in the total number of individuals of any one observed species, and the total number of annual or bulbiferous perennial species that germinate in a given year.

Preliminary Wetlands and Waters Assessment

Wetland biologists conducted a preliminary assessment of wetlands and waters within the BRSA in the winter and spring of 2015, in accordance with the schedule provided in Attachment C: Preliminary Wetlands and Waters Assessment of Attachment 4.4-A: Biological Resources Technical Report. Biologists used guidance from A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States (USACE, 2008) to determine the location and size of drainages potentially under the jurisdiction of the USACE. Isolated drainages were also mapped if evidence of an ordinary high water mark (OHWM) was visible along most (i.e., 70 to 80 percent) of the feature within the BRSA. Top-of-bank measurements were made and riparian canopy was mapped on full-color ortho-corrected aerial photographs to assess the areas that may be CDFW-jurisdictional under California Fish and Game Code Section 1600. In instances where riparian canopy was not readily discernible from the aerial photographs, submeter-accurate GPS data was taken to demarcate the boundary between upland and riparian vegetation.

The biologists also mapped areas that may qualify as wetland waters of the U.S. defined by the USACE's Wetlands Delineation Manual (Environmental Laboratory, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE, 2008). Potential wetlands were identified as those dominated by hydrophytic vegetation, as defined by the 2014 Arid West Regional Wetland Plant List (USACE, 2014); or those passing the dominance test and/or prevalence index provided in the Wetland Determination Data Form – Arid West Region (USACE, 2008). No soil pits were dug and formal wetland delineations were not conducted within potential wetland areas at the time of the survey. As a result, a full wetland delineation was not conducted. The resulting wetland areas that were mapped may therefore overestimate the potential for USACE-jurisdictional wetland areas within the BRSA. The Applicants will conduct a formal wetland delineation (anticipated to be conducted in the spring of 2016) in accordance with the USACE's *Wetlands Delineation Manual* (Environmental Laboratory 1987) in conjunction with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2010). It is anticipated that final USACE-jurisdictional wetland boundaries will be considerably less than the impacts estimates in Section 4.4.3 Impacts.

No minimum mapping unit for potential wetland areas was established; all potential wetlands that biologists encountered were mapped. In instances where wetland boundaries were not readily discernible from the aerial photographs, such as with many herbaceous wetlands, submeter-accurate GPS data was taken to demarcate the boundary between upland and potential wetland areas.

All drainages and potential wetland areas were evaluated to identify their connection to off-site hydrologic resources. Culverts were also mapped to assist with determining downstream connectivity for the drainages and wetland features within the BRSA. In addition, the overall landforms, slopes, soils, and climatic/hydrologic conditions were assessed and noted on field forms.

Quino Checkerspot Butterfly Surveys

Areas indicative of potential habitat for QCB were noted during the habitat assessment to inform the development of QCB survey areas in accordance with the Quino Checkerspot Butterfly Survey Protocol (QCB Protocol) (USFWS, 2014). A biologist with 10(a)(1)(A) QCB recovery permit performed this QCB suitable habitat assessment in the fall of 2014 within areas identified in the QCB protocol as requiring surveys. An additional habitat assessment was conducted immediately prior to QCB protocol-level surveys on February 11, 2015 by another biologist (QCB recovery permit number TE-221290-3.1) to review the mapped suitable habitat areas and confirm the presence of blooming host plants, such as dot-seed plantain (*Plantago erecta*).

QCB surveys were performed in accordance with the QCB protocol (USWFS, 2014) within MCAS Miramar and the portion of the University of California, San Diego (UCSD) Chaparral Reserve north of MCAS Miramar to the far northern end of the aqueduct road, which is an unpaved patrol road located parallel to the Proposed Project within MCAS Miramar. No surveys were conducted within approximately 19 acres of the Elliot Field Station, which is a UCSD

Chaparral Reserve located to the west of the northern end of the aqueduct road[3]. The USFWS has designated this area as requiring surveys, but access constraints due to a locked gate precluded surveys in 2015 within the Elliot Field Station.

Focused surveys for QCB covered approximately 141 acres of the BRSA and were conducted by biologists with appropriate QCB recovery permits. Focused surveys commenced on February 16, 2015 and were completed on May 3, 2015, in accordance with the QCB protocol. A summary of the QCB survey schedule and biologists is provided in Attachment D: Quino Checkerspot Butterfly Survey Report of Attachment 4.4-A: Biological Resources Technical Report.

Coastal California Gnatcatcher Surveys

Surveys for coastal California gnatcatcher (*Polioptila californica*) were conducted in accordance with the USFWS coastal California gnatcatcher protocol-level survey guidelines (USFWS, 1997b) during April and May 2015. Biologists with the necessary 10(a)(1)(A) recovery permits surveyed approximately 463 acres of the BRSA. Three complete surveys were conducted within suitable habitat at least one week apart. Suitable habitat included the following vegetation communities:

- Diegan coastal sage scrub,
- chamise chaparral,
- southern mixed chaparral,
- coastal sage-chaparral transition, and
- open coast live oak woodlands.

Restored and disturbed components of these vegetation communities were also included in the coastal California gnatcatcher survey area. Areas within MCAS Miramar were excluded from surveys because MCAS Miramar conducts regular surveys for this species, and most recently did so in 2013. Areas within the UCSD Chaparral Reserve, including areas within the Elliot Field Station, were included in the survey. A summary of the coastal California gnatcatcher survey schedule is provided in Attachment E: Coastal California Gnatcatcher Survey Report of Attachment 4.4-A: Biological Resources Technical Report.

Riparian Bird Surveys

Surveys for the least Bell's vireo (*Vireo bellii pusillus*) and southwestern willow flycatcher (*Empidonax traillii extimus*) were conducted in accordance with the appropriate survey guidelines for each species (USFWS, 2001; USGS, 2010) during the spring and summer of 2015. A qualified biologist holding the necessary 10(a)(1)(A) recovery permit for southwestern willow flycatcher conducted an initial habitat assessment on approximately 149 acres of wetland and riparian communities within the BRSA. The biologist determined that approximately 62 acres do not provide suitable habitat for either the least Bell's vireo or the southwestern willow flycatcher. As a result, surveys for both species were completed within 87 acres of suitable

[3] Protocol-level surveys were not conducted due to access restrictions during the protocol-dictated survey time window. Additional surveys will be conducted during subsequent flight seasons.

habitat. Surveys for the least Bell's vireo began in mid-April and were completed in mid-July 2015 by personnel possessing the required expertise, according to the survey protocol (USFWS, 2001). A biologist holding the necessary 10(a)(1)(A) recovery permit for southwestern willow flycatcher began surveys for this species in mid-May and completed the surveys in mid-July 2015. A summary of the riparian bird survey schedule is provided in Attachment F: Riparian Bird Survey Report of Attachment 4.4-A: Biological Resources Technical Report.

Arroyo Toad Surveys

Surveys for the arroyo toad (*Bufo californicus*) are currently underway in accordance with the appropriate survey guidelines for this species (USFWS, 1999). Surveys began in April and are expected to be completed in late June 2015. Surveys performed in accordance with USFWS survey guidelines do not require a recovery permit under Section 10(a)(1)(A) of the FESA. A biologist with in-depth experience with arroyo toad biology and survey techniques conducted an initial habitat assessment on approximately 153 acres of wetland and riparian communities within the BRSA that could support the arroyo toad. The biologist determined that approximately 105 of the acres assessed do not provide suitable habitat for the arroyo toad. As a result, surveys for this species are being conducted within 47 acres of suitable habitat, primarily within watersheds where arroyo toad has been observed in the past and where the USFWS has designated critical habitat.

Impacts Determination

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

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

4.4.2 Existing Conditions

Regulatory Background

Federal

Endangered Species Act

The FESA of 1973 protects plants and wildlife that are listed as endangered or threatened by the USFWS and the NOAA Fisheries. The FESA prohibits take of endangered wildlife, where "take" is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (16 U.S. Code [U.S.C.] §§ 1532[19], 1538). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law (16 U.S.C. § 1538[c]).

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

Migratory Bird Treaty Act

The MBTA of 1918, as amended, provides legal protection for almost all bird species occurring in, migrating through, or spending a portion of their life cycle in North America by restricting the killing, taking, collecting, and selling or purchasing of native bird species or their parts, nests, or eggs. The USFWS determined it was illegal under the MBTA to directly kill—or destroy an active nest (i.e., a nest with eggs or nestlings)—of nearly any bird species, with the exception of non-native species through the MBTA Reform Act of 2004. The intent of the MBTA is to eliminate any commercial market for migratory birds, feathers, or bird parts, especially for eagles and other birds of prey. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities:

- falconry;
- raptor propagation;
- scientific collecting;
- special purposes, such as rehabilitation, education, migratory game bird propagation, and salvage; and
- take of depredating birds, taxidermy, and waterfowl sale and disposal.

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

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) was established in 1940 to protect bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) from any actions that may take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export, or import—at any time or any manner—any bald or golden eagle, alive or dead, or any part, nest, or egg thereof. Under the BGEPA, take of an eagle is defined as to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb." The BGEPA also extends to potential impacts to bald and golden eagles caused by human-induced environmental changes near a previously used nest when the eagles are not present. On September 11, 2009, the USFWS published a Final Eagle Permit Rule under the BGEPA authorizing limited issuance of permits to take bald and golden eagles where take is associated with, but not the purpose of otherwise lawful activities.

Clean Water Act

The purpose of the Clean Water Act (CWA) of 1977 is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of fill material into waters of the U.S. without a permit from the USACE. The definition of waters of the U.S., as recently defined in the Clean Water Rule, includes traditional navigable waters, interstate waters, territorial seas, and impoundments of waters of the U.S.; tributaries of waters of the U.S.; waters adjacent to waters of the U.S., including ponds, lakes, wetlands, and similar water features; and waters determined to have a significant nexus to a water of the U.S. (33 CFR § 328.3[b]).[4] Wetlands are defined as those areas "that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR § 328.3[b]). The goals and standards of the CWA are enforced through permit provisions. The U.S. Environmental Protection Agency (EPA) also has authority over wetlands and may override a USACE permit.

A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions. Under Section 401 of the CWA, any applicant seeking a federal license or permit to conduct any activity that may result in any discharge into navigable waters must provide the licensing or permitting agency with a certification that the discharge will comply with the applicable CWA provisions, as stated in Title 33, Section 1341 of the U.S.C.

Marine Corps Air Station Miramar Integrated Natural Resource Management Plan

The Proposed Project will be subject to the natural resource management actions outlined in the MCAS Miramar INRMP. These include management objectives for general vegetation, invasive plants, soil erosion and revegetation, watershed and floodplains, and special-status species, among others. MCAS Miramar Station Order 5090.4 states that persons operating aboard MCAS Miramar—and this includes the Applicants' activities on the Proposed Project—have a

[4] The Clean Water Rule: Definition of Waters of the United States—published in the Federal Register on June 29, 2015 and effective August 28, 2015—was issued to ensure that waters protected under the CWA are more precisely defined and predictably determined.

responsibility to protect and conserve natural resources by observing the following restrictions and reporting violations:

- Reference the Environmental Management Department Sensitive Resources Map prior to conducting activities outside of developed areas of the station.

- Do not dig, alter, fill, or contaminate wetlands or stream channels without Environmental Management Department approval and applicable CWA permits.

- Restrict vehicular traffic to maintained roadways (dirt or paved) and fuel breaks in East Miramar[5]. Avoid driving off of improved road surfaces, particularly during periods when the ground is wet or saturated.

- Submit plans for any facility or grounds alterations to the Environmental Management Department for review and approval.

- Ensure proper planning so that all necessary FESA consultations and CWA permits are completed prior to undertaking an action that may affect threatened and/or endangered species, wetlands, or other waterways (including ephemeral and intermittent stream channels).

- Ensure that any commitments made by the Section 7 FESA consultations and/or CWA permits are included and funded as a part of any applicable proposed actions (e.g., projects, maintenance, and real estate agreement).

- Incorporate locally adapted, native plants or other climatically adapted species into landscaping plans to reduce maintenance and watering requirements and prohibit use of invasive plant species. Incorporate removal of invasive species with project plans, where feasible.

- Do not harm or damage native species of plants or wildlife. Harassment of threatened, endangered, or other wildlife is prohibited except when presenting an imminent danger to the safety of personnel.

- Contact the Public Works Trouble Desk for assistance with removal of rattlesnakes, pests, and injured wildlife.

- Coordinate with the station Wildlife Biologist regarding bird nesting problems and methods to discourage or exclude nesting in problematic areas. Focused harassment and or relocation of birds in problem areas may be authorized by the station Wildlife Biologist.

[5] East Miramar includes MCAS Miramar lands east of Interstate (I-) 15, including the portion of MCAS Miramar where the Proposed Project is located.

- A Standard Operating Procedure for Dead and Injured Large Wildlife is posted on the Natural Resources Program page of the MCAS Miramar Environmental Management System website.

- Do not dispose of green waste or surplus soil in undeveloped lands of the station.

- Report vandalism or habitat destruction to the Director of the Natural Resources Division.

State

California Endangered Species Act

The CESA, adopted in 1984, generally parallels the main provisions of the FESA. Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species unless otherwise authorized by permit or in the regulations. Section 86 of the California Fish and Game Code defines take as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The CESA allows for take that is incidental to otherwise lawful projects. State lead agencies are required to consult with the CDFW to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code §§ 1900-1913) was created with the intent to "preserve, protect, and enhance rare and endangered plants in this State." The NPPA is administered by the CDFW. The California Fish and Game Commission has the authority to designate native plants as "endangered" or "rare" and to protect them from take. The CDFW generally regards as rare many plant species included on CRPR 1A, 1B, 2A, and 2B of the CNPS Inventory of Rare and Endangered Vascular Plants of California. In addition, sometimes CRPR 3 and 4 plants are considered if the population has local significance in the area and is impacted by a project. Section 1913(b) of the California Fish and Game Code includes a specific provision to allow for the incidental removal of endangered or rare plant species, if not otherwise salvaged by CDFW, within a right-of-way (ROW) to allow a public utility to fulfill its obligation to provide service to the public.

When the CESA was passed in 1984, it expanded on the original NPPA, enhanced legal protection for plants, and created the categories of "threatened" and "endangered" species to parallel the FESA. The CESA converted all rare animals to threatened species under the NPPA, but did not do so for rare plants, which resulted in three listing categories for plants in California: rare, threatened, and endangered. The NPPA remains part of the California Fish and Game Code, and mitigation measures for impacts to rare plants are specified in an agreement between the CDFW and a project proponent on a project-by-project basis.

California Environmental Quality Act

CEQA was enacted in 1970 to provide for full disclosure of environmental impacts to the public before issuance of a permit by local public agencies. In addition to federally or state-listed

species, special-status plants and animals receive consideration under CEQA. Special-status species include wildlife SSCs, which are listed by the CDFW. Pursuant to the CEQA Guidelines (14 CCR § 15380), some SSCs could be considered "rare." Any unmitigated impacts to rare species could be considered a "significant effect on the environment" (14 CCR § 15382). Thus, SSCs must be considered in any project that will undergo, or is currently undergoing, CEQA review, and/or that must obtain environmental permits from a public agency.

California Fish and Game Code Sections 1600 to 1606

Sections 1600 through 1606 of the California Fish and Game Code require that a Notification of Lake or Streambed Alteration Agreement Application must be submitted to the CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." The CDFW reviews the proposed actions and, if necessary, submits to the applicant a proposal that includes measures to protect affected riparian vegetation, fish, and wildlife resources. The Lake or Streambed Alteration Agreement is the final proposal that is mutually agreed upon by the CDFW and the applicant.

California Fish and Game Code Sections 3503, 3513, and 3800

Sections 3503, 3513, and 3800 of the California Fish and Game Code afford protection over the destruction of nests or eggs of native bird species, and it states that no birds in the orders of *Falconiformes* or *Strigiformes* (i.e., birds of prey) can be taken, possessed, or destroyed.

California Fish and Game Code Sections 3511 and 4700

According to Sections 3511 and 4700 of the California Fish and Game Code—which regulate birds and mammals, respectively—a Fully Protected species may not be taken or possessed, and incidental take of these species is not authorized. The State of California first began to designate species as "fully protected" prior to the creation of the CESA and the FESA. Lists of fully protected species were initially developed to provide protection to animals that were rare or faced possible extinction, including fish, amphibians, reptiles, birds, and mammals. Most Fully Protected species have since been listed as threatened or endangered under the CESA and/or the FESA. Fully protected species may not be taken or possessed at any time, except under certain circumstances, such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock (California Fish and Game Code § 3511).

Porter-Cologne Water Quality Control Act

The intent of the Porter-Cologne Water Quality Control Act (Water Code Section 13000 et seq.) is to protect water quality and the beneficial uses of water, and applies to both surface and groundwater. Under this law, the State Water Resources Control Board develops statewide water quality plans, and the RWQCBs develop basin plans, which identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of both statewide and basin plans. Waters regulated under the Porter-Cologne Water Quality Control Act, referred to as "waters of the State," include isolated waters that are no longer regulated by the USACE. Any person discharging, or proposing to discharge, waste to waters of the State must file a Report of Waste Discharge and receive either waste discharge requirements (WDRs) or a waiver to WDRs before beginning the discharge.

Local

Pursuant to Article XII, Section 8 of the California Constitution, the California Public Utilities Commission (CPUC) has sole and exclusive state jurisdiction over the siting and design of the Proposed Project. Although local governments do not have the power to regulate such activities, the CPUC encourages, and the Applicants participate in, cooperative discussions with affected local governments to address their concerns where feasible. Section 4.10 Land Use and Planning summarizes all applicable local ordinances that may be applicable to the Proposed Project. This section highlights only ordinances regulating biological resources that may be applicable to the Proposed Project.

County of San Diego

The County of San Diego General Plan and Zoning Ordinance were reviewed for biological resource policies that are relevant to the Proposed Project. The relevant land use policies and an analysis of the Proposed Project's consistency with those policies is contained within Attachment 4.10-A: Local Land Use Plans and Policies Consistency Analysis in Section 4.10 Land Use and Planning. In addition to those land use policies, the County of San Diego has developed guidelines for determining the significance of a project's impacts to biological resources, which are published in the Guidelines for Determining Significance and Report Format and Content Requirements. Specifically, the guidelines address the implementation of the CEQA Guidelines and include a review of all state and local regulations and standards pertaining to the biological resources of San Diego County. In addition, the guidelines include criteria for categorizing adverse impacts, determining significance of these impacts, and establishing mitigation measures and project design features.

The County's Tree Ordinance (Title 7, Division 1, Chapter 5, Article 1 of the County of San Diego Code of Regulatory Ordinances) regulates the trimming, pruning, and removal of trees growing on county-owned public property within the unincorporated territory of the County. A tree removal permit, which may include conditions on tree replacement, must be obtained in writing from the county Director. The county Director may specify the tree species and location of the replacement tree. In addition, Title 8, Division 7, Chapter 5 of the San Diego Code of Regulatory Ordinances requires a permit for any vegetation clearing. Clearing may be covered under a grading permit if the vegetation clearing is incidental to the grading. Clearing permits may include conditions such as preparing and implementing a revegetation plan. If the land is covered by the County of San Diego Multiple Species Conservation Program (MSCP) Subarea Plan, projects must be in compliance with the Biological Mitigation Ordinance; otherwise, if the land is not covered by the County of San Diego's MSCP Subarea Plan, projects must be in compliance with the Habitat Loss Permit process (Title 8, Chapter 1, Division 6).

City of San Diego

The City of San Diego General Plan and Zoning Code were reviewed for biological resource policies that are relevant to the Proposed Project. The relevant land use policies and an analysis of the Proposed Project's consistency with those policies is contained within Attachment 4.10-A: Local Land Use Plans and Policies Consistency Analysis in Section 4.10 Land Use and Planning. In addition, the City of San Diego has developed guidelines to aid in the implementation and interpretation of the City of San Diego's Environmentally Sensitive Lands Regulations and the

Open Space Residential (OR-1-2) Zone[6]. The guidelines describe the contents that the Biological Survey Report must have, along with specific criteria for establishing mitigation based on a project's site and the project's effect on implementation of the MSCP. Section III of the guidelines serves as the standards for the determination of project-related impacts and mitigation under CEQA. According to the guidelines, any project that does not meet the standards described in Section III may have significant effects on the successful implementation of the MSCP. Any project that may have an effect requires a site-specific analysis in the project's Biological Survey Report to identify the effects the project will have on the regional MSCP, if any.

The City's Tree Protection Ordinance, codified by Sections 26.0501 through 26.0503 of the City of San Diego Municipal Code, allows for the designation and protection of tree resources located in the public ROWs, on city-owned open space, in parks or other publicly owned lands, and in private land restricted by dedicated open space easements. A tree may also be designated on private property for inventory purposes and for protection status if volunteered by the property owner. The ordinance restricts the removal of any designated tree unless it is a threat to public safety after reasonable efforts to correct or maintain problems have been implemented. Permits are only issued for tree removal if a clear, imminent, and significant public safety hazard exists or if the City of San Diego's Urban Forester determines that protection may not be the appropriate course and the project applicant or adjacent owner has agreed to pay, in full, the assessed value of the tree. In addition, trees damaging public or private improvements and utility infrastructure may be removed if the damage cannot be reasonably corrected by trimming, root pruning, or other corrective action or adjustment, as determined by the City of San Diego's Urban Forester. All trees to be removed require replacement consistent with existing policies.

City of Escondido

The City of Escondido's General Plan and Zoning Code were reviewed for biological resource policies that are relevant to the Proposed Project. Chapter 18, Article 5 of the City of Escondido Municipal Code describes the city's tree removal regulations. Sections 18 through 143 require a permit to remove or damage any tree, shrub, or ornamental plant growing or located upon any street, sidewalk, recreational area, or public way. No specific regulations regarding permit conditions are noted in the City of Escondido Municipal Code. No other biology-specific regulations are applicable to the Proposed Project.

City of Poway

The City of Escondido's General Plan and Zoning Code were reviewed for biological resource policies that are relevant to the Proposed Project. Chapter 12.32 of the City of Poway Municipal Code provides the general provisions for planting, trimming, and removal of trees in public property or on public ROWs. A tree removal permit must be obtaining prior to removing a public tree or a tree growing on a public ROW. The Director of Public Services reviews each tree removal permit application and makes recommendations based on the application. The tree removal permit may come with a provision to replace the tree. The Poway Tree Committee has been designated to review appeals for denied tree removal permits, and it keeps an inventory of

[6] The Proposed Project does not cross zone OR-1-2 within the City of San Diego.

public tree maintenance. No other biology-specific regulations are applicable to the Proposed Project.

Regional Conservation Plans

San Diego Multiple Species Conservation Plan (Southwestern San Diego County)

Under the Natural Community Conservation Planning Act of 1991, an MSCP has been developed for southwestern San Diego County in order to protect 85 species in the area. The MSCP is one of three subregional habitat planning efforts in San Diego County. The other two—the Multiple Habitat Conservation Program (MHCP) and the North County MSCP—are described in the following subsections.

The San Diego MSCP was approved in 1997 and is the result of a joint planning effort between the County of San Diego and the cities in the southwestern part of the county, including San Diego and Poway. The County of San Diego, the City of San Diego, and the City of Poway have each adopted subarea plans that conform to and implement the MSCP requirements as follows:

- **County of San Diego MSCP Subarea Plan.** The County of San Diego MSCP Subarea Plan was adopted in 1997 and applies to unincorporated lands in the BRSA. The total study area encompasses 12 jurisdictions and consists of 582,243 acres, of which 43 percent (252,132 acres) is in unincorporated areas under the jurisdiction of the County of San Diego. The NCCP Conservation Guidelines, the San Diego MSCP, and the biological information from the MSCP's Multiple Habitat Planning Area (MHPA) preserve alternatives were used to establish conservation goals and criteria for habitat and individual species for the County of San Diego MSCP Subarea Plan.

- **City of San Diego MSCP Subarea Plan.** The City of San Diego adopted its own MSCP Subarea Plan in 1997 to implement the regional MSCP. New development must comply with the boundaries established within the plan, and guidelines for development include restoration of coastal sage scrub when disturbed. In addition, the MSCP Subarea Plan includes the policies and design guidelines regarding utilities. The City of San Diego MSCP Subarea Plan designates multiple areas within the BRSA north of MCAS Miramar as MHPAs, constituting preserve lands.

- **City of Poway MSCP Subarea Plan.** The City of Poway adopted its Subarea Plan in 1996. This plan serves to create a sustainable, interconnected network of habitat preserves throughout and ultimately beyond the City of Poway and thus maintain functioning ecosystems and viable populations of biological resources. The City of Poway MSCP Subarea Plan designates a Mitigation Area where conservation is to be focused, which includes mostly large, contiguous areas of habitat.

Multiple Habitat Conservation Program (Northwestern San Diego County)

The MHCP is a comprehensive multiple-jurisdictional planning program designed to create, manage, and monitor an ecosystem preserve in northwestern San Diego County. It is one of several large, multiple jurisdictional habitat planning efforts in San Diego County, each of which constitutes a "subregional" plan under the State of California's Natural Community Conservation

Planning Act of 1991. The following seven cities encompass approximately 175 square miles and participated in the subregional MHCP: Carlsbad, Encinitas, Escondido, Oceanside, Solana Beach, Vista, and San Marcos.

These jurisdictions implement their portions of the MHCP through citywide "subarea" plans, which describe the specific policies each city institutes for the MHCP. The MHCP contains the overall conservation strategy for the subregion and documents the conservation actions that collectively will guarantee the protection of species covered by individual subarea plans. The subregional MHCP also describes the institutional mechanisms to coordinate MHCP implementation among the cities and other agencies. The subregional MHCP does not by itself authorize the take of biological resources and does not receive a permit. Permits or authorizations to take biological resources will be granted to individual cities preparing adequate subarea plans, which describe the specific conservation and management actions each city will take to implement the goals, guidelines, and standards of the MHCP.

A specific policy of the MHCP is to direct land development to areas outside the Focused Planning Area (FPA)[7] in exchange for conservation inside, resulting in the creation of a preserve system. The MHCP preserve system is intended to protect viable populations of native plant and animal species and their habitats in perpetuity, while accommodating continued economic development and quality of life for residents of North County.

The Escondido Subarea Plan, contained within the MHCP Plan, overlaps a portion of the BRSA within the City of Escondido. The Escondido Subarea Plan designates Kit Carson Park on the northern side of Lake Hodges as a hardline FPA, indicating that 90 percent and greater conservation is anticipated here, and a small area east of Centre City Parkway at Nutmeg Street as a softline FPA, indicating that less than 90-percent conservation is anticipated at this location.

North County Multiple Species Conservation Plan

Although not yet finalized, the North County MSCP will extend the county's MSCP program into the northwestern areas of the county. The North County MSCP area encompasses 294,849 acres in and around the unincorporated communities of Bonsall, De Luz, Fallbrook, Harmony Grove, Rancho Santa Fe, Lilac, Pala, Pauma Valley, Rainbow, Ramona, Rincon Springs, Twin Oaks Valley, and Valley Center. The North County MSCP will likely be complete prior to initiation of the Proposed Project. The North County MSCP Preliminary Public Review of Draft Plan underwent a public review in 2009. Comments received during the public review period are now being used to revise the North County MSCP. The county and its consultants have also initiated work on the environmental documents that will accompany the North County MSCP. The North County MSCP has designated pre-approved mitigation areas (PAMAs), as shown in Figure A-8: Conserved Lands within the Biological Resources Survey Area of Attachment 4.4-A: Biological Resources Technical Report. These are areas with high biological value in

[7] The FPAs and percent conservation estimates provided in the MHCP were used to analyze the levels of biological conservation expected throughout the MHCP area. Some lands within FPAs have been or will be dedicated for open space and habitat preservation. The FPAs are represented by a combination of "hardline" preserves, indicating lands that will be conserved and managed for biological resources, and "softline" planning areas, within which preserve areas will ultimately be delineated based on further data and planning.

which conservation will be encouraged by providing mitigation ratios that favor developing outside of the PAMA and mitigating inside the PAMA.

Existing San Diego Gas & Electric Company Plans

San Diego Gas & Electric Company Subregional Natural Community Conservation Plan

Under Section 10(a) of the FESA, the Applicants developed a comprehensive multiple species and habitat NCCP in 1995 to effectively preserve and enhance covered sensitive species and their native habitats during operation, maintenance, and expansion of the electric and natural gas transmission system (16 U.S.C. § 1539). In addition, the Subregional NCCP is also a permit issued pursuant to California Fish and Game Code Section 2081[8] with an implementation agreement with the CDFW for the management and conservation of multiple species and their associated habitats, as established according to the CESA and the state's Natural Community Conservation Planning Act.

The purpose of the Subregional NCCP is to establish and implement a long-term agreement between the Applicants, the USFWS, and the CDFW for the preservation and conservation of sensitive species and their habitats while allowing the Applicants to develop, install, maintain, operate, and repair their facilities as necessary to provide energy services to customers living within the Applicants' service area. The NCCP authorizes certain levels of take of 110 covered species that may be affected by the Applicants' ongoing activity impacts, including installation, use, maintenance, and repair operations and expansion of its systems.

The Subregional NCCP does not cover major expansions of the Applicants' gas and electric system, but does covers biological impacts associated with a previously anticipated Rainbow to Santee natural gas transmission pipeline and new gas transmission lines under 30 inches in diameter and less than 20 miles in length, as well as new natural gas compressor stations with habitat impacts under 10 acres. The NCCP allows for up to 400 acres of impacts in natural areas before requiring an amendment.

The Applicants implement the NCCP's "operational protocols" in conducting covered activities within the plan area; compliance with the NCCP supports the authorized take of species covered under the NCCP. The NCCP operational protocols include various protection, mitigation, and conservation measures to ensure the survivability and conservation of protected species and their habitat. The operational protocols provided in SDG&E's NCCP include provisions for personnel training, pre-activity studies; and for maintenance, repair, and construction of facilities including access roads, survey work, and emergency repairs. Under the NCCP, compensatory mitigation for take impacts may be mitigated through a conservation bank or through habitat enhancement measures.

The Proposed Project is located within the area where the Applicants' utility operations are currently covered by the NCCP. Take projected to occur as a result of the Applicants' covered activities within the NCCP area is nearing the level initially authorized under the NCCP. Take authorization

[8] California Fish and Game Code Sections 2081(b) and (c) allow the CDFW to issue an ITP for a state-listed threatened and endangered species only if specific criteria are met. Title 14 of the California Code of Regulations, Sections 783.4(a) and (b) provide additional information.

for all of the Applicants' activities associated with the Proposed Project, including maintenance activities, may not be available through the current NCCP. However, the NCCP may be amended to add new area; cover additional species, subspecies, or populations; or amend the take authorization levels. The Applicants are pursuing an NCCP amendment as expeditiously as possible. The Applicants must maintain valid take authorization throughout the duration of construction for all state and/or federally listed threatened or endangered species documented in the Proposed Project area (i.e., coastal California gnatcatcher and least Bell's vireo). If the NCCP is amended at any time prior to the completion of construction, the Applicants will submit a copy of the amended NCCP to the CPUC upon signing the implementing agreement, and SDG&E will follow the protocols in the amended NCCP for operations and maintenance associated with the Proposed Project. Regardless of whether the Applicants rely on the NCCP for operations and maintenance of the Proposed Project, the Applicants will follow with the operational protocols outlined in Section 7.1, Operational Protocols, and Section 7.2, Habitat Enhancement Measures of the NCCP.

San Diego Gas & Electric Company Low-Effect Habitat Conservation Plan for the Quino Checkerspot Butterfly

SDG&E prepared a Low-Effect HCP to minimize and mitigate the effects of its activities on the federally endangered QCB and to obtain incidental take authorization for QCB from the USFWS. The HCP addresses potential impacts to the QCB from the use, maintenance, and repair of existing gas and electric facilities and allows for typical expansions to those systems. Other than maintenance of existing access roads, the Applicants' activities include, without limitation, all current and future actions arising out of, or in any way connected with, the siting, design, installation, construction, use, maintenance, operation, repair, and removal of facilities within the Applicants' service territory.

The HCP also addresses incidental take within the HCP area associated with limited expansion of the electrical generation capacity or gas transmission systems, including the following:

- new electrical transmission line facilities that do not extend more than 30 miles outside of the HCP area;
- electrical interconnections with other utilities that do not extend more than 30 miles outside of the HCP area;
- new substations and regulator stations with total QCB habitat impacts under 20 acres; and
- new gas compressor stations with total QCB habitat impacts under 10 acres.

The HCP emphasizes protection of habitat through impact avoidance and use of operational protocols designed to avoid or minimize impacts to the QCB. The HCP was prepared in consultation with the USFWS to fulfill the requirements of a 10(a)(1)(B) permit application for the aforementioned proposed activities.

The Applicants propose to build a new natural gas transmission project, which is not an activity that is covered by the Low-Effect HCP. As a result, the Proposed Project is not covered by the SDG&E Low-Effect HCP for the QCB.

Environmental Setting

The BRSA is located within the southwestern portion of the Peninsular Ranges Geomorphic Province in the South Coast Floristic Province (Jepson Flora Project, 2015) and ranges in

elevation from 230 feet to 1,200 feet above sea level. From 1981 to 2010, the BRSA received an average annual precipitation of approximately 10.4 inches with average temperatures ranging from 58 degrees to 72 degrees Fahrenheit (NOAA, 2015). The BRSA includes a large number of diverse upland and wetland/riparian vegetation communities, along with large developed areas comprising the cities of San Diego, Escondido, and Poway.

Vegetation Communities and Sensitive Habitats

A total of 35 vegetation communities were identified within the BRSA, as depicted in Figure A-4: Vegetation Communities within Attachment 4.4-A: Biological Resources Technical Report and quantified in Table 4.4-1: Vegetation Communities Observed within the BRSA. Descriptions of each vegetation community identified are provided in Attachment 4.4-A: Biological Resources Technical Report. Approximately 1,031 acres (46 percent) of the BRSA is within urban/developed areas.

Special-Status Plant Species

Based on the literature and database review, as well as results from the field surveys, 129 special-status plant species were analyzed for their potential to occur within the BRSA. CNDDB plant occurrences within five miles of the BRSA are shown on Figure A-3: CNDDB Occurrences for Special-Status Plants within Attachment 4.4-A: Biological Resources Technical Report. Attachment 4.4-B: Special-Status Plant Species with Potential to Occur provides a list of the 129 potentially occurring special-status plant species and descriptions of the listing status, life history, blooming period, habitat requirements, and a brief assessment of the potential to occur.

Of the 129 special-status plant species that were analyzed, 51 special-status plant species were determined to have no potential to occur within the BRSA due to range restriction or lack of suitable habitat. An additional 35 readily identifiable perennial shrubs, trees, and stem succulents that were not observed during the special-status plant surveys were determined to be "not present" within the BRSA. An additional 24 species were not observed in the BRSA during surveys, but the presence of these species cannot be dismissed for reasons discussed in Section 4.4.1 Methodology. These species were determined to be "not expected."

Nineteen special-status plant species were observed within the BRSA during the focused special-status plant surveys, as summarized in Table 4.4-2: Special-Status Plant Species Observed within the BRSA and shown on Attachment C: Special-Status Plant Species Occurrences Map of Attachment B: Special-Status Plant Species Survey Report of Attachment 4.4-A: Biological Resources Technical Report. The majority of the special-status plants identified within the BRSA are located in the southern portion of MCAS Miramar and along Pomerado Road. No federally or state-listed special-status plants were observed within the BRSA. Detailed life history accounts and descriptions of where these special-status plant species were observed within the BRSA is provided in Section 5.2 Special-Status Plant Species of Attachment 4.4-A: Biological Resources Technical Report. Additional details on the distribution and abundance of these special-status plant species observed within the BRSA are provided in Attachment B: Special-Status Plant Species Survey Report in Attachment 4.4-A: Biological Resources Technical Report. A complete list of all plant species observed during the surveys is included in Attachment H: Plant Species Observed during Surveys of Attachment 4.4-A: Biological Resources Technical Report.

Table 4.4-1: Vegetation Communities Observed within the BRSA

General Habitat Type	Vegetation Community	Approximate Area within the BRSA (acres)
Disturbed or Developed Habitat	Disturbed Habitat	52.3
	Urban/Developed	1,031.4
	Ornamental	18.6
	Orchards/Vineyards	69.3
	Intensive Agriculture – Dairies, Nurseries, Chicken Ranches	18.9
	Row Crops	1.7
Scrub and Chaparral	Diegan Coastal Sage Scrub*	182.4
	Diegan Coastal Sage Scrub (*Adolphia californica* dominated)*	1.6
	Diegan Coastal Sage Scrub (burned) *	7.5
	Diegan Coastal Sage Scrub (disturbed) *	64.9
	Diegan Coastal Sage Scrub (open) *	25.2
	Diegan Coastal Sage Scrub (open, disturbed) *	1.4
	Diegan Coastal Sage Scrub (*Opuntia* or *Cylindropuntia* dominated)*	0.6
	Diegan Coastal Sage Scrub (restored)*	112.7
	Diegan Coastal Sage Scrub: Baccharis-dominated*	13.5
	Diegan Coastal Sage Scrub: Baccharis-dominated (disturbed)*	0.2
	Diegan Coastal Sage Scrub: Baccharis-dominated (restored)*	4.6
	Southern Mixed Chaparral*	47.1
	Southern Mixed Chaparral (burned)*	6.5
	Chamise Chaparral	35.1
	Coastal Sage-Chaparral Transition*	5.2
Grasslands, Vernal Pools, Meadows, and Other Herb Communities	Valley Needlegrass Grassland*	0.1
	Non-Native Grassland (Annual Grassland)	63.6
	Non-Native Grassland: Broadleaf-dominated	53.0
	Vernal Pool*	0.3
	Freshwater Seep*	0.5
	Freshwater Seep (disturbed)*	0.1

General Habitat Type	Vegetation Community	Approximate Area within the BRSA (acres)
Bog and Marsh	Cismontane Alkali Marsh*	8.9
	Coastal and Valley Freshwater Marsh*	2.6
	Coastal and Valley Freshwater Marsh (disturbed)*	0.3
	Emergent Wetland*	<0.1
	Vernal Marsh/Herbaceous Wetland*	0.1
	Vernal Marsh/Herbaceous Wetland (disturbed) *	4.2
Riparian and Bottomland Habitat	Southern Coast Live Oak Riparian Forest*	53.6
	Southern Coast Live Oak Riparian Forest (disturbed) *	5.1
	Southern Cottonwood-Willow Riparian Forest*	15.1
	Southern Cottonwood-Willow Riparian Forest (disturbed)*	1.1
	Southern Willow Scrub*	43.8
	Southern Willow Scrub (disturbed) *	8.9
	Mule Fat Scrub*	4.4
	Tamarisk Scrub	1.7
	Fresh Water (Open Water)	0.5
	Non-Vegetated Floodplain or Channel	7.5
	Non-Native Riparian	5.7
	Arundo-Dominated Riparian	2.9
Woodland	Open Coast Live Oak Woodland (<50%)	61.0
	Open Coast Live Oak Woodland (<50%) (burned)*	2.7
	Open Coast Live Oak Woodland (<50%) (disturbed)*	3.4
	Dense Coast Live Oak Woodland (>50%)*	22.2
	Dense Coast Live Oak Woodland (>50%) (disturbed)*	1.2
	Undifferentiated Open Woodland	4.8
	Non-Native Woodland	35.4
	Non-Native Woodland (burned)	0.5
	Eucalyptus Woodland	147.5
Total		**2,264.1**

* Sensitive natural community

Table 4.4-2: Special-Status Plant Species Observed within the BRSA

Plant Species	CRPR Listing Status[9]
Ashy spike-moss (*Selaginella cinerascens*)	4.1
Brewer's calandrinia (*Calandrinia breweri*)	4.2
California adolphia (*Adolphia californica*)	2B.1
Decumbent goldenbush (*Isocoma menziesii* var. *decumbens*)	1B.2
Engelmann oak (*Quercus engelmannii*)	4.2
Golden-rayed pentachaeta (*Pentachaeta aurea* ssp. *aurea*)	4.2
Graceful tarplant (*Holocarpha virgata* ssp. *elongata*)	4.2
Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*)	1B.2
Nuttall's scrub oak (*Quercus dumosa*)	1B.1
Orcutt's brodiaea (*Brodiaea orcuttii*)	1B.1
Parry's tetracoccus (*Tetracoccus dioicus*)	1B.2
San Diego barrel cactus (*Ferocactus viridescens*)	2B.1
San Diego County viguiera (*Bahiopsis* [*Viguiera*] *laciniata*)	4.2

[9] CRPRs:

-1A: Presumed extinct in California
-1B: Rare or Endangered in California and elsewhere
-2: Rare or Endangered in California, more common elsewhere
-3: Plants for which we need more information; a review list
-4: Plants of limited distribution; a watch list

CRPR Threat Codes:

-.1: Seriously Endangered in California (over 80 percent of occurrences Threatened/high degree and immediacy of threat)
-.2: Fairly Endangered in California (20 to 80 percent of occurrences Threatened)
-.3: Not very Endangered in California (less than 20 percent of occurrences Threatened or no current threats known)

Note: CRPR List 1A and some List 3 plant species lacking any threat information receive no threat code extension.

Plant Species	CRPR Listing Status[9]
San Diego goldenstar (*Bloomeria clevelandii*)	1B.1
San Diego sagewort (*Artemisia palmeri*)	4.2
Small-flowered microseris (*Microseris douglasii* ssp. *platycarpha*)	4.2
Southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*)	4.2
Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)	1B.2
Western dichondra (*Dichondra occidentalis*)	4.2

Special-Status Wildlife Species

Based on the literature and database review, as well as results from the field surveys in late 2014 and the spring of 2015, 44 special-status wildlife species were identified to have the potential to occur within the BRSA. CNDDB wildlife occurrences within five miles of the BRSA are shown on Figure A-2: CNDDB Occurrences for Special-Status Wildlife Species within Attachment 4.4-A: Biological Resources Technical Report. Attachment 4.4-C: Special-Status Wildlife Species with Potential to Occur provides a list of the 44 potentially occurring special-status wildlife species and descriptions of the listing status, life history, habitat requirements, and a brief assessment of their potential to occur.

Of the 44 potentially occurring special-status wildlife species, one species—western yellow-billed cuckoo—was determined to have no potential to occur within the BRSA based on the rare and sporadic nature of sightings in San Diego County. Of the 43 remaining special-status wildlife species considered, the following 11 wildlife species are federally or state-listed as endangered or threatened, or are candidate species for these listings:

- Arroyo toad (*Anaxyrus californicus*), federally listed as Endangered (FE)
- coastal California gnatcatcher (*Polioptila californica californica*), federally listed as Threatened (FT)
- Hermes copper butterfly (*Lycaena hermes*), candidate for federal listing (FC)
- least Bell's vireo (*Vireo bellii pusillus*), FE and state-listed as Endangered (CE)
- QCB (*Euphydryas editha quino*), FE
- Riverside fairy shrimp (*Streptocephalus woottoni*), FE
- San Diego fairy shrimp (*Branchinecta sandiegonensis*), FE
- southwestern willow flycatcher (*Empidonax traillii extimus*), FE and CE
- Stephens' kangaroo rat (*Dipodomys stephensi*), FE and CT
- Swainson's hawk (*Buteo swainsoni*), state-listed as Threatened (CT)
- Townsend's big-eared bat (*Corynorhinus townsendii townsendii*), candidate for state listing (CC)

The following 10 special-status wildlife species were observed within the BRSA during habitat assessments or focused surveys in 2014 and 2015:

- Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*)
- coast horned lizard (*Phrynosoma blainvillii*)
- coastal California gnatcatcher
- least Bell's vireo
- northern harrier (*Circus cyaneus*)
- San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)
- white-tailed kite (*Elanus leucurus*)
- yellow breasted chat (*Icteria virens*)
- yellow warbler (*Setophaga petechia*)
- western pond turtle (*Actinemys marmorata*)

Four special-status wildlife species—Riverside fairy shrimp, San Diego fairy shrimp, and western spadefoot (*Spea hammondii*)—were also presumed to be present within the BRSA based on maps and data from the MCAS Miramar INRMP. Vernal pool habitat basins and their watersheds are considered Level 1 Management Areas (MAs) in the MCAS Miramar INRMP. These areas receive the highest conservation priority. Southwestern willow flycatcher was presumed present based on the sighting of a single willow flycatcher individual in May 2015; however, the subspecies of this individual could not be determined due to similarities between the two willow flycatcher subspecies that are known to occur in San Diego County.

Of the 14 special-status wildlife species determined or assumed to be present within the BRSA, five species—coastal California gnatcatcher, least Bell's vireo, Riverside fairy shrimp, San Diego fairy shrimp, and southwestern willow flycatcher—are federally listed species. In addition, least Bell's vireo and southwestern willow flycatcher are state-listed species. Figure A-6: Special-Status Wildlife Occurrences of Attachment 4.4-A: Biological Resources Technical Report shows the locations where these species were observed during habitat assessments and focused surveys in 2015.

Coastal California gnatcatcher and least Bell's vireo were also observed within the BRSA on MCAS Miramar during surveys conducted by the U.S. Marine Corps (USMC). Locations of coastal California gnatcatchers on MCAS Miramar are provided in Attachment J: MCAS Miramar California Gnatcatcher 2013 Breeding Season Survey Areas of Attachment 4.4-A: Biological Resources Technical Report. Least Bell's vireo locations within MCAS Miramar are shown in Attachment H: Least Bell's Vireo (*Vireo bellii pusillus*) and Southwestern Willow Flycatcher (*Empidonax traillii extimus*) Surveys at Marine Corps Air Station Miramar 2011 Report of Attachment 4.4-A: Biological Resources Technical Report. Southwestern willow flycatcher has not been documented on MCAS Miramar.

The following federally or state-listed species have a moderate or high potential to be present within the BRSA, but have not been observed within the BRSA. Additional surveys for these species have either been completed, are underway in June 2015, or will be conducted prior to the start of construction:

- Arroyo toad, an FE species, has the potential to occur within the BRSA in riparian and wetland habitats, primarily within the San Luis Rey River, the San Dieguito River/Lake Hodges, and associated tributaries. The arroyo toad has been documented within these drainages in the past, but not necessarily within the BRSA. Surveys for this species were completed in June 2015. This species was not documented within the BRSA, but two surveyed drainages within the BRSA may still support arroyo toad during years with normal rainfall, as described in more detail in Attachment G: Arroyo Toad Survey Report of Attachment 4.4-A: Biological Resources Technical Report.

- QCB, an FE species, has the potential to occur within open coastal sage scrub, open chaparral, grasslands, and herbaceous wetland/seep communities. Surveys for this species were conducted in the spring of 2015 within approximately 141 acres on MCAS Miramar

in accordance with the USFWS survey protocols (USFWS, 2014)[10]. Surveys were completed on May 8, 2015. No QCBs were observed during surveys in the spring of 2015.

- Stephens' kangaroo rat, an FE and CT species, has the potential to occur within the BRSA in open coastal sage scrub, non-native grasslands, and disturbed areas, primarily in areas north of Escondido in accordance with its documented range. During the habitat assessment, areas within the BRSA were determined to potentially support Stephens' kangaroo rat, including within Laydown Yards #2, #3, #4, and #5. Surveys for this species will be conducted prior to construction in accordance with APM-BIO-12.

A detailed discussion regarding local populations, habitat requirements, and life history for the wildlife species that are present, or have a high or moderate potential for occurring in the BRSA is provided in Section 5.4 Special-Status Wildlife Species of Attachment 4.4-A: Biological Resources Technical Report.

Critical Habitat

Critical habitat for arroyo toad, coastal California gnatcatcher, least Bell's vireo, San Diego fairy shrimp, and southwestern willow flycatcher occurs within the BRSA, as depicted in Figure A-7: Designated Critical Habitat of Attachment 4.4-A: Biological Resources Technical Report and quantified in Table 4.4-3: Critical Habitat within the BRSA. Within the BRSA at the San Luis Rey River, critical habitat has been designated for arroyo toad, least Bell's vireo, and southwestern willow flycatcher. Designated critical habitat for coastal California gnatcatcher is located throughout the BRSA in various locations.

Table 4.4-3: Critical Habitat within the BRSA

Species	Critical Habitat within BRSA (acres)
Arroyo toad	61.2
Coastal California gnatcatcher	641.1
Least Bell's vireo	40.6
San Diego fairy shrimp	0.5
Southwestern willow flycatcher	11.3

Source: USFWS 2015b

Designated critical habitat for San Diego fairy shrimp is located within the BRSA on MCAS Miramar; however, the USFWS exempted areas within the boundaries of MCAS Miramar in its final rule (USFWS, 2007) because it was determined that these areas are exempt under Section 4(a)(3)(B)(i) of the FESA and that the INRMP provides a benefit to San Diego fairy shrimp. As

[10] An additional 19 acres of suitable habitat for QCB within the Elliot Field Station was not surveyed in 2015 due to access constraints. These areas fall within the USFWS required survey areas for QCB and as a result, will be surveyed prior to construction of the Proposed Project.

a result, MCAS Miramar lands are exempt from the revised final critical habitat for San Diego fairy shrimp, and are therefore not included in Table 4.4-3: Critical Habitat within the BRSA.

Wildlife Migration Corridors and Preserve Areas

Wildlife migration corridors are areas that connect suitable habitat in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features (e.g., canyon drainages, ridgelines, or areas with vegetation cover) provide corridors for wildlife travel. Wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high-population-density areas; and facilitate genetic diversity. The CEQA Guidelines require that project proponents disclose impacts to wildlife corridors and mitigate for significant impacts to wildlife corridors. This section discusses the applicable wildlife corridors that are present or potentially present within the BRSA.

Terrestrial Species

Terrestrial wildlife species migrate through both upland and drainage areas, depending on the species. Species that need protective cover from predators (e.g., mammals, reptiles, and smaller avian species) tend to migrate along natural drainages and riparian corridors that have a high vegetative cover. These areas also serve as an important source of food resources (e.g., insects and seeds) for these species. There are numerous natural drainages and riparian corridors in the BRSA, including Rainbow Creek, the San Luis Rey River, Escondido Creek, Lake Hodges (i.e., the dammed portion of the San Dieguito River), Poway Creek, and Beeler Creek. These drainages may be used as migration corridors by a variety of species. Predator species, such as bobcat (*Lynx rufus*) or mountain lion (*Puma concolor*), require larger portions of intact habitat, including interconnected upland and riparian systems for migration.

The Proposed Project is located in the Pacific Flyway, a major north-south avian migratory corridor that extends along the West Coast from Alaska to Patagonia, and provides suitable foraging habitat for many resident and migratory avian species. The Pacific Flyway links breeding grounds in the north to more southerly wintering areas and, therefore, is utilized by an abundance of bird species during migration. The BRSA consists mostly of urban/developed and disturbed areas, thus diminishing the potential for most of the BRSA to be used as a migration corridor for avian species. MCAS Miramar and the larger drainage systems within the BRSA (i.e., Lake Hodges and the San Luis Rey River) will provide areas that could be used as a migration corridor for avian species.

The BRSA overlaps at least a portion of conserved lands identified by SANDAG (SANDAG, 2014), as depicted in Figure A-8: Conserved Lands within the Biological Resources Survey Area of Attachment 4.4-A: Biological Resources Technical Report. These are conserved lands identified in multiple MSCP documents (e.g., the San Diego MSCP and the North County MSCP) and the MHCP (i.e., the Escondido Subarea Plan), as well as other federal, state, non-profit, land conservancy, and private conserved lands. Not all conserved lands mapped by SANDAG represent potential wildlife migration corridors. Some are entirely surrounded by development, while others are golf courses that provide marginally suitable migration corridors for wildlife due to the presence of humans for most of the day. Though the following list does

not provide a complete account of all conserved lands in the BRSA, these conserved lands identified by SANDAG are the most likely to provide wildlife connectivity for terrestrial species:

1. Two potentially conserved lands at the southern end of Rainbow Hills Road. These are located on avocado orchards between Mileposts (MPs) 3.2 and 3.8. No aboveground facilities are located within the potential easement. As described in Section 4.10 Land Use and Planning, information is not publicly available and a title search for the title using both the landowner's name and assessor's parcel number for the location did not identify any evidence of a conservation easement at these locations. Therefore, it has been assumed that this conservation easement does not currently exist.

   This area is contiguous to other large blocks of undeveloped land—some of which are also conserved land—north of the community of Fallbrook. These lands are connected to the approximately 8,850-acre Fallbrook Naval Weapons Station, which is contiguous to the Marine Corps Base, Camp Pendleton that encompasses more than 125,000 acres.

2. South of the San Luis Rey River, west of Old Highway 395, and just north of MP 10. The San Luis Rey River provides a potential wildlife connection from its source in the mountains to the east of the BRSA to its mouth at the Pacific Ocean. A patchwork of conserved lands comprises the San Luis Rey River and its floodplain.

3. In wetland/riparian habitat in Kit Carson Park, north of Lake Hodges between MP 28 and MP 29, as well as the San Dieguito River Park between MP 29 and MP 30. Lake Hodges is the dammed portion of the San Dieguito River, providing potential wildlife connectivity from its source in the mountains east of the City of Escondido to its mouth at the Pacific Ocean near the Del Mar Fairgrounds. A patchwork of conserved lands comprises Lake Hodges, as well as upstream and downstream portions of the San Dieguito River and its floodplain.

4. Battle Mountain on City of San Diego property. This area is connected via upland and riparian habitat to the larger open space areas south of Lake Hodges via a bridge under I-15. These conserved lands intersect the BRSA between MP 30.5 and MP 31.

5. In the South Poway Cornerstone lands primarily east of Pomerado Road in the City of Poway between MP 38 and MP 39. These conserved lands are contiguous with conserved lands stretching eastward through the City of Poway to State Route (SR-) 67 and Iron Mountain.

6. The Scripps Miramar Open Space area administered by the City of San Diego, and located along an unnamed tributary to Los Peñasquitos Creek on the south side of Pomerado Road (approximately MP 40 to MP 42.2). This drainage appears to be primarily dominated by non-native species, but may provide connectivity to downstream portions of the watershed, eventually connecting to the approximately 4,000-acre Los Peñasquitos Canyon Preserve.

7. At the Elliot Field Station and the larger UCSD Chaparral Reserve, north of MCAS Miramar from approximately MP 43.5 to MP 44. This area is contiguous with the

approximately 23,065-acre MCAS Miramar, which itself serves as a wildlife corridor and preserve area. MCAS Miramar is contiguous to the approximately 5,800-acre Mission Trails Regional Park that is south of SR-52. Wildlife crossing corridors under SR-52 are in place between MCAS Miramar and Mission Trails Regional Park to promote wildlife connectivity.

Aquatic Species

Aquatic species are also known to migrate within wetland and drainages. Within the BRSA, the San Luis Rey River and—to a lesser extent—the San Dieguito River/Lake Hodges serve as linkages for aquatic species. Aquatic species cannot migrate beyond the dam on the San Dieguito River, but within the reservoir and in upstream portions, aquatic species could migrate when water is present. Other drainages—including Rainbow Creek, Escondido Creek, Poway Creek, and Beeler Creek—could also provide wildlife connectivity for aquatic species while water is flowing within those drainages.

Potential Jurisdictional Wetlands and Waters

Potentially jurisdictional wetlands and waters were identified within the BRSA. These areas may be under the jurisdiction of the USACE, RWQCB, and/or the CDFW. Table 4.4-4: Potential USACE-Jurisdictional Wetland Communities Observed within the BRSA provides estimated acreages of potential USACE-jurisdictional wetlands within the BRSA, based on the wetland and drainage mapping conducted in the fall of 2014 and in the winter and spring of 2015. These areas are depicted in Attachment B: Wetlands and Waters Assessment Map within Attachment C: Preliminary Wetlands and Waters Assessment of Attachment 4.4-A: Biological Resources Technical Report. All data and photos collected during the preliminary assessment of wetlands and waters are also provided in Attachment C: Preliminary Wetlands and Waters Assessment of Attachment 4.4-A: Biological Resources Technical Report.

A total of 117 drainages potentially under the jurisdiction of the USACE were mapped within the BRSA, comprising 34.1 acres within the limits of the OHWM. Wetlands potentially under the jurisdiction of the USACE comprised a total of 131.0 acres within the BRSA. Attachment C: Wetland and Water Survey Results of Attachment C: Preliminary Wetlands and Waters Assessment of Attachment 4.4-A: Biological Resources Technical Report provides additional information (i.e., acreage and type of feature) for each mapped wetland or water feature within the BRSA. Portions of two USACE-defined traditionally navigable waterways (TNWs) are located within the BRSA: the San Luis Rey River and the dammed portion of the San Dieguito River (referred to as Lake Hodges). Neither of these rivers are considered TNWs within the BRSA, however, and are only considered TNWs in downstream reaches. The San Luis Rey River reach within the BRSA was dry during surveys in 2014 and 2015, but portions of this river upstream and downstream do exhibit flow during most of the year. Historic drought conditions may also be causing drier-than-normal hydrological flow. As a result, it is most likely that this reach of the San Luis Rey River exhibits perennial flow during normal rain years. The portion of the San Dieguito River / Lake Hodges that is within the BRSA was also dry during surveys in 2014 and 2015. This stretch is presumed to exhibit an intermittent hydrological regime.

Table 4.4-4: Potential USACE-Jurisdictional Wetland Communities Observed within the BRSA

General Habitat Type	Potential Wetland Community	Approximate Area of Potential USACE-Jurisdictional Wetlands (acres)
Grasslands, Vernal Pools, Meadows, and other Herb Communities	Vernal Pool	0
	Freshwater Seep	0.3
	Freshwater Seep (disturbed)	0.1
Bog and Marsh	Cismontane Alkali Marsh	8.9
	Coastal and Valley Freshwater Marsh	2.0
	Coastal and Valley Freshwater Marsh (disturbed)	<0.1
	Emergent Wetland	<0.1
	Vernal Marsh/Herbaceous Wetland	0
	Vernal Marsh/Herbaceous Wetland (disturbed)	3.8
Riparian and Bottomland Habitat	Southern Coast Live Oak Riparian Forest	39.6
	Southern Coast Live Oak Riparian Forest (disturbed)	7.9
	Southern Cottonwood-Willow Riparian Forest	9.5
	Southern Cottonwood-Willow Riparian Forest (disturbed)	1.1
	Southern Willow Scrub	39.4
	Southern Willow Scrub (disturbed)	5.8
	Mule Fat Scrub	3.6
	Tamarisk Scrub	1.7
	Non-Native Riparian	4.6
	Arundo-Dominated Riparian	2.7
Total		**131.0**

In total, 24 intermittent drainages (generally considered to be USACE-defined Relatively Permanent Waters [RPWs]) were observed within the BRSA. These include many of the named drainage features (i.e., Rainbow Creek, Moosa Creek, Reidy Canyon Creek, Escondido Creek, Poway Creek, Beeler Creek, San Clemente Canyon Creek, and Elanus Canyon Creek). Four of these intermittent drainage also exhibited ephemeral flow in at least a portion of the area mapped within the BRSA. Biologists also mapped 92 ephemeral drainages, generally considered to be non-RPWs due their direct or indirect flow into a TNW.

Within the BRSA, a total of 24 isolated drainage features were observed. These features did not exhibit an OHWM within downstream portions of the drainage; do not have a significant nexus to a TNW, RPW, or non-RPW; and are therefore likely not USACE-jurisdictional areas. The RWQCB may take jurisdiction over these isolated drainage features. While mapping drainages, biologists also noted non-jurisdictional linear features, such as swales or erosional features that did not exhibit OHWM. In general, concrete-lined ditches entirely constructed in uplands and that appeared to carry water only from anthropogenic sources (e.g., landscape run-off, etc.) were determined to be non-jurisdictional, and were not further documented.

A Preliminary Wetlands and Waters Assessment has been prepared and is provided in Attachment C: Preliminary Wetlands and Waters Assessment of Attachment 4.4-A: Biological Resources Technical Report. Attachment B: Wetland and Waters Assessment Map within Attachment C: Preliminary Wetlands and Waters Assessment of Attachment 4.4-A: Biological Resources Technical Report show the locations of the wetlands and waters identified within the BRSA.

4.4.3 Impacts

The Proposed Project will require an approximately 50-foot permanent linear easement along the entire alignment for operation and maintenance of the pipeline. Of the approximately 47 miles of the Proposed Project, approximately 41 miles (87 percent) will be installed in urban areas within existing roadways and road shoulders pursuant to franchise agreements. The remaining approximately six miles (13 percent) of the Proposed Project will be installed cross-country on federal or privately owned land. With the exception of the Line 1601, the Line 1600, and the Line 2010 cross-ties, all of the aboveground facilities will be located within the approximately 50-foot permanent easement or on property owned by the Applicants. Permanent impacts are associated with the 10 mainline valves (MLVs), permanent facilities including the Rainbow Pressure-Limiting Station, and cross-ties with existing natural gas lines (i.e., Line 1601, Line 2010, and Line 1600). No new permanent access roads will be constructed as part of the Proposed Project. Total permanent impacts resulting from the Proposed Project will be approximately 1.8 acres, of which 0.6 acre is urban/developed land.

The Proposed Project will also result in temporary impacts (e.g., ground disturbance, vegetation removal, grading, etc.) within six staging areas; four bore pits; entry and exit points for three locations where horizontal direction drilling (HDD) is proposed; and temporary and permanent easement areas where restoration of vegetation will occur to return the land to its pre-disturbance conditions. Total temporary impacts resulting from the Proposed Project will be approximately 496.3 acres, which includes 356.1 acres of urban/developed areas (i.e., roads and road shoulders). Table 4.4-5: Impacts to Vegetation Communities summarizes the total permanent

and temporary impacts to vegetation communities, as well as the acreages of vegetation communities where impacts will be avoided by the use of HDD.

The Applicants intend to prepare a Biological Assessment for federally and state-listed species that may be adversely affected by the Proposed Project, and will request a Biological Opinion and take coverage under Section 7 of the FESA[11] and a Section 2081 ITP under the CESA. Species that may be adversely affected by the Proposed Project include, but are not limited to, the Riverside fairy shrimp, San Diego fairy shrimp, Quino checkerspot butterfly, arroyo toad, coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher and Stephens' kangaroo rat. The Applicants will conduct construction activities in accordance with the permit requirements and authorizations established through the Section 7 consultation process, as described in the following subsections. The Applicants will conduct construction activities in accordance with the permit requirements and authorizations established through the Section 7 consultation process. Temporary and permanent impacts to federally and state-listed species and their habitats will be mitigated at a one-to-one ratio, or as required by the USFWS and the CDFW.

Significance Criteria

The significance criteria for assessing the impacts to biological resources are derived from the CEQA Environmental Checklist. According to the CEQA Environmental Checklist, a project causes a potentially significant impact if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status in local or regional plans, policies, or regulations, or by the CDFW or USFWS

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS

- Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with any established native resident or migratory wildlife corridor, or impede the use of native wildlife nursery sites

[11] Section 7 of the FESA, called "Interagency Cooperation," is the mechanism by which Federal agencies ensure the actions they take, including those they fund or authorize, do not jeopardize the existence of any federally-listed species. Section 7 consultation occurs between a Federal agency, whose actions may affect a listed species, and the USFWS. Discussions between the two agencies may include what types of listed species may occur in the proposed action area, and what effect the proposed action may have on those species. Because a portion of the Proposed Project is located on MCAS Miramar, the Department of the Navy (U.S. Marine Corps) may consult with the USFWS to address potential impacts to federally-listed species resulting from the Proposed Project.

Table 4.4-5: Impacts to Vegetation Communities

General Habitat Type	Vegetation Community	Approximate Permanent Impact (acres)	Approximate Temporary Impact (acres)	Approximate Total Impacts (acres)
Disturbed or Developed Habitat	Disturbed Habitat	0.1	7.9	8.0
	Urban/Developed	0.6	356.1	356.5
	Ornamental	0	1.1	1.1
	Orchards/Vineyards	0.1	13.0	13.1
	Intensive Agriculture – Dairies, Nurseries, Chicken Ranches	0	1.8	1.8
	Row Crops	0	0	0
Scrub and Chaparral	Diegan Coastal Sage Scrub*	0.1	18.3	18.4
	Diegan Coastal Sage Scrub (open, disturbed) *	0	0.1	0.1
	Diegan Coastal Sage Scrub (*Adolphia californica*-dominated) *	0	<0.1	<0.1
	Diegan Coastal Sage Scrub (burned) *	0	0.9	0.9
	Diegan Coastal Sage Scrub (disturbed) *	<0.1	14.4	14.4
	Diegan Coastal Sage Scrub (open) *	<0.1	3.1	3.1
	Diegan Coastal Sage Scrub (restored)*	0	6.3	6.3
	Diegan Coastal Sage Scrub: Baccharis-Dominated*	0.1	2.0	2.1
	Diegan Coastal Sage Scrub: Baccharis-Dominated (disturbed) *	0	0	0
	Southern Mixed Chaparral*	0	5.3	5.5
	Southern Mixed Chaparral (burned) *	0	2.2	2.2
	Chamise Chaparral	0	8.7	8.7
	Coastal Sage-Chaparral Transition*	0	0.8	0.8

General Habitat Type	Vegetation Community	Approximate Permanent Impact (acres)	Approximate Temporary Impact (acres)	Approximate Total Impacts (acres)
Grasslands, Vernal Pools, Meadows, and Other Herb Communities	Valley Needlegrass Grassland*	<0.1	0	<0.1
	Non-Native Grassland: Broadleaf-Dominated	0.1	13.9	13.9
	Non-Native Grassland (Annual Grassland)	0.5	15.1	15.6
	Vernal Pool*	0	0	0
	Freshwater Seep*	0	0.3	0.3
	Freshwater Seep (disturbed)*	0	0	0
Bog and Marsh	Cismontane Alkali Marsh*	0	1.3	1.3
	Coastal and Valley Freshwater Marsh*	0	<0.1	<0.1
	Emergent Wetland*	0	0	0
	Vernal Marsh/Herbaceous Wetland*	0	<0.1	<0.1
	Vernal Marsh/Herbaceous Wetland (disturbed) *	0	0	0
Riparian and Bottomland Habitat	Southern Coast Live Oak Riparian Forest*	0	0.1	0.1
	Southern Coast Live Oak Riparian Forest (disturbed)*	0	0	0
	Southern Cottonwood-Willow Riparian Forest*	0	0.9	0.9
	Southern Willow Scrub*	0	0.1	0.1
	Southern Willow Scrub (disturbed)*	0	<0.1	<0.1
	Mule Fat Scrub*	0	0.1	0.1
	Tamarisk Scrub*	0	0	0
	Fresh Water (Open Water)*	0	0	0
	Non-Vegetated Floodplain or Channel*	0	0.9	0.9
	Non-Native Riparian*	0	<0.1	<0.1
	Arundo-Dominated Riparian*	0	0	0

General Habitat Type	Vegetation Community	Approximate Permanent Impact (acres)	Approximate Temporary Impact (acres)	Approximate Total Impacts (acres)
Woodland	Open Coast Live Oak Woodland (<50%)*	0	4.0	4.0
	Open Coast Live Oak Woodland (<50%) (burned)*	0	0.3	0.3
	Open Coast Live Oak Woodland (<50%) (disturbed)*	0	0.2	0.2
	Dense Coast Live Oak Woodland (>50%)*	0	0.4	0.4
	Dense Coast Live Oak Woodland (>50%) (disturbed)*	0	0.1	0.1
	Undifferentiated Open Woodland	0	0.1	0.1
	Non-Native Woodland	0.1	2.4	2.4
	Non-Native Woodland (burned)	0	0.1	0.1
	Eucalyptus Woodland	0.1	14.1	14.3
Total		**1.8**	**496.3**	**496.8**

* Sensitive natural community
Note: Totals may not be precise due to rounding

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance

- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP

Question 4.4a – Sensitive Species

Construction – Less-than-Significant Impact

Special-Status Plant Species

Nineteen special-status plant species were documented within the BRSA during the April 2015 special-status plant survey, as described in Table 4.4-2: Special-Status Plant Species Observed within the BRSA. Attachment C: Special-Status Plant Species Occurrences Map of Attachment B: Special-Status Plant Species Survey Report of Attachment 4.4-A: Biological Resources Technical Report depicts the locations of special-status plant species documented within the BRSA. Of the 19 species observed, the following 10 species were documented within areas proposed for temporary construction activities associated with the Proposed Project:

- ashy spike-moss (*Selaginella cinerascens*)
- Brewer's calandrinia (*Calandrinia breweri*)
- Engelmann oak (*Quercus engelmannii*)
- golden-rayed pentachaeta (*Pentachaeta aurea* ssp. *aurea*)
- graceful tarplant (*Holocarpha virgata* ssp. *elongata*)
- long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*)
- Orcutt's brodiaea (*Brodiaea orcuttii*)
- San Diego barrel cactus (*Ferocactus viridescens*)
- San Diego County viguiera (*Bahiopsis* [*Viguiera*] *laciniata*)
- San Diego goldenstar (*Bloomeria clevelandii*)

Temporary Impacts

Construction activities associated with the Proposed Project (i.e., earth-moving/grading, vegetation removal, and vehicle travel) have the potential to result in mortality of special-status plant species that occur within temporary construction areas, particularly within MCAS Miramar and other cross-country sections of the Proposed Project. These activities may result in the loss of individual special-status plants, disturbance of their seed banks due to topsoil movement or removal, or the introduction of invasive species / noxious weeds that could eventually outcompete special-status plant species and thereby reduce long-term viability. Temporary direct impacts to special-status plants may also include unauthorized collection or trampling by construction personnel.

Temporary indirect impacts to special-status plant species documented both within and near construction areas could result from construction-related runoff, sedimentation, and erosion, which have the potential to alter site conditions sufficiently to favor the establishment of other native and non-native species. In addition, construction-related dust could reduce the metabolic

rates of special-status plant species within and in the vicinity of construction areas, thus affecting long-term survival.

Under the County of San Diego's Guidelines for Determining Significance for Biological Resources, any impacts to county List A or B plant species—which include all CRPR List 1B and 2B species observed within the BRSA—are considered to be significant. According to the county's guidelines, if it is determined that a given project will not have a substantial adverse effect on the local long-term survival of a special-status plant species, and if less than five percent of that species and its habitat will be impacted, impacts to these CRPR List 1B and 2B special-status plant species are considered to be less than significant. Using this metric, impacts to four special-status CRPR 1B and 2B plant species—long-spined spineflower, Orcutt's brodiaea, San Diego barrel cactus, and San Diego goldenstar—are considered to be potentially significant because impacts to these species will exceed five percent of the total mapped within the BRSA.

According to the County of San Diego's Guidelines for Determining Significance for Biological Resources, impacts to the county's List C or D species—which include CRPR List 3 and 4 species observed within the BRSA—will be considered significant if the project impacts the local long-term survival of those species. These CRPR List 3 and 4 species were generally observed at the landscape level (i.e., hundreds or thousands of individuals) within the BRSA, and publicly available data (e.g., the SDNHM distribution mapping) show that these species occur in multiple locations elsewhere in San Diego County. In addition, temporary impact areas will be restored after construction, and as a result, it can be reasonably concluded that there will be no threat to the long-term survival of these CRPR List 3 and 4 species as a result of the Proposed Project. Table 4.4-6: Impacts to Special-Status Plant Species lists the total individuals of each special-status plant species within the BRSA and temporary impact areas, and quantifies the anticipated percentage of individual plants that will be impacted.

Permanent Impacts

The Proposed Project will result in approximately 1.2 acres of permanent impacts to potential special-status plant habitat (i.e., all areas proposed for permanent impacts other than urban/developed areas). However, focused surveys for special-status plants did not result in any observations of special-status plants in areas proposed for permanent impacts. As a result, no permanent impacts to special-status plant occurrences are anticipated as a result of the Proposed Project.

Table 4.4-6: Impacts to Special-Status Plant Species

Species	Listing Status[12]	Total Number of Individuals Observed in the BRSA	Estimated Number of Individuals within the Temporary Impact Area	Percent of Individuals within the Temporary Impact Area
Ashy spike-moss (*Selaginella cinerascens*)	4.1	33,000	4,763	14
Brewer's calandrinia (*Calandrinia breweri*)	4.2	121	120	99
California adolphia (*Adolphia californica*)	2B.1	750	0	0
Decumbent goldenbush (*Isocoma menziesii* var. *decumbens*)	1B.2	145	0	0
Engelmann oak (*Quercus engelmannii*)	4.2	67	1	1
Golden-rayed pentachaeta (*Pentachaeta aurea* ssp. *aurea*)	4.2	5,787	5,073	88
Graceful tarplant (*Holocarpha virgata* ssp. *elongata*)	4.2	589	5	1
Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*)	1B.2	1,351	511	38
Nuttall's scrub oak (*Quercus dumosa*)	1B.1	321	0	0
Orcutt's brodiaea (*Brodiaea orcuttii*)	1B.1	2,309	107	5
Parry's tetracoccus (*Tetracoccus dioicus*)	1B.2	50	0	0
San Diego barrel cactus (*Ferocactus viridescens*)	2B.1	1	1	100

[12] Source: California Native Plant Society Rare Plant Inventory (CNPS 2014)

Species	Listing Status[12]	Total Number of Individuals Observed in the BRSA	Estimated Number of Individuals within the Temporary Impact Area	Percent of Individuals within the Temporary Impact Area
San Diego County Viguiera (*Bahiopsis* [*Viguiera*] *laciniata*)	4.2	1,334	249	19
San Diego goldenstar (*Bloomeria clevelandii*)	1B.1	3,991	2,886	72
San Diego sagewort (*Artemisia palmeri*)	4.2	37	0	0
Small-flowered microseris (*Microseris douglasii* ssp. *platycarpha*)	4.2	50	0	0
Southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*)	4.2	16	0	0
Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)	1B.2	1	0	0
Western dichondra (*Dichondra occidentalis*)	4.2	580	0	0

In order to avoid and minimize impacts to any federally listed, state-listed, or CRPR List 1 and 2 special-status plant species, the Applicants will demarcate the boundaries of work limits and sensitive habitats and resources that will be avoided in accordance with APM-BIO-02. The Applicants also will conduct pre-construction special-status plant surveys, as described in APM-BIO-06 in Section 4.4.4 Applicants-Proposed Measures. These surveys will be conducted in accordance with CDFW (2009), USFWS (1996) and CNPS (2001) guidelines within impact areas associated with the Proposed Project[13]. Federally listed, state-listed, or CRPR List 1 and 2 special-status plant species that the Applicants determine can be avoided will be demarcated or flagged for avoidance prior to construction. In locations where special-status plant species cannot be avoided, the Applicants will develop and implement a Habitat Restoration Plan, as required by APM-BIO-03, which will include measures for restoring habitat for federally listed, state-listed, or CRPR List 1 and 2 special-status plant species that may be impacted by construction activities. The Applicants will prepare a Noxious and Invasive Weed Management Plan (NIWMP) in accordance with APM-BIO-04, which will reduce the threat from the spread of noxious weeds.

One Engelmann oak tree was documented within Proposed Project temporary impact areas. In accordance with APM-BIO-05, native oaks that occur within the Proposed Project area will be avoided during construction activities or mitigated for in accordance with local jurisdictional requirements. Permanent impacts from unauthorized trampling and collection of special-status plant species will be minimized through implementation of APM-BIO-07, which specifies that all construction personnel attend training on minimizing impacts to special-status species, as well as APM-BIO-08, which prohibits the collection of plants, and requires vehicles and personnel to use authorized travel routes. Temporary impacts to special-status plant species resulting from fugitive dust generated by Proposed Project activities will be minimized by the implementation of APM-AIR-01, which states that the Applicants will water unpaved construction surfaces to control dust emissions. As a result, impacts to special-status plant species will be less than significant.

Special-Status Wildlife Species

Special-Status Mammal Species

Proposed Project construction activities—including the clearing of vegetation—may impact 11 special-status mammal species that are either present within the BRSA or have a moderate or high potential to occur within the BRSA, as discussed below. San Diego black-tailed jackrabbit, an SSC, is present within the BRSA. Big free-tailed bat (*Nyctinomops macrotis*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), San Diego desert woodrat (*Neotoma lepida intermedia*), and western yellow bat (*Lasiurus xanthinus*) have a high potential to occur within the BRSA. Dulzura pocket mouse (*Chaetodipus californicus femoralis*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), Stephens' kangaroo rat, Townsend's big-eared bat, western

[13] Although special-status plant surveys were conducted in 2015, an additional round of pre-construction special-status plant surveys are required per APM-BIO-06 because the abundance and distribution of annual special-status plants will have changed by the time construction is scheduled. Despite this, the less-than-significant conclusions drawn from the impact analysis presented in this document for special-status plant species is not anticipated to change as a result of these pre-construction surveys because the Proposed Project impacts are limited and the populations extend beyond the Proposed Project limits and BRSA.

mastiff bat (*Eumops perotis californicus*), and western red bat (*Lasiurus blossevillii*) have a moderate potential to occur within the BRSA.

Stephens' kangaroo rat, an FE and CT species, has the potential to occur within the BRSA in open coastal sage scrub, non-native grasslands, and disturbed areas, primarily in areas north of the City of Escondido in accordance with its documented range. During the habitat assessment, areas were identified that could potentially support Stephens' kangaroo rat, including within Laydown Yards #2, #3, #4, and #5. Direct impacts to Stephens' kangaroo rat could occur within these four laydown yards, where minor grading activities are proposed. These impacts could collapse burrows and/or directly injure or kill Stephens' kangaroo rats that are unable to escape. Temporary impacts to Stephens' kangaroo rats within construction areas may also result from construction noise and ground vibration, as this species may be deterred from inhabiting or foraging in areas near such activities.

Temporary Impacts

Potential impacts to other special-status small mammals (i.e., San Diego black-tailed jackrabbit, San Diego desert woodrat, Dulzura pocket mouse, and northwestern San Diego pocket mouse) include being crushed by construction vehicles or by vegetation removal as a result of Proposed Project construction activities. These potential impacts are most likely to occur on MCAS Miramar where cross-country construction activities are proposed and habitat for these species has been documented. Special-status small mammals may also fall into areas excavated for the Proposed Project and they may become trapped, which could result in mortality or injury. Construction activities may also result in mortality of small mammals along access roads within the temporary construction areas. The Proposed Project may also result in indirect impacts to special-status wildlife species if noxious weed seeds are spread within occupied habitats during construction. If allowed to establish and spread, these weeds could alter the species composition of the habitat areas where special-status species are present, which could potentially result in declines in the fecundity of these species.

Potential impacts to special-status bat species include destruction of roost sites, which may include palm trees (e.g., *Washingtonia robusta*), as a result of vegetation clearing during construction. Impacts may also occur to special-status bat species if construction activities occur adjacent to important maternal roost sites, such as bridges or underpasses, and result in abandonment of those sites during the breeding season.

Temporary impacts to all special-status mammals occurring or potentially occurring within construction areas may result from construction noise and ground vibration, as mammals may be deterred from inhabiting or foraging in areas near such activities. In addition, temporary impacts associated with nighttime construction activities may result in temporary avoidance of construction areas by nocturnal small mammals due to lighting. Special-status bat species may be temporarily affected by night lighting if such lighting causes confusion or disorientation during important feeding times (typically at dusk). Conversely, night lighting may attract insects to an area, making it easier for special-status bats to locate food resources. Temporary impacts to small mammals may occur throughout the Proposed Project impact areas, but will be most pronounced on MCAS Miramar where construction activities will take place in close proximity to suitable habitat for these special-status mammal species.

Permanent Impacts

The Proposed Project will result in approximately 1.2 acres of permanent impacts to potential special-status mammal habitat (i.e., all areas proposed for permanent impacts other than urban/developed areas). Permanent impacts to special-status mammal habitat are anticipated as a result of construction of the permanent stations and MLVs. Vegetation clearing and grading will occur within these areas, resulting in the removal of approximately 1.2 acres of habitat for special-status mammals. Because this area is small compared to regionally available habitat for special-status small mammal species, and because these permanent impacts will not result in the long-term decline in any special-status small mammal species, there will be no substantial adverse impact to special-status small mammal species resulting from these permanent impacts. As a result, permanent impacts to special-status small mammal habitat will be less than significant.

To ensure that these mammal species are not impacted as a result of the Proposed Project, the Applicants will implement APM-BIO-01, which states that biological monitors will be present during construction in areas where these species may occur. The biological monitor will have the authority to halt any work activity that might result in impacts to resources and will demarcate the boundaries of sensitive habitats that can be avoided. The Applicants will demarcate the boundaries of work limits and sensitive habitats and resources that will be avoided in accordance with APM-BIO-02. In accordance with APM-BIO-04, the Applicants will prepare an NIWMP to reduce impacts associated with the spread of noxious weeds in the construction areas.

The Applicants will also implement APM-BIO-07, which specifies that all construction personnel attend a training on minimizing impacts to special-status species, as well as APM-BIO-08, which prohibits construction personnel from conducting activities that may harm or harass special-status wildlife species (i.e., hunting, feeding, and collecting wildlife). The Applicants will also secure open trenches and excavations in accordance with APM-BIO-09, and inspect construction areas for local wildlife, which will reduce potential impacts to these species. APM-BIO-10 will minimize night lighting in construction areas located in potential wildlife habitat areas and APM-BIO-11 will require drivers on the Proposed Project to minimize vehicle speeds to avoid mortality or injury of special-status mammals. APM-BIO-12 states that the Applicants will stop work and a qualified biologist will relocate special-status wildlife species occurring within construction areas to an appropriate habitat area that is out of harm's way.

The Applicants will also implement APM-BIO-13, which calls for avoidance of potential Stephens' kangaroo rat habitat areas to extent practical through preliminary design modifications. If avoidance of these habitat areas is not possible, the Applicants will conduct focused surveys to determine if Stephens' kangaroo rat is the species present. If Stephens' kangaroo rat is determined to occur within Proposed Project construction areas, and avoidance is not possible, then the Applicants will consult with the USFWS through the Section 7 of the FESA. APM-BIO-14 will also be implemented, which requires the Applicants to avoid and minimize impacts to roosting bats by avoiding tree trimming during bat breeding season, assessing a habitat's potential to support special-status bat species, and if applicable, establishing exclusionary zones around active roost sites. As a result, impacts to special-status mammal species are anticipated to be less than significant.

Special-Status and Nesting Avian Species

Proposed construction activities may impact up to 11 special-status avian species that have either been observed on site or have a moderate or high potential to breed or forage within the Proposed Project area, as summarized in Attachment 4.4-C: Special-Status Wildlife Species with Potential to Occur. Six special-status avian species—coastal California gnatcatcher, least Bell's vireo, northern harrier, white-tailed kite, yellow-breasted chat, and yellow warbler—were observed in the Proposed Project area. Southwestern willow flycatcher is presumed present based on a single occurrence of a willow flycatcher whose subspecies was undetermined. One species—least bittern (*Ixobrychus exilis hesperis*)—has a high potential for occurring within the BRSA; and three species—golden eagle, grasshopper sparrow (*Ammodramus savannarum*), and western burrowing owl—have a moderate potential for occurring within the BRSA. Impacts to these special-status species, and to other nesting birds protected by the MBTA and the California Fish and Game Code, may occur as a result of Proposed Project construction, as described in the following subsections.

Proposed Project activities that could adversely affect special-status avian species' habitats include earth-moving/grading, vegetation trimming, and vegetation removal. Impacts to avian species may include the removal of nesting or foraging habitat and/or the removal of some food sources. Impacts to avian individuals may occur if nests are present within areas proposed for grading and vegetation clearing. Immature birds may be harmed if their nests are destroyed during construction activities. Construction activities also may result in direct injury or mortality to avian bird species as a result of collisions with construction vehicles. The Proposed Project may also result in impacts to special-status avian species if noxious weed seeds are spread within occupied habitats during construction. If allowed to establish and spread, these weeds could alter the species composition of the habitat areas where special-status species are present, which could potentially result in reduced fecundity of special-status avian species.

Temporary impacts to all avian species include the disruption of nesting behavior due to a temporary increase in the presence of humans, as well as noise from construction equipment and vehicles. Temporary impacts may also result from unauthorized actions from construction personnel, such as hunting or feeding of avian species. Night lighting associated with construction activities may also temporarily affect avian species' roosting and foraging behavior, especially for avian species that are active after dark.

The Proposed Project will result in approximately 1.8 acres of permanent impacts to potential special-status avian habitat. This includes all areas proposed for permanent impacts, including urban/developed areas due to the potential for non-native trees to provide habitat for some nesting and foraging avian species. However, the Proposed Project will not result in any permanent impacts to riparian habitats that could support the least bittern, least Bell's vireo, southwestern willow flycatcher, yellow-breasted chat, or yellow warbler. In addition, the Proposed Project will result in approximately 0.3 acre of permanent impacts to coastal sage scrub communities, which are habitat for the coastal California gnatcatcher.

Permanent impacts to special-status avian habitat are anticipated as a result of construction of the permanent stations and MLVs. Vegetation clearing and grading with these areas will occur, resulting in the removal of a maximum of 1.8 acres of habitat for special-status avian species.

Because this area is small compared to the avian habitat available regionally, and because these permanent impacts will not result in the long-term decline of any avian species, there will be no substantial adverse impact on avian species resulting from these permanent impacts. As a result, permanent impacts to avian habitat will be less than significant.

The Applicants will implement the following APMs, which will reduce impacts to avian species. APM-BIO-01 ensures that biological monitors are present during construction in areas where these species may occur. The biological monitor will have the authority to halt any work activity that might result in impacts to resources and will demarcate the boundaries of sensitive habitats that can be avoided. The Applicants will demarcate the boundaries of work limits and sensitive habitats and resources that will be avoided in accordance with APM-BIO-02. Temporary impacts to avian species' habitats will be restored in accordance with a Habitat Restoration Plan, as detailed in APM-BIO-03. In accordance with APM-BIO-04, the Applicants will prepare an NIWMP to reduce impacts associated with the spread of noxious weeds in the construction areas. APM-BIO-07 states that all construction personnel to attend training on minimizing impacts to special-status species, and APM-BIO-08 prohibits construction personnel from conducting activities that may harm or harass special-status wildlife species (e.g., hunting, feeding, and collecting). The Applicants will minimize night lighting in construction areas located in potential wildlife habitat areas in accordance with APM-BIO-10, and APM-BIO-11 states that drivers on the Proposed Project will minimize vehicle speeds to avoid mortality or injury of special-status avian species. In accordance with APM-BIO-12, crews will stop work if special-status avian species are observed within the Proposed Project construction areas, and work will not proceed in the immediate area until the animal has traveled off site on its own or has been relocated by a qualified biologist. Impacts to nesting bird species will be reduced by implementing an Applicants-prepared Nesting Bird Management Plan (NBMP) in accordance with APM-BIO-16. As a result, impacts to avian species will be less than significant.

Coastal California Gnatcatcher

Breeding and foraging coastal California gnatcatcher individuals have been documented within the BRSA in scattered locations from near Canonita Road south to Scripps Poway Parkway, as shown in Figure A-6: Special-Status Wildlife Occurrences of Attachment 4.4-A: Biological Resources Technical Report. The coastal California gnatcatchers observed within the vicinity of MP 11 occur within temporary impact areas associated with the temporary construction ROW. The remaining occurrences of this species are located outside of the Proposed Project impact areas. MCAS Miramar has also documented coastal California gnatcatcher adjacent to the BRSA, but generally outside of the Proposed Project impact areas. No occurrences of this species were located within permanent impact areas associated with the Proposed Project. Permanent and temporary impacts to coastal California gnatcatcher habitat are summarized in Table 4.4-7: Impacts to Coastal California Gnatcatcher Habitat.

Temporary impacts of up to 66.3 acres of coastal California gnatcatcher nesting and foraging habitat are anticipated due to the construction of the Proposed Project. Temporary impacts are consistent with those described previously in the Special-Status and Nesting Avian Species section. Impacts will be most significant during the nesting season for this species, which is generally March through August.

Table 4.4-7: Impacts to Coastal California Gnatcatcher Habitat

Impact Type	Approximate Permanent Impacts (acres)	Approximate Temporary Impacts (acres)	Approximate Total Impacts (acres)
MLVs 2, 3, 4, 5, and 9	0.2	--	0.2
Permanent Facility (Rainbow Pressure-Limiting Station)	<0.01	--	<0.01
Temporary Construction ROW	--	61.4	61.4
Temporary HDD Workspace	--	3.4	3.4
Laydown Yards	--	1.5	1.5
Total	**0.2**	**66.3**	**66.6**

Direct permanent impacts to approximately 0.3 acre of coastal California gnatcatcher nesting and foraging habitat are anticipated. The Proposed Project activities that could adversely affect coastal California gnatcatcher habitat include earth-moving/grading, vegetation trimming, and vegetation removal associated with permanent facilities (i.e., the Rainbow Pressure-Limiting Station) and MLVs 2, 3, 4, 5, and 9. These permanent impacts to coastal California gnatcatcher habitat will be considered significant absent mitigation.

To minimize impacts to coastal California gnatcatcher, the Applicants will coordinate with the USFWS to obtain the necessary permits under the FESA, and comply with all permit requirements for this species. The Applicants will implement the following APMs, which will further reduce impacts to coastal California gnatcatcher. APM-BIO-01 will ensure that biological monitors are present during construction in areas where these species may occur. The Applicants will demarcate the boundaries of work limits and sensitive habitats and resources that will be avoided in accordance with APM-BIO-02. Temporary impacts to avian species' habitats will be restored in accordance with a Habitat Restoration Plan, as detailed in APM-BIO-03. In accordance with APM-BIO-04, the Applicants will prepare an NIWMP to reduce impacts associated with the spread of noxious weeds in the construction areas. APM-BIO-07 states that all construction personnel will attend a training on minimizing impacts to special-status species, and APM-BIO-08 prohibits construction personnel from conducting activities that may harm or harass special-status wildlife species (e.g., hunting, feeding, and collecting). The Applicants will minimize night lighting in construction areas located in potential wildlife habitat areas in accordance with APM-BIO-10, and APM-BIO-11 states that drivers on the Proposed Project will minimize vehicle speeds to avoid mortality or injury of special-status avian species. In accordance with APM-BIO-12, crews will stop work if special-status avian species are observed within the Proposed Project construction areas, and work will not proceed in the immediate area until the animal has traveled off site on its own. Impacts to nesting bird species will be reduced by implementing an Applicants-prepared NBMP in accordance with APM-BIO-16. As a result, impacts to coastal California gnatcatcher will be less than significant.

Riparian Bird Species

Ten least Bell's vireo locations were recorded within the BRSA during the course of the protocol survey effort. Eight of these locations represent the centers of presumed or documented breeding pairs based on persistent occurrence or the actual location of nests or fledged young. Two of the locations represent transient occupancy of presumably lone, singing males in mid- to late-breeding season. In addition, MCAS Miramar has documented the presence of least Bell's vireo within both the Middle San Clemente Canyon and Elanus Canyon areas of the BRSA in 2011, as detailed in Attachment K: Least Bell's Vireo (*Vireo bellii pusillus*) and Southwestern Willow Flycatcher (*Empidonax traillii extimus*) Surveys at Marine Corps Air Station Miramar 2011 Report of Attachment 4.4-A: Biological Resources Technical Report. A single migratory willow flycatcher, whose subspecies was undetermined, was documented within the BRSA in one location in an isolated southern willow scrub stand in the City of Poway. The presence of foraging and/or migratory southwestern willow flycatcher is therefore presumed within the BRSA. There is a moderate potential for southwestern willow flycatcher to breed within the BRSA. In addition, multiple yellow warbler and yellow-breasted chat individuals were observed within the BRSA. The Proposed Project will result in temporary impacts of up to 1.5 acres within riparian communities, which provide habitat for the least Bell's vireo, southwestern willow flycatcher, yellow-breasted chat, and yellow warbler. As summarized in Table 4.4-8: Impacts to Riparian Bird Species Habitat, temporary impacts are anticipated from the temporary construction ROW, and HDD workspace areas. No permanent impacts to least Bell's vireo, southwestern willow flycatcher, yellow-breasted chat, and yellow warbler vireo nesting and foraging habitat are anticipated from the Proposed Project.

Table 4.4-8: Impacts to Riparian Bird Species Habitat

Impact Type	Approximate Permanent Impacts (acres)	Approximate Temporary Impacts (acres)	Approximate Total Impacts (acres)
Temporary Construction ROW	0	1.3	1.3
Temporary HDD Workspace	0	0.2	0.2
Total	**0**	**1.5**	**1.5**

Impacts may occur to special-status riparian birds, including least Bell's vireo, southwestern willow flycatcher, yellow-breasted chat, and yellow warbler, if nests are present within areas proposed for grading and vegetation clearing. Immature riparian birds may be harmed if their nests are inadvertently destroyed during construction activities.

The Proposed Project activities that could temporarily affect riparian bird species habitat include earth-moving/grading, tree trimming, and tree removal associated with the temporary impact areas (i.e., laydown yards, bore pits, and HDD temporary workspace areas), thus temporarily reducing their available habitat. Temporary indirect impacts to riparian bird species are consistent with those described previously in the Special-Status and Nesting Avian Species section, and may also include the disruption of foraging and breeding behavior due to a temporary increase in the presence of humans, as well as noise from construction equipment and

vehicles. Impacts will be most significant during the nesting seasons for these species, which is generally April 10 through July 31 for least Bell's vireo and mid-May to mid-July for southwestern willow flycatcher; late April through early August for yellow-breasted chat, and late May through early June for yellow warbler.

To minimize impacts to federally and state-listed riparian bird species, the Applicants will coordinate with the USFWS to obtain necessary permits under the FESA for impacts to the least Bell's vireo and southwestern willow flycatcher. The Applicants will also implement APM-BIO-01 to ensure that biological monitors are present during construction in areas where riparian bird species may occur. The Applicants will demarcate the boundaries of work limits and sensitive habitats and resources that will be avoided in accordance with APM-BIO-02. Temporary impacts to avian species' habitats will be restored in accordance with a Habitat Restoration Plan, as detailed in APM-BIO-03. In accordance with APM-BIO-04, the Applicants will prepare an NIWMP to reduce impacts associated with the spread of noxious weeds in the construction areas. APM-BIO-07 states that all construction personnel will attend training on minimizing impacts to special-status species, and APM-BIO-08 prohibits construction personnel from conducting activities that may harm or harass special-status wildlife species (e.g., hunting, feeding, and collecting). The Applicants will minimize night lighting in construction areas located in potential wildlife habitat areas in accordance with APM-BIO-10, and APM-BIO-11 states that drivers on the Proposed Project will minimize vehicle speeds to avoid mortality or injury of special-status mammals. In accordance with APM-BIO-12, crews will stop work if special-status avian species are observed within the Proposed Project construction areas, and work will not proceed in the immediate area until the animal has traveled off site on its own. Impacts to nesting bird species will be reduced by implementing an Applicants-prepared NBMP in accordance with APM-BIO-16. As a result, impacts to special-status riparian bird species will be less than significant.

Golden Eagle

Impacts to foraging golden eagles may include the removal of foraging habitat and/or the removal of some food sources. No direct take of individual birds is anticipated and no impacts to breeding golden eagle habitat are expected. Temporary impacts to golden eagle foraging habitat are anticipated due to Proposed Project construction by changing the prey availability within construction areas. The temporary lack of vegetation within construction areas may make golden eagle prey easier to detect, which could provide an advantage to foraging avian species in general, but there may also be a resulting decline in prey availability while vegetation is still recovering from the initial impact. These changes in prey availability and foraging quality will last only for a short time, and golden eagles could forage in other areas outside of the BRSA. Temporary impacts are consistent with those described previously in the Special-Status and Nesting Avian Species section, and may also include the disruption of foraging behavior due to a temporary increase in the presence of humans, as well as noise from construction equipment and vehicles.

Approximately 1.2 acres of permanent impacts to golden eagle foraging habitat (i.e., all areas proposed for permanent impacts other than urban/developed areas) are anticipated due to the construction of the Proposed Project. Permanent impacts include the construction of permanent facilities and MLVs, resulting in the reduction in prey (e.g., ground squirrels and other small

mammals) availability in these areas. Vegetation clearing and grading with these areas will occur, resulting in the removal of approximately 1.2 acres of foraging habitat for golden eagle. Because this area is small compared to the foraging habitat that is available regionally, and because these permanent impacts will not result in the long-term decline in golden eagle population levels, there will be no substantial adverse impact to golden eagle resulting from these permanent impacts. As a result, permanent impacts to golden eagle foraging habitat will be less than significant.

To minimize impacts to golden eagle, the Applicants will also implement APM-BIO-01 to ensure that biological monitors are present during construction in areas where this species may occur. The Applicants will demarcate the boundaries of work limits and sensitive habitats and resources that will be avoided in accordance with APM-BIO-02. Temporary impacts to avian species' habitats will be restored in accordance with a Habitat Restoration Plan, as detailed in APM-BIO-03. In accordance with APM-BIO-04, the Applicants will prepare an NIWMP to reduce impacts associated with the spread of noxious weeds in the construction areas. APM-BIO-07 states that all construction personnel will attend training on minimizing impacts to special-status species, and APM-BIO-08 prohibits construction personnel from conducting activities that may harm or harass special-status wildlife species (e.g., hunting, feeding, and collecting). The Applicants will minimize night lighting in construction areas located in potential wildlife habitat areas in accordance with APM-BIO-10, and APM-BIO-11 states that drivers on the Proposed Project will minimize vehicle speeds to avoid mortality or injury of special-status mammals. In accordance with APM-BIO-12, crews will stop work if special-status avian species are observed within the Proposed Project construction areas, and work will not proceed in the immediate area until the animal has traveled off site on its own. Impacts to nesting bird species will be reduced by implementing an Applicants-prepared NBMP in accordance with APM-BIO-16. Therefore, impacts to foraging golden eagle will be less than significant.

Western Burrowing Owl

Western burrowing owl has not been documented within the BRSA; however, potentially suitable habitat for this species is present in scattered locations through the BRSA. The defining characteristics of suitable habitat for this species are the presence of burrows for roosting and nesting, as well as relatively short vegetation with only sparse shrubs. California ground squirrel burrows occur in multiple locations within the BRSA in or near grassland or other open areas, primarily in the northern areas within the BRSA. Potentially suitable habitat for western burrowing owl overlaps both permanent and temporary impact areas associated with the Proposed Project, and because this species is known to inhabit disturbed and urban areas (i.e., in culverts or other surrogate burrow spaces created by humans), all vegetation communities and land cover types are considered potential habitat areas for western burrowing owl.

If present within the BRSA, impacts to western burrowing owls may include the removal of nesting or foraging habitat and/or the removal of some food sources. Temporary impacts to burrowing owl habitat are anticipated within up to 496.3 acres where temporary construction activities are proposed. Temporary impacts to western burrowing owl habitat occurring as a result of minor grading activities have the potential to displace individual western burrowing owls that are present, as well as reduce the availability of prey for this species. Impacts may also

occur if western burrowing owls are present within areas proposed for grading and vegetation clearing.

Western burrowing owls may also experience a disruption of nesting behavior due to a temporary increase in the presence of humans, and noise from construction equipment and vehicles, as described previously in the Special-Status and Nesting Avian Species section. Impacts will be most significant during the nesting season, which is generally April 15 through July 15 for this particular species.

Permanent impacts to western burrowing owl habitat will be limited because only approximately 1.8 acres of permanent impacts to western burrowing owl habitat (i.e., all areas proposed for permanent impacts) are anticipated due to the construction of the Proposed Project. Permanent impacts include the construction of permanent facilities and MLVs, as vegetation clearing and grading will occur in these areas. However, no burrowing owls or large complexes of ground squirrel burrows were observed in areas proposed for permanent impacts, making it unlikely that these areas are occupied by western burrowing owl.

In accordance with APM-BIO-15, the Applicants will reduce impacts to western burrowing owl by conducting take-avoidance surveys prior to construction per the Staff Report on Burrowing Owl Mitigation (CDFW 2012). The Applicants will also implement APM-BIO-01 to ensure that biological monitors are present during construction in areas where this species may occur. The Applicants will demarcate the boundaries of work limits and sensitive habitats and resources that will be avoided in accordance with APM-BIO-02. Temporary impacts to burrowing owl habitats will be restored in accordance with a Habitat Restoration Plan, as detailed in APM-BIO-03. In accordance with APM-BIO-04, the Applicants will prepare an NIWMP to reduce impacts associated with the spread of noxious weeds in the construction areas. APM-BIO-07 states that all construction personnel will attend a training on minimizing impacts to special-status species, and APM-BIO-08 prohibits construction personnel from conducting activities that may harm or harass special-status wildlife species (e.g., hunting, feeding, and collecting). The Applicants will minimize night lighting in construction areas located in potential wildlife habitat areas in accordance with APM-BIO-10, and APM-BIO-11 states that drivers on the Proposed Project will minimize vehicle speeds to avoid mortality or injury of special-status mammals. In accordance with APM-BIO-12, crews will stop work if special-status avian species are observed within the Proposed Project construction areas, and work will not proceed in the immediate area until the animal has traveled off site on its own. Impacts to nesting bird species will be reduced by implementing an Applicants-prepared NBMP in accordance with APM-BIO-16. Implementation of these APMs will ensure impacts to western burrowing owl are less than significant.

Other Avian Species

Nesting birds protected under the MBTA have been observed within the BRSA. Impacts are expected to occur to nesting and foraging bird habitat within temporary and permanent construction areas through vegetation clearing and grading of suitable nesting bird habitat, including ground-nesting, shrub-nesting, and tree-nesting bird species. Impacts may also occur to nesting bird species if nests are present within areas proposed for grading and vegetation clearing. Immature avian species may be harmed if their nests are destroyed during construction activities.

Temporary impacts may include the disruption of nesting behavior due to a temporary increase in human presence, and noise from construction equipment and vehicles, as described previously in the Special-Status and Nesting Avian Species section. Temporary impacts to avian foraging and breeding habitat are anticipated within up to 496.3 acres where temporary construction activities are proposed. This includes all temporary impact areas because it is highly likely that birds protected by the MBTA will nest within urban/developed areas, as well as other areas dominated by native and naturalized vegetation.

Permanent impacts to foraging and breeding habitat for all avian species will be limited. Of the approximately 1.8 acres of permanent impacts that are anticipated for the Proposed Project, approximately 0.6 acre occurs within urban/developed areas (as shown in Table 4.4-5: Impacts to Vegetation Communities) that provide only minimal foraging habitat, and it is likely that there will be very little breeding habitat for avian species. Urban/developed areas include large golf course areas adjacent to large contiguous blocks of native habitat. Urban/developed areas also include individual trees not meeting the minimum mapping unit for mapping as a woodland community. In addition, impacts will be limited as there is an abundance of foraging and breeding habitat in areas adjacent to the BRSA. As a result, permanent impacts to approximately 1.8 acres of foraging and breeding habitat for avian species will be unlikely to result in a significant impact on regional population levels of avian species.

The Applicants will reduce impacts to nesting bird species by implementing APM-BIO-01 to ensure that biological monitors are present during construction in areas where these species may occur. The Applicants will demarcate the boundaries of work limits and sensitive habitats and resources that will be avoided in accordance with APM-BIO-02. Temporary impacts to avian species' habitats will be restored in accordance with a Habitat Restoration Plan, as detailed in APM-BIO-03. In accordance with APM-BIO-04, the Applicants will prepare an NIWMP to reduce impacts associated with the spread of noxious weeds in the construction areas. APM-BIO-07 states that all construction personnel will attend a training on minimizing impacts to special-status species, and APM-BIO-08 prohibits construction personnel from conducting activities that may harm or harass special-status wildlife species (e.g., hunting, feeding, and collecting). The Applicants will minimize night lighting in construction areas located in potential wildlife habitat areas in accordance with APM-BIO-10, and APM-BIO-11 states that drivers on the Proposed Project will minimize vehicle speeds to avoid mortality or injury of special-status mammals. In accordance with APM-BIO-12, crews will stop work if special-status avian species are observed within the Proposed Project construction areas, and work will not proceed in the immediate area until the animal has traveled off site on its own. Impacts to nesting bird species will be reduced by implementing an Applicants-prepared NBMP in accordance with APM-BIO-16. Implementation of these APMs will ensure that impacts to nesting and foraging avian species will be less than significant.

Special-Status Amphibians and Reptiles

Construction activities could potentially impact two special-status amphibian species—western spadefoot and arroyo toad—and the following eight special-status reptile species that are either present or have a moderate or high potential of occurring within the Proposed Project area:

- coast horned lizard

- Belding's orange-throated whiptail
- coast patch-nosed snake (*Salvadora hexalepis virgultea*)
- Coronado skink (*Plestiodon skiltonianus interparietalis*)
- red diamond rattlesnake (*Crotalus ruber*)
- silvery legless lizard (*Anniella pulchra pulchra*)
- western pond turtle (*Actinemys marmorata*)
- two-striped gartersnake (*Thamnophis hammondii*)

Arroyo toad, an FE species, has the potential to occur within the BRSA in riparian and wetland habitats, primarily within the San Luis Rey River, the San Dieguito River/Lake Hodges, and associated tributaries. The arroyo toad has been documented within these drainages in the past, but not necessarily within the BRSA. Surveys for this species are currently underway as of early June 2015. This species has not been documented within the BRSA to date. If arroyo toad is documented within impact areas associated with the Proposed Project, impacts may include crushing of individuals by construction vehicles and the loss of available habitat by vegetation removal or grading activities. Arroyo toad may also fall into areas excavated for the Proposed Project and become trapped, which could result in mortality or injury.

Temporary Impacts

Potential impacts to arroyo toad within construction areas may also result from construction noise and ground vibration, as this species may be deterred from inhabiting or foraging in areas near such activities. Temporary impacts to wetland or riparian habitats are expected as a result of the Proposed Project, but no permanent impacts to wetland and riparian habitats will result, which limits the potential risk to arroyo toad.

Impacts to other special-status amphibian or reptiles (i.e., western spadefoot, coast horned lizard, Belding's orange-throated whiptail, coast patch-nosed snake, Coronado skink, red diamond rattlesnake, silvery legless lizard, western pond turtle, and striped gartersnake) include being crushed by construction vehicles or by vegetation removal as a result of Proposed Project construction activities, particularly on MCAS Miramar where cross-country construction activities are proposed and where habitat for many of these species occurs. Special-status amphibian or reptiles may also fall into areas excavated for the Proposed Project and become trapped, which could result in mortality or injury. Construction activities may also result in mortality of amphibian or reptiles along access roads within the temporary construction areas. The Proposed Project may also result in impacts to special-status amphibian and reptile species if noxious weed seeds are spread within occupied habitats during construction. If allowed to establish and spread, these weeds could alter the habitat for special-status amphibian and reptile species.

Temporary impacts to all special-status amphibians or reptiles occurring or potentially occurring within construction areas may result from construction noise and ground vibration, as animals may be deterred from inhabiting or foraging in areas near such activities. In addition, temporary impacts associated with nighttime construction activities may result in temporary avoidance of construction areas due to lighting. These temporary impacts may occur throughout the Proposed Project impact areas, but will be most pronounced on MCAS Miramar where construction activities will take place in close proximity to suitable habitat for these special-status species.

Permanent Impacts

The Proposed Project will result in approximately 1.2 acres of permanent impacts to potential special-status reptile habitat (i.e., all areas proposed for permanent impacts other than urban/developed areas). No permanent impacts are anticipated within riparian or wetland areas, which reduces the potential for special-status amphibian habitat to be impacted. Permanent impacts to special-status reptile habitat are anticipated as a result of construction of the permanent stations and MLVs. Vegetation clearing and grading with these areas will occur. Because this area is small compared to the special-status small reptile habitat that is available regionally, and because these permanent impacts will not result in the long-term decline in any special-status reptile species, there will be no substantial adverse impact to special-status reptiles resulting from these permanent impacts. As a result, permanent impacts to special-status reptile habitat will be less than significant.

To ensure that special-status amphibians or reptiles are not impacted as a result of the Proposed Project, the Applicants will implement APM-BIO-01, which states that biological monitors will be present during construction in areas where these species may occur. The biological monitor will have the authority to halt any work activity that might result in impacts to resources and will demarcate the boundaries of sensitive habitats that can be avoided. The Applicants will demarcate the boundaries of work limits and sensitive habitats and resources that will be avoided in accordance with APM-BIO-02. APM-BIO-04 states that the Applicants will prepare an NIWMP to reduce impacts associated with the spread of noxious weeds in the construction areas. The Applicants will also implement APM-BIO-07, which states that all construction personnel will attend a training on minimizing impacts to special-status species, as well as APM-BIO-08, which restricts construction personnel from conducting activities that may harm or harass special-status wildlife species (i.e., hunting, feeding, and collecting wildlife). APM-BIO-09 provides additional protection for wildlife species by requiring that open trenches and excavations are inspected for local wildlife, which will reduce potential impacts to these species. APM-BIO-10 will also be implemented to minimize night lighting in construction areas located in potential wildlife habitat areas, and APM-BIO-11 states that drivers on the Proposed Project will minimize vehicle speeds to avoid mortality or injury of special-status reptiles and amphibians. In accordance with APM-BIO-12, if a special-status wildlife species is identified on site, crews will immediately stop work, contact the Applicants, and a qualified biologist will relocate special-status wildlife species occurring with construction areas to appropriate habitat areas out of harm's way.

Special-Status Invertebrate Species

Construction activities could potentially impact four special-status invertebrate species: Hermes copper butterfly, QCB, San Diego fairy shrimp, and Riverside fairy shrimp. Hermes copper butterfly and QCB both have a moderate potential to occur within suitable habitat in the Proposed Project area. San Diego fairy shrimp and Riverside fairy shrimp are presumed present within the vernal pool complexes located along the aqueduct road on MCAS Miramar. The following subsections describe the anticipated impacts to these four invertebrate species resulting from the Proposed Project.

Hermes Copper Butterfly and Quino Checkerspot Butterfly

QCB, an FE species, has the potential to occur within the BRSA in open coastal sage scrub, open chaparral, grasslands, and herbaceous wetland/seep communities. Surveys for this species were completed in the spring of 2015.[14] No QCBs were observed. As such, no permanent or temporary impacts to this species are anticipated.

Habitat assessments determined that there are small patches of potentially suitable habitat for Hermes copper butterfly, an FC species. Approximately 20 spiny redberry (*Rhamnus crocea*) individuals were identified within the BRSA during special-status plant surveys in 2015, and one such spiny redberry is located within the temporary impact area associated with the temporary construction ROW, as shown in Figure A-6: Special-Status Wildlife Occurrences of Attachment 4.4-A: Biological Resources Technical Report. No Hermes copper butterfly individuals or their sign were observed during any surveys conducted for the Proposed Project in 2015. There is a moderate potential for Hermes copper butterfly to occur within the BRSA near mature spiny redberry plants that are located near California buckwheat shrubs, which the species uses as nectar sources. The following impact analysis is provided in the event that subsequent survey efforts document QCB within the BRSA, or in the event that the status of Hermes copper butterfly changes to FE or FT.

Potential impacts to these two butterflies, if observed within the BRSA, may include the removal of habitat, removal of larval host plants and/or nectar plants, and/or the removal of some food sources. If present within the construction areas, individuals of these two butterfly species may be harmed from construction vehicles. The Proposed Project may also result in impacts to special-status butterfly species if noxious weed seeds are spread within occupied habitats during construction. If allowed to establish and spread, these weeds could alter the species composition of the habitat areas where special-status butterflies are present.

Temporary impacts of up to 39.3 acres of QCB habitat are anticipated due to the construction of the Proposed Project. Temporary impacts will occur along the aqueduct road on MCAS Miramar. At this location, work will be conducted within a new easement adjacent to an existing, unpaved aqueduct road. Temporary impacts may also include the disruption of mating behavior due to a temporary increase in the presence of humans, or dust and noise from construction equipment and vehicles. Unauthorized actions from construction personnel, such as collecting butterfly species, may also result in impacts to these species. Temporary impacts will be most significant during the flight season, which is generally mid-February through the second Saturday of May for QCB (USFWS, 2014) and mid-May to July for Hermes copper butterfly.

Direct permanent impacts to approximately 0.3 acre of potential QCB habitat are anticipated due to the construction of the Line 2010 Cross-Tie facility within MCAS Miramar at the southern terminus of the Proposed Project. Because no QCB were observed within these areas, it is not anticipated that these permanent impacts will result in any impacts to QCB.

[14] An additional 19 acres of suitable habitat for QCB within the Elliot Field Station was not surveyed in 2015 due to access constraints. These areas fall within the USFWS required survey areas for QCB and as a result, will be surveyed prior to construction of the Proposed Project.

To ensure that special-status butterflies are not impacted as a result of the Proposed Project, the Applicants will implement APM-BIO-01, which states that biological monitors are present during construction in areas where these species may occur. The biological monitor will have the authority to halt any work activity that might result in impacts to resources and will demarcate the boundaries of sensitive habitats that can be avoided. The Applicants will demarcate the boundaries of work limits and sensitive habitats and resources that will be avoided in accordance with APM-BIO-02. In accordance with APM-BIO-04, the Applicants will prepare an NIWMP to reduce impacts associated with the spread of noxious weeds that could adversely affect habitat following construction. The Applicants will also implement APM-BIO-07, which states that all construction personnel must attend a training on minimizing impacts to special-status species, as well as APM-BIO-08, which restricts construction personnel from conducting activities that may harm or harass special-status wildlife species (i.e., collecting wildlife, etc.). APM-BIO-11 requires construction traffic to minimize vehicle speeds to avoid mortality or injury of special-status butterflies. In accordance with APM-BIO-12, if a special-status wildlife species is identified on site, crews will immediately stop work and contact the Applicants. Work will not proceed in the immediate area until the animal has traveled off site on its own or has been relocated by a qualified biologist. If the identified special-status wildlife species is a federally and/or state-listed species, the USFWS and/or CDFW (depending upon the listing status) will be notified.

For Hermes copper butterfly, the MCAS Miramar INRMP specifies that if this species becomes listed as threatened or endangered, focused surveys for the species must be completed prior to actions that will remove stands of its host plant (USMC, 2014). If this species becomes listed prior to construction of the Proposed Project, the Applicants will implement APM-BIO-08 and will conduct pre-construction surveys for this species within suitable habitat areas, will coordinate with the USFWS to obtain the necessary permits under the FESA if a Hermes copper butterfly is observed within the BRSA, and will reduce impacts to Hermes copper butterflies by implementing the permit requirements, which may include implementing no-work buffers. In addition, the Applicants will ensure that a USFWS-approved biological monitor is present, and will limit work in close proximity to active sites until after the flight season.

Temporary impacts to Hermes copper butterfly and Quino checkerspot butterfly resulting from fugitive dust generated by Proposed Project activities will be minimized by the implementation of APM-AIR-01, which states that the Applicants will water unpaved construction surfaces to control dust emissions. Implementation of APM-BIO-01, APM-BIO-02, APM-BIO-07, APM-BIO-08, APM-BIO-09, APM-BIO-11, APM-BIO-12, and APM-AIR-01 will ensure impacts to QCB and Hermes copper butterfly are less than significant.

San Diego Fairy Shrimp and Riverside Fairy Shrimp

San Diego fairy shrimp and Riverside fairy shrimp are presumed present within the vernal pool complexes located along the aqueduct road on MCAS Miramar. These vernal pools will be completely avoided by the Proposed Project activities. During the dry summer months, indirect effects to vernal pools in the vicinity of the construction areas could result from exposure to fugitive dust generated by construction activities. Construction activities that could generate fugitive dust include the use of the unpaved roads by trucks and heavy equipment, and vegetation removal.

Indirect impacts to fairy shrimp habitat could also result from spillage of construction materials, such as fuel or oil leaking from construction vehicles. Chemical pollution within fairy shrimp habitat could result in chemical changes that could cause mortality of fairy shrimp individuals, and declines in reproductive fecundity of fairy shrimp in affected pools/ponded areas. Erosion and sedimentation could also occur within the fairy shrimp habitat after storm events if storm water pollution control devices are not implemented and result in fill of these areas. Filling in fairy shrimp habitat could result in a reduction in the amount of water that could be held at any one time, potentially resulting in declines in how long these areas remain ponded. If this occurs, fairy shrimp species may either not hatch at all, or may not grow to reach a reproductive age. This could result in long-term declines of these species within affected pools/ponded areas.

Vernal pool habitat basins and their watersheds are considered Level I MAs in the MCAS Miramar INRMP. These areas receive the highest conservation priority. MCAS Miramar has enacted proactive measures to prevent damage to vernal pool habitat, including posting signs and fencing, identifying potential impacts from activities by lessees and ROW holders, developing procedures to respond to and fix accidental impacts on vernal pool habitat; and developing education programs to create and maintain awareness of the values of vernal pool habitat. The Applicants will coordinate with MCAS Miramar prior to and during Proposed Project construction to ensure that the Proposed Project does not prevent MCAS Miramar from meeting the goals and objectives of the Level 1 MAs for vernal pool habitat basins and watersheds identified in the MCAS Miramar INRMP.

To further avoid and minimize impacts to San Diego fairy shrimp and Riverside fairy shrimp, APM-BIO-17 will be implemented and the Applicants will fence the perimeter of vernal pools or ponded areas potentially supporting fairy shrimp and will add a five-foot buffer, as well as preclude any construction activities within that fenced area. In addition, the Applicants will prepare and implement the Proposed Project's Storm Water Pollution Prevention Plan (SWPPP), which is required by law. The Proposed Project SWPPP will require that vehicles be checked daily and maintained in accordance with manufacturer's specifications to minimize the potential for leaks, and that refueling and maintenance of vehicles will occur at least 50 feet from the edge of any aquatic feature. The SWPPP will ensure that storm water pollution control devices are implemented to avoid fill within fairy shrimp habitat. In addition, as detailed in APM-HAZ-01, the Applicants will prepare a Hazardous Materials and Waste Management Program (HMWMP) for the construction phase of the Proposed Project to ensure compliance with all applicable federal, state, and local regulations. The HMWMP will provide a list of the hazardous materials that will be present on site during construction and will include information regarding their storage, use, transportation, and disposal. The plan will also include a list of spill response materials and the location of these materials at the Proposed Project site during construction. In addition, the HMWMP will outline procedures for the identification and avoidance of contaminated materials, the secondary containment of on-site hazardous materials, spill response measures, and waste minimization during construction, operation, and maintenance. Temporary impacts to special-status fairy shrimp resulting from fugitive dust generated by Proposed Project activities will be minimized by the implementation of APM-AIR-01, which states that the Applicants will water unpaved construction surfaces to control dust emissions. The implementation of the SWPPP, the HMWMP, APM-AIR-01, and APM-BIO-17 will ensure indirect impacts to San Diego fairy shrimp and Riverside fairy shrimp are less than significant.

Critical Habitat

Critical habitat for three special-status wildlife species—arroyo toad, coastal California gnatcatcher, and least Bell's vireo—is located within the Proposed Project construction areas. Although the Proposed Project crosses southwestern willow flycatcher critical habitat, no impacts are anticipated because the pipeline will be installed under the San Luis Rey River using HDD techniques in this area. Maps showing the location of critical habitat in the Proposed Project area are provided in Figure A-7: Designated Critical Habitat of Attachment 4.4-A: Biological Resources Technical Report. The total area of permanent and temporary impacts to critical habitat resulting from the Proposed Project is provided in Table 4.4-9: Proposed Permanent and Temporary Impacts to Critical Habitat.

The Proposed Project activities will result in permanent and temporary impacts to critical habitat for the coastal California gnatcatcher at various locations throughout the Proposed Project. Temporary impacts to critical habitat for coastal California gnatcatcher will occur within HDD workspace areas, laydown yards, and within the temporary construction ROW throughout various portions of the BRSA. Temporary impacts to critical habitat for the arroyo toad and least Bell's vireo are anticipated at the crossing of the San Luis Rey River, where the Proposed Project will be installed using an HDD technique to minimize impacts. Temporary impacts to critical habitat for the arroyo toad and least Bell's vireo will result from preparation of the HDD workspace areas, which may include vegetation clearing and minor grading. The entry site for the HDD at the San Luis Rey River crossing will be located approximately 0.14 mile to the north of the river corridor, and the exit site is located approximately 0.37 mile to the south. Additional temporary impacts to critical habitat for the arroyo toad and least Bell's vireo are proposed within the temporary construction ROW. The temporary construction ROW will primarily utilize the roadway and road shoulder in urban areas where clearing and grading will be limited. The Proposed Project may also result in potential impacts to critical habitat if noxious weed seeds are spread during construction. If allowed to establish and spread, these weeds could alter the species composition of critical habitat and habitat quality for these three federally listed species.

Permanent impacts to coastal California gnatcatcher critical habitat are proposed within MLVs 1, 2, 4, and 5, as well as a very small amount within the proposed Rainbow Pressure-Limiting Station. Permanent impacts to coastal California gnatcatcher habitat include direct vegetation clearing and ground disturbance. No other permanent impacts to critical habitat are anticipated as a result of the Proposed Project.

Table 4.4-9: Proposed Permanent and Temporary Impacts to Critical Habitat

Species	Approximate Permanent Impacts (acres)			Approximate Temporary Impacts (acres)				Total Impacts (Permanent + Temporary)
	MLV 1, 2, 4, and 5	Rainbow Pressure-Limiting Station	Total Permanent Impacts	HDD Workspace Areas	Laydown Yards	Temporary Construction ROW and Work Areas	Total Temporary Impacts	
Arroyo toad	0	0	0	2.1	0	6.1	8.2	8.2
Coastal California gnatcatcher	0.4	<0.1	0.4	5.0	6.9	104.1	116.0	116.4
Least Bell's vireo	0	0	0	1.5	0	2.3	3.8	3.8

Source: USFWS 2015b

In order to minimize impacts to critical habitat for these three species, the Applicants will demarcate the boundaries of work limits and sensitive habitats and resources that will be avoided in accordance with APM-BIO-02. Demarcating the boundaries of construction areas will minimize the potential for impacts to critical habitat outside of approved work areas. In addition, the Applicants will prepare and implement a Habitat Restoration Plan, in accordance with APM-BIO-03. Restoring temporarily impacted construction areas, as appropriate, will minimize the duration of impacts to critical habitat and will more quickly return these areas to near pre-construction conditions. In addition, the Applicants will prepare an NIWMP to reduce impacts associated with the spread of noxious weeds in the construction areas in accordance with APM-BIO-04. Implementation of these APMs, as well as the APMs described previously in the Special-Status and Nesting Avian Species section, will ensure that impacts to critical habitat for these three species will be less than significant.

Operation and Maintenance – Less-Than-Significant Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as they are for the existing natural gas transmission lines operated by the Applicants in the vicinity of the Proposed Project. These activities generally consist of routine maintenance and inspection at the MLVs and other above-ground facilities. As a result, these activities will not result in any impacts to special-status plants or animals. Following the completion of construction activities, the Proposed Project will not result in any long-term impacts to vegetation communities that support special-status species. If ground-disturbing activities are required within habitats supporting special-status plant or wildlife species, such as if the pipeline needed to be exposed in cross-country areas to inspect the pipe, ground disturbance will result in minimal impacts to vegetation, and will be conducted very rarely (potentially once every seven years if a dig up is required during pipeline testing or during an emergency).

For operations and maintenance of the Proposed Project, the Applicants will either rely on the SDG&E Subregional NCCP or obtain incidental take coverage through the Section 7 consultation and a Section 2081 ITP. As described in Section 4.4.2 Existing Conditions, the SDG&E Subregional NCCP authorizes certain levels of take of 110 covered species that may be affected by the Applicants' ongoing activity impacts, including installation, use, maintenance, and repair operations, and expansion of its systems. The Applicants implement the Subregional NCCP's "operational protocols" in conducting covered activities within the plan area. The Subregional NCCP operational protocols include various protection, mitigation, and conservation measures to ensure the survivability and conservation of protected species and their habitat. The operational protocols provided in SDG&E's Subregional NCCP include provisions for personnel training, pre-activity studies; and for maintenance, repair, and construction of facilities including access roads, survey work, and emergency repairs. Under the Subregional NCCP, compensatory mitigation for take impacts may be mitigated through a conservation bank or through habitat enhancement measures. As described in Section 4.4.2 Existing Conditions, take authorization for all of the Applicants' activities associated with Proposed Project, including operation and maintenance activities, may not be available through the current NCCP. Regardless of whether the Applicants rely on the NCCP for operations and maintenance of the Proposed Project, the Applicants will follow the operational protocols outlined in Section 7.1, Operational Protocols, and Section 7.2, Habitat Enhancement Measures of the NCCP. As a

result, impacts to special-status species resulting from operation and maintenance of the Proposed Project are anticipated to be less than significant.

Question 4.4b – Sensitive Natural Communities

Construction – Less-than-Significant Impact

Impacts to sensitive natural communities are identified in Table 4.4-5: Impacts to Vegetation Communities, and sensitive natural communities are marked with an asterisk. Temporary or permanent impacts are anticipated within 15 sensitive natural communities within the following general habitat types:

- scrub and chaparral
- grasslands, vernal pools, meadows, and other herb communities
- bog and marsh
- riparian and bottomland habitat
- woodland

Vegetation clearing within the ROW, HDD temporary workspace areas, and laydown yards is anticipated to result in approximately 61.1 acres of temporary impacts to sensitive natural communities. However, construction will be discontinuous and vegetation clearing will not occur in all areas simultaneously. Temporary indirect impacts to sensitive natural communities may result from construction activities that could deposit additional dust on plants, reducing the photosynthetic vigor of these sensitive natural communities. The Proposed Project may also result in impacts to sensitive natural communities if noxious weed seeds are spread within sensitive habitats during construction. If allowed to establish and spread, these weeds could alter the species composition of these sensitive natural communities.

Construction of MLVs and aboveground facilities will result in permanent impacts to approximately 0.3 acre of sensitive natural communities. These permanent impacts will occur only to upland sensitive natural communities, and riparian or wetland communities are not anticipated to be permanently impacted by construction activities associated with the Proposed Project. To reduce impacts to sensitive natural communities, the Applicants will implement APM-BIO-01, which states that biological monitors will monitor construction activities within sensitive vegetation communities and ensure avoidance of the sensitive vegetation that is intended for avoidance. The Applicants will demarcate the boundaries of work limits and sensitive habitats and resources that will be avoided in accordance with APM-BIO-02. Demarcating the boundaries of construction areas will minimize the potential for impacts to sensitive natural communities outside of approved work areas. If impacts to sensitive natural communities are unavoidable, the Applicants will implement a Habitat Restoration Plan in accordance with APM-BIO-03. The Applicants also will prepare an NIWMP in accordance with APM-BIO-04 to reduce impacts associated with the spread of noxious weeds in the construction areas. In addition, the Applicants will implement APM-AIR-01, which will reduce fugitive dust in the construction areas. With the implementation of these APMs, impacts to sensitive vegetation communities are anticipated to be less than significant.

Operation and Maintenance – Less-than-Significant Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as they are for the existing natural gas transmission lines operated by the Applicants in the vicinity of the Proposed Project, as previously described in Question 4.4a – Sensitive Species above. Following the completion of construction activities, the Proposed Project will not result in any long-term impacts to sensitive natural communities. If ground-disturbing activities are required within sensitive natural communities, such as if the pipeline needed to be exposed in cross-country areas to inspect the pipe, ground disturbance will result in minimal impacts to vegetation, and will be conducted very rarely (potentially once every seven years if a dig up is required during pipeline testing or during an emergency).

For operations and maintenance of the Proposed Project, the Applicants will either rely on the SDG&E Subregional NCCP or obtain incidental take coverage through the Section 7 consultation and a Section 2081 ITP. As described in Section 4.4.2 Existing Conditions, the SDG&E Subregional NCCP authorizes certain levels of take of 110 covered species that may be affected by SDG&E's ongoing activity impacts including installation, use, maintenance, and repair operations, and expansion of its systems. The Applicants implement the Subregional NCCP's operational protocols in conducting covered activities within the plan area. The Subregional NCCP operational protocols include various protection, mitigation, and conservation measures to ensure the survivability and conservation of protected species and their habitat. The operational protocols provided in SDG&E's Subregional NCCP include provisions for personnel training, pre-activity studies; and for maintenance, repair, and construction of facilities including access roads, survey work, and emergency repairs. Under the Subregional NCCP, compensatory mitigation for take impacts may be mitigated through a conservation bank or through habitat enhancement measures. As described in Section 4.4.2 Existing Conditions, take authorization for all of the Applicants' activities associated with Proposed Project, including operation and maintenance activities, may not be available through the current NCCP. Regardless of whether the Applicants rely on the NCCP for operations and maintenance of the Proposed Project, the Applicants will follow the operational protocols outlined in Section 7.1 Operational Protocols, and Section 7.2 Habitat Enhancement Measures of the NCCP. As a result, any potential impacts to sensitive natural communities resulting from the operation and maintenance of the Proposed Project are anticipated to be less than significant.

Question 4.4c – Effects on Jurisdictional Waters

Construction – Less-than-Significant Impact

The Proposed Project will not result in any permanent impacts to potentially jurisdictional waters. Construction of the Proposed Project will result in direct temporary impacts to approximately 2.70 acres of wetlands, and approximately 0.82 acre of drainages that are potentially under the jurisdiction of the USACE. The Proposed Project activities that could temporarily impact potential USACE-jurisdictional waters include earth-moving/grading, tree trimming, and tree removal associated with the temporary construction ROW, and within the HDD temporary workspace areas.

A summary of temporary impacts to potential USACE-jurisdictional wetlands by vegetation type is shown in Table 4.4-10: Impacts to Potential USACE-Jurisdictional Wetlands. As mentioned

in Section 4.4.1 Methodology, a full wetland delineation was not conducted. The resulting wetland areas that were mapped may therefore overestimate the potential for USACE-jurisdictional wetland areas within the BRSA. The Applicants will conduct a formal wetland delineation in accordance with the USACE's *Wetlands Delineation Manual* (Environmental Laboratory 1987) in conjunction with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2010). It is anticipated that final USACE-jurisdictional wetland boundaries will be considerably less than the estimates provided in Table 4.4-10: Impacts to Potential USACE-Jurisdictional Wetlands.

Table 4.4-10: Impacts to Potential USACE-Jurisdictional Wetlands

Wetland Vegetation Community Type	Approximate Area within the BRSA (acres)	Approximate Temporary Impact Areas (acres)
Cismontane Alkali Marsh	8.9	1.28
Coastal and Valley Freshwater Marsh	2.0	0.03
Freshwater Seep	0.3	0.31
Mule Fat Scrub	3.6	0.10
Southern Coast Live Oak Riparian Forest	39.6	0.08
Southern Cottonwood-Willow Riparian Forest	9.5	0.73
Southern Willow Scrub	39.4	0.14
Southern Willow Scrub (disturbed)	5.8	0.03
Vernal Marsh/Herbaceous Wetland (disturbed)	3.8	<0.01
Total	**131.0**	**2.70**

A summary of temporary impacts to potential USACE-jurisdictional drainages is shown in Table 4.4-11: Impacts to Potential USACE-Jurisdictional Drainages. Attachment C: Preliminary Wetlands and Waters Assessment of Attachment 4.4-A: Biological Resources Technical Report provides detailed information on all potentially jurisdictional water features within the BRSA.

For all temporary impacts to water features, the Applicants will obtain necessary authorizations from the USACE pursuant to CWA Section 404, the RWQCB pursuant to CWA Section 401, and the CDFW pursuant to the California Fish and Game Code Section 1600. Following construction, all temporarily impacted water features will be restored by implementing a Habitat Restoration Plan, in accordance with APM-BIO-03.

HDD operations have the potential for a "frac-out" to occur when a fracture is encountered in the strata above the drilling location and beneath the water feature. During a frac-out, "drilling mud" (i.e., lubrication containing water and bentonite clay) can rise to the surface and potentially increase turbidity in the water feature above. In accordance with APM-HYD-01, if a frac-out

occurs within a water feature, a Proposed Project-specific frac-out contingency plan will be implemented to contain and remove the drilling mud.

Table 4.4-11: Impacts to Potential USACE-Jurisdictional Drainages

Drainage Type	Approximate Area within the BRSA (acres)	Approximate Temporary Impact Area (acres)
Ephemeral Drainages	3.8	0.34
Intermittent Drainages	6.1	0.47
Perennial Drainages	0.5	0
Total[15]	**10.4**	**0.82**

Indirect impacts to wetlands and waters could also result from spillage of construction materials, as well as from erosion and sedimentation. These potential impacts will be avoided and minimized through implementation of the Proposed Project's SWPPP, which is required by law. The Proposed Project SWPPP will require that vehicles be checked daily and maintained in accordance with manufacturer's specifications to minimize the potential for leaks, and refueling and maintenance of vehicles will occur at least 50 feet from the edge of any aquatic feature. In addition, as detailed in APM-HAZ-01, the Applicants will prepare an HMWMP for the construction phase of the Proposed Project to ensure compliance with all applicable federal, state, and local regulations.

The HMWMP will provide a list of the hazardous materials that will be present on site during construction and will include information regarding their storage, use, transportation, and disposal. The plan will also include a list of spill response materials, and the location of these materials at the Proposed Project site during construction. In addition, the HMWMP will outline procedures for the identification and avoidance of contaminated materials, the secondary containment of on-site hazardous materials, spill response measures, and waste minimization during construction, operation, and maintenance. As a result, impacts to jurisdictional water features will be less than significant.

Operation and Maintenance – Less-than-Significant Impact

Operation and maintenance activities for the Proposed Project are not anticipated to impact potential wetlands or water resources. These operation and maintenance activities will occur primarily within urbanized areas, with the exception of the six miles of the pipeline and appurtenance facilities installed within cross-country areas. If excavation of the pipeline is required within potential wetlands or waters, these impacts will be temporary following the

[15] Impacts to jurisdictional wetlands and waters include impacts within areas along an approximately one-mile pre-lay segment of existing pipe where new pipe is not required and new construction impacts are not anticipated. As a result, the impacts presented here likely overstate the actual impacts to jurisdictional wetlands and waters.

repair; disturbed areas will be returned to pre-repair conditions. As a result, less-than-significant impacts are anticipated.

Question 4.4d – Interfere with Native Wildlife Movement

Construction – Less-than-Significant Impact

As discussed in Section 4.4.2 Existing Conditions, the Proposed Project is located within a number of wildlife corridors and preserved areas, including MHPA areas, the Pacific Flyway, several hydrologic features, and conserved lands identified by SANDAG. Figure A-8 Conserved Lands within the Biological Resources Survey Area of Attachment 4.4-A: Biological Resources Technical Report depicts the anticipated temporary impacts areas within SANDAG conserved lands and MHPA areas. Construction activities within areas that serve as wildlife corridors may temporarily disrupt normal animal movement due to construction equipment and materials, excavations, increased human presence, increased noise levels, and increased vehicular traffic along access roads. However, construction activities will not occur in all areas simultaneously. The Applicants estimate construction progress will occur at a rate of 200 to 300 feet per day, resulting in minor impacts to wildlife movement at any point in time and at any given location. Temporary restrictions on wildlife movement will also be localized to only a portion of the potential wildlife movement area that animals can use at any one time because wildlife can use areas outside of the proposed construction areas.

Construction activities associated with the Proposed Project will result in permanent impacts to approximately 1.8 acres of land that currently provides limited wildlife migration opportunities. Approximately 33 percent (0.6 acre) of these permanent impact areas are urban/developed and provide very limited wildlife movement opportunities. In addition, permanent impact areas will be discontinuous (the largest impact area measures approximately 0.3 acres) with breaks of natural habitat between them. As a result, permanent impacts resulting from the Proposed Project will not create a substantial barrier for wildlife movement.

To further minimize impacts to native wildlife movements, the Applicants will implement APM-BIO-01, which states that biological monitors will be present during vegetation removal and ground-disturbing activities within areas that serve as potential wildlife migration corridors to ensure all permit conditions and authorizations are implemented. In accordance with APM-BIO-01, the biological monitor will have the authority to halt any work activity that might result in impacts to wildlife migration corridors that has not been previously authorized. Per APM-BIO-09, all steep-walled trenches or excavations will be inspected twice daily to protect against wildlife entrapment. Some nighttime work will be conducted in accordance with the provisions outlined in Section 3.6 Construction in Chapter 3 – Project Description, including potentially within areas where HDD activities will occur and in areas adjacent to the San Luis Rey River and Lake Hodges/San Dieguito River Park. However, HDD workspace areas are relatively small[16], and work will not occur in all areas simultaneously. In addition, in accordance with APM-BIO-10, construction night lighting will be minimized to the extent feasible.

[16] In general, the work area required at the entry site will be approximately 400 feet by 200 feet, while the exit site will require a work area of varying lengths to string and weld the pullback pipe. Typically, the exit site will be approximately 200 feet by 100 feet, plus an additional 50 feet wide by the length of the HDD for the pullback.

Due to the small size of construction areas, the temporary nature of the majority of the Proposed Project impacts, and the implementation of the aforementioned APMs, impacts to native wildlife movements are anticipated to be less than significant.

Operation and Maintenance – Less-than-Significant Impact

Operation and maintenance activities for the Proposed Project will not directly impact or restrict general wildlife movement, either for terrestrial or aquatic species, due to the temporary and intermittent nature of operation and maintenance activities. As previously described in Question 4.4a – Sensitive Species, operation and maintenance activities for the Proposed Project will be conducted in the same manner as they are for the existing natural gas transmission lines operated by the Applicants in the vicinity of the Proposed Project. If ground-disturbing activities are required within wildlife migration corridors, such as if the pipeline needed to be exposed in cross-country areas to inspect the pipe, ground disturbance will result in minimal impacts to vegetation, will be conducted very rarely (potentially once every seven years if a dig up is required during pipeline testing or during an emergency). Any ground-disturbing activities required for operation and maintenance activities are anticipated to occur in a similar manner as they were conducted during construction, and will be restored.

The Applicants implement the Subregional NCCP's operational protocols in conducting covered activities within the plan area. The Subregional NCCP operational protocols include various protection, mitigation, and conservation measures to ensure the survivability and conservation of protected species and their habitat. The operational protocols provided in SDG&E's Subregional NCCP include provisions for personnel training, pre-activity studies; and for maintenance, repair, and construction of facilities including access roads, survey work, and emergency repairs. Under the Subregional NCCP, compensatory mitigation for take impacts may be mitigated through a conservation bank or through habitat enhancement measures. As described in Section 4.4.2 Existing Conditions, take authorization for all of the Applicants' activities associated with Proposed Project, including operation and maintenance activities, may not be available through the current NCCP. Regardless of whether the Applicants rely on the NCCP for operations and maintenance of the Proposed Project, the Applicants will follow the operational protocols outlined in Section 7.1, Operational Protocols, and Section 7.2 Habitat Enhancement Measures of the NCCP. As a result, impacts to wildlife corridors resulting from operation and maintenance of the Proposed Project are anticipated to be less than significant.

Question 4.4e – Conflict with Local Policies – ***No Impact***

The Proposed Project is located within the cities of San Diego, Escondido, and Poway, and in unincorporated San Diego County. Local ordinances—provided in Section 4.4.2 Existing Conditions—require development to be sited in the least biologically sensitive areas and minimize the loss of habitat through site design. Based on a review of applicable local policies, such as the County of San Diego's General Plan, the Proposed Project will not conflict with local policies. Local ordinances also require mitigation for impacts to native oak (*Quercus* spp.) trees resulting from the Proposed Project, as described in Section 4.4.2 Existing Conditions. In the event that any oaks are required to be removed to construct the Proposed Project, the Applicants will comply with all County of San Diego and local municipality requirements for native oak tree preservation and mitigation, as appropriate. An analysis of the Proposed Project's consistency with existing land use regulations—provided in Table 4.10-A: Policies Consistency

Analysis in Section 4.10 Land Use and Planning—determined that the Proposed Project will not conflict with any local policies or plans protecting biological resources. Therefore, the Proposed Project will not conflict with any local policies or plans, and there will be no impact.

Question 4.4f – Conflict with Conservation Plan

Construction – No Impact

As mentioned in Section 4.4.2 Existing Conditions, three distinct conservation plans overlap with at least a portion of the BRSA: the San Diego MSCP, the MHCP, and the North County MSCP. The Proposed Project has been designed to minimize impacts within established preserve areas and proposed preserve areas associated with these conservation plans to the extent practicable by locating the majority of the alignment within existing paved roadways. The following subsections discuss the potential impacts resulting from the Proposed Project within preserve lands identified in each of the conservation plans.

San Diego Multiple Species Conservation Plan

Within the City of San Diego, portions of the BRSA occur within scattered MHPA preserve lands. The Proposed Project minimizes impacts to the City of San Diego MHPA by locating the majority of the alignment within existing paved roadways, dirt roads, and disturbed areas. Additionally, the pipeline will be underground and, therefore, there will be minimal long-term impacts to vegetation. Any impacted areas will be restored in accordance with APM-BIO-03, thereby minimizing impacts to preserve lands. The Proposed Project crosses natural areas within the MHPA in the following locations:

- Between MP 28 and MP 30 for approximately 0.9 mile. Permanent impacts are proposed within the MHPA at this location within San Dieguito River Park near the corner of Beethoven Drive and Via Rancho Parkway. MLV 7, which is collocated with the Line 1600 Cross-Tie facility, is proposed in this location. However, the area associated with the Line 1600 Cross-Tie facility is small (approximately 0.1 acre), located adjacent to an existing pipeline, and will not result in an adverse impact to the MHPA preserve lands at this location.

- Between MP 39 and MP 40 for approximately 0.3 mile; however, the pipeline will be installed entirely within Pomerado Road at this location, and no MHPA habitat impacts are anticipated.

- Within the Elliot Chaparral Reserve, north of MCAS Miramar near MP 44 for approximately 0.39 mile. The Proposed Project has been designed to minimize environmental impacts in this location by locating the Proposed Project along an existing paved road, and not locating any permanent facilities at this location. Only temporary impacts to natural habitat will occur at this location.

Because the Proposed Project activities have been designed to minimize impacts to the MHPAs, and because temporary impacts to natural habitat will be restored after the Proposed Project completion (in accordance with AMP-BIO-03), the Proposed Project does not conflict with the San Diego MSCP.

Multiple Habitat Conservation Program (Northwestern San Diego County)

The Escondido Subarea Plan of the MHCP designates Kit Carson Park on the northern side of the intersection of Beethoven Drive and Bear Valley Parkway as a hardline FPA, indicating that 90 percent and greater conservation is required here. The Proposed Project activities in this area will be within the existing roads, and as a result, no impacts to these hardline FPAs are anticipated. A small area east of Centre City Parkway at Nutmeg Street is designated as a softline FPA, indicating that less than 90-percent conservation is anticipated here. No impacts are proposed within this area. Because the Proposed Project activities will not impact any FPA areas, the Proposed Project does not conflict with the MHCP.

North County Multiple Species Conservation Plan

PAMAs are areas with high biological value, in which development is not prohibited, but conservation is encouraged. The Proposed Project area crosses a number of PAMAs, as shown in Figure A-8: Conserved Lands within the Biological Resources Survey Area of Attachment 4.4-A: Biological Resources Technical Report. Permanent impacts are proposed within 0.1 acre of PAMAs and are associated with the construction of MLVs 3 and 5. Temporary impacts are proposed within 112.4 acres of PAMAs, as well as areas associated with construction of HDD workspace areas, laydown yards, and within the ROW. Construction of the Proposed Project within the ROW is primarily within existing paved roadways, unpaved roads, and disturbed areas. Minor grading and vegetation clearing will occur within the HDD workspace areas and laydown yards. Any temporarily impacted areas will be restored to near pre-construction conditions, thereby minimizing impacts to preserve lands. In accordance with APM-BIO-03, temporary impacts to natural habitat will be restored after the Proposed Project completion. As a result, the Proposed Project does not conflict with the North County MSCP.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be similar to the activities currently performed by the Applicants for existing pipelines in San Diego County, as previously described in Question 4.4a – Sensitive Species. The Applicants implement the Subregional NCCP's operational protocols in conducting covered activities within the plan area. The Subregional NCCP operational protocols include various protection, mitigation, and conservation measures to ensure the survivability and conservation of protected species and their habitat. The operational protocols provided in SDG&E's Subregional NCCP include provisions for personnel training, pre-activity studies; and for maintenance, repair, and construction of facilities including access roads, survey work, and emergency repairs. Under the Subregional NCCP, compensatory mitigation for take impacts may be mitigated through a conservation bank or through habitat enhancement measures. As described in Section 4.4.2 Existing Conditions, take authorization for all of the Applicants' activities associated with Proposed Project, including operation and maintenance activities, may not be available through the current NCCP. Regardless of whether the Applicants rely on the NCCP for operations and maintenance of the Proposed Project, the Applicants will follow the operational protocols outlined in Section 7.1 Operational Protocols, and Section 7.2 Habitat Enhancement Measures of the NCCP. As a result, there will be no conflict with these conservation plans, and no impact will occur.

4.4.4 Applicants-Proposed Measures

The following APMs will be implemented by the Applicants to reduce potential impacts to biological resources. Specifically, the APMs have been designed to minimize or eliminate potential impacts to special-status plant and wildlife species present in the surrounding area, as well as to more common native wildlife species. Specific implementation of these APMs is discussed with each applicable impact. The Applicants will seek take coverage for the Proposed Project through a Section 7 consultation with the USFWS and a Section 2081 ITP from the CDFW. The Applicants intend to prepare a Biological Assessment for federally and state-listed species that may be adversely affected by the Proposed Project, and will request a Biological Opinion and take coverage under Section 7 of the FESA and an ITP under Section 2081 of the CESA. Those authorizations and permits may require additional avoidance and minimization measures.

- **APM-BIO-01:** Biological monitors will be present during vegetation removal and initial ground-disturbing activities within native habitat (i.e., all areas except the disturbed and developed general habitat types). The biological monitors will conduct a pre-construction sweep of the work area prior to vegetation removal or initial ground disturbance and will verify that activities are in compliance with the Proposed Project permits and authorizations. The biological monitors will have the authority to halt work that poses an imminent threat to federally or state-listed species.

- **APM-BIO-02:** Prior to construction, the Applicants will demarcate the boundaries of work limits and resources that will be avoided. The boundaries will be maintained for the duration of construction activities at each location.

- **APM-BIO-03:** Prior to construction, the Applicants will prepare and implement a Habitat Restoration Plan for areas temporarily disturbed during construction. The Habitat Restoration Plan will describe, at a minimum, the pre-construction documentation of existing conditions, clearing and grading procedures to be used during construction that will help facilitate restoration, recontouring and seedbed preparation methods, topsoil salvage, seed mix selection and application procedures, the schedule for restoration activities, monitoring periods, success criteria, remedial measures, and reporting procedures to be used.

- **APM-BIO-04:** The Applicants will prepare a Noxious and Invasive Weed Management Plan (NIWMP) that is intended to minimize the spread of noxious and invasive weeds during construction. The NIWMP will include but will not be limited to, ensuring that construction vehicles arrive to work sites clean and weed-free prior to entering the right-of-way in cross-country areas, ensuring straw wattles used to contain storm water runoff are weed-free, and documenting the extent of noxious weeds within the construction areas prior to construction. Noxious weeds are defined as species rated as High on the California Invasive Plant Inventory Database, published by the California Integrated Pest Council. Construction within urban/developed areas and intensive agricultural areas would be exempt from the NIWMP requirements.

- **APM-BIO-05:** Impacts to oak trees will be avoided and/or minimized to the extent possible during construction of the Proposed Project by temporarily fencing the perimeter of the oak tree dripline. In the event that any native oak trees are required to be removed to construct the Proposed Project, the Applicants will comply with all County of San Diego and local municipality requirements for oak tree preservation and mitigation, including obtaining tree removal and/or vegetation clearing permits. The Applicants will coordinate with each municipality to adequately meet the individual permit conditions, which generally involve tree replacement at one-to-one mitigation ratios. If oak trees are cut down, tree material will be chipped on site and then hauled off to an approved landfill facility, or cut and left on site in order to minimize the risk of spreading golden oak borer.

- **APM-BIO-06:** During the appropriate phenological (i.e., blooming) periods, pre-construction surveys for federally listed, state-listed, and California Rare Plant Rank 1 and 2 special-status plants will be conducted within one year prior to construction in areas adjacent to or within the construction areas that have potential for special-status plants to occur. The boundaries of these special-status plant occurrences will be mapped with submeter-accurate Global Positioning System units. Prior to construction, the locations of any federally listed, state-listed, and California Rare Plant Rank 1 and 2 special-status plants that the Applicants determine can be avoided will be flagged for avoidance with fencing or flagging. Flag boundaries for special-status plants will be maintained during work at these locations. Where disturbance to these areas cannot be avoided, the Applicants will develop and implement the Habitat Restoration Plan described in APM-BIO-03.

- **APM-BIO-07:** Prior to construction, a qualified biologist or other qualified resource specialist will develop an environmental training for all Proposed Project personnel. The training will describe the appropriate work practices necessary to effectively implement the APMs and to comply with the applicable environmental laws, regulations, and related permits/authorizations, including appropriate wildlife avoidance; impact minimization procedures; the importance of these resources, and the purpose and necessity of protecting them; and methods for protecting sensitive ecological resources. In addition, the environmental training will familiarize all Proposed Project personnel with special-status species that may occur within the construction areas. The training will include Best Management Practices to reduce the potential for erosion and sedimentation during construction of the Proposed Project. The Applicants, their contractor, and their subcontractor personnel will attend the training prior to starting work on the Proposed Project. Upon completion of the training, each attendee will sign a form stating that he/she participated in the training and understood the material presented.

- **APM-BIO-08:** In order to protect plant and wildlife, food-related garbage and trash will be removed from the Proposed Project area daily or will be stored in concealed garbage containers. Smoking will only be allowed in cleared areas or enclosed vehicles to reduce the potential for wildfires, and firearms will be prohibited in all Proposed Project areas. Proposed Project personnel will not be allowed to bring pets to any Proposed Project area to minimize harassment or killing of wildlife and to prevent the introduction of destructive animal diseases to native wildlife populations. No harm, harassment, or

collection of plant and wildlife species will be allowed. Feeding of wildlife will be prohibited.

- **APM-BIO-09:** All steep-walled trenches or excavations used during construction will be inspected twice daily (i.e., in the early morning prior to the start of construction activities and in the evenings after construction has stopped for the day) to protect against wildlife entrapment. Additionally, trenches and/or open excavations will be inspected prior to filling to ensure the absence of wildlife. Excavations will be sloped on one end to provide an escape route for wildlife in areas where there is the potential for wildlife entrapment. If wildlife is located in the trench or excavation and cannot escape unimpeded, the biological monitor will be called immediately to remove the animal. If the trapped animal is injured, a recognized wildlife rescue agency (e.g., Project Wildlife) will be employed to remove the animal and address the injury.

- **APM-BIO-10:** Construction night lighting in potential special-status wildlife habitats (generally considered to be any habitat other than urban/developed areas) will be minimized to the extent feasible. Exterior lighting within and adjacent to potential special-status wildlife habitats will utilize the lowest illumination allowed for human safety and will be selectively placed, shielded, and directed away from native vegetation to the maximum extent practicable.

- **APM-BIO-11:** Construction vehicle and equipment speeds will be limited to 15 miles per hour on all unpaved surfaces during the day and 10 miles per hour on all unpaved surfaces at night to prevent mortality of nocturnal special-status wildlife species.

- **APM-BIO-12:** If a special-status wildlife species is identified on site during construction, crews will immediately stop work and contact the designated Applicants' representative. Work will not proceed in the immediate area until the animal has traveled off site on its own or has been relocated by a biologist qualified to handle wildlife. If the identified special-status wildlife species is a federally and/or state-listed species, a biologist qualified to handle the special-status wildlife species will relocate the species into appropriate habitat areas out of harm's way and out of the construction right-of-way.

- **APM-BIO-13:** Prior to the final design, a biologist experienced with Stephens' kangaroo rat life history and surveying techniques will conduct surveys for kangaroo rat species in suitable habitat for Stephens' kangaroo rat (e.g., open coastal sage scrub, grasslands, and disturbed areas) within 150 feet on either side of the Proposed Project area. If kangaroo rat species are detected in these survey areas, the Applicants will avoid those habitat areas to the extent feasible. If avoidance of kangaroo rat habitat areas is not feasible, the Applicants—in coordination with the United States Fish and Wildlife Service—will conduct trapping surveys to determine if the kangaroo rat species present is the Stephens' kangaroo rat. If Stephens' kangaroo rat is determined to be present and impacts to its habitat are unavoidable, the Applicants will consult with the United States Fish and Wildlife Service through the Section 7 consultation process to obtain incidental take authorization.

- **APM BIO-14:** The Applicants will avoid and minimize impacts to roosting bats to the extent feasible. Prior to construction, the Applicants will conduct a survey of potential bat roosts located within or immediately adjacent to the right-of-way in areas where the Proposed Project activities (e.g., blasting) have the potential to directly impact active roosts or disrupt bat breeding activities. Potential roost sites will be searched for signs of bat use, such as urine streaking, grease marks and droppings, moth wings, and dead bats. Up to two weeks prior to construction, a qualified biologist will conduct an emergent bat survey within potential roost sites that have signs of bat use. If bats are detected, the Applicants will not remove the roost (e.g., palm trees) until it can be determined that the bats no longer are present. If a maternal roost is identified, no construction will occur within 200 feet of the maternal roost during the pupping season (typically April 1 through August 31).

- **APM-BIO-15:** A qualified biologist will conduct take avoidance (i.e., pre-construction) surveys for western burrowing owl in accordance with Appendix D of the Staff Report on Burrowing Owl Mitigation (CDFW 2012) prior to construction activities. The Applicants will prepare a survey report in accordance with the requirements of the staff report. If a breeding territory or nest is confirmed, the California Department of Fish and Wildlife will be notified and the Applicants will avoid impacts to burrowing owl to the extent feasible. If unavoidable impacts to western burrowing owl are anticipated, the Applicants will implement mitigation methods as outlined in the staff report and in coordination with the California Department of Fish and Wildlife. These mitigation measures may include avoiding occupied habitat during the breeding season, minimizing impacts to burrowing owls through the use of visual screens or buffer zones, burrow exclusion, and closures conducted in accordance with an artificial burrow or exclusion plan, as outlined in Appendix E of the staff report.

- **APM-BIO-16:** A Nesting Bird Management Plan will be prepared to outline procedures for minimizing impacts to nesting birds protected by the Migratory Bird Treaty Act during construction. The plan will address how to avoid direct or indirect impacts to nesting birds through various measures, including:

  - conducting pre-construction nesting bird surveys during specified breeding times within a certain distance of the Proposed Project impact areas;
  - establishing avoidance and minimization buffers for active nests based on species-specific noise tolerances;
  - describing construction activities that can occur within avoidance and minimization buffers;
  - implementing procedures for reducing buffers as appropriate; and
  - monitoring protocols to document compliance with the Nesting Bird Management Plan, including daily nesting bird reports, during construction.

  The Nesting Bird Management Plan will be implemented for all potentially affected bird species during the nesting season and during construction of the Proposed Project.

- **APM-BIO-17:** The Applicants will temporarily fence the perimeter of vernal pools or ponded areas potentially supporting fairy shrimp and will include a five-foot buffer between the fence and the water feature. The fenced boundaries will be maintained in place for the duration of construction at each location. Biological monitors will routinely check these areas during construction to ensure that fencing is in place and that no unauthorized construction activities occur. No construction activities—including any vegetation clearing, grading, or refueling of construction vehicles—will be allowed within the fenced area.

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ATTACHMENT 4.4-A: BIOLOGICAL RESOURCES TECHNICAL REPORT

ATTACHMENT 4.4-B: SPECIAL-STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR

ATTACHMENT 4.4-C: SPECIAL-STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR