4.2 Agriculture and Forestry Resources

This section describes the environmental and regulatory settings and discusses potential impacts associated with construction and operation of the proposed project with respect to agriculture and forestry resources. No comments were received regarding agriculture and forestry resources during the scoping period.

4.2.1 Environmental Setting

4.2.1.1 Agriculture Lands

Prior to the 1940s, Orange County was a rural region primarily supported by an agricultural economy. The decline of agricultural production in Orange County started in the mid-1940s and drastically declined in the 1960s and 1970s due to rapid suburbanization (Orange County 2005a). In 2010, approximately 45,000 acres of land within Orange County (9 percent of the county's land area), were used for agricultural purposes (DOC 2010). Agricultural land within the county primarily produces nursery products, tree fruit, berry crops, and vegetables (Orange County 2012). In 2012, agriculture in Orange County had a gross value of approximately $136 million, and the county was ranked 36th in the State of California based on crop value (CFBF 2014).

4.2.1.2 Forest and Timber Lands

The proposed project does not contain any designated areas of forest or timber lands.

4.2.2 Regulatory Setting

4.2.2.1 Federal

No federal regulations specific to agriculture and forestry resources are applicable to the proposed project.

4.2.2.2 State

California Farmland Mapping and Monitoring Program

The California Department of Conservation (DOC) maintains the Farmland Mapping and Monitoring Program (FMMP), which monitors the conversion of farmland to and from agricultural use. FMMP classifications are based on soil quality and irrigation status and are used as part of its neutral reporting program that classifies land based on its suitability for agriculture (DOC n.d.). The classifications differ from general plan and zoning designations in that they are used to evaluate farmland by type and acreage, rather than to designate appropriate sites for particular land uses and regulate use and development. The FMMP mapping system includes the following categories for farmland, based on suitability for agriculture:

- *Prime Farmland* has the best combination of physical and chemical characteristics for crop production. When treated and managed, its soil quality, growing season, and irrigation supply produce sustained high crop yields.

- *Farmland of Statewide Importance* is land, other than Prime Farmland, that has a good combination of physical and chemical characteristics, including irrigation, for crop production.
- *Unique Farmland* does not meet the criteria for Prime Farmland or Farmland of Statewide Importance, but has produced specific crops with high economic value.
- *Farmland of Local Importance* is either currently producing crops or has the capability to produce, but does not meet the criteria of the categories above.
- *Grazing Land* has vegetation that is suitable for grazing livestock.
- *Other Lands* are lands that do not meet the criteria of any of the other categories.

Additional categories used in the FMMP mapping system include "urban and built-up lands" and "lands committed to non-agricultural use."

Williamson Act

The California Land Conservation Act of 1965, also known as the Williamson Act, is the State's principal agricultural land protection program. It enables local governments to enter into ongoing minimum-10-year contracts with private landowners to restrict specific parcels of land to agricultural or compatible uses. In return, restricted parcels are assessed for property tax purposes at a rate consistent with their actual, farming, and open space uses, as opposed to potential market value.

Public Resource Codes Section 12220(g)

"Forest land" is land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. The proposed project would not occur within land used for agriculture or forestry within the Cleveland National Forest, which is approximately 7 miles east of the proposed project. The proposed project would not occur within "forest land."

Public Resource Codes Section 4526

"Timberland" means land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees. Commercial species shall be determined by the board on a district basis after consultation with the district committees and others. The proposed project would not occur within "timberland."

Government Code Section 51104(g)

A "timberland production zone" is an area that has been zoned pursuant to Section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, as defined in 51104(h).

With respect to the general plans of cities and counties, the term "timberland preserve zone" is synonymous with a timberland production zone. The proposed project would not occur within a timberland production zone.

4.2.2.3 Regional and Local

Orange County

The policies and programs presented in the Orange County General Plan Resources Element outline a plan to meet the established goals for the development, management, preservation, and conservation of resources necessary to meet Orange County's existing and future demands (Orange County 2005a). The following policies are applicable to the proposed project:

- ***Natural Resources Component Policy 3.2:*** *To encourage, to the extent feasible, the preservation and utilization of agricultural resources as a natural resource and economic asset.*
- ***Open Space Policy 3.2:*** *To ensure the wise use of County resources by identifying, planning, or assisting in the planning for, and assuming management responsibility when appropriate for, open space areas used for the managed production of resources including, but not limited to: forest lands, rangeland, agricultural lands, and areas of economic importance for the production of food or fiber; areas required for recharge of groundwater basins; tidelands, beaches, bays, estuaries, marshes, rivers, and streams which are important for the management of commercial fisheries and for beach sand replenishment; and areas containing mineral deposits.*

Section 7-9-55.3 of the Orange County municipal code allows public/private utility buildings and structures, with approval of a site development permit, within land zoned A1 "General Agricultural" District. Within land zoned A1 by Orange County, the proposed project would be located within existing rights-of-way (ROWs) W (Orange County 2005b, c).

City San Juan Capistrano

The Conservation and Open Space Element of the San Juan Capistrano General Plan focuses on the protection and enhancement of open space and natural resources. The following policy is applicable to the proposed project regarding agricultural resources (City of San Juan Capistrano 1980, 1999).

- ***Policy 3.2:*** *Reduce the negative impacts resulting from urban uses and neighboring agricultural uses in close proximity.*

The San Juan Capistrano General Plan or municipal code does not outline any policies regarding forest land applicable to the proposed project.

City of San Clemente

The San Clemente General Plan or municipal code does not outline any policies regarding agriculture or forest land applicable to the proposed project (City of San Clemente 2013, 2014).

4.2.3 Impact Analysis

4.2.3.1 Methodology and Significance Criteria

The environmental impacts analysis presented in this section considers whether the proposed project would result in impacts, in terms of acres temporarily or permanently disturbed, on Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or forest or timberlands. Potential impacts were evaluated according to the significance criteria listed below. The criteria were defined based on the

checklist items presented in Appendix G of California Environmental Quality Act (CEQA) Guidelines. The proposed project would cause a significant impact on agricultural or forest resources if it would:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use;

b) Conflict with existing zoning for agricultural use or a Williamson Act contract; or

c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of Forest Land to non-forest use.

Appendix G of CEQA Guidelines identifies two additional checklist items:

- Conflict with existing zoning for, or cause rezoning of, Forest Land (as defined in Public Resources Code section 12220[g]), or Timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104[g]); or
- Result in the loss of Forest Land or conversion of Forest Land to non-forest use.

The proposed project would not be located on land designated as Forest Land, Timberland, or Timberland Production by City of San Juan Capistrano, City of San Clemente, or Orange County zoning ordinances. The proposed project would be primarily located within existing ROWs. Construction of Transmission Line Segment 1A would require the temporary and permanent removal of several trees; however, based on a review of the City of San Juan Capistrano General Plan and aerial imagery, these trees are located within the El Camino Real Park and an area designated as high density, multi-family residential by the City of San Juan Capistrano and would not be considered Forest Land[1]. No other trees would be removed for the remaining components of the proposed project. Therefore, these checklist items are not applied as criteria in the analysis of environmental impacts related to agriculture and forestry resources.

4.2.3.2 Applicant Proposed Measures

The applicant has not committed to any applicant proposed measures that apply to agriculture and forestry resources.

4.2.3.3 Environmental Impacts

Impact AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use.
NO IMPACT

The proposed San Juan Capistrano and Talega substations and the proposed double-circuit 230-kilovolt (kV) transmission line would not be located on lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Portions of the proposed 12-kV distribution line along State Route (SR) 74 would traverse and run immediately adjacent to lands designated as Prime and Unique

[1] As defined in Public Resources Code section 12220[g]

Farmlands (Figure 4.2-1). However, these portions of the proposed 12-kV distribution line would be installed into an existing underground conduit and no ground disturbance would be required. The proposed project would have no impact to Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

Impact AG-2: Conflict with existing zoning for agricultural use or a Williamson Act contract.
LESS THAN SIGNIFICANT

The proposed project would not be located on lands contracted under the Williamson Act.

Several portions of the proposed project would be located on lands in unincorporated Orange County zoned General Agriculture, including a laydown area and portions of Transmission Line Segments 3 and 4, the Talega Substation, and the 12-kV distribution line. Section 7-9-55.3 of the Orange County municipal code allows public/private utility buildings and structures with approval of a site development permit within A1 "General Agricultural" District (Orange County 2005b). One pole along Transmission Line Segment 1b would be located within land zoned as Residential/Agriculture by the City of San Juan Capistrano. Transmission Line Segment 1b would be located within the existing ROW in this area and would not result in a new conflict to existing zoning for agriculture in the City of San Juan Capistrano. No other portions of the proposed project would be located on lands with existing zoning for agriculture. Therefore, impacts under this criterion would be less than significant.

Additionally, as further described in Section 4.10 "Land Use and Planning," in the context of electric utility projects, California Public Utilities Commission (CPUC) G.O. 131-D, Section XIV.B, states that "local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the Commission's jurisdiction. However in locating such projects, the public utilities shall consult with local agencies regarding land use matters."

Impact AG-3: Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of Forest Land to non-forest use.
LESS THAN SIGNIFICANT

The proposed project would be primarily located within existing ROWs and property owned by the applicant. Construction of the transmission line would be transient and would not impact one location long enough to result in any significant temporary changes, which, due to the location or nature, could result in the conversion of Farmland or Forest Land to non-agricultural or non-forest uses. ~~Construction of the San Juan Capistrano Substation would not be located adjacent to farmland; therefore, the proposed project would have no impact on farmland or Forest Land during the 64-month construction period.~~ Operation and maintenance activities would be similar to those associated with the existing facilities and, therefore, the proposed project would have a less than significant impact under this criterion.

4.2.4 Mitigation Measures

No significant impacts to agriculture and forestry resources were identified; therefore, no mitigation measures are required.

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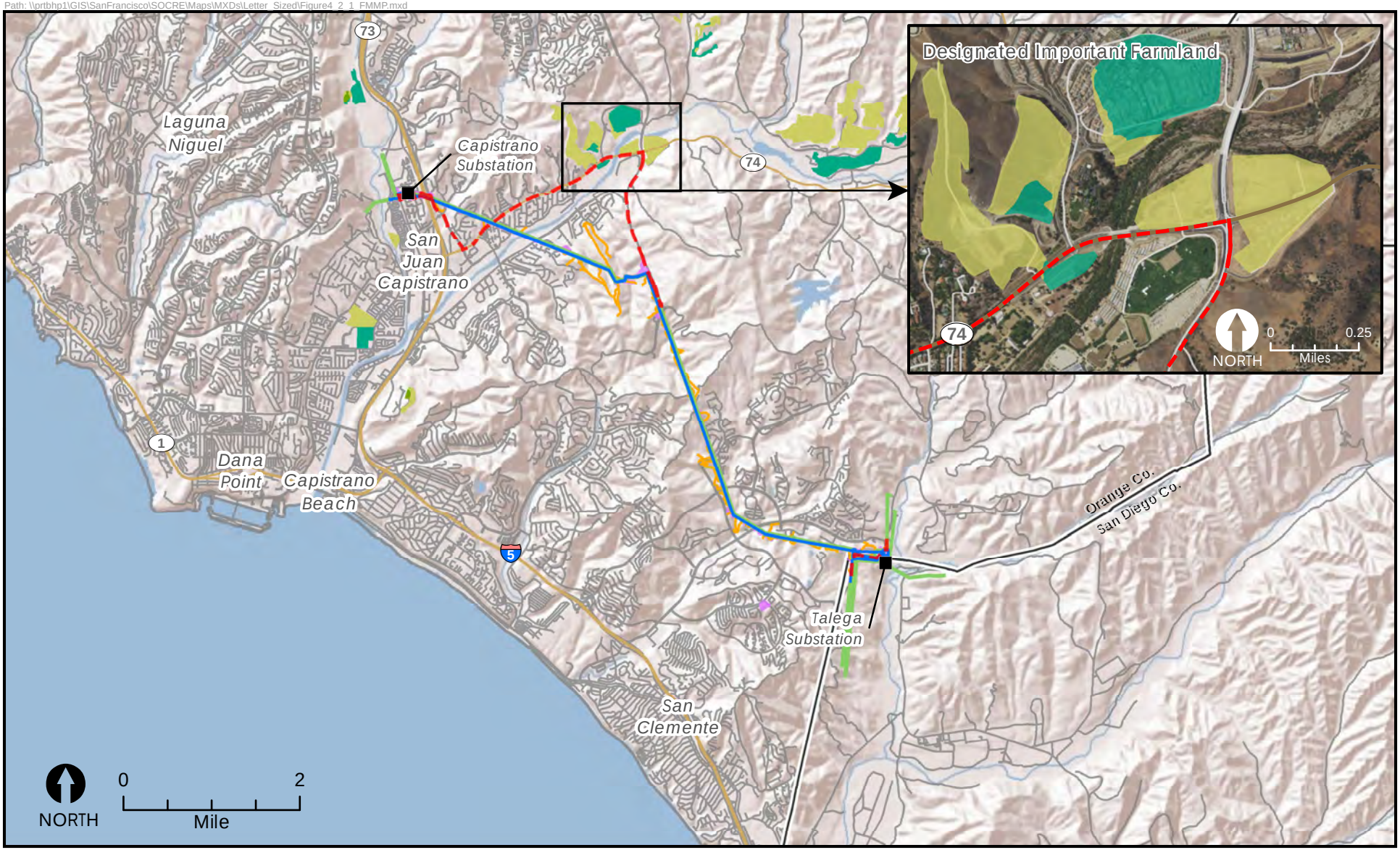

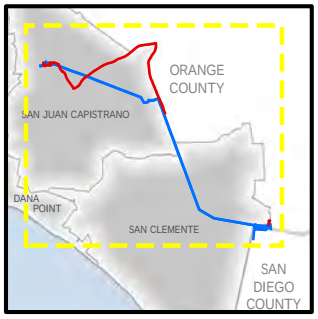

- Proposed transmission line
- Existing transmission line
- Access road
- Distribution Line
- Staging areas, stringing sites, work areas, and helicopter fly yards
- Roads
- Local road
- County Boundary

Important Farmland

- Prime Farmland
- Farmland of Statewide Importance
- Farmland of Local Importance
- Unique Farmland

Sources: USFWS 2014d

Figure 4.2-1

Designated Important Farmland in the Vicinity of the Proposed Project

South Orange County Reliability Enhancement Project

4.3 Air Quality

This section describes the environmental and regulatory settings and discusses potential impacts associated with the construction and operation of the South Orange County Reliability Enhancement Project (proposed project) with respect to air quality. During scoping, the following topics were raised and are addressed in this section: identify any air quality impacts from all phases of the proposed project; perform a localized significance analysis by using the local significance threshold developed by the South Coast Air Quality Management District (SCAQMD); analyze impacts from heavy duty diesel-fueled vehicles and equipment; and consider SCAQMD and San Diego Air Pollution Control District (SDAPCD) criteria pollutant emissions separately. This section also discusses impacts that the proposed project may have on air quality. Potential impacts from asbestos are discussed in Section 4.8, "Hazards and Hazardous Materials." Potential impacts from sulfur hexafluoride are discussed in Section 4.7, "Greenhouse Gases."

4.3.1 Environmental Setting

Air quality is dependent on the quantities of air pollutants emitted from human-made and natural sources, as well as surface topography and prevailing meteorological conditions. California is divided into 15 air basins that group counties or portions of counties with similar geographic and/or meteorological features. Most of the proposed project components are located in southern Orange County, with a small portion in northern San Diego County. Orange County is part of the South Coast Air Basin (SCAB), which comprises all of Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside counties. San Diego County is in the San Diego County Air Basin (SDAB), which comprises the entire County. The portion of the proposed project located within San Diego County is adjacent to the boundary with Orange County, where air quality is similar to that in the SCAB.

4.3.1.1 Climate

South Coast Air Basin

The distinctive climate of the SCAB is determined by its terrain and geographical location. The basin is made up of a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean in the southwest quadrant. High mountains form the remainder of the basin's perimeter. The general region lies in the semi-permanent high pressure zone of the eastern Pacific Ocean. As a result, the climate is mild, tempered by cool sea breezes. This usually mild climate is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.[1] Summer wind speeds average slightly higher than winter wind speeds. Coastal wind speeds average about 2 miles per hour higher than other parts of the basin. (SCAQMD 1993~~a~~)

San Diego County Air Basin

The climate of the SDAB is classified as Mediterranean but is extremely diverse because of the area's topography. The climate is dominated by the Pacific high pressure system that results in mild, dry summers and mild, wet winters. El Niño[2] patterns can have a large effect on the annual rainfall in San Diego. The winds tend to blow onshore in the daytime and offshore at night. (SDAPCD 2011)

[1] Santa Ana winds are the result of a high pressure system over the Nevada-Utah/California borders that overcomes the westerly wind pattern and force hot, dry winds from the east to the Pacific Ocean. These winds are powerful and incessant. (SDAPCD 2011)

[2] El Niño is a warming of the surface waters of the eastern Pacific Ocean. It is a climate pattern that occurs across the tropical Pacific Ocean that is associated with drastic weather occurrences, including enhanced rainfall in Southern California. (SDAPCD 2011)

4.3.1.2 Ambient Air Quality

The topography and climate of Southern California combine to create high air pollution potential in the SCAB. During the summer months, a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cap over the cool marine layer and inhibits the pollutants in the marine layer from dispersing upward. Light winds during the summer can also further limit ventilation. Additionally, abundant sunlight triggers photochemical reactions that produce ozone and the majority of particulate matter. (SCAQMD 2013a)

The topography of San Diego County is highly varied, comprising flatlands and mesas, broad valleys, canyons, foothills, mountains, and deserts. This topography drives the pollutant levels. The SDAB is not classified as a contributor, but it is classified as a transport recipient. The transport pollutants are ozone, oxides of nitrogen (NO_X), and volatile organic compounds (VOCs) that are transported from the SCAB in the north and, when the wind shifts direction, Tijuana, Mexico, in the south. (SDAPCD 2011)

Air Pollutants

The United States Environmental Protection Agency (EPA) has set National Ambient Air Quality Standards (NAAQS) for widespread pollutants from numerous and diverse sources considered harmful to public health and the environment. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against visibility impairment and damage to animals, crops, vegetation, and buildings. The EPA periodically reviews the standards and the science on which they are based. The EPA has set NAAQS for seven principal pollutants, which are called "criteria" pollutants:

- Carbon monoxide (CO);
- Lead;
- Nitrogen dioxide (NO_2);
- Ozone;
- Particulate matter less than or equal to 10 microns in diameter (PM_{10});
- Particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$); and
- Sulfur dioxide (SO_2).

Ozone is not emitted directly from emission sources but rather created near ground level by a chemical reaction between NO_X and reactive organic gases (ROG) in the presence of sunlight. As a result, NO_X and ROG are often referred to as ozone precursors and are regulated as a means to prevent ground-level ozone formation. ROG are sometimes also referred to as VOCs.

The State of California has established California Ambient Air Quality Standards (CAAQS) for these criteria pollutants, as well as ambient air quality standards for sulfates, hydrogen sulfide (H_2S), vinyl chloride, and visibility-reducing particles. NAAQS and CAAQS are summarized in Table 4.3-1.

Table 4.3-1 Summary of National and California Ambient Air Quality Standards

Pollutant	Averaging Time	NAAQS[a]		CAAQS[b]
		Primary	Secondary	
CO	8-hour	9 ppm	–	9 ppm
	1-hour	35 ppm	–	20 ppm
Lead	3-month (rolling average)	0.15 µg/m^3	0.15 µg/m^3	–
	Quarterly	–	–	–
	30-day	–	–	1.5 µg/m^3
NO_2	Annual	0.053 ppm	0.053 ppm	0.030 ppm
	1-hour	0.100 ppm[(c)]	–	0.18 ppm
Ozone	8-hour	0.075 ppm[(d)]	0.075 ppm[(d)]	0.070 ppm
	1-hour	–	–	0.09 ppm
PM_{10}	Annual	–	–	20 µg/m^3
	24-hour	150 µg/m^3	150 µg/m^3	50 µg/m^3
$PM_{2.5}$	Annual	12.0 µg/m^3	15.0 µg/m^3	12 µg/m^3
	24-hour	35 µg/m^3	35 µg/m^3	–
SO_2	Annual	–	–	–
	24-hour	–	–	0.04 ppm
	3-hour	–	0.5 ppm	–
	1-hour	0.075 ppm[(e)]	–	0.25 ppm
Sulfates	24-hour	–	–	25 µg/m^3
H_2S	1-hour	–	–	0.03 ppm
Vinyl chloride	24-hour	–	–	0.01 ppm
VRP	8-hour	–	–	See note below[(f)]

Sources: EPA 2012; CARB 2009

Key:

µg/m^3 = micrograms per cubic meter
CAAQS = California Ambient Air Quality Standards
CO = Carbon monoxide
H_2S = Hydrogen sulfide
NAAQS = National Ambient Air Quality Standards
NO_2 = Nitrogen dioxide
PM_{10} = Particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = Particulate matter less than or equal to 2.5 microns in diameter
ppm = parts per million
SO_2 = Sulfur dioxide
VRP = Visibility-reducing particles

Notes:

[a] NAAQS (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth-highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is not to be exceeded more than once per year on average over 3 years. The 24-hour standard is attained when the 3-year average of the weighted annual mean at each monitor within an area does not exceed 150 µg/m^3. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, do not exceed 35 µg/m^3. The annual standard is attained when the 3-year average of the weighted annual mean at single or multiple community-oriented monitors does not exceed 12 µg/m^3.

[b] Standards for ozone, CO (except Lake Tahoe), SO_2 (1- and 24-hour), NO_2, PM_{10}, $PM_{2.5}$, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded.

[c] The 3-year average of the 98th percentile of the daily maximum 1-hour average must not exceed 0.100 ppm.

[d] 2008 standard. The 3-year average of the 4th highest daily maximum 8-hour average concentration over each year must not exceed 0.075 ppm.

[e] The 3-year average of the 99th percentile of the daily maximum 1-hour average must not exceed 0.075 ppm.

[f] Extinction coefficient of 0.23 per kilometer—visibility of 10 miles or more due to particles when relative humidity is less than 70 percent.

The SCAQMD is the local air pollution control agency for the SCAB and the portions of the Salton Sea Air Basin in Riverside County. The SCAQMD operates 38 permanent, multi-pollutant monitoring stations and four single pollutant source impact air monitoring sites in the SCAB and a portion of the Salton Sea Air Basin in Coachella Valley. (SCAQMD 2014)

The closest SCAQMD air monitoring stations to the proposed project are the Mission Viejo and Costa Mesa monitoring stations. The Mission Viejo monitoring station is approximately 8 miles north of the Capistrano Substation and measures CO, ozone, PM_{10}, and $PM_{2.5}$. The Costa Mesa station is approximately 18 miles northwest from the Capistrano Substation and measures CO, NO_2, SO_2, and ozone (SCAQMD 2014). Historical air pollutant measurements at these air quality monitoring stations are presented in Table 4.3-2.

Table 4.3-2 Pollutant Measurements at Air Quality Monitoring Stations in the Proposed Project Area

Station	Year	Gas Air Pollutant Measurements[1] (ppm)								Particulate Air Pollutant Measurements[2] (µg/m³)			
		CO		NO_2		Ozone		SO_2		PM_{10}		$PM_{2.5}$	
		1-hr	8-hr	1-hr	Ann	1-hr	8-hr	1-hr	24-hr	24-hr	Ann	24-hr	Ann
Mission Viejo AQS No. 060592022	2010	1.2	0.9	-	-	0.117	0.068	–	–	34	18.1	17	8.0
	2011	1.4	1.0	-	-	0.094	0.071	–	–	48	19.2	29	8.6
	2012	1.5	1.1	-	-	0.096	0.071	–	–	37	17.3	18	7.9
	2013	1.5	1.2	-	-	0.104	0.074	–	–	51	–	18	–
Costa Mesa AQS No. 060591003	2010	2.4	2.1	0.070	0.011	0.097	0.06	0.010	0.002	–	–	–	–
	2011	2.9	2.2	0.061	0.010	0.093	0.063	0.008	0.001	–	–	–	–
	2012	2.1	1.7	0.074	0.010	0.09	0.059	0.006	0.001	–	–	–	–
	2013	2.4	2.0	0.076	–	0.095	0.065	0.004	0.001	–	–	–	–

Sources: EPA 2014; SCAQMD 2013b
Key:
µg/m³ = micrograms per cubic meter
Ann = annual
CO = Carbon monoxide
hr = hour
NO_2 = Nitrogen dioxide
PM_{10} = Particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = Particulate matter less than or equal to 2.5 microns in diameter
ppm = parts per million
SO_2 = Sulfur dioxide
Notes:
1 1-hr CO, 8-hr CO, 1-hr NO_2, and 1-hr ozone reported as maximum concentrations. 8-hour ozone reported as fourth-highest concentration.
2 24-hr PM_{10} reported as maximum concentration. 24-hour $PM_{2.5}$ reported as 98th percentile concentration.

The SDAPCD is the local air pollution control agency for San Diego County and operates 12 permanent multi-pollutant monitoring stations (SDAPCD 2014). The closest SDAPCD air monitoring sites to the proposed project location are the Camp Pendleton and McClellan-Palomar Airport monitoring stations, which are approximately 18 miles and 28 miles, respectively, south of the Talega Substation. However, due to their proximity to the proposed project, the SCAQMD Mission Viejo and Costa Mesa monitoring stations provide a better representation of the ambient conditions for the proposed project area.

The EPA compares ambient air criteria pollutant measurements to NAAQS to assess the status of the air quality of regions within the United States. Similarly, the California Air Resources Board (CARB) compares air pollutant measurements in California to CAAQS. Based on these comparisons, regions are designated as one of the following categories for the criteria air pollutants:

- **Attainment.** A region is designated as in "attainment" if monitoring shows that ambient concentrations of a specific pollutant are less than or equal to NAAQS or CAAQS. An attainment area for a NAAQS that has been redesignated from nonattainment is classified as a "maintenance area" for 10 years to ensure that the air quality improvements are sustained.
- **Nonattainment.** If the NAAQS or CAAQS is exceeded for a pollutant, then the region is designated as in "nonattainment" for that pollutant. Nonattainment areas can be further classified based on the severity of the exceedance of the relevant standard.
- **Unclassifiable.** An area is designated as "unclassifiable" if the ambient air monitoring data are incomplete and do not support a designation of attainment or nonattainment.

The attainment status for Orange County and San Diego County under both the NAAQS and CAAQS is summarized in Table 4.3-3. Due to the process involved with assigning designations, a county may be designated as in nonattainment even if there are no exceedances of ambient standards shown in Table 4.3-2.

Table 4.3-3 Attainment Status in Orange County and San Diego County

	Attainment Status			
	NAAQS		CAAQS	
Pollutant	Orange County	San Diego County	Orange County	San Diego County
CO	Unclassifiable/Attainment	Unclassifiable/Attainment	Attainment	Attainment
Lead	Unclassifiable/Attainment	Unclassifiable/Attainment	Attainment	Attainment
NO_2	Unclassifiable/Attainment	Unclassified/Attainment	Attainment	Attainment
Ozone	Nonattainment (Extreme)	Nonattainment (Marginal)	Nonattainment	Nonattainment
PM_{10}	Attainment/Maintenance	Unclassifiable/Attainment	Nonattainment	Nonattainment
$PM_{2.5}$	Nonattainment	Unclassifiable/Attainment	Nonattainment	Nonattainment
SO_2	Attainment	Attainment	Attainment	Attainment
Sulfates	–	–	Attainment	Attainment
H_2S	–	–	Unclassified	Unclassified
VRP	–	–	Unclassified	Unclassified

Sources: EPA 2013; CARB 2013.
Key:
CAAQS = California Ambient Air Quality Standards
CO = Carbon monoxide
H_2S = Hydrogen sulfide
NAAQS = National Ambient Air Quality Standards
NO_2 = Nitrogen dioxide
PM_{10} = Particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = Particulate matter less than or equal to 2.5 microns in diameter
SO_2 = Sulfur dioxide
VRP = Visibility-reducing particles

Toxic Air Contaminants

Toxic air contaminants (TACs) are air pollutants suspected or known to cause cancer, birth defects, neurological damage, or death. With the exception of lead, no ambient air quality standards have been

established for TACs. Instead, the compounds are managed on a case-by-case basis, depending on the quantity and type of emissions and proximity of potential receptors. Statewide and local programs identify industrial and commercial emitters of TACs and require reductions of these emissions. Federal programs also require control of certain categories of TACs. CARB also recently identified diesel particulate matter (PM) as a TAC. Diesel engines emit a complex mix of pollutants, the most visible of which are very small carbon particles or "soot," known as diesel PM. (CARB 2011)

4.3.1.3 Sensitive Receptors

Sensitive receptors include schools, hospitals, residences, and other sensitive land uses. Land use conflicts can arise when sensitive receptors are located next to major sources of air pollutant emissions. Table 4.11-5 in Section 4.11, "Noise and Vibration," provides information on the closest sensitive receptors to the proposed project.

4.3.2 Regulatory Setting

Ambient air quality and air pollutant emissions from stationary and mobile sources are managed under a framework of federal, state, and local rules and regulations.

4.3.2.1 Federal

Clean Air Act

The Clean Air Act (CAA; U.S Code Title 42, Chapter 85) is the law that defines EPA responsibilities for protecting and improving the nation's air quality and the stratospheric ozone layer. The last major change in the law, the CAA Amendments of 1990, was enacted by Congress in 1990. Legislation passed since then has resulted in several minor changes. Under the CAA, the EPA oversees implementation of federal programs for permitting new and modified stationary sources, controlling toxic air contaminants, and reducing emissions from motor vehicles and other mobile sources. The sections of the CAA that are most applicable to the proposed project include Title I (Air Pollution Prevention and Control), Title II (Emission Standards for Mobile Sources), and Title V (Permits).

Title I of the CAA requires establishment of NAAQS, air quality designations, and plan requirements for nonattainment areas. States are required to submit a state implementation plan (SIP) to the EPA for areas in nonattainment for NAAQS. The SIP, which is reviewed and approved by the EPA, must demonstrate how state and local regulatory agencies will institute rules, regulations, and/or other programs to achieve attainment with NAAQS.

Title II of the CAA contains a number of provisions regarding mobile sources, including requirements for reformulated gasoline, new tailpipe emission standards for cars and trucks, standards for heavy-duty vehicles, and a program for cleaner fleet vehicles.

Title V of the CAA requires an operating permit program for larger industrial and commercial sources that release pollutants into the air. Operating permits include information on which pollutants are being released, how much may be released, and what kinds of steps the source's owner or operator is required to take to reduce the pollutants. Permits must include plans to measure and report the air pollutants emitted.

4.3.2.2 State

California Clean Air Act

The California Clean Air Act (CCAA) outlines a statewide air pollution control program in California. CARB is the primary administrator of the CCAA, while local air quality districts administer air rules and regulations at the regional level. CARB is responsible for establishing the CAAQS, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and preparing the SIP.

4.3.2.3 Regional and Local

SCAQMD

Air Quality Management Plan

The SCAQMD is the administrator of air pollution rules and regulations within the SCAB. The SCAQMD is responsible for implementing measures and local air pollution rules that ensure NAAQS and CAAQS are achieved and maintained. Every three years, the SCAQMD prepares an air quality management plan (AQMP) for air quality improvement to be submitted for inclusion in the California SIP. The AQMP analyzes air quality at a regional level and identifies region-wide attenuation methods and policies to achieve attainment levels with respect to air quality standards. Each successive iteration of the AQMP is an update of the previous plan. The Final 2012 AQMP was adopted by the AQMD Governing Board in February 2013.

Rule 403: Fugitive Dust Regulations

The purpose of Rule 403 is to reduce the amount of PM entrained in the ambient air as a result of human-caused fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. The rule also requires construction activities to use applicable best available control measures to minimize fugitive dust emissions from a wide variety of construction activities, including backfilling, clearing, earth-moving activities, stockpiling, and vehicle traffic.

SDAPCD

The SDAPCD is responsible for Regional Air Quality Strategy (RAQS) development and implementation. The RAQS was developed to identify feasible emission control measures and provide expeditious progress toward attaining the State ozone standards. The two pollutants addressed in the RAQS are VOCs and NO_X, which are precursors to the formation of ozone. The RAQS control measures focus on emission sources under the district's authority—specifically, stationary emission sources and some area-wide sources. The 2009 RAQS was adopted by the San Diego County Air Pollution Control Board on April 22, 2009.

The SDAPCD has prepared an Eight-Hour Ozone Redesignation Request and Maintenance Plan. Air quality data for 2009, 2010, and 2011 demonstrated that the San Diego air basin attained the 1997 ozone standard. On December 6, 2012, CARB approved the Redesignation Request and Maintenance Plan for 1997 National Ozone Standard for San Diego County for submittal to the EPA as a SIP revision. Effective July 5, 2013, the EPA approved California's request to redesignate the San Diego County ozone nonattainment area to attainment for the 1997 Eight-Hour Ozone National Ambient Air Quality Standard and their plan for continuing to attain the 1997 ozone standard for ten years beyond redesignation.

County of Orange

The Resources Element of the County of Orange General plan does not include any goals, policies, or implementation programs that are applicable to the proposed project (Orange County 2014).

City of San Clemente General Plan

The San Clemente General Plan includes the following air quality policies that are applicable to the proposed project:

- ***Goal NR-5:*** *Reduce levels of air pollution and greenhouse gas emissions so that the City meets or exceeds regional, State, and Federal mandates.*
- ***Policy NR-5.01. New Development.*** *We require new development to utilize appropriate SCAQMD air quality mitigation measures.*
- ***Policy NR-5.06. Particulate Matter.*** *We support efforts to reduce particulate matter to meet State and Federal Clean Air Standards.* (City of San Clemente 2014)

City of San Juan Capistrano

The Conservation and Open Space Element of the City of San Juan Capistrano discusses air quality conditions within the city; however no goals or policies are identified in the element (City of San Juan Capistrano 1999).

4.3.3 Impact Analysis

4.3.3.1 Methodology and Significance Criteria

Methodology

The existing air quality in the proposed project area was researched using data obtained from the SCAQMD's network of air quality monitoring stations. Relevant monitoring data are presented in Table 4.3-2. Recent regulations and guidance from the EPA, CARB, SCAQMD, and SDAPCD were also reviewed. The air pollutant emissions generated by construction of the proposed project were calculated using standard methodologies and based on estimates of equipment and vehicle use both on-road and off-road. Emissions from on-road vehicles were estimated using EMFAC2011 emission factors promulgated by CARB. Standard methodologies to calculate construction equipment emissions were based on CARB's OFFROAD model, which provides emission factors for off-road equipment. Emissions of fugitive dust were calculated based on methodologies presented in the EPA's *Compilation of Air Pollutant Emission Factors* references and the SQAQMD *CEQA Air Quality Handbook*. Emission estimates for the SCAQMD and the SDAPCD were calculated using the methodology.

Significance Criteria

The significance criteria were defined based on the checklist items presented in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The proposed project would cause a significant impact on air quality if it would:

a) Conflict with or obstruct implementation of the applicable air quality plan;

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);

d) Expose sensitive receptors to substantial pollutant concentrations; or

e) Create objectionable odors affecting a substantial number of people.

The proposed project would span two air districts, the SCAQMD and the SDAPCD. Construction emissions for each proposed project component were divided into two discrete groups dependent on the air district in which the emissions would occur and were analyzed separately. The significance criteria applied to each segment are dependent on the air district in which the segment is located. Significance criteria for the SCAQMD are discussed first, followed by significance criteria for the SDAPCD.

South Coast Air Quality Management District Significance Criteria

The SCAQMD has adopted significance thresholds in its SCAQMD CEQA Air Quality Handbook for air quality that define whether a project could have a significant impact. The general thresholds are derived from Appendix G of the state CEQA Guidelines. The SCAQMD's regional significance thresholds present quantitative emissions thresholds by which to evaluate whether a project's impacts could have a significant impact on air quality. To determine significance, the quantitative emission thresholds presented in Table 4.3-4 were compared to daily maximum emissions that are expected from the proposed project.

Table 4.3-4 SCAQMD CEQA Air Quality Significance Thresholds

Threshold Category	Pollutant	Construction	Operations
Mass Daily Thresholds	NO_X	100 lbs/day	55 lbs/day
	VOC	75 lbs/day	55 lbs/day
	CO	550 lbs/day	550 lbs/day
	PM_{10}	150 lbs/day	150 lbs/day
	$PM_{2.5}$	55 lbs/day	55 lbs/day
	Lead	3 lbs/day	3 lbs/day
	SO_X	150 lbs/day	150 lbs/day
TAC and Odor Thresholds	TACs (including carcinogens and non-carcinogens)	**Maximum Incremental Cancer Risk** ≥ 10 in 1 million **Cancer Burden** > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) **Hazard Index** ≥ 1.0 (project increment)	
	Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	

Table 4.3-4 SCAQMD CEQA Air Quality Significance Thresholds

Threshold Category	Pollutant	Construction	Operations
Ambient Air Quality Standards	NO_2[1]	**1-hour average:** 0.18 ppm (State) **Annual average:** 0.03 ppm (State) and 0.0534 ppm (Federal)	
	PM_{10}	**24-hour average:** 10.4 µg/m³ **Annual average:** 1 µg/m³	**24-hour average:** 2.5 µg/m³ **Annual average:** 1 µg/m³
	$PM_{2.5}$	**24-hour average:** 10.4 µg/m³	**24-hour average:** 2.5 µg/m³
	SO_2	**1-hour averages:** 0.25 ppm (State) and 0.075 ppm (Federal – 99th percentile) **24-hour average:** 0.04 ppm (State)	
	Sulfates	**24-hour average:** ~~1~~25 µg/m³ (State)	
	CO[1]	**1-hour averages:** 20 ppm (State) and 35 ppm (Federal) **8-hour average:** 9.0 ppm (State/Federal)	
	Lead	**30-day average:** 1.5 µg/m³ (State) **Rolling 3-month average:** 0.15 µg/m³ (Federal) **Quarterly average:** 1.5 µg/m³ (Federal)	

Source: SCAQMD ~~1993b~~2015
Key:
µg/m³ = micrograms per cubic meter
CO = Carbon monoxide
H_2S = Hydrogen sulfide
lbs = pounds
NO_2 = Nitrogen dioxide
NO_X = Oxides of nitrogen
PM_{10} = Particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = Particulate matter less than or equal to 2.5 microns in diameter
ppm = parts per million
SCAQMD = South Coast Air Quality Management District
SO_2 = Sulfur dioxide
SO_x = Oxides of sulfur
TAC = Toxic air contaminants
VOC = Volatile organic compounds
Note:
[1] SCAQMD is in attainment; a project is significant if it causes or contributes to an exceedance of significance thresholds.

To further evaluate the potential for significant impacts associated with the construction phase of the proposed project, the SCAQMD's Final Localized Significance Threshold (LST) Methodology was used to assist with the identification of significant impacts. The LST Methodology determines significance levels by modeling hypothetical 1-, 2-, and 5-acre sites. The LST Methodology applies to on-site emissions and impacts from NO_2, CO, PM_{10}, and $PM_{2.5}$ concentrations. The LST Methodology does not apply to emissions from on-road vehicles. Additionally, the LST Methodology states that "screening procedures are, by design conservative, that is, the predicted impacts tend to overestimate the actual impacts." Therefore the determination made from the LST Methodology provides a means of conducting a screening analysis to assess whether a significant impact could result from project construction activities.

The transmission and distribution sites are long and narrow, and therefore most accurately represented by the 1-acre model in the LST Methodology. Both the proposed San Juan Capistrano Substation (6.4 acres) and the Talega Substation (7.1 acres) are slightly larger than the 5-acre model for the LST Methodology; however, the 5-acre model was used for each substation location. Similarly, although some sensitive receptors are located less than 25 meters from the proposed project, the 25-meter distance to nearest receptor is the most conservative option allowed by the LST Methodology and therefore, was used for all of the LST analyses. The proposed project would be located in Source Receptor Area Zone 21-Capistrano Valley. The LSTs for the Zone 21-Capistrano Valley are shown in Table 4.3-5. (SCAQMD 2008a)

Table 4.3-5 Localized Significance Thresholds for Zone 21 - Capistrano Valley

Distance to Nearest Receptor, meters	Pollutant (pounds per day)					
	NO_X	CO	PM_{10} - Construction	PM_{10} - Operation	$PM_{2.5}$ - Construction	$PM_{2.5}$ - Operation
1 acre						
25	91	696	4	1	3	1
5 acre						
25	197	1,804	12	3	8	2

Source: SCAQMD 2008b
Key:
CO = carbon monoxide
NO_X = oxides of nitrogen
PM_{10} = Particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = Particulate matter less than or equal to 2.5 microns in diameter

San Diego Air Pollution Control District Significance Criteria

The SDAPCD has adopted quantitative emission thresholds `that define whether a project would have a significant impact (SDAPCD 2008a). These quantitative emission thresholds are included in Table 4.3-6.

Table 4.3-6 SDAPCD Screening Level Thresholds

Pollutant	Total Emissions		
	Lbs. Per Hour	Lbs. Per Day	Tons Per Year
PM_{10}	--	100	15
$PM_{2.5}$	--	55	10
NO_X	25	250	40
SO_X	25	250	40
CO	100	550	100
Lead	--	3.2	0.6
VOCs	--	75	13.7

Source: SDAPCD 2008a
Key:
CO = carbon monoxide
Lbs. = pounds
NO_X = oxides of nitrogen
PM_{10} = Particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = Particulate matter less than or equal to 2.5 microns in diameter
SO_X = Oxides of sulfur
VOC = volatile organic compound

4.3.3.2 Applicant Proposed Measures

San Diego Gas & Electric Company (the applicant) has committed to the following measures as part of the design of the proposed project. See Section 2.6, "Applicant Procedures, Plans, Standards, and Proposed Measures," for a complete description of each applicant proposed measure (APM).

APM AQ-1: Control fugitive dust emissions. The applicant would minimize fugitive dust by:

- Using a gravel apron to reduce mud/dirt track out from unpaved truck exit routes.
- Applying water to disturbed areas within a construction site.
- Limiting the on-site vehicles to a 15-mile-per-hour speed limit ~~enforced by radar~~ on unpaved roads. If necessary, SDG&E or its contractor(s) can install speed monitoring equipment at strategic locations and along project roads.
- Requiring all trucks hauling dirt, sand, soil, or other loose material to be covered with a fabric tarp and maintain a freeboard height of 12 inches.
- Applying a cover to storage piles when wind events are declared.
- Requiring local streets to be swept by Rule 1186-compliant PM_{10} efficient vacuum units a minimum of once per month.

APM AQ-2: Minimize NO_X and PM emissions from off-road diesel-powered construction equipment. Where available, the applicant will ensure that all off-road diesel-powered construction equipment with engines greater than 50 horsepower are compliant with Tier 4 interim or Tier 4 off-road emissions standards, as specified by the phase-in schedule below:

- 2015: 5% Tier 4 interim engines
- 2016: 10% Tier 4 engines
- 2017: 20% Tier 4 engines
- 2018: 30% Tier 4 engines
- 2019: 40% Tier 4 engines
- 2020: 50% Tier 4 engines

In the event that equipment with a Tier 4/Tier 4 interim engine is not available for any off-road engine larger than 50 horsepower, that engine shall be operated with tailpipe retrofit controls that reduce exhaust emissions of NOx and PM to no more than Tier 3 emission levels.

Equipment with an engine not compliant with the Tier 4/Tier 4 interim standard will be allowed only when the applicant has performed (and documented) a good faith effort (due diligence) to locate Tier 4 and/or Tier 4 interim equipment in the Project vicinity (defined as within 200 miles of the Project site). Use of older equipment (operated with tailpipe retrofit controls that reduce exhaust emissions of NOx and PM to no more than Tier 3 emission levels) would be allowable following due diligence and associated documentation that no Tier 4/Tier 4 interim equipment (or emissions equivalent retrofit equipment) is available for a particular equipment type. Each case shall be documented with written correspondence (or signed statement and electronic mail) by the appropriate construction contractor, along with documented correspondence from at least two construction equipment rental firms providing equipment within the defined project vicinity (200 miles). Documentation of due diligence will be submitted to California Public Utilities Commission staff for before equipment is used on the project.

The applicant will make available to California Public Utilities Commission staff and/or construction monitors a copy of each piece of construction equipment's certified tier specification, best available control technology documentation, and/or CARB or SCAQMD operating permit, as applicable, at the time of mobilization of each applicable unit of equipment.

4.3.3.3 Environmental Impacts

Impact AQ-1: Conflict with/obstruct implementation of SCAQMD or SDAPCD air quality plan.
LESS THAN SIGNIFICANT

The proposed project would generate emissions during construction activities.

SCAQMD

The SCAQMD's 2012 AQMP outlines the long-term strategies for regional air quality to comply with NAAQS and CAAQS. The regional emission inventory, as part of the plan, includes emissions from a variety of sources, such as stationary point sources, area sources, on-road vehicles, and off-road equipment. Construction emissions from the proposed project would be temporary and would represent a small fraction of the regional emission inventory included in the 2012 AQMP. Thus, construction emissions for the proposed project that would be generated in the SCAQMD would not contribute substantially to the regional emission budget. Furthermore, construction equipment for the proposed project would be operated in compliance with applicable local, state, and federal regulations mandating reductions in emissions as outlined in the plan and related SIP. Project emissions would be consistent with the SCAQMD's 2012 AQMP and would not conflict with or obstruct implementation of the plan. Therefore, impacts under this criterion that would be associated with project components constructed in the SCAQMD would be less than significant.

SDAPCD

~~Like the SCAQMD's AQMP, t~~The SDAPCD's 2009 RAQS and 2012 Eight-Hour Ozone Redesignation Request and Maintenance Plan outlines the long-term strategies for regional air quality to comply with ~~NAAQS and~~ozone standards in the CAAQS and NAAQS, respectively. The documents include~~s a~~ regional emissions inventories~~y~~ accounting for emissions from a variety of sources, including stationary point sources, area sources, on-road vehicles, and off-road equipment. As shown in Tables 4.3-9a and 4.3-9b, construction emissions of VOCs and NO_X that would take place in San Diego County during the proposed project would be low and represent only a very small fraction of the regional emission inventories~~y~~ included in the ~~SDAPCD's~~ 2009 RAQS and the 2012 Eight-Hour Ozone Redesignation Request and Maintenance Plan. In addition, these emissions would be temporary in nature. Construction equipment for the proposed project would be operated in compliance with applicable local, state, and federal regulations mandating reductions in emissions as outlined in the plan and related SIP, and project emissions would be consistent with the ~~2009~~all SDAPCD air quality plans. Impacts under this criterion that would be associated with the portion of proposed project that would be constructed in San Diego County would be less than significant under this criterion.

Operation and maintenance activities associated with the proposed project would be similar to those associated with the existing substations, transmission, and distribution lines operation and maintenance activities. Therefore, operation of the proposed project would not create a new impact on air quality plans in both the SCAQMD and SDAPCD.

Impact AQ-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
SIGNIFICANT

SCAQMD

To identify the maximum daily emissions that would result from the simultaneous construction of various segments and the substation construction associated with the proposed project, the schedule was reviewed to identify the year in which maximum emissions would occur. Maximum daily emissions are expected to occur in 2015, as presented in Table 4.3-7. It was assumed that all 2015 activities could occur simultaneously except building removal, and distribution undergrounding. Detailed emissions estimates are provided in Appendix K.

As shown in Table 4.3-7, maximum daily construction emissions would exceed the regional significance thresholds for all criteria pollutants except CO and SO_X. Implementation of APM AQ-1 and APM AQ-2 to control fugitive dust emissions and reduce emissions from vehicles and heavy equipment would reduce emissions, but not to the extent that all emissions would be lower than LST and regional significant thresholds. As discussed in Section 4.3.4, Mitigation Measure (MM) AQ-1, would require the applicant to purchase NO_X emission offsets through the SCAQMD's Regional Clean Air Incentive Market Trading Credits for every pound of NO_X emissions in excess of the SCAQMD regional significance threshold of 100 pounds per day (see Section 4.3.4). Implementation of MM AQ-1 would reduce impacts from NO_X emissions to less than significant. ROG, PM_{10} and $PM_{2.5}$ emissions would remain to be significant and unavoidable. Construction would, therefore, result in a significant, but temporary, impact on the ambient air quality with respect to ROG, PM_{10}, and $PM_{2.5}$ emissions.

Daily emissions related to construction of the substations, transmission line, and distribution line for each phase of construction, were compared to SCAQMD LSTs. Table 4.3-8a presents a summary of the significance determinations for the substations (Talega Substation and the proposed San Juan Capistrano Substation) and the proposed double-circuit 230-kV transmission line construction phases using the LST Methodology. Appendix K presents a quantitative detailed analysis for each phase of construction, in comparison with the SCAQMD LSTs.

As shown in Table 4.3-8a, emissions of NO_x, PM_{10} and $PM_{2.5}$ during various substation and transmission line construction phases are above the LSTs and would have a short-term, significant impact on air quality during construction. Implementation of MM AQ-1 would reduce impacts from NO_X emissions to less than significant. PM_{10} and $PM_{2.5}$ would remain significant and unavoidable. Emissions of CO are below the LSTs for all phases of construction.

Table 4.3-7 Maximum Daily Emissions, South Coast - Simultaneous Emission Calculations in 2015

Construction Phase	ROG lbs/day	CO lbs/day	NO_X lbs/day	SO_X lbs/day	PM_{10} lbs/day	$PM_{2.5}$ lbs/day	ROG tons (tpy)	CO tons (tpy)	NO_X tons (tpy)	SO_X tons (tpy)	PM_{10} tons (tpy)	$PM_{2.5}$ tons (tpy)
Substation Construction												
Heavy Construction Equipment	36.67	120.28	294.55	0.50	10.50	9.34	2.15	6.90	17.21	0.03	0.61	0.54
Worker Vehicles	0.66	6.71	0.61	0.01	0.19	0.06	0.22	0.02	0.02	0.00	0.01	0.00
Construction Trucks	0.49	2.02	10.86	0.02	0.39	0.21	0.03	0.13	0.72	0.00	0.03	0.01
Fugitive Dust	0.00	0.00	0.00	0.00	61.93	18.22	0.00	0.00	0.00	0.00	8.17	2.40
Substation Daily Total	**37.81**	**129.00**	**306.02**	**0.52**	**83.44**	**29.69**	–	–	–	–	–	–
Substation Annual Total	–	–	–	–	–	–	**2.40**	**7.05**	**17.95**	**0.03**	**8.81**	**2.96**
Transmission Line Construction												
Heavy Construction Equipment	48.09	184.73	385.70	0.64	15.34	13.65	1.12	4.31	8.81	0.02	0.37	0.33
Worker Vehicles	3.85	39.43	3.56	0.05	1.11	0.47	0.13	1.30	0.12	0.00	0.04	0.02
Construction Trucks	2.64	11.26	53.62	0.10	2.30	1.29	0.08	0.37	1.53	0.00	0.08	0.05
Helicopters	12.83	66.89	66.89	12.31	22.11	22.11	0.13	0.67	0.67	0.12	0.22	0.22
Fugitive Dust	0.00	0.00	0.00	0.00	325.42	97.11	0.00	0.00	0.00	0.00	13.33	3.98
Transmission Line Daily Total	**67.41**	**302.31**	**509.77**	**13.10**	**366.27**	**134.63**	–	–	–	–	–	–
Transmission Line Annual Total	–	–	–	–	–	–	**1.46**	**6.65**	**11.13**	**0.14**	**14.04**	**4.59**
Distribution Line Construction												
Heavy Construction Equipment	8.38	31.08	60.43	0.10	2.96	2.63	0.15	0.57	1.08	0.00	0.06	0.05
Worker Vehicles	0.42	9.14	0.83	0.01	0.26	0.11	0.05	0.00	0.00	0.00	0.00	0.00
Construction Trucks	0.35	1.56	5.96	0.01	0.35	0.21	0.02	0.09	0.33	0.00	0.02	0.01
Distribution Line Daily Total	**9.16**	**41.78**	**67.22**	**0.12**	**3.56**	**2.95**	–	–	–	–	–	–
Distribution Line Annual Total	–	–	–	–	–	–	**0.22**	**0.66**	**1.41**	**0.00**	**0.08**	**0.06**
Overall Project												
Overall Project 2015 Daily Total	**114.38**	**473.10**	**883.00**	**13.74**	**452.44**	**166.52**	**4.08**	**14.37**	**30.49**	**0.18**	**22.92**	**7.61**
SCAPCD Significance Threshold	*75*	*550*	*100*	*150*	*150*	*55*	–	–	–	–	–	–
Exceed Significance Thresholds?	**Yes**	No	**Yes**	No	**Yes**	**Yes**	–	–	–	–	–	–

Key:
CO = carbon monoxide
Lbs/day = pounds per day
NO_X = oxides of nitrogen
PM_{10} = Particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = Particulate matter less than or equal to 2.5 microns in diameter
ROG = reactive organic gases
SCAPCD = South Coast Air Pollution Control District
SO_X = Oxides of sulfur
TPY = tons per year

1

Table 4.3-8a SCAQMD Localized Significance Threshold for Construction of Substations and Transmission Line

	Exceed CO LST?	Exceed NO_X LST?	Exceed PM_{10} LST?	Exceed $PM_{2.5}$ LST?
Construction Year 2015				
Capistrano Substation Building Removal - Lower Yard	No	No	**Yes**	**Yes**
Capistrano Substation Site Development - Lower Yard	No	**Yes**	**Yes**	**Yes**
Segment 1a: Underground 138-kV Getaways from San Juan Capistrano Substation	No	**Yes**	**Yes**	**Yes**
Segment 3: Overhead Double-Circuit 230-kV Transmission Line South of Vista Montana Road to structure 42	No	**Yes**	**Yes**	**Yes**
Segment 1b: Overhead Double-Circuit 230-kV Transmission Line from Capistrano Substation to Vista Montana Rd. and 138-kV Getaways East of San Juan Capistrano Substation to Vista Montana Road	No	**Yes**	**Yes**	**Yes**
Segment 4: Talega Hub/Corridor 230-kV from structure 42 to Talega Substation	No	No	**Yes**	**Yes**
Construction Year 2016				
Talega Substation Below Grade	No	No	**Yes**	No
Capistrano Substation Below Grade - Lower Yard	No	No	**Yes**	**Yes**
Capistrano Substation Construction - Lower Yard	No	No	No	No
Segment 1a: Underground 138-kV Getaways from San Juan Capistrano Substation	No	No	**Yes**	**Yes**
Segment 3: Overhead Double-Circuit 230-kV Transmission Line South of Vista Montana Road to structure 42	No	No	**Yes**	**Yes**
Segment 1b: Overhead Double-Circuit 230-kV Transmission Line from Capistrano Substation to Vista Montana Rd. and 138-kV Getaways East of San Juan Capistrano Substation to Vista Montana Road	No	No	**Yes**	**Yes**
Segment 4: Talega Hub/Corridor 230-kV from structure 42 to Talega Substation	No	No	**Yes**	**Yes**
Construction Year 2017				
Capistrano Substation Construction - Lower Yard	No	No	No	No
Capistrano Substation Relay Testing - Lower Yard	No	No	No	No
Capistrano Substation Energization - Lower Yard	No	No	No	No
Capistrano Substation Energize Temporary TL 13835 - Lower Yard	No	No	No	No
Capistrano Substation Remove 138/12kV Equipment - 230 kV	No	No	No	No
Capistrano Substation Site Development - 230 kV	No	No	**Yes**	**Yes**
Segment 2: Underground 230-kV Transmission Lines along Vista Montana Road (South) Emissions, lbs/day	No	No	**Yes**	**Yes**
Segment 2: Underground 230-kV Transmission Lines along Vista Montana Road (North w/138kV)	No	No	**Yes**	**Yes**
Construction Year 2018				
Capistrano Substation Site Development - 230 kV	No	No	**Yes**	**Yes**
Capistrano Substation Below Grade - 230 kV	No	No	**Yes**	**Yes**
Capistrano Substation Construction - 230 kV	No	No	No	No
Talega Substation Construction	No	No	No	No
Segment 3: Overhead Double-Circuit 230-kV Transmission Line South of Vista Montana Road to Structure 42	No	No	**Yes**	**Yes**
Segment 2: Underground 230-kV Transmission Lines along Vista Montana Road (South)	No	No	**Yes**	**Yes**

Table 4.3-8a SCAQMD Localized Significance Threshold for Construction of Substations and Transmission Line

	Exceed CO LST?	Exceed NO_X LST?	Exceed PM_{10} LST?	Exceed $PM_{2.5}$ LST?
Segment 1b: Overhead Double-Circuit 230-kV Transmission Line from Capistrano Substation to Vista Montana Road and 138-kV Getaways East of San Juan Capistrano Substation to Vista Montana Road	No	No	**Yes**	**Yes**
Segment 4: Talega Hub/Corridor 230-kV from Structure 42 to Talega Substation	No	No	**Yes**	**Yes**
Segment 2: Underground 230-kV Transmission Lines along Vista Montana Road (North w/138kV)	No	No	**Yes**	**Yes**
Construction Year 2019				
Capistrano Substation Relay Testing - 230 kV	No	No	No	No
Capistrano Substation De-energize Temporary TL 13835 - 230 kV	No	No	No	No
Segment 4: Talega Hub 138-kV and 69-kV Transmission Lines	No	No	**Yes**	**Yes**
Construction Year 2020				
Capistrano Substation Energization - 230 kV	No	No	No	No
Segment 4: Talega Hub 138-kV and 69-kV Transmission Lines	No	No	**Yes**	**Yes**

Key:
CO = carbon monoxide
kV = kilovolt
lbs/day = pounds per day
LST = Localized Significance Threshold
PM_{10} = Particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = Particulate matter less than or equal to 2.5 microns in diameter
TL = transmission line
w/ = with

Table 4.3-8b presents a summary of the significance determinations for the distribution line construction using the LST Methodology. Appendix K presents quantitative detailed analysis for each phase of construction, in comparison with the SCAQMD LSTs.

Table 4.3-8b SCAQMD LST for Construction of Distribution Line

Construction Segment	Above CO LST?	Above NO_X LST?	Above PM_{10} LST?	Above $PM_{2.5}$ LST?
Undergrounding 1: Construction 800 feet of underground	No	No	No	No
Conductor Pulling	No	No	No	No
Cable Poles Foundation	No	No	No	No
Construct Foundations	No	No	No	No
Set Poles	No	No	No	No
Stringing Conductor	No	No	No	No
Undergrounding 2	No	No	No	No
Conductor Pulling – Underground 2	No	No	No	No
Conductor Pulling - Rancho Viejo	No	No	No	No
Conductor Pulling - La Pata	No	No	No	No
Construct New Poles	No	No	No	No
Stringing overhead	No	No	No	No
Conductor Pulling (underground) - La Pata & Montana	No	No	No	No
Remove Poles and Conductor - La Pata	No	No	No	No
Undergrounding Talega	No	No	No	No

Table 4.3-8b SCAQMD LST for Construction of Distribution Line

Construction Segment	Above CO LST?	Above NO_X LST?	Above PM_{10} LST?	Above $PM_{2.5}$ LST?
Conductor Pulling (underground) - Talega	No	No	No	No

Key:
CO = carbon monoxide
LST = Localized Significance Threshold
NO_X = oxides of nitrogen
PM_{10} = Particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = Particulate matter less than or equal to 2.5 microns in diameter

As shown in Table 4.3-8b, emissions from the construction of the proposed 12-kV distribution line would not exceed the LSTs and would have a less than significant impact on air quality during construction.

SDAPCD

To identify the maximum daily emissions that would result from the simultaneous construction of various segments and the substation construction, the schedule was reviewed to identify the year during which maximum emissions would occur. Maximum daily emissions are expected to occur in 2015, as presented in Table 4.3-9. It was assumed that all 2015 activity could be conducted simultaneously except building removal, and distribution undergrounding.

Table 4.3-9 Maximum Daily and Annual Emissions in 2015

	Daily Emissions (lbs/day)						Annual Emission (tons/year)					
Construction Phase	**ROG**	**CO**	**NO_X**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**	**ROG**	**CO**	**NO_X**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Heavy Construction Equipment	3.97	16.59	32.15	0.06	1.25	1.11	0.06	0.25	0.49	0.00	0.02	0.02
Worker Vehicles	0.02	0.19	0.02	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Construction Trucks	0.01	0.05	0.25	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00
Fugitive Dust	0.00	0.00	0.00	0.00	33.66	10.05	0.00	0.00	0.00	0.00	1.48	0.44
Total Daily, 2015	**4.00**	**16.83**	**32.42**	**0.06**	**34.93**	**11.16**	–	–	–	–	–	
Annual Total, 2015	–	–	–	–	–	–	**0.06**	**0.26**	**0.50**	**0.00**	**1.50**	**0.46**
SDAPCD Significance Thresholds	*75*	*550*	*250*	*150*	*150*	*55*	*13.7*	*100*	*40*	*40*	*15*	*10*
Exceed Significance Threshold?	No	No	No	No	No	No	No	No	No	No	No	No

Key:
CO = carbon monoxide
Lbs/day = pounds per day
NO_X = oxides of nitrogen
PM_{10} = Particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = Particulate matter less than or equal to 2.5 microns in diameter
ROG = reactive organic gases
SDAPCD = San Diego Air Pollution Control District
SO_X = oxides of sulfur

As shown in Table 4.3-9, maximum daily construction emissions would not exceed the SDAPCD's screening level thresholds. Impacts associated with the portion of the proposed project that would be constructed in San Diego County would be less than significant under this criterion.

Operation and maintenance activities associated with the proposed project would be similar to those associated with the existing substations, transmission, and distribution lines operation and maintenance

activities. Therefore, operation of the proposed project would not create a new impact on air quality standards in both the SCAQMD and SDAPCD.

Impact AQ-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment.
SIGNIFICANT

Emissions from construction activities generated by the proposed project are anticipated to cause localized temporary increases in ambient air pollutant concentrations for which the project region is nonattainment.

SCAQMD

As shown in Table 4.3-3, the SCAQMD is currently in nonattainment for ozone, PM_{10}, and $PM_{2.5}$. As discussed under Impact AQ-2 and shown in Table 4.3-7, maximum daily construction emissions would exceed the regional significance thresholds for ozone precursors, PM_{10}, and $PM_{2.5}$. Implementation of APM AQ-1 and APM AQ-2 to control fugitive dust emissions and reduce emissions from vehicles and heavy equipment would reduce emissions, but not to levels below the regional significant thresholds. These emissions would therefore result in a cumulatively significant, but temporary, impact on the ambient air quality during construction activities.

SDAPCD

As shown in Table 4.3-3, the SDAPCD is currently in nonattainment for ozone, PM_{10}, and $PM_{2.5}$. As discussed under Impact AQ-2 and shown in Table 4.3-9, the maximum daily construction emissions would be below the SDAPCD's significance threshold for all pollutants for each phase of construction. Criteria pollutant emissions in the SDAPCD would not be cumulatively considerable, and impacts under this criterion would be less than significant.

Operation and maintenance activities associated with the proposed project would be similar to those associated with the existing substations, transmission, and distribution lines operation and maintenance activities. Therefore, operation of the proposed project would not create a new impact on cumulatively considerable criteria pollutant emissions in both the SCAQMD and SDAPCD.

Impact AQ-4: Exposure of sensitive receptors to substantial pollutant concentrations.
SIGNIFICANT

Sensitive receptors include schools, hospitals, residences, and other sensitive land uses. Land use conflicts can arise when sensitive receptors are located next to major sources of air pollutant emissions. As discussed in Section 4.11, "Noise and Vibration," the sensitive receptors closest to the proposed project components include residences, schools, places of worship, and recreational users. Sensitive receptors located in the proximity of work areas could be exposed to criteria air pollutants and TACs produced by diesel-fueled vehicles and equipment.

As shown in Table 4.3-8a, criteria air pollutant emissions of NO_x, PM_{10}, and $PM_{2.5}$ during various substation and transmission line construction phases are above the LSTs and would have a short-term, significant impact on air quality during construction. Implementation of APM AQ-1 and APM AQ-2 to control fugitive dust emissions and reduce emissions from vehicles and heavy equipment would reduce emissions, but not to levels below the LST. As discussed in Section 4.3.4, MM AQ-1 would require the applicant to purchase NO_X emission offsets through the SCAQMD's Regional Clean Air Incentive Market Trading Credits for every pound of NO_X emissions in excess of the SCAQMD regional significance threshold of 100 pounds per day. Implementation of MM AQ-1 would reduce impacts from NO_X

emissions to less than significant. PM_{10} and $PM_{2.5}$ emissions would remain significant and unavoidable. Construction of the proposed project would, therefore, result in a significant, but temporary, impact on ambient air quality with respect to PM_{10} and $PM_{2.5}$ emissions.

Sensitive receptors in the vicinity of the proposed project could also be exposed to TAC emissions as a result of construction activities. The main TAC that would be released during construction would be diesel PM from construction equipment and heavy-duty vehicles traveling to construction areas. Minor amounts of other TACs would be emitted from such sources as gasoline-powered worker vehicles and construction equipment.

The CARB and Office of Environmental Health Hazard Assessment have identified diesel PM as a carcinogenic substance. According to the Office of Environmental Health Hazard Assessment, human exposures greater than eight years are considered chronic exposures. Under the Office of Environmental Health Hazard Assessment guidelines for carcinogenic exposure, cancer risk should be evaluated over a 70-year lifetime.

Given that the construction of the proposed project would be short-term relative to the exposure periods for carcinogenic and chronic risks, and given that the transmission line construction activities would move along the transmission corridors and that individual substation construction activities would be shorter in duration, impacts on sensitive receptors would not result in substantial exposure to diesel PM. Impacts would be less than significant under this criterion.

Operation and maintenance activities associated with the proposed project would be similar to those associated with the existing substations, transmission, and distribution lines operation and maintenance activities. Therefore, operation of the proposed project would not create a new impact on exposure of sensitive receptors to substantial pollution concentration in both the SCAQMD and SDAPCD.

Impact AQ-5: Creation of objectionable odors affecting a substantial number of people. *LESS THAN SIGNIFICANT*

Exhaust from equipment and vehicles may temporarily create odors from the combustion of fuel during construction or operation. However, portions of the proposed project located near a substantial number of people are also located next to roads associated with the same fuel combustion odor. Therefore, the proposed project would not create an odor that would be perceptible from existing odors. Construction and operation of the proposed project would have a less than significant impact under this criterion.

4.3.4 Mitigation Measures

MM AQ-1: Oxides of Nitrogen (NO_X) Credits. The emissions of NO_X due to construction of the proposed project will be mitigated through the purchase of Regional Clean Air Incentive Market Trading Credits (RTCs) for every pound of NO_x emissions in excess of the SCAQMD regional significance threshold of 100 pounds per day. The total amount of NO_X RTCs to be purchased will be calculated when the construction schedule is finalized. The applicant will purchase and submit the required RTCs to the SCAQMD prior to the start of project construction. The applicant will also track actual daily emissions during construction according to a monitoring plan that includes records of equipment and vehicle usage.

4.4 Biological Resources

This section describes the environmental and regulatory settings and discusses impacts associated with construction and operation of the South Orange County Reliability Enhancement Project (proposed project) with respect to biological resources. During scoping, concerns about temporary and permanent impacts on sensitive vegetation communities and special status species were raised by the United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW), as well as other federal agencies (Marine Corps Base [MCB] Camp Pendleton) and local organizations. These concerns are addressed in this section.

Impacts related to water resources are discussed in 4.9, "Hydrology and Water Quality"; impacts related to soils are discussed in Section 4.6, "Geology, Soils, and Mineral Resources"; and a further discussion of the habitat conservation plans as they relate to land use and planning is provided in Section 4.10, "Land Use and Planning."

4.4.1 Environmental Setting

This section describes biological resources in the proposed project area, including habitat types, ecologically valuable communities, and special status species. In this document, "special status species" refers to any of the following:

- Species listed under the Federal Endangered Species Act of 1973 (ESA) as "Endangered" (FE) or "Threatened" (FT) (Title 50, Code of Federal Regulations [CFR] Section 17.11 or 17.12);
- Species listed under the California Endangered Species Act (CESA) as "Endangered" (SE), "Threatened" (ST), or "Rare" (R) (Sections 670.2 or 670.5, Title 14, California Code of Regulations);
- Species without a formal listing status that meets the definitions of "Endangered" or "Rare" under California Environmental Quality Act (CEQA) Guidelines Section 15380, including CDFW "Species of Special Concern" (SSC); "Candidate" (FC), or species "Proposed" for listing under the ESA~~;~~ USFWS "Birds of Conservation Concern" (BCC); and California Native Plant Society (CNPS) rare plant ranks 1B and 2, which are categorized into the following subsections:
  - 1A: Presumed extinct in California
  - 1B.1: Rare, threatened, or endangered in California and elsewhere. Extremely endangered in California
  - 1B.2: Rare, threatened, or endangered in California and elsewhere. Fairly endangered in California
  - 1B.3: Rare, threatened, or endangered in California and elsewhere. Not very threatened in California
  - 2.1: Rare, Threatened, or Endangered in California, But More Common Elsewhere; Seriously threatened in California
  - 2.2: Rare, Threatened, or Endangered in California, But More Common Elsewhere. Fairly threatened in California.
- ~~Species designated as "Birds of Conservation Concern") (BCC) by the USFWS;~~
- Species designated as "Fully Protected," (FP) and "Watch List" (WL) by the CDFW; and

- Species protected under local ordinances, including the San Diego Gas & Electric Company (SDG&E, or the applicant) Subregional Natural Community Conservation Plan (NCCP)/Habitat Conservation Plan (HCP) (SDG&E Subregional NCCP/HCP or NCCP) (i.e., Covered Species) (SDG&E 1995a) and the Orange County Southern Subregion HCP (NCCP/SAMP Working Group 2004).

4.4.1.1 Background/Methodology

Literature Review

The literature reviewed in preparing this section included a search for special status plant and wildlife species and sensitive vegetation community occurrences and locations in the vicinity of the proposed project (within approximately 3 miles), as recorded in the CDFW's California Natural Diversity Database (CNDDB). CNDDB records of occurrences were reviewed for the United States Geological Survey (USGS) 7.5-minute Cañada Gobernadora, San Juan Capistrano, San Clemente, and Dana Point quadrangles. In addition to the CNDDB, the following sources were reviewed in preparation of the surveys and the impacts analysis conducted for this resource:

- USFWS list of endangered, threatened, and proposed species obtained from the USFWS Carlsbad Field Office (USFWS 2014a);
- California Herps' A Guide to the Amphibians and Reptiles of California (California Herps 2014);
- Cornell Lab of Ornithology's eBird database website of publicly reported bird sightings (eBird 2014);
- CNPS 2012 online *Inventory of Rare and Endangered Plants of California* (CNPS 2013);
- USFWS's online Critical Habitat Portal (USFWS 2014b);
- CDFW's Special Animals List (CDFWG ~~2011~~2015);
- CDFW's Endangered and Threatened Animal List (CDFW ~~2014~~2015); and
- National Wetlands Inventory (USFWS 2014c).

Additional local and regional biological resources were reviewed to identify applicable ordinances or conservation plans, including the SDG&E Subregional NCCP/HCP (SDG&E 1995a) and the Orange County Southern Subregion HCP Planning Guidelines (NCCP/SAMP Working Group 2004).

Surveys Conducted

The applicant conducted reconnaissance-level surveys, general habitat assessment surveys, and protocol-level surveys for specific species in portions of the proposed project area, including the proposed double-circuit 230-kilovolt (kV) transmission line, proposed 12-kV distribution line, proposed San Juan Capistrano Substation site, and Talega Substation were conducted in 2008, 2011, and 2012. During the reconnaissance-level and general habitat surveys, the applicant's biological consultant mapped existing vegetation communities and assessed the potential for sensitive or listed plant and wildlife species, including species covered under the SDG&E Subregional NCCP/HCP. Protocol-level surveys were conducted for coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), arroyo toad (*Bufo californicus*), and drainages and other water features. Field surveys for special status plant species were conducted in accordance with *CNPS Botanical Survey Guidelines* (CNPS 2001), *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFG 2009), *and Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed*,

Proposed and Candidate Plants (USFWS 2000). Surveys are summarized in Table 4.4-1; reports of these surveys are presented in Appendix L-1, "Biological Resources Assessments for the Proponent's Environmental Assessment" (SDG&E 2012a) and Appendix L-2, "Distribution Line Impact Analysis" (SDG&E 2012b).

Table 4.4-1 Summary of Surveys Conducted for the Proposed Project

Survey Report and Focus	Date	Method	Location
Reconnaissance-level and Habitat Assessment Surveys[1,2]	February 26–28, 2008; March 25, 2008; September 28–30, 2011; October 11,12, 2011; November 2, 2011; December 28, 29, 2011; February 16, 28, 2012; July 5, 2012	Meandering transects on foot, some driving surveys along access roads. Surveys included a 250-foot buffer area around the proposed project area. Vegetation mapping was based on descriptions provided by Sawyer and Keeler-Wolf (1995 and 2009), SDG&E's Subregional NCCP/HCP Section 3.1 (SDGE 1995a), and Holland (1986). All wildlife and wildlife signs, including tracks, fecal material, nests, and vocalizations were noted.	Along the proposed project area that supported existing vegetation.
Sensitive Status Plant Species and Vegetation Communities Surveys[1,2,34]	April 15,17,18, 2008; April 19–21, 24, 25, 2010[34]	Meandering pedestrian surveys in accordance with standardized guidelines issued by USFWS, CDFW, and CNPS. Surveys included a 250-foot buffer area around the proposed project area. Every plant taxon encountered was identified to the taxonomic level necessary to determine its rarity and listing status. The Holland Code was used to describe vegetation community types (Holland 1986).	Along the proposed project area except developed and residential areas.
Coastal California Gnatcatcher Surveys[1]	Breeding season 2008 and 2010	USFWS Coastal California Gnatcatcher Presence/Absence Survey Guidelines for NCCPs	Only suitable coastal sage scrub habitat.[45]
Least Bell's Vireo Surveys[1]	Breeding season 2008 and 2010	USFWS Least Bell's Vireo Presence/Absence Survey Protocol with modifications pursuant to the SDG&E Subregional NCCP/HCP	Only suitable riparian habitat[45]
Southwestern Willow Flycatcher Surveys[1]	Breeding season 2008 and 2010	USFWS standard protocol as outlined in Sogge et al. (2010), including taped playback methods for three survey areas within the SDG&E easement and a 250-foot buffer along San Juan Creek in the southeast corner of the USGS *San Juan Capistrano* 7.5' quadrangle and Talega Creek in the southern portion of the USGS *San Clemente* 7.5' quadrangle.	Only potential breeding habitat[45]
Arroyo Toad Surveys[1]	April 30; 2010; May 7, 15, 23, 29; 2010; June 5, 2010	USFWS Survey Protocol for the Arroyo Toad, including both daytime and nighttime surveys for three survey areas within the SDG&E easement and a 250-foot buffer along San Juan Creek in the southeast corner of the USGS *San Juan Capistrano* 7.5' quadrangle and Talega Creek in the southern portion of the USGS *San Clemente* 7.5' quadrangle.	Only potential breeding habitat[45]

Table 4.4-1 Summary of Surveys Conducted for the Proposed Project

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Drainages and Other Water Features Surveys[1,2]	May and July 2010; December 2011; February 2012; July 5, 2012	The survey area width ranged in size from 500 feet along the transmission corridors to 1,100 feet in areas buffering the substation locations. Surveys were conducted using methods described in the USACE Wetland Delineation Manual (USACE 1987), the Regional Supplement to the USACE Wetland Delineation Manual: Arid West Region (USACE 2008a), and A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States (USACE 2008b). Hydrologic features were assessed for potential indicators of stream, riparian, or wetland functions.	Along the proposed project area except developed and residential areas.

Key:
CDFW California Department of Fish and Wildlife
CNPS California Native Plant Society
HCP Habitat Conservation Plan
kV kilovolt
NCCP SDG&E Subregional Natural Community Conservation Plan
SDG&E San Diego Gas & Electric
USACE United States Army Corps of Engineers
USFWS United States Fish and Wildlife Service

Notes:
[1] Appendix L-1; SDG&E 2012a
[2] Appendix L-2; SDG&E 2012b
[3] Sensitive Status Plant surveys were conducted during the optimal blooming period for each of the special status species identified as having the potential to occur in the proposed project area, with the exception of cliff spurge (*Euphorbia misera*), white rabbit-tobacco (*Pseudognaphalium leucocephalum*), and chaparral ragwort (*Senecio aphanactis*). Cliff spurge is a perennial shrub that would have been identified had it been present and the other two species are unlikely to occur within or adjacent to the proposed project area due to habitat requirements that do not exist within the proposed project area.
[4] Protocol-level surveys for Coastal California Gnatcatcher, Least Bell's Vireo, Southwestern Willow Flycatcher, and Arroyo Toad were not completed for the proposed 12-kV distribution line segment. Suitable habitat for these species may be present along the 12-kV distribution line.

4.4.1.2 Common and Special Status Natural Communities

The proposed project would cross~~transect~~ multiple land use types, ranging from urbanized areas to intact quality habitat for wildlife, and perennial creeks. The undeveloped areas consist of foothills with steep valleys, covered primarily with a mixture of non-native vegetation and coastal sage scrub. Table 4.4-2 provides the results of the vegetation communities surveys (detailed in Table 4.4-1). Vegetation communities are illustrated in Appendices L-1 and L-2, "Vegetation and Sensitive Species Maps."

Table 4.4-2 Vegetation Communities and Acreages within the Proposed Project Area[1]

Vegetation Community	Acreage
Coastal Sage Scrub	182.35
Coastal Freshwater Marsh	0.20
Southern Willow Scrub	9.96
Riparian Scrub	2.65
Non-native Grassland[2]	136.95
Disturbed	28.89
Ornamental	63.34
Dirt Roads	20.42
Developed	121.13
Total	**565.89**

Source: SDG&E 2012a,b

Notes:

[1] Vegetation within the proposed project area was identified using geographical information systems (GIS) data from the Biological Resources Assessment (Appendix L-1; SDG&E 2012a) combined with the acreage totals provided in the Distribution Line Impact Analysis (Appendix L-2; SDG&E 2012b).

[2] Vegetation classified in Appendices L-1 and L-2 as "ruderal" areas has been reclassified to non-native grasslands or appropriate contiguous habitat. SDG&E will conduct preactivity surveys per the NCCP/HCP prior to construction and areas of repeated disturbance will be considered as either disturbed habitat or non-native grassland, depending on the appropriate characterization as documented in the Preactivity Survey Report.

Special Status Vegetation Communities

Certain vegetation communities are afforded special status, including communities regulated by the federal government under the Clean Water Act of 1977 (CWA), such as jurisdictional wetlands; site-specific designated critical habitat areas for wildlife species listed under the ESA; and communities regulated by the CDFW (CDFG 2009). CDFW-designated special status natural communities are communities that support concentrations of sensitive plant or wildlife species, are of relatively limited distribution, or are of particular value to wildlife (CDFG 2009). Special status vegetation communities identified in the proposed project area include Coastal Sage Scrub (CSS) and riparian communities (Southern Willow Scrub [SWS], Coastal Freshwater Marsh [CFM], and Riparian Scrub) (see Table 4.4-2 for acreage).

CSS. Throughout southern California, CSS is considered a special status community by federal and state resource agencies and local jurisdictions. CSS provides habitat for the federally threatened coastal California gnatcatcher, as well as other animal and plant species that are candidates for federal listing, state species of concern, or considered sensitive by local jurisdictions. CSS is listed as a natural community within the SDG&E Subregional NCCP/HCP Plan Area.

Riparian Communities. The CDFW generally considers most wetland and riparian communities (i.e., those located in or adjacent to a drainage or other water feature) to be of special status. Most of the historical riparian habitat in southern California has been degraded by urban development, flood control projects, and conversion for agricultural purposes; thus, riparian communities are limited in distribution. Furthermore, riparian communities provide food, shelter, and breeding habitat for numerous plant and animal species.

Riparian vegetation, including SWS, CFM, and Riparian Scrub communities, is found along the drainages that occur in the proposed project area (see Section 4.4.1.3). Approximately 2.3 acres of southern sycamore alder riparian forest, a type of SWS that is a CDFW-designated special status natural community, was documented within the proposed project area (CNDDB 2013). This occurrence is located

east of Talega Substation on the rocket test site associated with MCB Camp Pendleton, and no impacts are expected on this sensitive natural community. Additionally, there is 0.20 acre of CFM within the proposed project area, which is also listed as a special status natural community. Both CFM and SWS areas were determined to also be wetlands.

Critical Habitat and Soils

The proposed project area contains USFWS-designated critical habitat for arroyo toad and coastal California gnatcatcher (Figure 4.4-1). Additionally, approximately 2 miles northeast of the proposed project area is critical habitat for San Diego fairy shrimp (*Branchinecta sandiegonensis*) and thread-leaved brodiaea (*Brodiaea filifolia*). In addition to critical habitat for arroyo toad and coastal California gnatcatcher, areas with soils that may support sensitive communities were also assessed (Natural Resources Conservation Service 2014). For example, the thread-leaved brodiaea is often found in coastal scrub on clay soils. Soils within the proposed project area that intersect with critical habitat are predominantly clay, clay-loam, or sandy loam (e.g., riverwash). These soils are described further in Section 4.6, "Geology, Soils, and Mineral Resources."

4.4.1.3 Jurisdictional Waters

Wetlands are ecologically productive habitats that support a diversity of plant and animal life. Often, species endemic to wetlands are found in no other habitat type. Wetlands are recognized as important natural systems because of their value to fish and wildlife and their functions as storage areas for flood flows, groundwater recharge, nutrient recycling, and water quality improvement. Wetlands are defined as areas that are periodically or permanently inundated by surface or ground water and support vegetation adapted to saturated soils.

The proposed project area traverses numerous drainages and wetland areas within the San Clemente Coastal Streams Watershed (part of the larger Aliso Creek-Frontal Gulf of Santa Catalina Water Basin) and the San Juan Creek Watersheds (USGS 2014). Section 4.9, "Hydrology and Water Quality," describes additional water resources within the proposed project area, and Appendices L-1 "Biological Resources Assessment" and L-2 "Addendum to Biological Resources Assessment".

The majority of waterways in the proposed project area are minor ephemeral drainages that contain water for short periods of time during large storm events. Larger waterways, including the San Juan Creek, Cristianitos Creek, and Prima Deshecha Cañada may be identified as seasonal waterways, containing water for longer periods on a seasonal basis but not always perennially throughout their entire reaches. Table 4.4-3 lists potentially jurisdictional waters within the proposed project area. Figure 4.4-2 shows the location of jurisdictional waters in the project area.

4.4.1.4 Common Wildlife Species

A variety of regionally abundant wildlife species are likely to occur throughout proposed project area. During the field surveys, numerous native and non-native common wildlife species were observed within the proposed project area. A complete list of species observed is included in Appendices L-1 and L-2.

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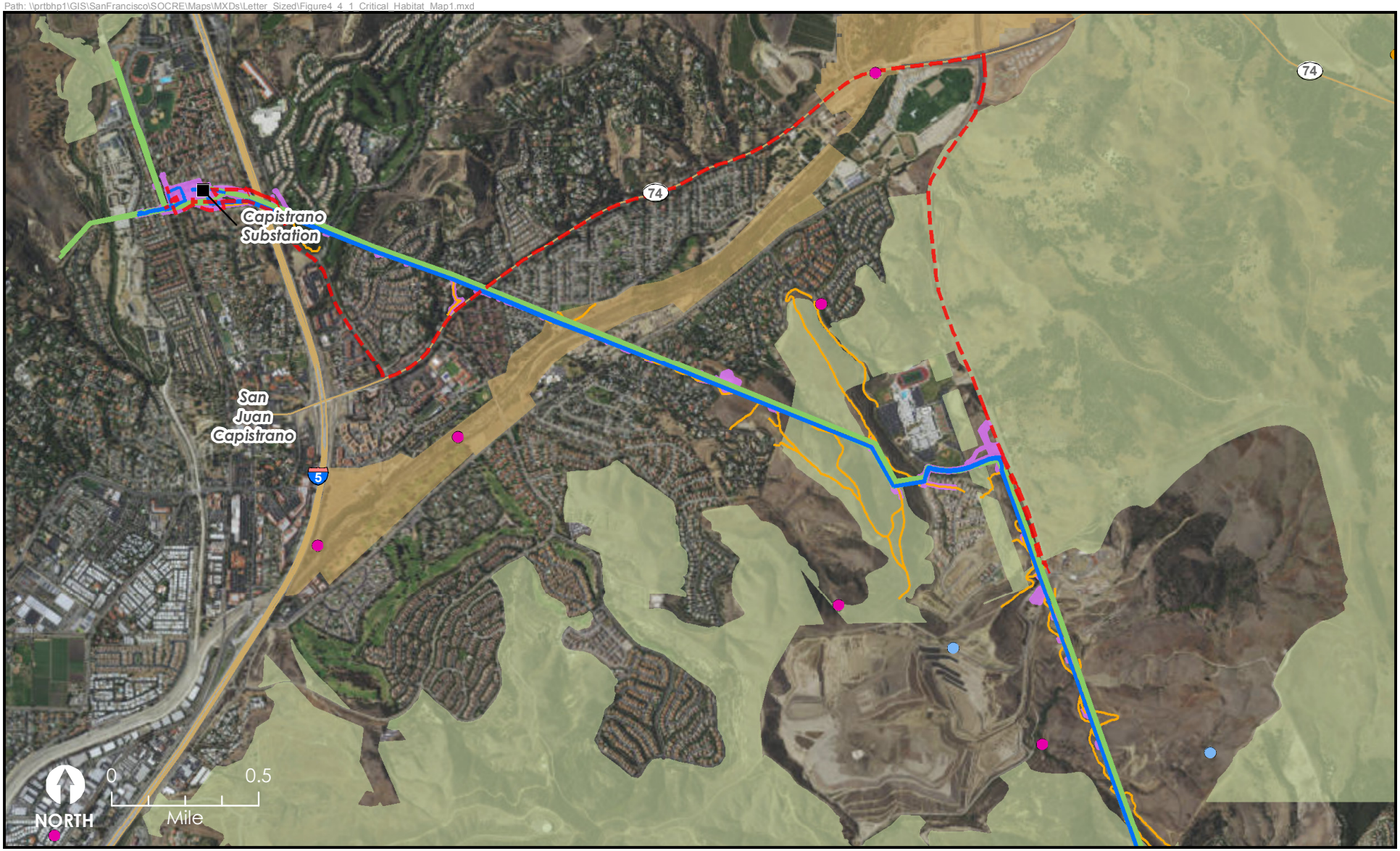

- Proposed transmission line
- Existing transmission line
- Access road
- Distribution Line
- Staging areas, stringing sites, work areas, and helicopter fly yards
- Roads
- Local road
- County Boundary

Critical Habitat
- Arroyo Southwestern toad
- Coastal California gnatcatcher

CNDDB
- Least Bell's vireo
- Southwestern willow flycatcher
- Thread-leaved brodiaea

Source: CNDDB 2014, USFWS 2014.

Figure 4.4-1a

Critical Habitat in the Proposed Project Area

South Orange County Reliability Enhancement Project

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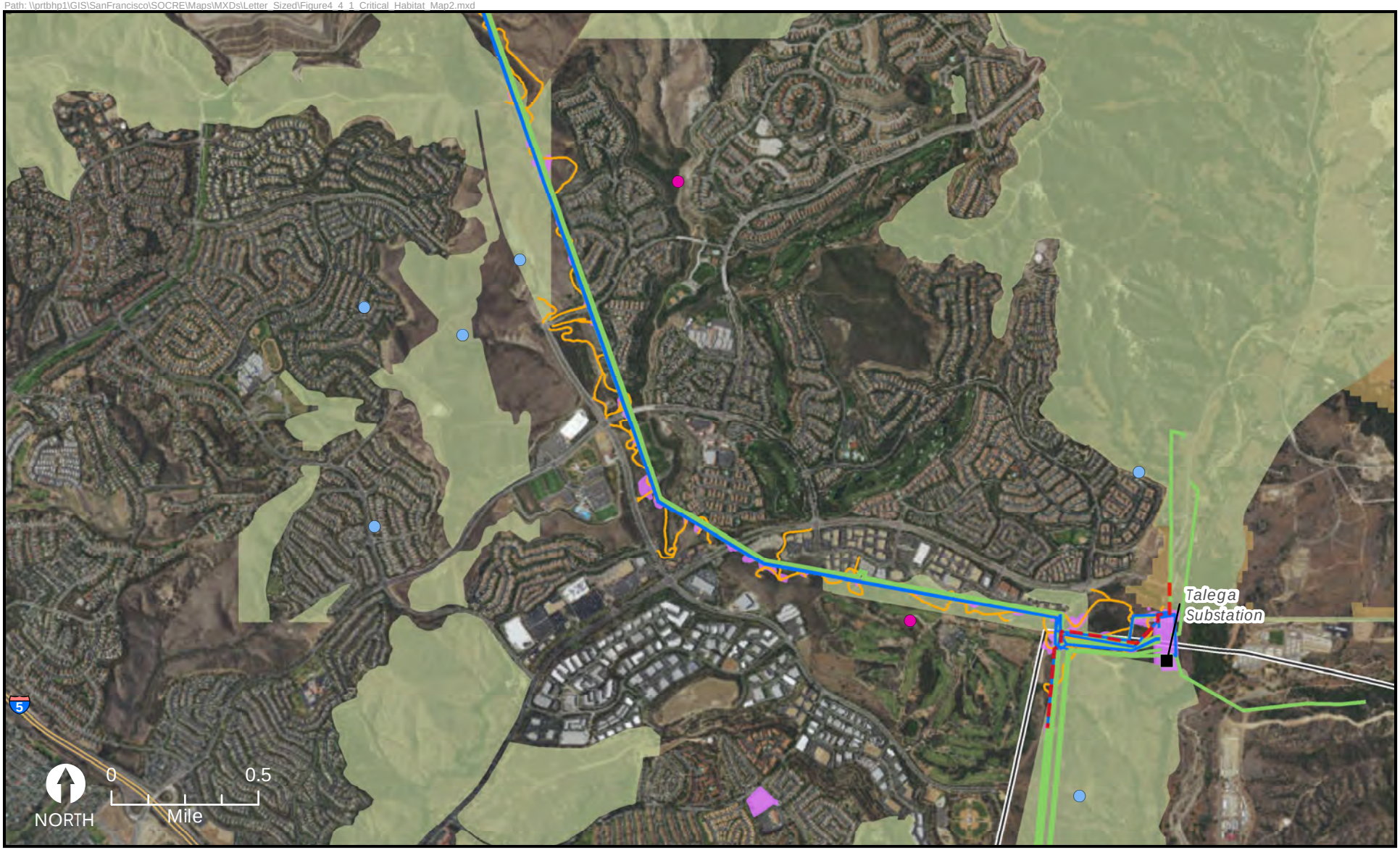


- Proposed transmission line
- Existing transmission line
- Access road
- Distribution Line
- Staging areas, stringing sites, work areas, and helicopter fly yards
- Roads
- Local road
- County Boundary

Critical Habitat
- Arroyo Southwestern toad
- Coastal California gnatcatcher

CNDDB
- Least Bell's vireo
- Thread-leaved brodiaea

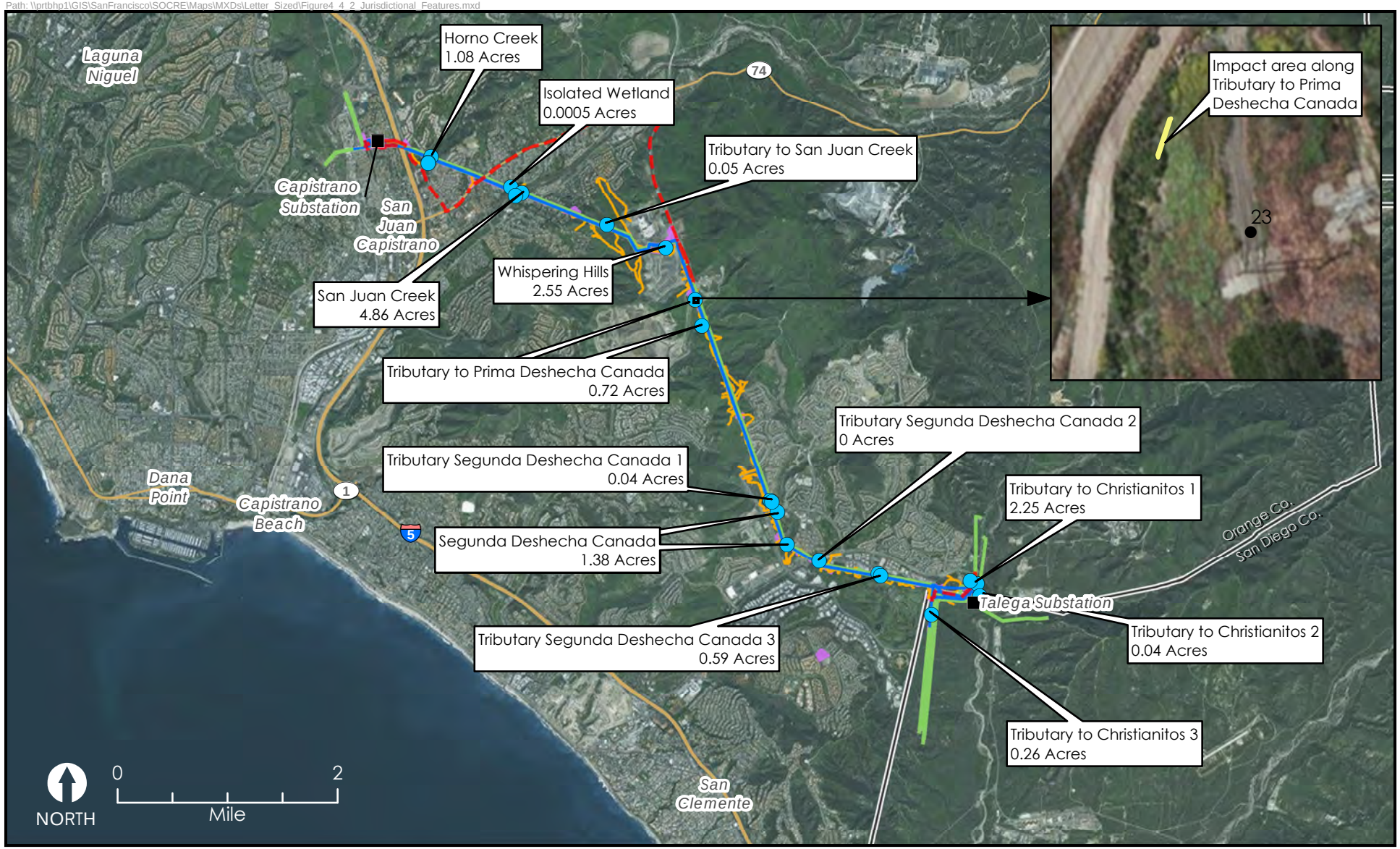
Source: CNDDB 2014, USFWS 2014.

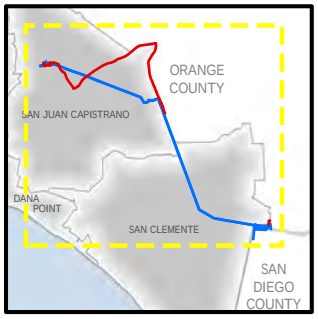
Figure 4.4-1b

Critical Habitat in the Proposed Project Area

South Orange County
Reliability Enhancement Project

Path: \\prtbhp1\GIS\SanFrancisco\SOCRE\Maps\MXDs\Letter_Sized\Figure4_4_2_Jurisdictional_Features.mxd





- Jurisdictional Water Features
- New Pole Location
- Proposed transmission line
- Existing transmission line
- Access road
- Distribution Line
- Staging areas, stringing sites, work areas, and helicopter fly yards
- Temporary Wetland Impact
- Roads
- Local road
- County Boundary

Source: CPUC 2014

Figure 4.4-2

Jurisdictional Features in the Proposed Project Area

South Orange County Reliability Enhancement Project

Acreage is for California Department of Fish and Wildlife's potentially jurisdictional features as calculated in Table 4.4-3.

1

Table 4.4-3 Potentially Jurisdictional Waters in the Proposed Project Area[1]

Feature	Approximate Linear Feet	USACE Jurisdiction (acres)			CDFW Jurisdiction (acres)		
		Wetlands	Other Waters	Total	Riparian	Bed/Bank/Channel	Total
Horno Creek	~~1,120~~1,071	~~0.22~~0.04	0.14	~~0.36~~0.18	~~1.83~~1.08	0	~~1.83~~1.08
San Juan Creek[1]	~~1,015~~725	~~4.21~~2.00	1.86	~~6.07~~3.86	~~7.07~~4.86	0	~~7.07~~4.86
Tributary to San Juan Creek	~~2,300~~1,642	0	~~0.06~~0.05	~~0.06~~0.05	~~0.55~~0	~~0.06~~0.05	~~0.56~~0.05
~~Tributaries to San Juan Creek 2 through 6~~	~~1,300~~	~~0~~	~~0.04~~	~~0.04~~	~~0.01~~	~~0.03~~	~~0.04~~
~~Rancho San Juan Drainage~~	~~960~~	~~0~~	~~0.94~~	~~0.94~~	~~2.55~~	~~0~~	~~2.55~~
Whispering Hills	1,218	0	0.94	0.94	2.55	0	2.55
Tributary to Prima Deshecha Cañada	~~3,880~~3,913	0	0.22	0.22	0.59	0.13	0.72
Segunda Deshecha Cañada	~~1,040~~1,317	0.68	0	0.68	1.38	0	1.38
Tributary to Segunda Deshecha Cañada 1	~~155~~205	0.01	0.03	0.04	0.01	0.03	0.04
Tributary to Segunda Deshecha Cañada 2	~~715~~153	0	0.03	0.03	0	~~0.03~~0	~~0.03~~0
Tributary to Segunda Deshecha Cañada 3	~~515~~512	0.26	0.02	0.28	~~0.55~~0.56	~~0.01~~0.03	~~0.56~~0.59
Tributary to Cristianitos Creek 1	~~1,290~~1,053	~~0.8~~0.26	0.08	~~0.88~~0.34	~~2.78~~2.24	0.01	~~2.79~~2.25
Tributary to Cristianitos Creek 2	~~610~~609	0	0.04	0.04	0	0.04	0.04

Table 4.4-3 Potentially Jurisdictional Waters in the Proposed Project Area[1]

Feature	Approximate Linear Feet	USACE Jurisdiction (acres)			CDFW Jurisdiction (acres)		
		Wetlands	Other Waters	Total	Riparian	Bed/Bank/Channel	Total
Tributary to Cristianitos Creek 3	~~630~~628	0	0.02	0.02	0.26	~~0.01~~0	~~0.27~~0.26
Totals	**~~15,530.00~~13,046**	**~~6.18~~3.25**	**~~3.48~~3.43**	**~~9.66~~6.68**	**~~17.58~~13.53**	**~~0.35~~0.29**	**~~17.88~~13.82**

Source: SDG&E 2012a,b
Key:
CDFW = California Department of Fish and Wildlife
USACE = United States Army Corps of Engineers
Note:
[1] Jurisdictional acreages for Horno Creek, San Juan Creek, and Tributary to Cristianitos Creek 1 from the Biological Resources Assessment (Appendix L-1; SDG&E 2012a) are combined with the acreage totals provided in the Distribution Line Impact Analysis (Appendix L-2, SDG&E 2012b). An isolated wetland, as shown in Figure 4.4-2, is included in San Juan Creek acreage.

4.4.1.5 Special Status Species

This section discusses the special status species that may occur in parts of the proposed project area based on the literature review and surveys conducted (described in Section 4.4.1.1). Species that have no potential of occurring in the proposed project area are not considered or included in discussion of anticipated project impacts; this includes, for example, species whose extinction from the region is presumed or confirmed, or species for which essential habitat or microhabitats are not present.

Special Status Plants with Potential to Occur

Special status plant species with the potential to occur in the project area are listed in Table 1 of Appendix L-3, along with their habitat requirements and an indication of their known presence or assessment of their potential to occur within the project area. There are 44 special status plant species with the potential to occur within 3 miles of the proposed project. Each of these species was rated likely or unlikely to occur in the proposed project area. Species were considered unlikely if (1) they have been identified in the CNDDB records within 3 miles, but the recorded observations are extremely old; key habitat requirements are absent; or the habitat in the proposed project 3 mile survey area is so degraded, small, or isolated that it would be very unlikely for the species to colonize/utilize the area; (2) suitable habitat is present within 3 miles, but species are not recorded in the CNDDB within 3 miles; or (3) species are not identified in the CNDDB within 3 miles and no suitable habitat lies within the project survey area. Conversely, a species was considered likely to occur if it is known to occur within 3 miles of the proposed project (based on CNDDB records and /or professional expertise specific to the proposed project survey area or species), and there is suitable habitat within the proposed project survey area. No sensitive status plant species were observed during any of the special status plant species surveys.

Of the 44 special status plant species with potential to occur in the proposed project area, five are federal or state-listed; big-leaved crownbeard (*Verbesina dissita*; FT, ST); Encinitas baccharis (*Baccharis vanessae*; FT, SE, Covered Species); Laguna Beach dudleya (*Dudleya stolonifera*; FT, ST); Santa Monica dudleya (*Dudleya cymosa* ssp. *ovatifolia*; FT); and thread-leaved brodiaea; FT, SE, Covered Species). Of these species, only Encinitas baccharis and thread-leaved brodiaea are likely to occur (Appendix L-3; Table 1). Based on geographic and elevation ranges and the presence of suitable habitat within the proposed project area, 11 special status plants were determined likely to occur within the proposed project area. These 11 species are further discussed below. The 33 special status plant species unlikely to occur within the proposed project area are further discussed in Appendices L-1, L-2, and L-3.

Blochman's dudleya (*Dudleya stolonifera;* CNPS 1B.1)

Blochman's dudleya is a perennial species that occurs in chaparral, coastal scrub, and grasslands, habitat types that exist in the proposed project area. This species prefers rocky, clay or serpentine soils between 15 and 1,475 feet elevation. The blooming period is April to June. CNDDB records indicate presence of this species 2.5 miles from the proposed double-circuit 230-kV transmission line and 2.7 miles from the proposed 12-kV distribution line components (CNDDB 2013).

California satintail (*Imperata brevifolia,* CNPS 2.1)

California satintail is a perennial herb that occurs in chaparral, coastal scrub, riparian scrub, meadows, and Mojavean desert scrub in California. This species prefers moderately moist soils between 0 and 1,640 feet elevation, but can be found in wetlands. The nearest CNDDB record is 1.6 miles from the proposed project (CNDDB 2013).

Coulter's saltbush *(Atriplex coulteri, CNPS 1B.2)*

This low-growing species is native to southern California and northern Baja California. This species blooms from March to October and can be found in coastal dunes, CSS, and grasslands between 10 and 1,510 feet elevation. There is suitable habitat in the proposed project area. The nearest CNDDB records for this species are between 0.02 milesof the proposed double-circuit 230-kV transmission line and 2.6 miles from the proposed 12-kV distribution line (CNDDB 2013).

Encinitas baccharis (*Baccharis vanessae;* FT, SE, CNPS 1B.1, NCCP Covered Species, Narrow and Endemic)

Encinitas baccharis occurs in maritime chaparral and cismontane woodland at an elevation range between 200 and 2,360 feet. This species is commonly found in sandstone substrate. The blooming period is August to November. CNDDB records indicate that there are documented occurrences within a 3-mile radius of the proposed project (CNDDB 2013).

Intermediate mariposa lily (*Calochortus weedii var. intermedius,* CNPS 1B.2)

Intermediate mariposa lily is a perennial herb with purple and yellow flowers that bloom from May to July. This species occurs in rocky and calcareous substrate in chaparral, coastal scrub, and grassland habitats between 345 and 2,800 feet elevation. There is suitable habitat in the proposed project area. The nearest CNDDB records for this species are within 0.5 miles of the proposed double-circuit 230-kV transmission line, and another nine records are within 3 miles (CNDDB 2013).

Many-stemmed dudleya (*Dudleya multicaulis,* CNPS 1B.2, NCCP Covered Species)

This succulent is endemic to California, where it is found in chaparral, CSS, and grasslands. This species prefers clay soils between 50 and 2,600 feet elevation. There is suitable habitat for this species in the proposed project area. The nearest CNDDB records for this species are within 1.0 mile of the proposed 12-kV distribution line, and another nine records are within 3 miles of the proposed project area (CNDDB 2013). In addition, the species occurs at MCB Camp Pendleton (MCB Camp Pendleton 2012).

Mud nama (*Nama stenocarpum,* CNPS 2.2)

This species usually occurs in wetlands, and around waterbodies such as lakes and streams between 15 and 1,640 feet elevation, but is occasionally found in non-wetlands. There is suitable habitat for this species in the proposed project area. The nearest CNDDB record for this species is within 2.3 miles of the proposed 12-kV distribution line (CNDDB 2013).

Palmer's grapplinghook (*Harpagonella palmeri,* CNPS 4.2, NCCP Covered Species)

Palmer's grapplinghook is an annual that blooms March through May. This species is found in CSS, chaparral, and grasslands between 65 and 3,140 feet elevation. There is suitable habitat in the project area. The nearest CNDDB record for this species is within 1.5 miles of the proposed double-circuit 230-kV transmission line and proposed 12-kV distribution line components (CNDDB 2013).

Salt spring checkerbloom (*Sidalcea neomexicana,* CNPS 2.2)

This perennial species is usually found in wetlands and playas and alkaline and mesic soils, but it is also occasionally found in CSS, creosote bush scrub, chaparral, and alkali sinks. This species occurs between 50 and 5,020 feet elevation. There is suitable habitat in the proposed project area. The nearest CNDDB record for this species is within 1.2 miles of the proposed project (CNDDB 2013).

Thread-leaved brodiaea (*Brodiaea filifolia;* FT, SE, CNPS 1B.1, NCCP Covered Species)

Thread-leaved brodiaea is a federally listed threatened, state-listed endangered, and CNPS 1B plant found only in California. This species' bluish-purple flowers bloom from March through June depending on location and elevation. Thread-leaved brodiaea is found in CSS, openings in chaparral, grasslands, vernal pools, and playas between 80 and 4,000 feet elevation. There is suitable habitat in the proposed project area. The nearest CNDDB record for this species is 0.3 mile from the proposed double-circuit 230-kV transmission line, and another nine records are within 2.4 miles of the proposed project (CNDDB 2013). In addition, the species occurs at MCB Camp Pendleton (MCB Camp Pendleton 2012).

White rabbit-tobacco (*Pseudognaphalium leucocephalum;* CNPS 2.2)

This perennial species is found in sandy and gravelly soils between 0 and 6,900 feet elevation. It commonly occurs in CSS, chaparral, riparian woodlands, and cismontane woodlands. There is suitable habitat in the proposed project area. The nearest CNDDB record is within 0.2 mile of the proposed 12-kV distribution line, and another three records are within 2.9 miles of the proposed project (CNDDB 2013).

Special Status Wildlife Present or with Potential to Occur

Special status wildlife species with the potential to occur in the proposed project area are listed in Table 2 of Appendix L-3, along with their habitat suitability and an indication of their known presence or assessment of their potential to occur within the proposed project area. Thirty-seven special status wildlife species with the potential to occur within 3 miles of the proposed project were identified through survey efforts or by examining queries from CNDDB records searches and reviewing the SDG&E Subregional NCCP/HCP Covered Species. As with special status plant species, each wildlife species with the potential to occur was analyzed and determined to be likely or unlikely to occur in the proposed project area.

Of the 37 special status wildlife species with the potential to occur in the proposed project area, six are known to be present in the proposed project area, and 19 special status wildlife species are likely to occur in the proposed project area. These 25 special status wildlife species are further discussed below. The 13 special status wildlife species unlikely to occur in the proposed project area are further discussed in Appendices L-1, L-2, and L-3.

Invertebrates

Monarch Butterfly (*Danaus plexippus;* NatureServe vulnerable rank)

Neither the ESA or CESA lists the monarch butterfly as a special status species, but it is ranked as vulnerable in California by the NatureServe rank system.[1] Monarch butterflies congregate in clusters in trees, primarily eucalyptus, during fall and winter migration. In general, they use the same trees every year. This habitat is considered sensitive during the winter roosting and clustering period. The CNNDB indicates that the species occurs in both San Clemente and San Juan Capistrano USGS quadrangles, but there are no known roosting trees in the proposed project area.

Fish

Arroyo chub (*Gila orcuttii;* SSC)

The arroyo chub inhabits slow moving coastal streams in southern California with muddy or sandy bottoms. This species has CNDDB records documenting occurrence in San Juan Creek where the proposed project area crosses the creek, as well as upstream and downstream of the area and in nearby tributaries (CNDDB 2013). The northern portion of the proposed project area near San Juan Capistrano provides suitable habitat for the species.

Southern steelhead (*Oncorhynchus mykiss irideus;* FE, SSC)

Southern steelhead is a sea-run rainbow trout (anadromous) that historically inhabited major coastal streams in southern California. CNDDB records document occurrence of this species in San Mateo Creek, and it has been documented occurrences within MCB Camp Pendleton as recently as 2003 (MCB Camp Pendleton 2012). In addition, Cristianitos Creek, near the eastern portion of the proposed project area is a tributary of San Mateo Creek and may provide suitable habitat for the species. Furthermore, restoration projects near the proposed project could also support steelhead within the proposed project area (California State Coastal Conservancy 2007).

Amphibians and Reptiles

Arroyo toad (*Bufo californicus;* FE, SSC, NCCP Covered Species)

Arroyo toad requires shallow gravelly or sandy pools of intermittent streams for breeding that are in proximity to upland grasslands or mixed scrub for foraging and aestivation. Records from the CNDDB document the species within 0.1 mile of the proposed project area, specifically in San Juan Creek, San Mateo Creek and Canyon, Cristianitos Creek, Talega Canyon, and Gabino Canyon. Suitable upland foraging habitat exists in the proposed project area (CNDDB 2013).

Arroyo toad protocol-level surveys were conducted during the summer of 2010 (Appendix L-1; SDG&E 2012a). Three areas were surveyed within the SDG&E easement and a 250-foot buffer along San Juan Creek in the southeast corner of the USGS *San Juan Capistrano* 7.5' quadrangle and Talega Creek in the southern portion of the USGS *San Clemente* 7.5' quadrangle. The surveys were conducted according to the USFWS standard protocol as outlined in the USFWS Survey Protocol for the Arroyo Toad (USFWS 1999a) and included both daytime and nighttime surveys. The arroyo toad was absent from all survey areas, although potential suitable upland foraging habitat was identified within the proposed project area

[1] The monarch butterfly is listed as a vulnerable species by NatureServe, which means the species has a restricted range and wintering sites are rare for this species. Although the monarch is globally secure, the species is vulnerable in the United States because of serious threats to their obligate overwintering areas in Mexico (mostly) and a recent order of magnitude decline in its California based population, which apparently reflects threats in the western breeding range (NatureServe 2014).

(refer to Appendix L-1). Areas within 0.9 mile of Cristianitos and Gabino Creeks would be considered suitable upland habitat for the species, but not suitable for breeding.

Belding's orange-throated whiptail (*Aspidoscelis hyperythra;* SSC, NCCP Covered Species)

Belding's orange-throated whiptail is found in areas with loose soil and rocks and brushy habitat, including chaparral and dry washes. Suitable habitat was identified in the proposed project area, but no Belding's orange-throated whiptails were observed during surveys. The nearest CNDDB records for this species are 1.5 miles and 2.1 miles from the proposed project (CNDDB 2013).

Coast horned lizard (*Phrynosoma coronatum blainvillei;* SSC, NCCP Covered Species)

The coast horned lizard occurs in relatively open landscapes. The CSS, annual grasslands, chaparral, oak woodlands, and riparian woodlands in the proposed project area are appropriate habitat for this species. Surveys did not detect any coast horned lizards; however, there are CNDDB records within 0.75 mile of the proposed project area (CNDDB 2013). Species may be present in CSS habitat along the proposed project area.

Northern red-diamond rattlesnake (*Crotalus ruber ruber;* SSC, NCCP Covered Species)

The northern red-diamond rattlesnake inhabits arid areas and various habitats, including chaparral, grasslands, oak and pine woodlands, and agricultural areas, preferring areas with rocky cover. Suitable habitat was identified during surveys, but no occurrences were identified. The nearest CNDDB records for this species are 1.5 miles and 2.1 miles from the proposed project (CNDDB 2013).

Two-striped garter snake (*Thamnphis hammondii;* SSC, NCCP Covered Species)

The two-striped garter snake occurs in or near fresh water, with rocky beds bordered by dense riparian vegetation or chaparral and brushy habitats, including woodlands. No occurrences were identified during field surveys. The nearest CNDDB record for this species is within 0.1 mile of the proposed 12-kV distribution line (CNDDB 2013).There is potential for this species to occur within the riparian woodlands and the perennially wet creeks and drainages crossing the proposed project area.

Western pond turtle (*~~Emys~~ Clemmys marmorata pallida;* SSC, NCCP Covered Species)

The western pond turtle inhabits streams and other water features with aquatic vegetation. This species requires habitat with basking sites of sandy banks or grassy open fields, and upland habitat up to 0.3 mile from water for egg laying. Suitable habitat was identified in the proposed project area, specifically within the perennially wet creeks and drainages crossing the proposed project route. The nearest CNDDB record for this species is within 0.6 mile of the proposed project, and three more records are within 2.2 miles of the proposed project (CNDDB 2013).

Western spadefoot (*Spea hammondii;* SSC, NCCP Covered Species)

The western spadefoot occupies various habitats, including CSS, chaparral, and grasslands, but requires perennial pools for breeding and egg-laying. Suitable habitat was identified in the proposed project area, but no occurrences were detected during surveys. The nearest CNDDB record for this species, dated 2001, is within 0.1 mile of the proposed double-circuit 230-kV transmission line, specifically in a pond at the base of an existing transmission line tower. Additional records include those from Horno Creek within 2.2 miles of the proposed 12-kV distribution line and an extirpated record from within 2.6 miles of the proposed double-circuit 230-kV transmission line (CNDDB 2013).

Birds

American peregrine falcon (*Falco peregrinus anatum;* BCC, FP, NCCP Covered Species)

The American peregrine falcon ~~prefers~~commonly uses open habitats like lakes, bays, and coastlines that contain prey birds, mostly shorebirds and waterfowl. These falcons nest on cliffs in the wild, but have adapted to nest on buildings and bridges in urban landscapes. Portions of the proposed project area contain suitable nesting and foraging habitat. One active nest was identified in 2008 surveys 2,500 feet west of Talega Substation, but this nest was not found again during 2011 surveys (Appendix L-1; SDG&E 2012a). There are no CNDDB records within 3.0 miles of the proposed project area (CNDDB 2013).

Coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis;* SSC, NCCP Covered Species, Narrow and Endemic)

The coastal cactus wren uses CSS habitat that has prickly pear and coastal cholla (*Opuntia littoralis* and *O. oricola*) tall enough to support and protect the bird's nest. These cactus species are necessary for the presence of this species. Habitats with these key components were identified in the proposed project area; however, field surveys did not record the presence of coastal cactus wren (Appendix L-1; SDG&E 2012a). The nearest CNDDB record for this species is within 0.2 mile of the proposed project, and there are five additional records within 3 miles (CNDDB 2013).

Coastal California gnatcatcher (FT, SSC, NCCP Covered Species)

The coastal California gnatcatcher is an obligate of CSS. Species composition within that habitat varies dramatically by coastal California gnatcatcher territory, but the California sagebrush (*Artemisia californica*) is usually dominant or co-dominant (Atwood and Bontrager 2001). Optimal coastal California gnatcatcher breeding habitat occurs below 1,640 feet elevation, on moderate slopes. Typical breeding habitat requires at least two contiguous acres of appropriate vegetation. There is suitable nesting and foraging habitat in the proposed project area. Nineteen observations of coastal California gnatcatchers were made during both habitat assessment surveys and focused surveys in 2008, and 21 observations were made during 2010 surveys. In addition, the surveys identified four nesting pairs within the proposed project area (Appendix L-1; SDG&E 2012a). Observation locations are provided in Appendix L-1. Several observations occurred in USFWS designated California gnatcatcher critical habitat.

Cooper's hawk (*Accipiter cooperii;* WL, NCCP Covered Species)

Cooper's hawk is a resident of woodlands, mixed forests, and riparian areas. In coastal southern California, this raptor species has been successful at adapting to urbanized landscapes. Cooper's hawk is commonly associated with eucalyptus trees, oaks, and other nonnative tree species. Areas with a similar mix of trees in the proposed project area provide suitable nesting and foraging habitat. This species was observed in riparian habitat and eucalyptus trees along the proposed project area, particularly in the vicinity of San Juan Creek.

Least Bell's vireo (FE, SE, SSC, NCCP Covered Species)

Least Bell's vireo is the subspecies distributed along the western portion of the nominate species range. Research has shown that least Bell's vireo benefits from using both riparian and non-riparian habitats (Kus et al. 2010). A dense shrub layer from 2 to 10 feet above the ground is critical for this species to conceal nests and to provide a variety of plant species for adult foraging (Kus et al. 2010). Breeding territory size ranges from 0.5 to 7.5 acres (Kus 2002). Riparian overstory is usually dominated by cottonwood (*Populus* spp.), sycamore (*Platanus* spp.), and willows (*Salix* spp.) (Kus 2002). Common understory and nesting plant species that provide concealment are, mule fat (*Baccharis salicifolia*), marsh baccharis (*Baccharis glutinosa*), blackberry (*Rubus ursinus*), and mugwort (*Artemisia douglasiana*)

(Olson & Gray 1989). Threats to this species include habitat degradation and loss and parasitism by brown-headed cowbirds (*Molothrus ater*). Least Bell's vireo was observed during focused surveys at four drainage locations spanned or paralleled by the proposed project area. Seven adults were heard and/or observed during the surveys, and none of them appeared to be banded (Appendix L-1; SDG&E 2012a). Additionally, there are nine CNDDB records of this species within 3 miles of the proposed project area (CNDDB 2013).

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens;* WL, NCCP Covered Species)

Southern California rufous-crowned sparrow is a year-round resident of rocky areas of hilly terrains with mixed chaparral and CSS. Suitable nesting and foraging CSS habitats were identified in the proposed project area. Southern California rufous-crowned sparrow was not observed during any field surveys (Appendix L-1; SDG&E 2012a). The nearest CNDDB records for this species are 1.8 miles from the proposed double-circuit 230-kV transmission line and 2.7 miles from the proposed 12-kV distribution line (CNDDB 2013).

Southwestern willow flycatcher (FE, SE, NCCP Covered Species)

Southwestern willow flycatcher is a riparian obligate of the desert southwest, preferring thickets of willows along rivers, streams, springs, or other wetlands. This subspecies is found in riparian areas with dense brush at all levels of the vegetation, with taller canopy trees such as cottonwoods or salt cedar. An important component of the habitat is standing water or soil with high enough moisture to maintain the appropriate shrubby vegetation (Sedgewick 2000). Southwestern willow flycatcher territory size varies greatly, from as small as 2 acres to several hundred acres (Sogge et al. 2010).

There is suitable breeding habitat for southwestern willow flycatcher in the proposed project area. The nearest CNDDB records for this species are 1.4, 1.8, and 2.4 miles from the proposed project (CNDDB 2013). Focused surveys conducted in 2008 observed willow flycatchers that were presumed to be migratory individuals because they were only recorded once during the migratory period and not again during the breeding season. These observations were in the riparian habitats 0.5 mile west and at 1 mile southwest of Talega Substation (Appendix L-1; SDG&E 2012a). No southwestern willow flycatchers were observed during the 2010 focused surveys for this species (Appendix L-1; SDG&E 2012a).

Tricolored blackbird (*Agelaius tricolor;* BCC, SSC, NCCP Covered Species)

Tricolored blackbirds breed and forage in fresh-water marshes of cattails, tule, and sedges, and willows and blackberries. This species requires thick vegetation along water sources for nesting. In southern California, tricolored blackbirds occur from Santa Barbara to San Diego counties. Field surveys identified small patches of suitable habitat in the proposed project area. No observations of tricolored blackbird were recorded, and the nearest CNDDB record for this species is within 1.2 miles of the proposed 12-kV distribution line; it was also recorded 1.9 miles and 3.0 miles of the proposed double-circuit 230-kV transmission line and proposed 12-kV distribution line (Appendix L-1; SDG&E 2012a; CNDDB 2013).

Western Burrowing owl (*Athene cunicularia;* SSC, NCCP Covered Species, Narrow and Endemic)

Western burrowing owls are resident throughout southern California open grassland, desert, and scrubland habitats with widely spaced vegetation. A ground nesting species, burrowing owls will often use mammal burrows or other previously excavated holes for nesting. For foraging, this species requires open areas with insects and small reptiles or mammals. This type of habitat, and in particular the presence of California ground squirrel burrows, is found at various locations throughout the project area.

No western burrowing owls were observed in the proposed project area at the time of surveys (Appendix L-1; SDG&E 2012a). Occurrences of western burrowing owl have been recorded within the proposed double-circuit 230-kV transmission line project area near the Prima Deshecha Landfill (CNDDB 2013). Though no western burrowing owls were observed in the project area, these owls are highly mobile and it is likely that they could move into the area at any time.

White-tailed kite (*Elanus leucurus;* FP)

White-tailed kites generally occur in low elevation grassland, agricultural, wetland, oak woodland, and riparian areas adjacent to open flat to steep areas and nest in trees. Suitable foraging and nesting habitat was identified in the proposed project area and white-tailed kites were seen during surveys. In addition, there are CNDDB records for this species within 0.3, 0.6, and 2.0 miles of the proposed double-circuit 230-kV transmission line (CNDDB 2013).

Mammals

Dulzura pocket mouse (*Chaetodipus californicus femoralis;* SSC, NCCP Covered Species)

The Dulzura pocket mouse occurs in grasslands, chaparral, and CSS. Suitable habitat was identified in the proposed project area, but no occurrences were recorded during surveys (Appendix L-1; SDG&E 2012a). The nearest CNDDB record for this species is within 2.7 miles of the proposed double-circuit 230-kV transmission line (CNDDB 2013).

Mexican long-tongued bat (*Choeronycteris mexicana;* NCCP Covered Species)

This species' northernmost range is within the southernmost extent of the proposed project area. It often feeds on nectar obtained from neighborhood hummingbird feeders and roosts in mine tunnels, caves, rock fissures, and buildings near oak and mixed woodlands, which are sporadic throughout the proposed project area. Although no occurrences were identified during field surveys, suitable roosting habitat was identified in the proposed project area. Furthermore, there is a CNDDB occurrence within 2.7 miles of the proposed project area (CNDDB 2013).

Mountain lion (*Felis concolor;* NCCP Covered Species)

Mountain lions are wide ranging and inhabit a variety of habitat types throughout North America. In California, mountain lions can inhabit deserts, chaparral, and forests so long as there is adequate topography and vegetative cover (Feldhamer et al. 2003; Wilson and Ruff 1999). They are most abundant in areas that support a large population of ungulates (i.e., deer, but also livestock). They are less common at higher elevations in pure stands of conifers and at lower elevations in pure stands of chamise (*Adenostoma fasciculatum*) (Feldhamer et al. 2003). Marginal suitable habitat exists in the less disturbed portions of the proposed project area and near MCB Camp Pendleton; no occurrences were identified during field surveys. There are no CNDDB records within 3.0 miles of the proposed project area. However, the Wildlife Health Center at the University of California Davis tracked a mountain lion through the proposed project area in 2010 (UT San Diego 2010).

Pallid bat (*Antrozous pallidus;* SSC)

Pallid bats occur throughout California up to 8,000 feet in elevation. Pallid bats inhabit a variety of habitats, including grasslands, shrublands, and woodlands. The proposed project area has suitable foraging habitat, and roosting habitat may be present in the proposed project area in tree cavities, rock crevices, and human-made structures including bridges. No occurrences or specific surveys were conducted for bats. The nearest CNDDB records for this species are 1.5 miles from the proposed double-circuit 230-kV transmission line and 2.1 miles from the proposed 12-kV distribution line (CNDDB 2013).

Southern mule deer (*Odocoileus hemionus;* NCCP Covered Species)

Suitable habitat for southern mule deer includes chaparral, CSS, desert scrub, grasslands, and coniferous forests. Chaparral and CSS habitat suitable for mule deer was identified during surveys of the proposed area (Appendix L-1; SDG&E 2012a).

4.4.1.6 Wildlife Corridors

A wildlife corridor is defined as a linear landscape feature that allows animal movement between two patches of habitat or between habitat and geographically discrete resources such as water. Connections between extensive areas of open space are integral to maintaining regional biological diversity and population viability. Areas that serve as wildlife movement corridors are considered biologically sensitive because they can facilitate the persistence of special status species. In the absence of corridors, habitats become fragmented, isolated islands surrounded by development. Fragmented habitats support much lower numbers of species and increase the likelihood of extinction for select species.

Important distinctions exist between regional and local corridors. Regional corridors link two or more large areas of natural open space and maintain demographic and genetic exchange between wildlife populations residing within these geographically distinct areas, whereas local corridors give resident animals access to essential resources (water, food, cover, or den sites) within a large habitat patch and may also function as secondary connections to the regional corridor system. Different species have different corridor use potentials. For example, a landscape feature that functions as a corridor for a songbird may not suffice for a mountain lion or a reptile.

Another useful distinction can be drawn between natural and constructed corridor elements. Natural elements are features of the landscape such as canyons, streams, or riparian strips that are conducive to animal movement. Constructed elements such as roadway bridges and drainage culverts, are often part of a corridor. Wildlife corridors in a partially developed landscape generally include both natural and constructed elements. The SDG&E Subregional NCCP/HCP conserves habitats to the maximum extent practicable and preserves corridors connecting habitat by allowing the use of selected transmission right-of-way (ROW) for wildlife corridors as mitigation for certain impacts. These corridors are designed to maintain connections between the primary preserves and to support supplemental populations between preserves.

In the proposed project area, riparian corridors provide shade, cover, water, food, and discrete corridors for wildlife movement. Barriers to movement include highways and paved roads (such as Interstate 5 and Highway 74), as well as the numerous residential neighborhoods along the proposed transmission corridor. Areas of mountainous terrain, while providing corridors, may also present barriers to some species unable to navigate the steep elevation. The SDG&E Subregional NCCP/HCP has identified numerous species that may utilize habitat corridors for movement, including mountain lion, southwestern willow flycatcher, least Bell's vireo, Belding's orange-throated whiptail, and many others (SDG&E 1995a). The SDG&E Subregional NCCP/HCP promotes the conservation of contiguous habitat for these species, especially habitat containing appropriate refugia, foraging, and breeding habitat.

4.4.1.7 SDG&E Subregional NCCP/HCP Preserve Areas

Under the SDG&E Subregional NCCP/HCP, certain areas containing habitat for Covered Species are considered preserve areas. Preserve areas include existing reserve or conservation areas established by regional planning documents (e.g., Orange County Southern Subregion HCP); state, federal, and local

preserve areas; lands designated as public and private open space, community parks, and preserve land by local general land use plans[2] and public or private areas set aside for the long-term protection of plants and wildlife (SDG&E 1995a,b). The proposed project would traverse through several areas that may be considered preserve areas: City of San Juan Capistrano open space; a Conservation Easement at Orange County's Prima Deshecha Landfill; City of San Clemente open space, including a yet-to-be recorded Conservation Easement in the Talega Development; and San Onofre State Beach. Construction and maintenance impacts on preserve areas have different mitigation requirements than on areas outside of preserve areas, as described in Section 7.4 of the ~~SCG~~SDG&E NCCP/HCP (SDG&E 1995a).

The Orange County Southern Subregion HCP designates open space or preserve areas within the counties of Orange and San Diego, including areas within the city of San Clemente, the city of San Juan Capistrano, the County of Orange, and the family-held Rancho Mission Viejo (RMV) (Figure 4.4-3, "~~HCPs and NCCPs~~Preserved Lands within the Proposed Project Area"). The preservation areas under the Orange County Southern Subregion HCP would be considered preserve areas under the SDG&E Subregional NCCP/HCP (SDG&E 1995a, b). The proposed project traverses a small portion of a Conservation Easement at Orange County's Prima Deshecha Landfill that was preserved as mitigation land under the Orange County Southern Subregion HCP to compensate for impacts on other areas by landowners participating in the HCP. In addition, part of the proposed 12-kV distribution line would traverse through RMV land in Orange County, including running along roads adjacent to RMV Conservation Easements; however, impacts to these Conservation Easements are not expected.

The City of San Clemente has two open space land use designations: one for publicly owned existing and dedicated parklands, passive open space areas, recreational facilities, and golf courses (OS 1) and one for privately owned parklands, recreational facilities, passive open space areas, and golf courses (OS 2) (San Clemente 2014). Some of the dedicated open space areas traversed by the proposed project may be considered preserve areas under the SDG&E Subregional NCCP/HCP.

The City of San Juan Capistrano has multiple open space land use designations, including:

- General Open Space – this designation is general in nature and provides for the possible combined development of several of the uses or the individual development of one of the uses specifically identified by the other open space and recreation designations;
- Open Space Recreation – this designation provides for outdoor recreational facilities, including golf courses, swimming schools, tennis clubs, equestrian clubs, and caretaker facilities; ~~and~~
- Natural Open Space – this designation provides for natural open space land that separates developed areas from one another, preserves natural features like creeks, ridgelines or hillsides, or includes natural hazards like landslides. This designation includes approximately 449 acres located in the southern portion of the City of San Juan Capistrano; and
- Community Park – this designation provides for major active recreation sites, including large multipurpose fields for community events and informal recreation, sports fields and courts, concessions, maintenance/support facilities and caretaker facilities. (San Juan Capistrano 1999).

Some of the dedicated open space areas traversed by the proposed project may be considered preserve areas under the SDG&E Subregional NCCP/HCP.

[2] General Plan land use designations for the cities of San Clemente and San Juan Capistrano and the counties of Orange and San Diego are described in Section 4.10, "Land Use and Planning."

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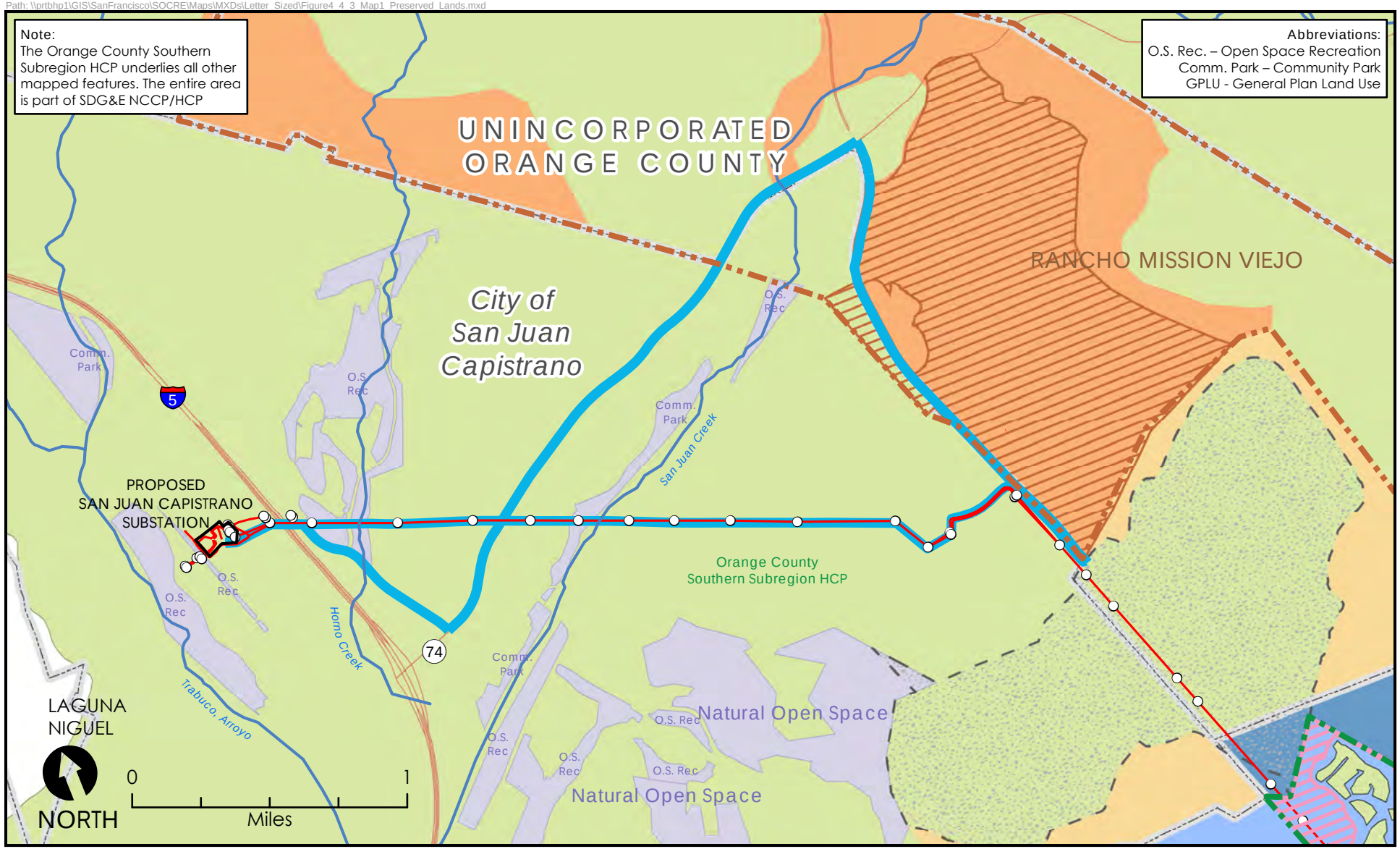
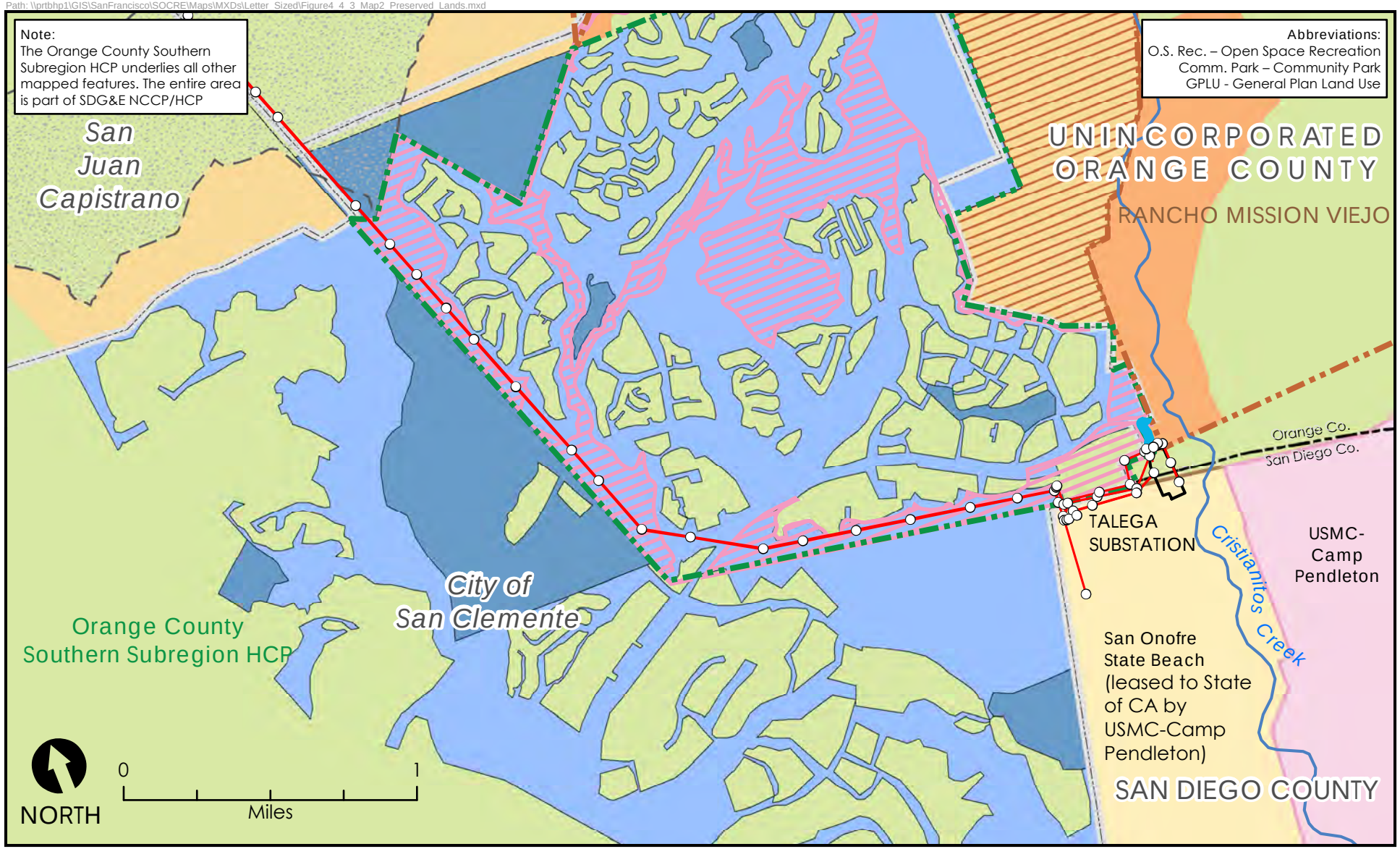


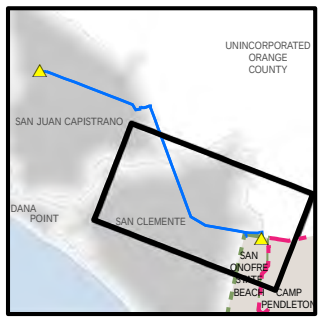
- Proposed distribution line
- Proposed transmission line
- Proposed pole locations
- Substation
- San Clemente GPLU – Privately Owned Open Space
- San Clemente GPLU – Publicly Owned Open Space
- San Juan Capistrano General Land Use Area (as noted on map)
- Orange County Southern Subregion HCP
- Talega Development boundary
- Rancho Mission Viejo boundary
- Talega Conservation Area
- Orange County GPLU – Open Space
- Rancho Mission Viejo Conservation Easements
- Prima Deshecha Landfill Limits of Disturbance
- Orange County Supplemental Open Space – Conservation Easement Area

Figure 4.4-3a

Preserved Lands in the Project Area

South Orange County Reliability Enhancement Project





- Proposed distribution line
- Proposed transmission line
- Substation_Talega_Substation
- San Clemente GPLU – Privately Owned Open Space
- San Clemente GPLU – Publicly Owned Open Space
- Orange County Southern Subregion HCP
- Talega Development boundary
- Rancho Mission Viejo boundary
- Talega Conservation Area (Yet to be Recorded)
- Orange County GPLU – Open Space
- Rancho Mission Viejo Conservation Easements
- Prima Deshecha Landfill Limits of Disturbance
- Orange County Supplemental Open Space – Conservation Easement Area

Figure 4.4-3b

Preserved Lands in the Project Area

South Orange County Reliability Enhancement Project

A majority of the overhead proposed 12-kV distribution line would traverse through Orange County lands designated as Open Space (5), which indicates a current and near-term use of the land, most of which is zoned as agricultural. The designation is not necessarily an indication of a long-term commitment of specific uses, except when the designation is combined with an Open Space Reserve, a Natural Preserve, or an Education/Park Complex . The proposed project would traverse lands that are within an Open Space Reserve overlay (Orange County 2014a,b). This overlay identifies lands of scenic and natural attraction, as well as areas of ecological, cultural, historical, and recreational significance that are permanently preserved as and restricted to open space and compatible uses. Accordingly, these areas would likely be considered preserve areas under the SDG&E Subregional NCCP/HCP (SDG&E 1995a,b).

Portions of the proposed project near Talega Substation are located within the San Onofre State Beach, which is owned and under the jurisdiction of the United States Marine Corps as part of Camp Pendleton and leased by the California Department of Parks and Recreation (California Department of Parks and Recreation 2014). These areas would also be considered preserve areas under the SDG&E Subregional NCCP/HCP (SDG&E 1995a,b).

4.4.2 Regulatory Setting

4.4.2.1 Federal

Federal Endangered Species Act

The ESA (16 United States Code [U.S.C.] 1531 through 1543) provides a program for conservation and recovery of listed threatened and endangered species throughout all or a portion of their known range, and conservation of designated critical habitat determined as required for the survival and recovery of these species. The ESA makes it unlawful for any entity to harm a listed threatened or endangered species by organizing funding or carrying out actions that may negatively affect the species itself or its known habitat. Doing so would be considered *take* (i.e., harming, harassing, or killing) of a listed species without permit.

Provisions under the ESA allow for authorized "incidental" take of listed species under certain terms and conditions while conducting otherwise lawful activities. An applicant can procure an Incidental Take Permit by two processes, both of which require consultation with the USFWS, which administers the ESA for all terrestrial species and habitat, or the National Marine Fisheries Service, which administers the ESA for marine species and habitat. The first pathway (ESA Section 10(a)) is established for situations in which a non-federal government entity (where no federal nexus exists) must resolve potential adverse impacts on species protected under the ESA. The second pathway (ESA Section 7) involves projects with federal connections or requirements; typically, these are projects sponsored or permitted by a federal lead agency.

The USFWS or National Marine Fisheries Service ultimately issues a final Biological Opinion on whether the project would affect federally listed species. The Biological Opinion includes an Incidental Take statement of anticipated incidental take accompanied by the appropriate and reasonable mitigation measures to minimize such take. Biological Opinions for Section 10 permits require appropriate National Environmental Policy Act documentation and an HCP for the listed species affected by the action. The SDG&E Subregional NCCP/HCP Implementing Agreement (SDG&E 1995b) and the Subregional Plan (SDG&E 1995a) cover the proposed project activities. The USFWS has determined that the Subregional Plan contains all of the elements required by ESA Section 10(a)(2)(A) and 50 CFR Parts 17.22(b)(1) and 17.32(b)(2). The taking authorized under the Section 10(a) permit will be incidental to the otherwise lawful activities of SDG&E. By complying with its obligations under the Implementing Agreement, the

Subregional Plan, and the Section 10(a) Permit, SDG&E will minimize and mitigate the impacts of such Incidental Take to the maximum extent possible.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-712) provides protection for most bird species that occur in the United States. The MBTA was enacted in response to the declines of migratory bird populations from uncontrolled commercial uses. The MBTA makes it unlawful to pursue, hunt, take, capture, kill, or sell birds listed under the MBTA. Some common species are not covered under the MBTA, including the European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), rock pigeon (*Columba livia*), and game species such as grouse, turkey, and ptarmigan. There have been several amendments to the original law (including the Migratory Bird Treaty Reform Act of 1998). This statute does not discriminate between live or dead birds and grants full protection to any bird parts, including feathers, eggs, and nests. Currently, 836 bird species are protected by the MBTA. The USFWS Migratory Birds and Habitat Program primarily operates under the auspices of the MBTA (USFWS 2007a).

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668, enacted by 54 Statute 250) prohibits any form of possession or taking of either bald eagles (*Haliaeetus leucocephalus*) or golden eagles (*Aquila chrysaetos*). "Take" of bald and golden eagles is defined as follows: "disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available: (1) injury to an eagle; (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or, (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior'' (72 Federal Register 31132; 50 CFR 22.3). A 1962 amendment created a specific exemption for possession of an eagle or eagle parts (e.g., feathers) for religious purposes of Indian tribes.

Rule changes made in 2009 (74 Federal Register 175) finalized permit regulations to authorize limited take of these species associated with otherwise lawful activities. These new regulations establish permit provisions for intentional take of eagle nests under particular limited circumstances (50 CFR 13 and 22). The regulations include a USFWS program that will allow issuance of two new types of permits: one addressing take in the form of disturbance or actual physical take of eagles (50 CFR 22.26), and the other providing for removal of nests (50 CFR 22.27). Most permits issued under the new regulations are expected to be those that would authorize disturbance, as opposed to physical take (i.e., take resulting in mortality). Permits for physical take will be issued in very limited cases only, where every precaution has been implemented to avoid physical take and where other restrictions and requirements will apply. In an effort to implement the new regulations, the USFWS has recently published technical guidance, which includes recommendations for applicants to prepare and submit an Avian Protection Plan for USFWS review and guidance regarding the development of Eagle Conservation Plans to support permits for take of eagles. The golden eagle is unlikely to occur in the proposed project area.

Clean Water Act

Section 404

The CWA regulates restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. This act authorizes the USACE to regulate the discharge of dredged or fill material into the Waters of the United States and adjacent wetlands. "Waters of the United States" are defined broadly as waters susceptible to use in commerce, including interstate waters and wetlands; all other waters (intrastate waterbodies, including wetlands); and their tributaries (33 CFR 328.3). Wetland delineation is fundamental to USACE and United States Environmental Protection Agency regulatory responsibilities

under Section 404 of the CWA. Wetland delineations follow standardized procedures to determine whether a wetland is present on a site and, if so, establish wetland boundaries in the field. In combination with current regulations and policies, delineations are used to define areas of federal responsibility under the CWA within which jurisdictional agencies (e.g., USACE) attempt to minimize project impacts on the physical, chemical, and biological integrity of the waters. In determining jurisdiction under the CWA, the USACE is governed by federal regulations that define wetlands (33 CFR 320–330). The USACE Wetlands Delineation Manual is the accepted standard for delineating wetlands pursuant to the Section 404 regulatory program. A Regional Supplement to the USACE Wetlands Delineation Manual for the Arid West Region was released by the USACE in September 2008 (Version 2.0) and is the current accepted standard for the region.

The USACE evaluates permit applications for all construction activities that may impact Waters of the United States, including navigable waters. The USACE either performs or receives jurisdictional delineations for proposed developments and then provides a jurisdictional determination. The jurisdictional review performed by the USACE may require modifications of development plans to avoid or reduce impacts on Waters of the United States.

Potential wetland areas, according to the three criteria used to delineate wetlands stated in the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated for sufficient duration and depth to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as "other waters" and are often characterized by an ordinary high water mark. Other waters, generally include lakes, rivers, and streams. The placement of fill material into Waters of the United States (including wetlands) generally requires an individual or nationwide permit from the USACE under Section 404 of the CWA.

Section 401

Applicants applying for USACE permit coverage under Section 404 of the CWA for actions that could result in any discharge into Waters of the United States must obtain a water quality certification from the state in which the action is proposed. The State of California uses its C Section 401 certification authority to ensure that Section 404 permit requirements for state water quality standards are met. Water quality in California is governed by the Porter-Cologne Water Quality Control Act (California Water Code), which assigns overall responsibility for water rights and water quality protection to the State Water Resources Control Board (SWRCB). The nine statewide Regional Water Quality Control Boards (RWQCBs) develop and enforce water quality standards within their boundaries. The California Water Code defines "Waters of the State" as any surface water or groundwater, including saline waters, within the boundaries of the state.

Waters of the State have high resource value, are vulnerable to filling, and are not systematically protected by other programs. The RWQCB's jurisdiction includes "isolated" wetlands and waters that may not be regulated by the Corps under Section 404. The RWQCB regulates Waters of the State under the State Water Quality Certification Program, which monitors discharges of fill, and dredged material under Section 401 of the CWA and the California Water Code. Projects that require a USACE permit, or fall under other federal jurisdiction, and have the potential to impact Waters of the State, are required to comply with the terms of the Water Quality Certification determination. If a proposed project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to Waters of the State, the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements. The proposed project would be located within the jurisdiction of the San Diego RWQCB, which would be responsible for ensuring compliance with Section 401.

Section 402

As authorized by Section 402 of the CWA, the California SWRCB administers the statewide National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Storm Water Associated with Construction Activity (General Construction Activity NPDES Storm Water Permit, 2009-0009-DWQ and 2010-0014-DWQ) that covers a variety of construction activities that could result in wastewater discharges. Under this General Permit, the state issues a construction permit for projects that disturb more than one acre of land. To obtain the permit, applicants must notify the SWRCB of the construction activity by providing a Notice of Intent, develop a storm water pollution prevention plan (SWPPP), and implement water quality monitoring activities as required.

Marine Corps Base Camp Pendleton Integrated Natural Resources Management Plan

The proposed project would traverse through a portion of MCB Camp Pendleton, which is subject to the Integrated Natural Resources Management Plan (INRMP). The INMRP is a planning document that guides the management and conservation of natural resources under the base's control. The Sikes Act requires that an INRMP be reviewed not less often than every five years, but MCP Camp Pendleton, the USFWS, and the CDFW have agreed to meet annually to review the Camp Pendleton INRMP. The INRMP was last republished in 2012. Special status species within MCB Camp Pendleton include 39 sensitive plant species and more than 50 mammalian, 30 reptilian, 10 amphibian, 300 avian, and 60 fish species, at least 12 of which are federally or state listed species (MCB Camp Pendleton 2012). The proposed project would traverse a portion of MCB Camp Pendleton that is leased to the California State Parks, which is currently managed by the California Department of Parks and Recreation as San Onofre State Beach. However, SDG&E would be subject to environmental documentation requirements (i.e., submit the Marine Corps Request for Environmental Impact Review ~~Navy's/Marines' Preliminary Environmental Data sheet for review~~) pursuant to Marine Corps Executive Order 5090.2. Additional National Environmental Policy Act compliance documentation (e.g., Categorical Exclusion) may be necessary to mitigate for impacts on federal land.

4.4.2.2 State

California Endangered Species Act

The CESA is similar to the federal ESA and is administered by the CDFW under California Fish and Game Code Section 2050. The CESA was enacted to protect sensitive resources and their habitats. The CESA prohibits take of CESA-listed species unless specifically provided for under another state law. Take is defined under Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" a state-protected species. The CESA allows for incidental take associated with otherwise lawful development projects. A project applicant is responsible for consulting with the CDFW, if applicable, to preclude activities that are likely to impact any CESA-listed threatened or endangered species or destroy or adversely affect habitat essential for such given species. If take does occur, an Incidental Take Permit (California Fish and Game Code Section 2081) or Consistency Determination (i.e., with USFWS Section 7 consultation) (California Fish and Game Code Section 2080.1) is required. As with the ESA, the proposed project would comply with the CESA through SDG&E's Subregional NCCP/HCP Implementing Agreement process. Further, under the Implementing Agreement (SDG&E 1995b), the CDFW issued a Management Authorization to SDG&E under Fish and Game Code sections 2081 and 2835, that permits the Incidental Take of all Covered Species, subject to SDG&E's compliance with the terms and conditions of the agreement, the Subregional Plan, and the Management Authorization.

California Fish and Game Code §1600-1603, Streambed Alteration Agreement

Sections 1600 to 1603 of the California Fish and Game Code regulate activities that would "substantially divert or obstruct the natural flow of, or substantially change the bed, channel, or bank of, or use material from the streambed of a natural watercourse" that supports fish or wildlife resources. A stream is defined as a body of water that flows at least periodically or intermittently through a bed or channel having banks, and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation. A Lake and Streambed Alteration Agreement must be obtained from the CDFW for any proposed project that would result in an adverse impact on a river, stream, or lake. If fish or wildlife would be substantially adversely affected, an agreement to implement mitigation measures identified by the CDFW would be required.

California Fish and Game Code, Wildlife Protection

Section 3503 specifies the following general provision for birds: "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto." Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season that results in the incidental loss of fertile eggs or nestlings, or otherwise leads to nest abandonment, is considered take. Disturbance that causes nest abandonment and/or loss of reproductive effort is also considered take by the CDFW.

Sections 3511, 4700, 5050 and 5515 prohibit the taking and possession of birds, mammals, fish, and reptiles listed as "fully protected." Section 3513 provides for the adoption of the MBTA provisions. As with the MBTA, this state code offers no statutory or regulatory mechanism for obtaining an incidental take permit for the loss of non-game migratory birds. The CDFW administers sections 3511, 3513 4700, 5050, and 5515.

California Native Plant Protection Act of 1977

California Fish and Game Code Section 1900 establishes the California Native Plan Protection Act, which includes provisions that prohibit the taking of listed rare or endangered plants from the wild. This act also includes a salvage requirement for landowners. Furthermore, it gives the CDFW authority to designate native plants as endangered or rare and establishes protection measures.

California Code of Regulations

Sections 670.2 and 670.5 list wildlife and plant species listed as threatened or endangered in California or by the federal government under the ESA. Species considered future protected species by the CDFW are designated as SSC. SSC currently have no legal status but are considered indicator species that are useful for monitoring regional habitat changes.

CEQA Guidelines Section 15380

CEQA Guidelines Section 15380(b) provides that species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet one of the following criteria:

(1) "Endangered" when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors; or

(2) "Rare" when either:

(A) Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or

(B) The species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the Federal Endangered Species Act.

4.4.2.3 Regional and Local

SDG&E Subregional Natural Community Conservation Plan/Habitat Conservation Plan

In December 1995, the USFWS and CDFW approved the SDG&E Subregional NCCP/HCP, developed in coordination with the resource agencies noted above. These plans address potential impacts on species and habitat associated with SDG&E's ongoing installation, use, maintenance, and repair of its gas and electric systems, and typical expansion to those systems throughout much of SDG&E's existing service territory. Concurrent with the approval date, SDG&E, the USFWS, and the CDFW entered into a long-term Implementing Agreement that describes the legal rights and obligations regarding each of these parties with respect to the implementation and maintenance of the NCCP/HCP. The Implementing Agreement authorizes SDG&E to conduct its activities within the plan area, provided they are performed in conformance with the plan. SDG&E's Subregional NCCP/HCP does not exempt projects subject to permits from the California Public Utilities Commission (CPUC); therefore, the proposed project would still be subject to the requirements of CEQA.

SDG&E's activities may impact certain sensitive plant and animal species or their habitat, which may include species listed as threatened or endangered under the ESA or the CESA. As a part of the SDG&E Subregional NCCP/HCP, SDG&E has been issued incidental take authorizations for 110 Covered Species and their habitat by the USFWS under ESA Section 10(a) and CDFW under Fish and Game Code Sections 2081 and/or 2835. Some of these species are restricted in their distribution, may have narrow ecological requirements, and generally have low population numbers (refer to Section 4.4.2.3). As such, take of these Covered Species is to be avoided; 20 of the SDG&E Subregional NCCP/HCP Covered Species are provided only limited Incidental Take under the existing SDG&E Subregional NCCP/HCP (SDG&E 1995a). The SDG&E Subregional NCCP/HCP limits take authorizations for these Narrow Endemic species to emergencies and unavoidable impacts from repairs to existing facilities. Specifically, take of the "species to be avoided" may not occur for non-emergency repair work without first conferring with the USFWS and CDFW. For new projects, kill or injury of such animal species or destruction of such plants or their supporting habitat would not be covered by the SDG&E Subregional NCCP/HCP and Implementing Agreement.

The SDG&E Subregional NCCP/HCP was developed using a multiple species and habitat conservation planning approach. SDG&E's goal is to avoid, minimize, and/or mitigate any take of Covered Species and their habitat to the maximum extent possible. SDG&E would implement the following measures during construction, operations, and maintenance activities as part of the SDG&E Subregional NCCP/HCP:

- Avoidance whenever possible, accomplished by the implementation of developed operational protocols;
- Allowing use of SDG&E fee-owned ROW for wildlife corridors to connect regional conservation areas;

- Establishment of mitigation credits, which will be debited to mitigate for actual impacts as projects are realized; and
- Use of restoration and enhancement, sometimes instead of debits to the mitigation credits and sometimes in addition to such debits.

The NCCP prescribes 61 operational protocols that provide various protection, mitigation, and conservation measures that SDG&E must implement with its covered activities. The SDG&E Subregional NCCP/HCP allows for up to 400 acres of ~~mitigation (i.e., mitigation credits) of~~ impacts on natural areas before requiring a plan amendment. As of 2013, approximately 134 acres of possible 400 have been used (SDG&E 2014). Restoration and enhancement are also available as mitigation measures, sometimes instead of debits to the mitigation credits and other times in addition to such debits (SDG&E 1995a). In approving the SDG&E Subregional NCCP/HCP, the USFWS and CDFW determined that the mitigation measures and operational protocols avoid potential impacts and provide appropriate mitigation where such impacts are unavoidable, and ensure the protection and conservation of federal and state listed species and Covered Species and their habitat.

Under its NCCP, SDG&E consults with the USFWS and CDFW by preparing "pre-activity surveys" that evaluate the scope and nature of potential impacts in advance of construction or maintenance activities (SDG&E 1995a). Once the pre-activity survey is submitted, a process described in the NCCP allows the USFWS and CDFW to review the project. The SDG&E Subregional NCCP/HCP was developed to be fully implemented as an overlay of and independent of such other plans within its boundaries (SDG&E 1995b). However, limited exceptions are stated in the NCCP relating to preserve areas. When working in a preserve area, the SDG&E Subregional NCCP/HCP requires SDG&E to follow a process whereby SDG&E must "coordinate with USFWS and CDFW in accordance with the procedure set forth below to plan and construct such new Facilities in a manner which avoids or minimizes any impacts on Covered Species and their habitat, to the extent possible, while not impairing SDG&E's ability to meet the service demands of its customers in accordance with its responsibilities as a public utility" (SDG&E 1995a).

The proposed project falls within the area governed by the SDG&E Subregional NCCP/HCP, and the NCCP will be applied to the proposed project.[3] The SDG&E Subregional NCCP/HCP mitigation measures and operational protocols have been incorporated as part of the proposed project description. SDG&E will coordinate with the appropriate authorities during the proposed project approval process to ensure that the impacts, mitigation measures, and operational protocols are implemented for the proposed project under the NCCP.

Orange County Southern Subregion HCP

The Orange County Southern Subregion HCP is a comprehensive, long-term HCP developed to provide conservation for multiple species in South Orange County. This HCP serves as a Master Streambed Alteration Agreement under Sections 1600 through 1616 of the California Fish and Game Code, as well as an HCP pursuant to Section 10(a)(1)(B) of the ESA. Although the plan was initially drafted to be a joint HCP/NCCP, the CDFW has not adopted the Implementation Agreement, and thus it is currently only an HCP (LSA 2010).

The USFWS-approved HCP includes 132,000 acres of adjoining lands owned by the family-held RMV, or under the jurisdiction of the County of Orange or the Santa Margarita Water District. The plan creates a preservation area totaling 32,818 acres, including 16,536 acres of newly dedicated conservation lands, some of which were not previously conserved and managed (USFWS 2007c).

[3] The CDFW has stated that the entire proposed project is covered by the NCCP (CDFW 2013).

County of Orange General Plan

The Resources Element of the County of Orange General Plan includes the following goal, objective, and policy for biological resources that are applicable to the proposed project:

- ***Natural Resource Goal 1:*** *Protect wildlife and vegetation resources and promote development that preserves these resources.*
- ***Natural Resource Objective 1.1:*** *To prevent the elimination of significant wildlife and vegetation through resource inventory and management strategies.*
- ***Natural Resource Policy 1:*** *Wildlife and Vegetation: To identify and preserve the significant wildlife and vegetation habitats of the County.*

San Diego County General Plan

The Conservation and Open Space Element of the San Diego County General Plan includes the following goals and policies for biological resources that are applicable to the proposed project:

- ***Goal COS-1:*** *Inter-Connected Preserve System. A regionally managed, inter-connected preserve system that embodies the regional biological diversity of San Diego County.*
- ***Policy COS-1.9:*** *Invasive Species. Require new development adjacent to biological preserves to use non-invasive plants in landscaping. Encourage the removal of invasive plants within preserves.*
- ***Goal COS-2:*** *Sustainability of the Natural Environment. Sustainable ecosystems with long-term viability to maintain natural processes, sensitive lands, and sensitive as well as common species, coupled with sustainable growth and development.*
- ***Policy COS-2.1:*** *Protection, Restoration and Enhancement. Protect and enhance natural wildlife habitat outside of preserves as development occurs according to the underlying land use designation. Limit the degre~~e~~a dation of regionally important natural habitats within the Semi-Rural and Rural Lands regional categories, as well as within Village lands where appropriate.*
- ***Policy COS-2.2:*** *Habitat Protection through Site Design. Require development to be sited in the least biologically sensitive areas and minimize the loss of natural habitat through site design.*
- ***Goal COS-3:*** *Protection and Enhancement of Wetlands. Wetlands that are restored and enhanced and protected from adverse impacts.*
- ***Policy COS-3.1:*** *Wetland Protection. Require development to preserve existing natural wetland areas and associated transitional riparian and upland buffers and retain opportunities for enhancement.*
- ***Policy COS-3.2:*** *Minimize Impacts of Development. Require development projects to:*
  - *Mitigate any unavoidable losses of wetlands, including its habitat functions and values; and*
  - *Protect wetlands, including vernal pools, from a variety of discharges and activities, such as dredging or adding fill material, exposure to pollutants such as nutrients, hydromodification, land and vegetation clearing, and the introduction of invasive species.*

City of San Clemente General Plan

The Natural Resources Element of the City of San Clemente General Plan includes the following policies relating to biological resources that are applicable to the proposed project:

- ***NR-1.02.*** *Natural Areas. In natural areas that are undeveloped or essentially so, the City requires applicants for proposed projects to:*
  - *avoid significant impacts, including retention of sufficient natural space where appropriate;*
  - *retain watercourses, riparian habitat, and wetlands in their natural condition;*
  - *maintain habitat linkages (wildlife corridors) between adjacent open spaces, water sources and other habitat areas and incorporate these into transportation projects and other development projects to maintain habitat connectivity;*
  - *incorporate visually open fences or vegetative cover to preserve views, to ensure continued access, and to buffer habitat areas, open space linkages, or wildlife corridors from development, as appropriate;*
  - *locate and design roads such that conflicts with biological resources, habitat areas, linkages or corridors are minimized; and*
  - *utilize open space or conservation easements when necessary to protect sensitive species or their habitats.*
- ***NR-1.03.*** *Sensitive Habitats. The City prohibits development and grading which alters the biological integrity of sensitive habitats, including Riparian Corridors, unless no feasible project alternative exists which reduces environmental impacts to less than significant levels, or it is replaced with habitat of equivalent value, as acceptable to the City Council.*
- *Where no environmentally feasible alternative exists, development within Riparian Corridors shall avoid removal of native vegetation; prevent erosion, sedimentation and runoff; provide for sufficient passage of native and anadromous fish; prevent wastewater discharges and entrapment; prevent groundwater depletion or substantial interference with surface and subsurface flows; and protect and re-establish natural vegetation buffers.*
- ***NR-1.04.*** *Threatened and Endangered Species. The City preserves the habitat of threatened and endangered species in place as the preferred habitat conservation strategy.*
- ~~***NR-1.05.*** *Coastal Canyons. The City encourages activities that improve the natural biological value, integrity, and corridor function of the coastal canyons through vegetation restoration, control of non-native species, and landscape buffering of urban uses and development.*~~
- ***NR-1.06.*** *Habitat Conservation Plan. The City supports and will follow the U.S. Fish and Wildlife Services Orange County Southern Subregion Habitat Conservation Plan (HCP) and Habitat Management Program.*

City of San Clemente Tree Ordinance

The City of San Clemente ordinance, City Owned Trees: Protection and Administration (Policy 301-2-1), establishes a policy for managing trees owned by the City of San Clemente. The ordinance covers street trees and all trees planted on city of San Clemente land, including all trees at beaches, parks, golf courses, and conditionally those along public streets. In addition, the ordinance protects trees that exist on any developed or undeveloped property owned and maintained by the city of San Clemente. Replacement of any trees removed would be considered and is at the discretion of the San Clemente Director of Beaches,

Parks and Recreation. The issuance of a tree removal permit by the City of San Clemente is a discretionary action.

City of San Juan Capistrano General Plan

The Conservation and Open Space Element of the City of San Juan Capistrano General Plan includes the following goal and policies for natural resources that is applicable to the proposed project:

- ***Conservation & Open Space Goal 2:*** *Protect and preserve important ecological and biological resources.*
- ***Policy 2.1:*** *Use proper land use planning to reduce the impact of urban development on important ecological and biological resources.*
- ***Policy 2.2:*** *Preserve important ecological and biological resources as open space.*
- ***Policy 2.3:*** *Develop open space uses in an ecologically sensitive manner.*
- ***Policy 2.4:*** *Continue to designate the City as a bird sanctuary to preserve and protect the populations of all migratory birds, which serve as a prime resource to the character and history of the community.*

City of San Juan Capistrano Tree Ordinance

The City of San Juan Capistrano's Municipal Code (Section 9-2.349) establishes regulations for removal of trees within its boundaries. The ordinance requires a discretionary permit for the removal of trees over 6 inches in diameter measured 3 feet above grade. Permits are required for new development projects, utility easements, common landscape areas, nonresidential projects, City of San Juan Capistrano facilities and ROW, individual residential lots, and heritage trees.

4.4.3 Impact Analysis

4.4.3.1 Methodology and Significance Criteria

The impact analysis for biological resources that may be affected by the proposed project was conducted by: (1) gathering and analyzing information from numerous sources (see description of sources below) in addition to the data provided by the applicant (Section 4.4.1.1); and (2) evaluating temporal and spatial effects ~~to~~on habitats and organisms that may be present within the project area and within a regional geographic context. The CPUC assessed survey data provided by the applicant for accuracy and appropriate implementation of resource agency protocols. Calculations for temporary and permanent disturbance to ~~vegetation~~habitats were based on the applicant's projections of land disturbance resulting from construction of project components. Potential impacts and appropriate general minimization and mitigation measures were developed using guidelines or input from resource agencies, specifically, the USFWS, CDFW, and USACE. Biologists with specific local and regional knowledge were consulted to determine potential impacts. Species occurrence maps in the area were reviewed to determine resource location, distribution, and seasonality. Other relevant environmental documents for projects occurring in the proposed project area were reviewed to ensure consistency with impact analyses and proposed mitigation, including the La Pata Avenue Gap Closure and Camino Del Rio Extension Project Environmental Impact Report (LSA 2010).

The impact analysis identifies and describes the proposed project's potential impacts on biological resources within the proposed project area. In addition to the proposed project components, this analysis considers impacts caused by staging areas and access roads, and impacts on habitat adjacent to project components. The analyses focus on foreseeable changes to the baseline conditions in the context of the

significance criteria presented below. Impacts on biological resources resulting from the construction and operation of the proposed project can be characterized as direct or indirect, and temporary or permanent, which are defined as follows:

- *Direct effects,* or primary effects, are those effects that are caused by the project and occur at the same time and place (CEQA Guideline §15358). Examples include incidental take during construction, or elimination or degradation of suitable habitat due to construction-related activities.
- *Indirect effect,* or secondary effects, are those effects which are caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable (CEQA Guideline §15358). Examples include the erosion, sedimentation, and increased risk of fire that adversely affect vegetation communities or sensitive habitat within the project area.
- *Permanent impacts* are irreversible such as habitat loss due to clearing and development.
- *Temporary impacts* are short in duration and/or reversible with the implementation of mitigation measures such as habitat loss mitigation by habitat restoration.

Potential impacts on biological resources were evaluated according to the following significance criteria. The criteria were defined based on the checklist items presented in Appendix G of the CEQA Guidelines. The proposed project would cause a significant impact on biological resources if it would:

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 CDFW or USFWS;

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 CDFW or USFWS;

c) 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, 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; or

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.

4.4.3.2 Applicant Proposed Measures

The applicant has not committed to any Applicant Proposed Measures beyond those provided in the SDG&E Subregional NCCP/HCP (see Section 2.6.1.1 "SDG&E Natural Community Conservation Plan").

4.4.3.3 Environmental Impacts

Impact BR-1: 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 CDFW or USFWS.
LESS THAN SIGNIFICANT WITH MITIGATION

Direct, indirect, temporary, and permanent impacts on special status species, migratory bird species, and vegetation communities are discussed below, along with measures proposed to avoid or reduce impacts on these resources. The applicant has coordinated with the wildlife agencies to ensure development of appropriate avoidance, minimization, or mitigation measures for potential impacts, in particular for wildlife species with potential to be in the project area in which take is to be avoided (e.g., narrow endemic species; Appendix L-3 (Table 2)). Based on meetings with the agencies, California red-legged frog (*Rana draytonii*), Stephen's kangaroo rat (*Dipodomys stephensi*), and Pacific little pocket mouse (*Perognathus longimembris pacificus*) are not anticipated in the project area (Gower pers. comm. 2013). Coastal cactus wren and western burrowing owl are likely in the project area, and thus the proposed project must avoid impacts on these species and their habitat.

Overall, construction and operation of the proposed project could potentially impact the 11 special status plant species likely to occur within the proposed project area and the 25 special status wildlife species known to be present or likely to occur within the proposed project area (Section 4.4.1.5). With the exception of steelhead, arroyo chub, monarch butterfly, pallid bat, and white-tailed kite, the wildlife species described below are Covered Species in the SDG&E Subregional NCCP/HCP. The NCCP outlines avoidance, mitigation, and compensation measures for Covered Species. The applicant would be responsible for adhering to these requirements.

Construction and operation of the proposed project could also result in adverse impacts on migratory bird species and special status vegetation communities.

Special Status Plants

No special status plants were identified within the proposed project area during surveys (Table 4.4-1). Furthermore, special status plant surveys did not identify the presence of any other special status species not covered under the SDG&E Subregional NCCP/HCP.

Construction- and restoration-related activities such as site preparation, vegetation removal, installation of poles or towers, the use of construction equipment, and site restoration associated with the proposed project could cause permanent and temporary direct and indirect impacts through the loss of special status plants or their habitat, root or seed damage, changes in soil chemistry or composition, or by degrading adjacent habitat through fragmentation and the introduction or spread of noxious or invasive plant species. Permanent direct impacts could result from vehicle use, clearing of vegetation at tower footing locations, or the application of herbicides for fire prevention and weed control. Indirect impacts on special status plants may be caused by soil disturbance, sedimentation or runoff, and increased dust levels during construction.

Impacts of project construction, operation, and maintenance on special status plants would be reduced by implementing the avoidance and minimization measures included in the SDG&E Subregional NCCP/HCP (SDG&E 2012a). Compliance with the SDG&E Subregional NCCP/HCP would reduce impacts on Covered Species to a less-than-significant level.

Critical Habitat

Portions of the existing Talega Substation site, proposed double-circuit 230-kV transmission line, and proposed 12-kV distribution line occur within USFWS-designated critical habitat for arroyo toad and coastal California gnatcatcher. Portions of all three project components cross critical habitat for coastal California gnatcatcher. This species was confirmed to be present adjacent to Transmission Line Segment 3 and Segment 4 in 2008 (Table 4.4-4). Critical habitat for arroyo toad occurs adjacent to Transmission Line Segment 1b and Segment 4 and associated 12-kV distribution line Segment M near Talega Substation. Critical habitat for arroyo toad is not designated within MCB Camp Pendleton.

Table 4.4-4 Sensitive Plant and Wildlife Species and Critical Habitat by Project Component

Species	Talega Substation	Proposed San Juan Capistrano Substation	Transmission Line Segments						12-kV Distribution Line[1]
			1a	1b	2	3	4	Access Roads	
Plants									
Blochman's dudleya	SH	---	---	LSH	---	SH	SH	LSH	LSH
California satintail	SH	---	---	LSH	---	SH	SH	LSH	LSH
Coulter's saltbush	SH	---	---	LSH	---	SH	SH	LSH	LSH
Encinitas baccharis	SH	---		LSH		LSH	LSH	LSH	LSH
Intermediate mariposa lily	SH	---	---	LSH	---	SH	SH	LSH	LSH
Many-stemmed dudleya	SH	---	---	LSH	---	SH	SH	LSH	LSH
Mud nama	---	---	---	LSH		LSH	---	---	---
Palmer's grapplinghook	---	---	---	SH	SH	SH	SH	LSH	SH
Salt spring checkerbloom	---	---	---	SH	SH	SH	SH	LSH	SH
Thread-leaved brodiaea	SH	---	---	SH	SH	SH	SH	LSH	---
White rabbit-tobacco	---	---	---	SH	---	---	---	---	SH
Wildlife									
Monarch butterfly	---	---	---	SH		---	---	---	---
Southern steelhead	SH	---	---	---	---	---	---	---	SH
Arroyo chub	---	---	---	SH	---	---	---	---	---
Arroyo toad	---	---	---	CH	---	---	CH	CH	CH
Western spadefoot	---	---	---	SH	SH	SH	SH	LSH	LSH
Belding's orange- throated whiptail	LSH	---	---	SH	SH	SH	SH	LSH	LSH
Coast horned lizard	LSH	---	---	SH	SH	SH	SH	LSH	LSH
Northern red-diamond rattlesnake	LSH	---	---	LSH	LSH	LSH	LSH	LSH	LSH
Two-striped garter snake	---	---	---	LSH	---	LSH	LSH	LSH	LSH
Western pond turtle	---	---	---	---	---	LSH	---	---	---
American peregrine falcon	LSH	---	---	SH	LSH	SH	SH	LSH	LSH
Burrowing owl	LSH	---	---	LSH	LSH	LSH	LSH	LSH	LSH
Coastal (San Diego) cactus wren	LSH	---	---	LSH	---	LSH	LSH	LSH	LSH
Coastal California gnatcatcher	CH	---	---	CH	CH	P; CH	P; CH	CH	CH
Cooper's hawk	SH	---	---	P	---	---	P	SH	P
Least Bell's vireo	LSH	---	---	---	P	P	P	SH	LSH
Southern California rufous-crowned sparrow	SH	---	---	SH	SH	SH	SH	LSH	LSH
Southwestern willow flycatcher	SH	---	---	LSH	---	LSH	---	LSH	LSH

Table 4.4-4 Sensitive Plant and Wildlife Species and Critical Habitat by Project Component

Species	Talega Substation	Proposed San Juan Capistrano Substation	Transmission Line Segments						12-kV Distribution Line[1]
			1a	1b	2	3	4	Access Roads	
Tricolored blackbird	---	---	---	LSH	---	LSH	---	LSH	LSH
White-tailed kite	---	---	---	LSH	LSH	LSH	---	LSH	LSH
Mountain lion	LSH	---	---	---	---	---	LSH	LSH	---
Dulzura pocket mouse	SH	---	---	LSH	---	LSH	---	LSH	LSH
Pallid bat	SH	---	---	LSH	---	LSH	---	LSH	LSH
Mexican long-tongue bat	SH	---	---	LSH	---	LSH	---	LSH	LSH
Southern mule deer	SH	---	---	LSH	---	LSH	SH	LSH	LSH

Sources: Appendices L-1 and L-2; SDG&E 2012a, b
Key:
--- = No Habitat
CH = Critical Habitat
kV = kilovolt
LSH = Limited Suitable Habitat
P = Present
SH = Suitable Habitat
Notes:
[1] Only distribution lines within the proposed project area are included in this analysis unless otherwise noted.

In its December 2007 Final Rule, the USFWS determined that a recovery plan for the coastal California gnatcatcher is not beneficial to the species and that the NCCP program in southern California (including the SDG&E Subregional NCCP/HCP) is superior to the development of a recovery plan in terms of promoting conservation actions that would further recovery of the species (USFWS 2007b). The proposed project's anticipated impacts on the USFWS designated critical habitat for these species are presented in Table 4.4-5. The acreages presented in the table were calculated by overlaying the disturbance areas provided by the applicant with the critical habitat boundaries of these species provided by USFWS.

Table 4.4-5 Arroyo Toad and Coastal California Gnatcatcher Critical Habitat Acreages by Project Component

Species	Project Component								
	Existing Talega Substation Site	Proposed San Juan Capistrano Substation Site	Transmission Line Segments					12-kV Distribution Line	Total
			1a	1b	2	3	4		
Arroyo Toad Critical Habitat									
Permanent	---	---	---	~~0.09~~0.10	---	---	~~0.15~~0.21	~~0.01~~---	~~0.25~~0.31
Temporary	---	---	---	~~0.16~~0.04	---	---	~~0.85~~0.24	---	~~1.01~~0.28
Coastal California Gnatcatcher Critical Habitat									
Permanent	---	---	---	~~0.13~~0.25	---	0.74~~1.55~~	~~1.22~~1.84	~~0.19~~---	~~2.28~~3.64
Temporary	0.40	---	---	~~0.27~~0.19	~~0.25~~0.08	~~1.50~~0.35	~~1.52~~1.35	---	~~3.94~~2.37

Source: USFWS 2014a,b and Appendices L-1 and L-2; SDG&E 2012a,b
Key:
kV = kilovolt
--- = Critical Habitat not present.

Permanent impacts on the critical habitat for these species are associated with permanent project features (e.g., substation, new towers, access road) that would remain throughout the life of the project. In addition, there is potential for direct, incidental take of individuals during project construction. The proposed project would require the permanent removal of these species' critical habitat for the construction of the proposed substation, pole and tower footings, and access roads.

Temporary impacts on critical habitat are anticipated to result from project construction and restoration. Construction activities would temporarily disturb or remove vegetation and produce elevated levels of noise, dust, and light within and adjacent to the proposed project area. Potential disruption of animal migration, breeding, and foraging through increased noise, light and glare, human or domestic animal intrusion, and by degrading adjacent habitat through fragmentation, and the introduction or spread of noxious or invasive wildlife and plant species could significantly affect special status wildlife. Elevated levels of dust could also impact critical habitat by limiting a plant's ability to complete photosynthesis. These impacts are associated with construction staging areas, wire stringing sites, the removal of existing towers, and the use and improvement of existing access roads.

The areas of critical habitat that may be impacted by the proposed project exist within the boundaries of the SDG&E Subregional NCCP/HCP. The SDG&E Subregional NCCP/HCP requires the applicant to implement conservation measures (described in Section 7 of the SDG&E Subregional NCCP/HCP) that would reduce impacts on critical habitat from construction and restoration activities, including employee training programs, pre-activity surveys, and flagging of boundaries of habitats that must be avoided. The proposed project has been designed to avoid habitat areas that may support special status wildlife species to the greatest extent possible. Where avoidance of critical habitat is not possible (refer to Table 4.4-5), implementation of these conservation measures would reduce impacts on critical habitat resulting from project construction, restoration, operation, and maintenance to less than significant levels. Additionally, the SDG&E Subregional NCCP/HCP requires land mitigation for permanent and temporary impacts on critical habitat. Thus, impacts on critical habitat would be compensated for through site remediation and/or deduction of mitigation credits, as described in Section 7 of the NCCP, and therefore reduced to a less than significant level.

Special Status Fish

Arroyo chub

The arroyo chub may occur where the proposed project would cross San Juan Creek, as well as upstream and downstream of the area and in nearby tributaries. The proposed project components would span the creek; however, direct and indirect impacts on the arroyo chub may still occur. Ground disturbing activities in and around the San Juan Creek could impact the arroyo chub habitat. As described in Section 4.9, "Hydrology and Water Quality," to minimize potential impacts on water quality resulting from sedimentation or accidental spills, the applicant would comply with applicable state storm water regulations and city and county grading ordinances. Because the proposed project would result in more than 1 acre of ground disturbance, the applicant would be required to apply for coverage under the NPDES Construction General Permit to address storm water discharges. The Construction General Permit requires development and implementation of a SWPPP, which specifies best management practices (BMPs) to reduce or eliminate pollutants in storm water discharges from the site during construction that would otherwise violate water quality standards. In addition to compliance with the NPDES Construction General Permit, the applicant would implement applicable BMPs from its Best Management Practices Manual for Water Quality Construction (BMP Manual), which includes BMPs for sediment controls, waste management and material controls, non-storm-water discharge controls, and erosion control and soil stabilization (SDG&E 2011). The applicant would also be required to prepare and implement a Spill Prevention, Control, and Countermeasure plan to prevent oil spills from impacting water quality. The operation of construction equipment and lighting could still impact arroyo chub. Arroyo chub is not a

Covered Species under the SDG&E Subregional NCCP/HCP. Therefore, direct and indirect impacts on the species could be potentially significant. As ~~discussed~~presented in Section 4.4.4, Mitigation Measure (MM) BR-1 limits construction to designated areas and require spanning of riparian, aquatic, and wetland areas to the greatest extent feasible. MM BR-2 requires biological monitors to be present during construction activities in areas where sensitive resources have been identified and to halt construction in the event that construction or restoration activities have the potential to impact an arroyo chub.

Implementation of MM BR-1 and MM BR-2 would reduce potentially significant impacts on the arroyo chub to a less-than-significant level by avoiding this species' suitable habitat and employing monitors to prevent any foreseeable impact on the arroyo chub.

Southern steelhead

CNDDB records document this species' occurrence in San Mateo Creek, and it has been documented within MCB Camp Pendleton as recently as 2003 (MCB Camp Pendleton 2012). Cristianitos Creek, near the eastern portion of the proposed project area, is a tributary of San Mateo Creek and may provide suitable habitat for the species. While the proposed project does not span Cristianitos Creek, it does span a small tributary which passes under the Talega substation, and direct and indirect impacts on the southern steelhead may still occur. ~~The proposed project components would span the creek; however, direct and indirect impacts on the southern steelhead may still occur.~~ To address this, the applicant will implement a SWPPP and Spill Prevention, Control, and Countermeasure plan as described above under the arroyo chub heading. In addition, the applicant will implement MMBR-1 and MM BR-2. MM BR-1 limits construction to designated areas and require spanning of riparian, aquatic, and wetland areas, to the extent feasible. MM BR-2 requires biological monitors to be present during construction activities in areas where sensitive resources have been identified and to halt construction in the event that construction or restoration activities have the potential to impact ~~an arroyo chub~~southern steelhead. Implementation of MM BR-1 and MM BR-2 would reduce potentially significant impacts on the ~~arroyo chub~~southern steelhead to a less-than-significant level by avoiding suitable habitat for this species and employing monitors to prevent any foreseeable impact on the southern steelhead.

Special Status Amphibians and Reptiles

Arroyo toad

The proposed project would be located in areas designated by the USFWS as critical habitat for arroyo toad. Areas within 0.9 mile of Cristianitos and Gabino Creeks are considered suitable upland habitat for the species, but not suitable for breeding. Based on arroyo toad protocol-level surveys conducted during the summer of 2010, arroyo toad was determined absent from the three survey areas (Appendix L-1; Table 4.4-1). Because the arroyo toad is a Covered Species and the applicant would adhere to the requirements of the SDG&E Subregional NCCP/HCP, potential impacts on this species would be less than significant.

Belding's orange-throated whiptail

Suitable habitat for the orange-throated whiptail was identified in or adjacent to the Talega Substation, Transmission Line Segment 1b, Segment 2, Segment 3, and Segment 4, as well as access roads and portions of the 12-kV distribution line throughout the proposed project area. No Belding's orange-throated whiptails were observed during surveys. Because the Belding's orange-throated whiptail is a Covered Species, and the applicant would adhere to the requirements of the SDG&E Subregional NCCP/HCP, potential impacts on this species would be less than significant.

Coast horned lizard

The coast horned lizard occurs in relatively open landscapes such as CSS, annual grasslands, chaparral, oak woodlands, and riparian woodlands in the proposed project area. Suitable habitat for the coast horned lizard was identified in or adjacent to the Talega Substation, Transmission Line Segment 1b, Segment 2, Segment 3, and Segment 4, as well as access roads and proposed 12-kV distribution line areas throughout the proposed project area. Surveys did not detect any coast horned lizards. Because the coast horned lizard is a Covered Species and the applicant would adhere to the requirements of the SDG&E Subregional NCCP/HCP, potential impacts on this species would be less than significant.

Northern red-diamond rattlesnake

The northern red-diamond rattlesnake inhabits arid areas and various habitats, including chaparral, grasslands, oak and pine woodlands, and agricultural areas, preferably areas with rocky cover. Soils in the proposed project area are typically more clayey than rocky. Based on the species' preferred substrate, the proposed project area offers limited suitable habitat in or adjacent to the Talega Substation, Transmission Line Segment 1b, Segment 2, Segment 3, Segment 4, as well as access roads and proposed 12-kV distribution line areas. No occurrences were identified during surveys. The northern red-diamond rattlesnake is a Covered Species. The applicant is required to adhere to the measures of the SDG&E Subregional NCCP/HCP. Therefore, potential impacts on this species would be less than significant.

Two-striped garter snake

The two-striped garter snake occurs in or near fresh water, with rocky beds bordered by dense riparian vegetation or chaparral and brushy habitats, including woodlands. The riparian woodlands in the proposed project area are potential habitat for this species (Transmission Line Segment 1b, Segment 3, Segment 4, portions of transmission line access roads, and portions of proposed 12-kV distribution line disturbance areas). The proposed project is designed to avoid impacts on these areas. Given the relatively small portion of the proposed project area with riparian woodlands, there is limited suitable habitat where this species would be located. In addition, no occurrences were identified during field surveys. However, there is potential for this species within the perennially wet creeks and drainages crossing the proposed project area. Because the two-striped garter snake is a Covered Species and the applicant would adhere to the requirements of the SDG&E Subregional NCCP/HCP, potential impacts on this species would be less than significant.

Western pond turtle

The western pond turtle inhabits streams and other water features with aquatic vegetation. This species requires habitat with basking sites of sandy banks or grassy open fields, and upland habitat up to 0.3 miles from water for egg laying. There is limited suitable habitat within the proposed project area that meets the species habitat requirements. Portions of the proposed project along Transmission Line Segment 3 and potentially portions of proposed 12-kV distribution line Segment M provide areas where the turtle may be located. Because the western pond turtle is a Covered Species and the applicant would adhere to the requirements of the SDG&E Subregional NCCP/HCP, potential impacts on this species would be less than significant.

Western spadefoot

The western spadefoot occupies various habitats, including CSS, chaparral, and grasslands, but requires perennial pools for breeding and egg-laying. Suitable habitat for the spadefoot was identified in or adjacent to the Talega Substation, Transmission Line Segment 1b, Segment 2, Segment 3, and Segment 4, as well as access roads and proposed 12-kV distribution line areas throughout the proposed project area. Surveys did not detect any western spadefoot. Because the western spadefoot is a Covered Species and

the applicant would adhere to the requirements of the SDG&E Subregional NCCP/HCP, potential impacts on this species would be less than significant.

Special Status Birds

Some of the waterways and vegetation communities within the proposed project area contain suitable habitat for one or more special status birds known to occur or with potential to occur in the proposed project area and for migratory birds protected by the MBTA. Several individual and pairs of coastal California gnatcatcher (FT), least Bell's vireo (FE/SE), southwestern willow flycatcher (FE/SE), and American peregrine falcon (BCC/FP) were documented within the survey area (Appendix L-1; SDG&E 2012a). Cooper's hawk was also identified within the survey area. In addition, during habitat assessment and focused surveys conducted for the proposed project, several stick nests, including two active red-tailed hawk nests, were identified on various tower structures within the proposed project area. Locations of these nests can also be found in Appendix L-1. Suitable breeding and/or foraging habitat for these birds exist in the proposed project area, and portions of the proposed project area are considered critical habitat by the USFWS for the coastal California gnatcatcher.

Construction, restoration, and operation of the proposed project components could result in direct mortality of adult birds, chicks, or eggs, and temporary and permanent habitat loss. Tree trimming, vegetation removal, and other ground-disturbing activities could result in direct take of birds through mortality or injury to individuals or the loss of active nests, or could result in indirect impacts by removing nesting or foraging habitat or by degrading adjacent habitat through fragmentation and the introduction or spread of noxious or invasive wildlife and plant species. Noise and visual disturbances during construction could result in direct impacts on birds through nesting habitat avoidance or nest abandonment. Additional direct impacts could result from collision with new transmission structures and electrocution. Many standard designs of electrical industry hardware place conductors and groundwires sufficiently close that larger birds can touch them simultaneously with their wings or other body parts, causing electrocution. Birds are opportunistically attracted to transmission lines because they provide perch sites for hunting, resting, feeding, or territorial defense, or serve as nesting structures. Birds may collide with transmission lines or poles, which can be difficult for birds to detect when flying at night, during inclement weather conditions, or for other reasons. Strategies to avoid conflicts between birds and new transmission lines are described by the Edison Electric Institute's Avian Power Line Interaction Committee (APLIC 2012). These impacts would be significant.

In addition, ~~C~~construction disturbance that results in loss of individual birds, or during the general bird breeding season for the region that results in loss of eggs or nestlings, or otherwise leads to nest abandonment, would be considered a "take" by the USFWS under the MBTA or ESA or by the CDFW under the California Fish and Game Code or CESA. In approving the applicant's NCCP, the USFWS and CDFW granted the applicant authorization to take a Covered Species or a species' habitat when incidental to otherwise lawful activities and determined that the mitigation measures and operational protocols avoid potential impacts and provide appropriate mitigation where such impacts are unavoidable to Covered Species (SDG&E 2012a). All of the special status birds with potential to occur in the proposed project area, with the exception of the white-tailed kite, are Covered Species under the SDG&E Subregional NCCP/HCP. The applicant would adhere to the requirements of the SDG&E Subregional NCCP/HCP to reduce impacts. Surveys for special status birds were not completed along the 12-kV Distribution Line, and would need to be completed prior to the start of construction. MM BR-3 requires the applicant to conduct these preconstruction surveys, including updated surveys for southwestern willow flycatcher, which has been in decline in Southern California in recent years (USFWS 2014). Performing updated surveys for southwestern willow flycatcher would be necessary for informing proper avoidance and buffer sizes, as well as the locations of breeding territories. With the implementation of the SDG&E Subregional NCCP/HCP and MM BR-3, ~~and~~ potential impacts on Covered Species, with the exception of coastal cactus wren and western burrowing owl, would be reduced to a less than significant level.

The SDG&E Subregional NCCP/HCP has restricted the take of coastal cactus wren and western burrowing owl to emergencies because they are considered narrow endemic species (see Section 4.4.2.3). Based on the project-specific habitat assessment, areas within the proposed project area are likely to support cactus wren and western burrowing owl. In addition to the requirements of the NCCP/HCP, the applicant will implement MM BR-7 (Coastal Cactus Wren Avoidance) and MM BR-8 (Western Burrowing Impacts Reduction Measures), which include compensatory requirements and avoidance of habitat. Implementation of MM BR-7 and MM BR-8 would reduce impacts on coastal cactus wren and western burrowing owl to less than significant.

Nesting Birds

Construction of the proposed project could cause adverse, significant impacts on avian species, including nesting raptors and birds protected by the MBTA or California Fish and Game Code. Impacts on these bird species would typically result from activities that would cause nest abandonment or destruction of chicks or eggs in active nests or death of adults due to collision, or activities that would reduce potential forage and nesting habitat. For most species, impacts from the proposed project would be confined to project areas and areas immediately adjacent to the project. For other species such as raptors, project-related impacts could extend up to a mile or more beyond project boundaries, depending on the nature of the site (e.g., urban or rural) and topography.

Active bird nests in shrubs or near the ground would be susceptible to being crushed during clearing and grading operations, and during any activities where vegetation would be crushed. Noise and visual disturbance caused by construction and project-related traffic, including construction at work sites and traffic along project access roads, could cause nest abandonment or habitat avoidance by birds nesting on or off site in adjacent areas. Nest abandonment would result in death to chicks and hatching failure of eggs. Alternatively, construction might cause birds to avoid suitable habitat and opt to nest or forage in less suitable habitat. Many birds, but particularly small passerines when foraging or feeding young, perform short flights, both in distance and time, for which take-offs, landings, ascents, descents and maneuvering require energy. Short, repetitive flights caused by intermittent disturbances (i.e., construction-related activities) require more energy for take-off (and climbing) and acceleration (Nudds and Bryant 2000). Such impacts could cause energetic costs to these birds and could indirectly contribute to stress, unsuccessful reproductive efforts, or death. Decreased foraging success due to habitat avoidance or removal of foraging habitat could decrease the survival of chicks in nests near the project. Because these impacts could occur at isolated nest sites within the proposed project area, and because the project area is relatively small compared with the amount of similar habitat in the region, impacts on nesting birds would be localized.

Construction of new transmission line ~~towers~~structures, or larger ones to replace old ~~towers~~structures, could increase the risk of death of adult raptors and larger non-raptor species by collision (APLIC 2006). Impacts on white-tailed kite and other migratory birds that are not Covered Species but are protected under the MBTA or California Fish and Game Code would be partially reduced by adhering to the protocols described in the SDG&E Subregional NCCP/HCP. Thus, construction activities and traffic related to the proposed project would have the potential to cause adverse impacts on MBTA-protected birds and nesting bird species; however, to reduce impacts on MBTA bird species and raptors to a less than significant level, a number of additional mitigation measures are recommended. MM BR-2 requires monitoring and MM BR-3 requires preconstruction surveys, including daily sweeps. MM BR-4 limits removal of vegetation in riparian and other areas that may support white-tailed kite and other migratory bird species' nesting habitat. MM BR-5 requires the applicant to use Avian Safe Building Standards to further reduce impacts on migratory bird species. MM BR-6 requires the applicant to prepare and implement a Nesting Bird Management Plan that would provide a comprehensive document to protect

special status and MBTA birds by providing methods for avoidance, such as survey methodology and distances of nest exclusion buffers for all species.

Implementation of MM BR-2 through MM BR-8 would reduce potentially significant impacts on birds to a less-than-significant level. Under these measures, structures will be built to reduce direct impacts on avian species and avian habitat, a Nesting Bird Management Plan will outline how potential impacts on nests would be avoided, and surveys will prevent direct impact on species within the proposed project area.

Disturbances associated with the operation and maintenance of the project could cause impacts similar to those caused by construction of the project, although operations and maintenance impacts would likely be less intense. Noise and visual disturbances caused by operations and maintenance crews could cause abandonment of active nests, which would result in the death of chicks or hatching failure of eggs. Raptors often occupy nests built onto transmission line towers or poles. Nest abandonment caused by noise and visual disturbances is likely, as well as increased susceptibility of chicks to death and/or hatching failure of eggs from falls or from being crushed if active nests were moved or disturbed during operations and maintenance. Such impacts could occur to active nests on transmission line towers or other project facilities, but could also occur outside of established access roads and tower sites. The potential for these impacts on nesting birds after the construction phase of the project is relatively small. In general, due to the lower levels of disturbance associated with operation and maintenance activities, post-construction adverse impacts on raptors would be short term and localized. Due to the lower levels of disturbance associated with operations and maintenance activities, any adverse impacts on birds or raptor species would be minor, short term, and localized and less than significant.

Special Status Mammals

Dulzura pocket mouse

The Dulzura pocket mouse occurs in grasslands, chaparral, and CSS. Suitable habitat was identified in or adjacent to Transmission Line Segment 1b, Segment 3, and access roads associated with the transmission line. Potential habitat may also be found adjacent to portions of the proposed 12-kV distribution line. Dulzura pocket mouse was not observed during surveys (Appendix L-1; SDG&E 2012a). This species is a Covered Species by the SDG&E Subregional NCCP/HCP, and the applicant would adhere to the requirements of the NCCP. The applicant's compliance with all SDG&E Subregional NCCP/HCP measures would reduce impacts on this species to a less-than-significant level.

Mountain lion

Marginal suitable habitat exists in the less disturbed areas of Transmission Line Segment 4 and portions of the Talega Substation near MCB Camp Pendleton. In addition, MCB Camp Pendleton offers highly suitable habitat for southern mule deer, a major component of the mountain lion's diet. However, field surveys did not locate any mountain lions within the proposed project area. Because the mountain lion is a Covered Species and the applicant would adhere to the requirements of the SDG&E Subregional NCCP/HCP, potential impacts on this species would be less than significant.

Pallid bat

The proposed project area has suitable foraging habitat for the pallid bat (e.g., grasslands, shrublands, and woodlands), and roosting habitats may be present in tree cavities, rock crevices, and human-made structures, including bridges within the survey area. No occurrences or specific surveys were conducted for bats. Pallid bat is a CDFW Species of Special Concern and is not a Covered Species under the SDG&E Subregional NCCP/HCP. Therefore, direct and indirect impacts on the species could be potentially significant. However, measures described in the SDG&E Subregional NCCP/HCP, and

implementation of MM BR-3 and MM BR-4, which require the applicant to conduct preconstruction surveys sweeps for all wildlife and limit removal of vegetation in riparian and other areas that may support pallid bat habitat, would lessen potentially significant impacts to a less-than-significant level because the species' habitat would be avoided (e.g., tree cavities for roosting) and pre-construction surveys would evaluate potential habitat.

San Diego black-tailed jackrabbit

Suitable scrub habitat for the San Diego black-tailed jackrabbit was identified in or adjacent to Transmission Line Segment 1b, Segment 3, and access roads associated with the transmission line. Potential habitat may also be found adjacent to portions of the proposed 12-kV distribution line disturbance areas. No jackrabbits were observed during field surveys (Appendix L-1; SDG&E 2012a). Because this species is a Covered Species under the SDG&E Subregional NCCP/HCP and the applicant would adhere to the requirements of the SDG&E Subregional NCCP/HCP, potential impacts on this species would be less than significant.

Southern mule deer

Suitable habitat for southern mule deer includes chaparral, CSS, desert scrub, grasslands, and coniferous forests. The species is likely present within MCB Camp Pendleton and most portions of Transmission Line Segment 1b, Segment 3, Segment 4, and access roads associated with the transmission line and proposed 12-kV distribution line. The chaparral and CSS habitat suitable for mule deer was identified during surveys, along with observations of deer presence (Appendix L-1; SDG&E 2012a). Because the mule deer is a Covered Species and the applicant would adhere to the requirements of the SDG&E Subregional NCCP/HCP, potential impacts on this species would be less than significant.

Impact BR-2: 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.
LESS THAN SIGNIFICANT WITH MITIGATION

Riparian habitat and special status natural communities are present within the proposed project area. Impacts on riparian habitat are further discussed in Impact BR-3, below, along with impacts on wetlands. Several natural communities designated as special status by the USFWS, CDFW, and SDG&E Subregional NCCP/HCP are present within the proposed project area. These sensitive natural communities are located east of Talega Substation, along the proposed 230-kV transmission line, and along the proposed 12-kV distribution line, and include CSS (includes disturbed CCS), southern willow scrub, freshwater marsh, and riparian scrub (Table 4.4-6). These communities are considered to be sensitive because of their limited acreage, moderate to high wildlife value, gradual loss to development, and lack of recruitment. In addition, although non-native grasslands are not considered sensitive, this community may provide foraging habitat for sensitive species and approximately 10 acres will be impacted by the proposed project.

Table 4.4-6 Impacts on Sensitive Natural Communities (in acres[1])

	Talega Substation	Proposed San Juan Capistrano Substation	Transmission Line Segments[2, 4]					12-kV Distribution Lines[3, 4,]	Total[5]
			1a	1b	2	3	4		
Coastal Sage Scrub (CSS)									
Permanent	0.85	---	---	~~0.100~~ .18	0.10	~~0.350~~ .70	~~1.13~~ 0.83	~~0.01~~ ---	~~1.592~~ .66
Temporary	0.33	---	---	0.18	~~0.080~~ .03	~~0.590~~ .78	~~1.16~~ 0.67	---	~~2.011~~ .99
Coastal Freshwater Marsh (CFM)									
Permanent	---	---	---	---	---	---	---	---	0.00
Temporary	---	---	---	---	---	---	---	---	0.00
Southern Willow Scrub (SWS)									
Permanent	---	---	---	---	---	---	---	---	0.00
Temporary	---	---	---	---	---	---	---	---	0.00
Riparian Scrub									
Permanent	0.0[6]	---	---	---	---	---	---	---	0.0[6]
Temporary	---	---	---	---	---	---	---	---	0.00
~~**Non-native Grassland**~~									
~~Permanent~~	~~---~~	~~---~~	~~---~~	~~0.38~~	~~---~~	~~1.30~~	~~0.71~~	~~0.03~~	~~2.42~~
~~Temporary~~	~~---~~	~~---~~	~~---~~	~~2.7~~	~~---~~	~~5.10~~	~~0.62~~	~~---~~	~~8.42~~

Source: Appendices L-1 and L-2; SDG&E 2012a,b

Key:
CPUC = California Public Utilities Commission
E & E = Ecology and Environment, Inc.
GIS = geographic information system
kV = kilovolts

Notes:
1 Disturbance acreage by vegetation type is approximate.
2 Disturbance acreage for the transmission lines and substation areas and were calculated by E & E based on GIS data provided by the applicant (Appendix L-1; SDG&E 2012a). Proposed 12-kV distribution line disturbance area based on SDG&E 2012b (Appendix L-2).
3 Distribution Structures No. D2 and D3 would share a 35-foot by 70-foot permanent maintenance pad, which includes a 10 foot radial clearance around each pole. Structures No. D4 and D5 would have the same requirements.
4 Pull and tension sites are typically required every 1 to 4 miles. Reel sites, which would be located opposite each pull and tension site, would also be required.
5 Temporary and permanent disturbance areas estimated by the CPUC are larger than may actually be required because the estimates do not assume that laydown areas, maintenance pads, or clearance areas would overlap. Temporary disturbance areas for distribution poles was estimated to be approximately 40' x 40' with a 10' radial permanent disturbance area. Temporary disturbance areas for structures D2-D5 are 150' x 150'.
6 Less than 0.000001 acre.

Direct, permanent impacts on special status natural communities would result from the removal of vegetation for substation construction, pole and tower installation, and access road construction. Impacts may also result from the use of temporary staging yards and wire-stringing sites. In addition, trees or native vegetation may require trimming, crushing, or removal to accommodate construction of the proposed project. Indirect effects, such as introduction of non-native invasive weeds and increased dust could result from the use of access roads through sensitive habitat and significantly impact sensitive

natural communities. ~~MM BR-9 requires the applicant to implement invasive species control measures during construction and restoration activities.~~

Impacts analyses for special status natural communities were completed by overlaying the applicant-provided geographic information system (GIS) data for the vegetation communities over the disturbance area for the proposed project (Table 4.4-6). Because final project designs are not yet available, all special status natural communities that intersect with the disturbance buffers for the proposed project components are considered to be directly and permanently impacted for the purpose of this analysis unless otherwise noted in the applicant's data. However, this is a conservative estimate, and it is assumed that actual impacts on these sensitive communities would be less than what is analyzed here.

Although compliance with the SDG&E Subregional NCCP/HCP pre-activity studies requirements would minimize the removal of special status natural communities, construction activities and traffic related to the proposed project would have the potential to cause significant impacts on sensitive natural communities. As ~~described~~presented in Section 4.4.4, MM BR-2 and MM BR-3 require preconstruction clearance surveys and biological monitoring during construction, which will further reduce impacts on these natural communities by identifying the locations of sensitive natural resources and special status natural communities that would be avoided during construction. MM BR-4 limits the removal of native vegetation communities and MM BR-9 requires the applicant to implement invasive species control measures during construction and restoration activities. Restoration, reclamation, and/or compensation via mitigation credits for temporary and permanent impacts on vegetation are described in Section 7 of the SDG&E Subregional NCCP/HCP. Implementation of requirements and measures described in the SDG&E Subregional NCCP/HCP, in combination with MM BR-2, ~~and~~ MM BR-3, MM BR-4, and MM BR-9 would reduce potentially significant impacts on riparian habitat or other sensitive natural communities.

As described previously, areas designated as reserve or conservation land, or other core areas described in local conservation plans, would be considered "preserve areas" under the SDG&E Subregional NCCP/HCP. These preserve areas are protected because they provide areas of intact habitat for special status species and areas of special status communities. Under the SDG&E Subregional NCCP/HCP, SDG&E is required to compensate for impacts on preserve areas, as defined in Section 7 of the NCCP.

~~The proposed project would traverse multiple conservation easements. Based on discussions with the USFWS and CDFW, reserves or other areas subject to conservation easements are located within San Juan Capistrano (View pers. comm. 2014), San Clemente, unincorporated Orange County (e.g., RMV preserve areas), and within portions of San Onofre State Beach (Gower pers. comm. 2013). Discrepancies among publicly available GIS data, data prepared by the CDFW and RMV, and confidential USFWS data(USFWS 2014d,e), prevent an accurate estimate of impacts on these conservation easements, or specific locations where impacts would occur. However, under the SDG&E Subregional NCCP/HCP, SDG&E is required to compensate for impacts on preserve areas, as defined in Section 7 of the NCCP.~~

With the implementation of avoidance and minimization measures required by the SDG&E Subregional NCCP/HCP and MM BR-2, MM BR-3, MM BR-4, and MM BR-9, the impacts on riparian or natural communities from construction, operation, and maintenance would be reduced to less than significant levels.

Impact BR-3: 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.
LESS THAN SIGNIFICANT

Direct, permanent impacts on wetlands (including upland areas and drainages) as defined by Section 404 of the CWA may occur from constructing new access roads; clearing vegetation, which exposes topsoil to weathering and erosion; and installing facilities within wetland or upland drainage areas. Numerous wetlands, drainages, or riparian areas, including many known to be subject to federal jurisdiction, have been identified in proximity to components of the proposed project (Figure 4.4-2, "Jurisdictional Features within the Proposed Project Area"). There are no vernal pools within the proposed project area (Appendices L-1 and L-2; SDG&E 2012a, b).

The applicant has identified portions of ~~13~~12 aquatic features within the proposed project area (Table 4.4-3 and Appendices L-1 and L-2). These areas include approximately ~~17.88~~13.82 acres of Waters of the State, of which ~~17.58~~13.53 acres are riparian, and ~~9.66~~6.68 acres of Waters of the United States, of which ~~6.18~~3.25 acres are wetland. These features were identified during project-wide jurisdictional delineations (Appendices L-1 and L-2; SDG&E 2012a,b). While ~~N~~not all of the features are considered federally ~~protected wetland systems~~jurisdictional, ~~but~~ most support riparian habitat, and several support sensitive wildlife species.

Construction of the proposed project would not result in permanent impacts on waters under the jurisdiction of the USACE, RWQCB, and CDFW (Appendices L-1 and L-2; SDG&E 2012a, b). However, construction of the proposed project would temporarily impact 25 linear feet (approximately 0.0006 acre) of an ephemeral drainage with a 1-foot width located within the tributary to Prima Deshecha Cañada northwest of Transmission Line Pole 23. There are no wetlands associated with the tributary. The portion of this tributary within the proposed project area is an incised channel with a distinct ordinary high water mark. Vegetation within the tributary comprises annual weedy species such as non-native bromes, tocalote, black mustard, and native upland species such as Mexican elderberry (*Sambucus mexicana*), California sagebrush, deer weed (*Acmispon glaber*), and coyote bush (*Baccharis pilularis*). No wetland soils were identified within the tributary (Appendices L-1 and L-2; SDG&E 2012a, b). In addition, the portion of the tributary within the proposed project area did not include a riparian canopy~~that would be subject to CDFW jurisdiction~~.

Permanent and ~~T~~temporary impacts on the drainage and any riparian areas would require permits from the regulatory agencies (USACE, RWQCB, and CDFW). Because final project designs are not yet available, the applicant would likely avoid these impacts by reorienting the temporary workspace. In addition, the USACE has not verified the jurisdictional delineation prepared by the applicant. The extent of jurisdictional features within the proposed project area is subject to their approval (Jurisdictional Determination), which can be obtained by submitting an Approved Jurisdictional Determination Form to the USACE. Alternatively, the applicant's jurisdictional delineation data could be used upon approval from the USACE (i.e., the USACE would take jurisdiction based on the existing delineation and assessment of jurisdiction). In the event that the applicant could not avoid impacts on the tributary, then additional consultation with USACE, RWQCB, and CDFW would occur and the applicant would obtain required~~,~~ permitting and~~/or~~ additional mitigation ~~would be~~ required by the agencies.

The operation and maintenance of the proposed project would be consistent with SDG&E's existing operations and maintenance activities and would not materially increase in frequency or intensity. Any future potential maintenance-related construction projects would be evaluated under General Order 131-D and CEQA to assess whether further CPUC or regulatory agency approval is required and would be

conducted in compliance with the SDG&E Subregional NCCP/HCP. Implementation of the SDG&E Subregional NCCP/HCP operational protocols (in particular, 7.1.4-20 through 23) and additional measures required by the permitting process (e.g., BMPs, compensation, restoration, etc.) would minimize and avoid erosion and siltation into any creeks, streams, rivers, or bodies of water. Through these measures, direct and indirect impacts on jurisdictional waters would be less than significant for construction and operations and maintenance.

Impact BR-4: 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.
LESS THAN SIGNIFICANT

There are no known native wildlife nursery sites within the proposed project area. The construction of the proposed project may interfere with the movement of wildlife on a local scale, but would not substantially impede the movement of migratory species such as birds or large mammals. Wildlife tend to utilize linear features, such as canyons and rivers, that connect large blocks of habitat and provide links for dispersal and migration. Components of the proposed project would transect several preserve areas that could be used for wildlife movement because of the larger amount of space protected but the impact would be localized. The proposed project would cross the Trampas Canyon and San Juan Creek corridors and would construct or replace overhead transmission lines adjacent to the Cristianitos Canyon corridor (LSA 2010; Orange County Public Works 2004). Furthermore, creeks within the proposed project area support migratory fish such as southern steelhead and contain ponds that support resident fish, invertebrates, amphibians, and birds (SCC n.d.). These impacts would be less than significant.

Construction or operation of the proposed project is not expected to interfere substantially with the movement of native fish or wildlife species because the proposed 230-kV transmission and proposed 12-kV distribution line structures would be sufficiently spaced to allow wildlife movement. In addition, the SDG&E Subregional NCCP/HCP protects corridors as mitigation for impacts due to operations activities. SDG&E's fee-owned ROW would be available for use as wildlife corridors in order to connect the region's conservation areas. SDG&E would also allow the use of certain ROWs held in easements for such corridors with the consent of the underlying land owner (SDG&E 1995a). Therefore, impacts under this criterion for construction and operations and maintenance would be less than significant.

Impact BR-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
LESS THAN SIGNIFICANT

Expansion and/or construction of substations and other project components may require the removal of several trees and the trimming of numerous more. Several local policies and ordinances govern the removal or trimming of such trees (i.e., City of San Juan Capistrano Municipal Code (Section 9-2.349) and the City of San Clemente ordinance, City Owned Trees: Protection and Administration (Policy 301-2-1)). The proposed project would remove approximately 49 trees from an area west of the proposed San Juan Capistrano Substation between Camino Capistrano and Avenida de la Vista, within the city of San Juan Capistrano. The City's ordinance states that "tree removal proposed by utility companies for trees within utility easements shall require issuance of a tree removal permit, except in cases where a Qualified Tree Expert has determined, in writing, that such tree(s) are a hazard to utility lines or facilities" (San Juan Capistrano 2014). The proposed project would carry out tree trimming and removal activities in accordance with applicable county regulations and the terms of any applicable permits and thus impacts would be less than significant.

The proposed project area may include individual oak trees and stands of oak trees or eucalyptus that support special status species. Implementation of the operational protocols in the SDG&E Subregional NCCP/HCP, designed to reduce impacts on native vegetation and habitats, would reduce impacts on trees and sensitive natural communities (SDG&E 1995a). As compensation for impacts on sensitive areas, enhancement methods may be proposed by SDG&E, with the USFWS and CDFW concurring prior to implementation. If habitat enhancement is not selected, or is not successful according to the NCCP criteria, then a deduction from the SDG&E mitigation credits shall be made in accordance with ratios contained in Section 7.4 (SDG&E 1995a). Following the SDG&E Subregional NCCP/HCP and local ordinances would reduce impacts to less than significant for construction.

Operation and Maintenance

Operation of the proposed project would require periodic maintenance of access and spur roads and areas around transmission structures. This periodic maintenance may require trimming of protected trees to ensure safe operation of the transmission lines and to ensure access for routine and emergency maintenance. This maintenance work would be conducted consistent with CPUC General Order 95, Rule 35 and California Public Resources Code Sections 4292 and 4293. Additionally, ~~incorporation of MM BIO-1 through MM BIO-4, designed to reduce impacts on native vegetation and special status species, including trees and special status natural communities, along with~~ following the SDG&E Subregional NCCP/HCP, would reduce impacts on trees to a level that is less than significant. By incorporating the measures described above, the proposed project would not conflict with local policies or ordinances protecting biological resources, including tree preservation policies or ordinances, and thus impacts would be less than significant.

Impact BR-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.
LESS THAN SIGNIFICANT WITH MITIGATION

All proposed project components would be constructed within the plan area of the SDG&E Subregional NCCP/HCP, as well as the Orange County Southern Subregion HCP (Figure 4.4-3). The SDG&E Subregional NCCP/HCP states that it is independent of other NCCPs or HCPs; therefore, it is neither dependent upon the implementation of other NCCPs or HCPs, nor is it superseded by other plans. However, the SDG&E Subregional NCCP/HCP also states that it takes the objectives of other HCPs and NCCPs in the area "into consideration," and the SDG&E Subregional NCCP/HCP implementation would include coordination with other HCPs and NCCPs (SDG&E 1995a). The proposed project is considered a covered action under the SDG&E Subregional NCCP/HCP (Ponce pers. comm. 2013).

Under the SDG&E Subregional NCCP/HCP, certain areas containing habitat for Covered Species are considered preserve areas; specified mitigation activities and ratios are required for impacts on a preserve area. Preserve areas include existing reserve or conservation areas established by regional planning documents (e.g., HCPs); state, federal, and local preserve areas; and public or private areas set aside for the long-term protection of plants and wildlife (SDG&E 1995a,b). The SDG&E Subregional NCCP/HCP requires areas not defined as a preserve by an existing planning document will be subject to review by a qualified biologist to determine whether they consist of moderate, high, and very high quality habitat. These areas will be treated like a preserve and will be subject to the same mitigation as preserve areas (SDG&E 1995a, Gower 2014). The proposed project would cross areas covered by the Orange County HCP that have been or are in the process of being designated as preservation areas, including the City of San Juan Capistrano open space; a Conservation Easement at Orange County's Prima Deshecha Landfill; City of San Clemente open space, including a yet-to-be recorded Conservation Easement in the Talega Development; and San Onofre State Beach (see Section 4.4.1.7).

Coordination with USFWS and CDFW is necessary to ensure that the proposed project is consistent with provisions of SDG&E Subregional NCCP/HCP that require these preserve areas to be mitigated appropriately. Section 6.2.1 of the SDG&E Subregional NCCP/HCP provides a consultation process with the USFWS and CDFW that SDG&E would follow for the proposed project when proposed new transmission facilities would occur in a preserve area. The process specifies that SDG&E shall provide the USFWS and CDFW with written notice of intent to construct in a preserve area, and then the wildlife agencies shall provide a written response with any objections or alternatives within 20 working days. The process continues with specified timelines for a reply from SDG&E, for USFWS and CDFW to object to this reply, and finally, for an appeal to a review panel who shall make a final decision, consisting of the Regional Director of the USFWS, Director of the CDFW, and SDG&E.

The processes specified in the SDG&E Subregional NCCP/HCP to consider the objectives of other HCPs/NCCPs and to coordinate within preserve areas would reduce conflicts with the provisions of an adopted HCP or other conservation plans, but not to a level that is less than significant. The SDG&E Subregional NCCP/HCP does not ~~specify a process for coordination with all landowners, conservation easement holders, and regional plans in the proposed project area to determine the locations of preserve areas (SDG&E 1995a,b)~~ require the applicant to obtain written verification from the implementing agencies that consultation has concluded. ~~In addition, the SDG&E Subregional NCCP/HCP was written in 1995, and land ownership and conservation easements and plans, as well as staffing levels and responsibilities of USFWS and CDFW staff, have changed since then. The CDFW has confirmed that the proposed project is an activity covered by the SDG&E Subregional NCCP/HCP (Ponce pers. comm. 2013).~~ The wildlife agencies have also affirmed that preserve areas under the SDG&E Subregional NCCP/HCP include any land the ownership or use of which has been conveyed or dedicated to, or is otherwise managed by, any entity for long term conservation. For example, dedicated conservation easements would be considered preserve areas under the SDG&E Subregional NCCP/HCP. Furthermore, the process described above provides timeframes that may be difficult for the wildlife agencies to meet.

The proposed project is considered a covered action under the SDG&E Subregional NCCP/HCP; the SDG&E Subregional NCCP/HCP contains measures to coordinate with the NCCP/HCP implementing entities and to provide additional mitigation in the event of permanent or temporary impacts on HCP/NCCP preserve areas. As described above, SDG&E would coordinate with the appropriate authorities during the proposed project's approval process to ensure that the impacts, mitigation measures, and operational protocols are implemented for the proposed project under the SDG&E Subregional NCCP/HCP. ~~However, the SDG&E Subregional NCCP/HCP does not specify a process for coordination with all landowners, conservation easement holders, and regional plans in the proposed project area to determine the locations of preserve area. Coordination is necessary to ensure that the proposed project is consistent with provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP, the lack of which could result in a significant conflict.~~ MM BR-10 requires the applicant to ~~participate in further coordination with the implementing agencies~~ obtain written verification from USFWS and CDFW that requirements under the SDG&E Subregional NCCP/HCP have been completed prior to the start of construction. Implementation of MM BR-10 would reduce potential conflicts with SDG&E Subregional NCCP/HCP to less than significant.

~~The proposed project may conflict with two conservation easements established within the Orange County Southern Subregion HCP and considered preserve areas under the SDG&E NCCP/HCP. The two conservation easements in question are the Talega Conservation Easement (unrecorded) and a conservation easement at the Prima Deshecha Landfill (recorded). Potential conflicts with the Talega Conservation Easement cannot be determined until the easement is recorded and the applicant conducts further consultation with the USFWS regarding the applicant's existing ROW, the establishment of new ROW, and use of ground disturbing construction techniques in the area. Much of the proposed project in the Talega Development would lie within the boundaries of the Talega Conservation Easement. Potential~~

~~conflicts with the conservation easement near the Prima Deshecha Landfill cannot be determined until the construction disturbance limits of the proposed project have been delineated in relation to the conservation easement boundary and the applicant's existing ROW. A small part of the proposed project crosses through this easement. The CPUC is in the process of gathering additional information pertaining to the boundaries and allowable uses in each easement. Based on recent discussions with the USFWS, establishing new ROW or impacting areas outside of the applicant's existing ROW and within the boundaries of the conservation easement(s) would conflict with both conservation easements, resulting in a significant impact (Snyder 2015).~~

~~The USFWS has indicated that establishing new ROW within the Talega Conservation Easement or impacting areas of the Prima Deshecha Landfill Conservation Easement that are outside of the applicant's existing ROW would directly conflict with the provisions of the aforementioned conservation easement(s), and thereby the provisions of the Orange County Southern Subregion HCP. MM BR-10 would require the applicant to participate in further coordination with the implementing agencies. While consultation with the USFWS may identify mechanisms for reducing potentially significant impact to less than significant levels, MM BR-10 on its own is does not adequately ensure consistency with an adopted HCP at this time. Measures to avoid, minimize, and mitigate potentially significant impacts to less than significant levels cannot be evaluated until the Talega Easement is recorded and additional consultation between the applicant and the wildlife agencies occurs. Therefore, impacts under this criterion are being treated as significant and unavoidable until additional information is gathered.~~

4.4.4 Mitigation Measures

MM BR-1: Limit Construction to Designated Areas and Protect Riparian, Aquatic, and Wetland Areas. In all project locations, vehicular traffic (including movement of all equipment) will be restricted to established construction areas indicated by flagging and signage. CPUC notification and approval will be required for any additional disturbance areas not already identified and evaluated for the project pursuant to CEQA. As feasible, the applicant will use disturbed or low habitat value areas before using undisturbed or higher quality habitat areas, as determined by a qualified biologist. Prior to ground disturbing activities, s~~S~~ensitive resources such as waterbodies, oak trees, special status plant populations, and natural communities will be clearly marked and avoided.

All aquatic features, including vegetated washes, creeks, drainages (ephemeral and perennial), and riparian areas will be spanned by the 230-kV transmission and 12-kV distribution line where possible. If construction will occur within 200 feet of an aquatic feature, biological monitors will establish and maintain a minimum exclusionary buffer of 50 feet from the delineated extent of all jurisdictional wetland features. If the applicant cannot maintain the 50-foot exclusionary buffer, the applicant will submit best management practices (BMPs) to the CPUC for review and approval prior to construction. In addition, if the applicant is unable to maintain the 50-foot buffer, the applicant will consult with USACE and CDFW regarding potential impacts to streams or wetlands.

If nighttime lighting is necessary adjacent to aquatic areas, lighting shall be shielded away from these areas to prevent impacts on aquatic wildlife.

MM BR-2: Biological Monitoring. CPUC-approved, qualified biological monitors will be present during construction and restoration activities in areas where sensitive resources identified by a CPUC-approved biologist may be impacted by construction of the project. Biological monitors will be assigned to the project in areas of sensitive biological resources. The monitors will be responsible for ensuring that impacts on special status species, native vegetation, wildlife habitat, or unique resources will be avoided to the fullest extent possible. Where appropriate, monitors will flag the boundaries of areas where activities will need to be restricted in order to protect native plants and wildlife or special status species.

Those restricted areas will be monitored to ensure their protection during construction. The applicant shall submit the biological monitors' daily monitoring reports and monthly biological monitoring reports to the CPUC, CDFW and USFWS.

MM BR-3: Preconstruction Surveys.

a. Preconstruction surveys will be conducted by CPUC-approved, qualified biologists according to standardized methods. ~~, or for species for which protocols exist as outlined in the most current protocols available.~~ Surveys will encompass all construction areas. Existing baseline vegetation data will be used ~~As part of preconstruction surveys, the composition of the vegetation community will be surveyed to establish baseline conditions prior to disturbance, which could later be used~~ during post-construction restoration efforts as outlined in Section 7 of the SDG&E Subregional NCCP/HCP. ~~The surveys will be conducted for the presence of aquatic features, special status plants, noxious weeds, and all wildlife species to prevent direct loss of vegetation and wildlife and the spread of noxious plant species.~~ Preconstruction surveys will take place for each discrete work area within 14 days of the start of ground disturbance, or if work has lapsed for longer than 14 days.

b. Additionally, a CPUC-approved, qualified biologist will conduct preconstruction clearance sweeps for special status species at all access, staging, and work areas where suitable habitat is present within approximately 24 hours of construction and restoration activities each day.

c. In addition to these preconstruction surveys, a CPUC-approved biologist will conduct protocol-level surveys for coastal California gnatcatcher and least Bell's vireo along the proposed 12-kV distribution line where surveys have not yet taken place. A CPUC-approved biologist will also perform protocol-level southwestern willow flycatcher and rare plant surveys throughout the entire project area, where suitable habitat exists.

If a special status species is found at any time, the CPUC will be notified within 48 hours, and the CPUC will determine the need for additional consultation with the appropriate resource agency or agencies.

MM BR-4: Limit Removal of Native Vegetation Communities and Trees. The removal of native vegetation and trees will be limited to the minimum practicable area required for construction of the project. To the extent feasible, g~~G~~rading, grubbing, graveling, or paving will only occur for permanent project components. Temporary staging areas will be used in such a way that it facilitates post-construction restoration, per Section 7 of the SDG&E Subregional NCCP/HCP. Drive-and-crush methods will be employed, with the exception of those areas where this method is not feasible for temporary staging areas for safety reasons and placement of temporary structures, such as construction trailers and drop tanks.

MM BR- 5: Avian Safe Building Standards. The applicant will design all transmission structures installed as part of the proposed project to be consistent with the *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (APLIC 2006).

MM BR-6: Migratory Birds and Raptors Impact Reduction Measures. The applicant will develop a Nesting Bird Management Plan in consultation with the USFWS, CDFW, and CPUC that outlines protective measures and BMPs that will be employed to prevent disturbance to active nests of both special status and Migratory Bird Treaty Act (MBTA)-protected bird species with the potential to occur in the project area. The Nesting Bird Management Plan will include the following components:

- Appropriate survey timing, extents, and methods, including dates of local breeding season when surveys must take place; monitoring and reporting protocols; protocol for determining whether a nest is active; and protocol for documenting, reporting, and protecting active nests within

construction and restoration areas will be included in the Nesting Bird Management Plan. If preconstruction survey protocols exist for a ~~certain species~~special status avian species with a potential to be impacted by the project, the plan will outline the implementation of these protocols. The survey area will include the construction area, plus an additional distance large enough to accommodate the protective buffer of MBTA-protected bird species likely to occur in proximity to the construction area. ~~The Nesting Bird Management Plan will specify that active bird nests will not be removed during breeding season unless the project is expressly permitted to do so by the USFWS or CDFW.~~ The plan will also specify approved nest deterrent methods, inactive nest management, and project-related nest failures will be reported to the USFWS and CDFW.

- Appropriate and effective buffer distances, including horizontal buffers from nests, horizontal buffers from territories, if appropriate, and vertical buffers for helicopters will be included. Buffers will not be based on generalized assumptions regarding all nesting birds, but will be specific to the site and species/guild and account for specific stage of nesting cycle and construction work type. During construction and restoration, a CPUC-approved avian biologist will implement the appropriate buffer distance in accordance with the plan, and a process for a reduction from the plan's nesting buffer distances will be specified. Buffer reductions for special status species and raptors ~~must be approved by~~shall be determined upon consultation with ~~appropriate wildlife agencies~~USFWS, CDFW, and the CPUC. Buffer reductions for common species must be approved by the CPUC-approved avian biologist and USFWS, CDFW, and the CPUC will be notified.
- Vertical buffers would be based on anticipated effects of rotor wash and noise for each class of helicopter (i.e., Light Duty, Medium Duty, and Heavy Duty). Surveys and monitoring of the active buffer areas will be completed by a CPUC-approved biologist before, during, and after helicopter use in the vicinity of active buffers and reported to the CPUC.
- The Nesting Bird Management Plan will include the minimum requirements to become a CPUC-approved avian biologist and biological monitor for nesting birds, including education, experience in conducting biological surveys, and experience with specific birds in the project area.
- The CPUC-approved biological monitor will halt work if it is determined that active nesting will be disturbed by construction or restoration activities until further direction or approval to work is obtained from the CPUC and/or appropriate wildlife agencies.

The Nesting Bird Management Plan will be submitted to the USFWS, CDFW, and CPUC for review and comment ~~and approval~~ no more than six months prior to the start of construction, with the intent that the plan will be finalized no more than two months prior to the start of construction. The final plan will be implemented during construction and restoration activities. A Nesting Tracker will be maintained and updated weekly during the nesting bird season, and will be submitted to USFWS, CDFW, and CPUC on a monthly basis. This Nesting Tracker will contain data such as species, location, buffer, monitor name, and status of the nest.

MM BR-7: Coastal Cactus Wren Avoidance.

a. **Preconstruction Surveys.** CPUC-approved biologists will perform preconstruction surveys in potential coastal cactus wren habitat within 200 feet of each discrete work area and record the location and quality. Preconstruction surveys will take place within two weeks prior to the start of ground disturbance or when work has lapsed for longer than two weeks.

b. **Conservation.** Should suitable coastal cactus wren habitat patches be identified in or within 200 feet of proposed work areas, they will be avoided to the greatest extent possible during

construction. Habitat includes, but is not limited to, mature cholla or prickly-pear cactus typically less than 1 meter in height, interspersed with California sagebrush, California buckwheat, and blue elderberry. Habitat patches may be as small as approximately 1 acre. Habitat patches located in close proximity to construction activities should be protected by physical barriers, such as rope or signage.

~~c. If habitat patches cannot be avoided, the applicant shall consult with the CDFW to determine appropriate mitigation, restoration, and/or compensation measures.~~

c. **Habitat Restoration Plan for Coastal Cactus Wren Habitat.** Prior to construction of the proposed project, and with the coordination and review of USFWS and CDFW, SDG&E will prepare a habitat restoration plan for coastal cactus wren habitat. Details of the restoration plan will be finalized pending consultation between the applicant, SDG&E, USFWS, and CDFW. The restoration plan will be prepared by a qualified botanist familiar with this vegetation association. The plan will include the following elements: planting/reseeding species mentioned above in correct ratios so as to be suitable for coastal cactus wren; monitoring plan and schedule, including duration and performance criteria; and any specific measures that will be required to ensure success of the restoration effort. Suitable habitat will be replaced at a 1:1 ratio, and if SDG&E chooses to implement the restoration effort outside the project area, it must be no more than 3 miles away from the project area.

d. **Take Avoidance.** ~~Take of coastal cactus wrens is prohibited except in emergency situations.~~ Should biologists identify nesting coastal cactus wrens at any time during construction, biologists will ~~erect~~implement a buffer around the nest that sufficiently protects the nesting pair from disturbance caused by construction activities, as determined by the project-specific Nesting Bird Management Plan. The nest should be monitored regularly according to methods outlined in the Nesting Bird Management Plan and the buffer must remain in place until construction is complete or the nest is no longer active~~fledges or fails~~. ~~Should take be unavoidable in the event of an emergency, the applicant shall consult with CDFW to determine appropriate mitigation, restoration, and/or compensation measures.~~

MM BR-8: Western Burrowing Owl Impacts Reduction Measures.

a. **Preconstruction Surveys for Burrowing Owls**. Prior to ground disturbance, a CPUC-approved biologist will conduct preconstruction take-avoidance surveys for burrowing owls within 150 meters of project areas in suitable habitat no more than 14 days prior to ground-disturbing activities according to methods outlined in the CDFW's 2012 (or most recent) *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Surveys will provide data on whether burrowing owls occupy the site and, if so, whether the owls are actively nesting.

~~b.~~ **Burrowing Owl Impact Avoidance.** If pre-construction take-avoidance surveys detect~~reveal~~ the presence of any active burrowing owl burrows during breeding season, the burrows will be ~~flagged and buffered~~avoided, and construction activities within 150 meters will be enclosed by construction fencing. Buffer sizes are outlined in the CDFW's *Staff Report on Burrowing Owl Mitigation*. Active burrowing owl burrows should be monitored regularly according to methods outlined in the Nesting Bird Management Plan, and buffers should remain in place until the nest fledges or fails.

~~c.~~ **~~Passive~~ Eviction.** If, in consultation with the CDFW, it is determined that project activities require removal of occupied burrows, or burrows potentially occupied by burrowing owls, eviction and burrow closure may be required to ensure against "take" of owls or nests. However, ~~are not recommended when this practice can be avoided. However,~~ if ~~passive~~ eviction is required, it will occur only after consulting with~~according to~~ CDFW~~'s 2012 *Staff Report on Burrowing Owl Mitigation*. Owls may not be evicted until~~ and CDFW approval of a Burrowing Owl

Exclusion Plan. ~~is developed and approved by CDFW and CPUC; permanent loss of occupied burrows and habitat is mitigated in accordance with the CDFW 2012 document;~~ Mmonitoring will be~~is~~ conducted to ensure take is avoided during eviction procedures.~~; and excluded owls are documented using new burrows (if this can be confirmed).~~ Owls may not be ~~actively~~ evicted ~~(~~e.g.,or captured~~)~~ without prior authorization from the CDFW~~and CPUC~~.

~~d. **Burrowing Owl Habitat Mitigation.** Should impacts on active burrowing owl burrows be unavoidable, the applicant shall consult with the CDFW and CPUC and submit a Burrowing Owl Compensation Plan that is consistent with mitigation guidelines, as outlined in the *Staff Report on Burrowing Owl Mitigation* prior to construction. This plan shall be approved by the CDFW and CPUC and implemented, as specified, throughout construction and restoration. The plan will describe the compensatory measures that will be undertaken to address the loss of burrowing owl burrows within the project area. This will include mitigation for permanent impacts on nesting, occupied and satellite burrows, and occupied burrowing owl habitat.~~

Mitigation Measure BR-9: Invasive Plant Control Measures. The applicant will use standard BMPs to avoid the introduction and spread of controllable invasive plant species such as tamarisk (*Tamarix* sp.) and giant reed (*Arundo donax*) during construction of the project. Proper handling during construction will include the following:

- All vehicles and equipment will be cleaned prior to arrival at the work site.
- Crews, with construction inspector oversight, will ensure that vehicles and equipment are free of soil and debris capable of transporting noxious weed seeds, roots or rhizomes before the vehicles and equipment are allowed use of access roads.
- Straw or hay bales used for sediment barrier installations or mulch distribution will be obtained from state-cleared sources that are free of invasive weeds.

The applicant will develop an Invasive Plant Management Plan to outline the methods that will be employed to prevent the spread of invasive plants onsite. This plan will be submitted to the CDFW and CPUC for review and comment no more than six months prior to the start of construction, with the intent to produce a final draft of the plan no later than two months prior to the start of construction.

Mitigation Measure BR-10: Mitigation Plan Development. ~~In order to prevent potential conflicts between the SDG&E Subregional NCCP/HCP and other conservation plans and land, the applicant will prepare and implement a mitigation plan for the project.~~To ensure that the project is consistent with the SDG&E Subregional NCCP/HCP, the applicant will prepare and implement a Mitigation Plan Development for the project. The Mitigation Plan Development will:

- Detail a consultation process in accordance with Section 6.2.1 of SDG&E's NCCP/HCP. Alternatively, an updated process and timeline can be developed as allowed by both USFWS and CDFW.
- Require SDG&E to provide the CPUC with written confirmation from USFWS and CDFW that the consultation process has been carried out to the satisfaction of the agency and are consistent with the SDG&E Subregional NCCP/ HCP.
- ~~The plan will i~~Include a summary of the policies and procedures in the SDG&E Subregional NCCP/HCP that are relevant to other HCPs/NCCPs, conservation plans, and public or private conservation or preserve areas, including but not limited to:
  - Operational protocols used in sensitive habitat areas;

- Mitigation for temporary and permanent impacts, including habitat enhancement and mitigation credits;
- Coordination and consultation procedures with the USFWS and CDFW;
- Definition of preserve area according to the SDG&E Subregional NCCP/HCP;
- Identification and mapping of areas that may qualify as a preserve area within 100 feet of any project component; and
- A review of locations where there may be potential conflicts among conservation plans.

~~• In order to prevent potential conflicts, SDG&E will coordinate with all relevant jurisdictions, plan participants, and landholders associated with the preserve areas crossed by the project, including but not limited to the City of San Juan Capistrano, City of San Clemente, County of Orange, California Department of Parks and Recreation, Marine Corps Base (MCB) Camp Pendleton, CDFW, and USFWS.~~

~~• The plan will outline how SDG&E will communicate with the relevant jurisdictions, plan participants, and landholders about the project activities in preserve areas. A process for resolving inconsistencies between SDG&E's transmission and distribution activities in a preserve area and the mission of the overlapping jurisdiction, conservation plan, or easement will be outlined.~~

- This plan will be submitted to the USFWS, CDFW, and CPUC for review and comment~~no more than six months prior to the start of construction,~~ with the intent to produce a final draft of the plan, approved by the CPUC, no ~~later~~less than two months prior to the start of construction. Implementation of the Mitigation Plan Development, excluding any restoration or other physical habitat improvements that are required as a result of the agency consultation, will be completed prior to the start of construction.

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4.5 Cultural Resources

This section describes the environmental and regulatory settings and discusses impacts associated with construction and operation of the South Orange County Reliability Enhancement Project (proposed project) with respect to cultural and paleontological resources. During scoping, the following issues were raised and are addressed in this section: the need to conduct a Sacred File Land search and early consultation with Native American tribes; the need to conduct a cultural historic record inventory search for the proposed project's area of potential effect; the cultural significance of the existing 1918-constructed building that fronts on Camino Capistrano; and the need to analyze impacts on archeological, historical, and Native American resources within the proposed project area.

For the purpose of analysis in this section, the term "cultural resources" encompasses historical resources~~;~~ and archeological resources (which may be historic or prehistoric, and are a subset of historical resources); Native American resources; and paleontological resources. The Cultural Resources Technical Report and supplemental survey information prepared by San Diego Gas & Electric Company (SDG&E, or "the applicant") are included in Appendix M.

Key cultural and paleontological resources terms used in this section are defined below.

Historical Resources

Historical resources, as defined by the California Environmental Quality Act (CEQA), are resources that are listed in, or are determined to be eligible for listing in, the California Register of Historical Resources (CRHR) or a local register, or that are otherwise determined to be historical pursuant to the CEQA Statute or Guidelines (Public Resources Code [PRC] Section 21084.1 or California Code of Regulations [CCR] Section 15064.5). A historical resource may be any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in terms of California's architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural records. Typically, historical resources are more than 50 years old.

Archaeological Resources

As stated above, archaeological resources are a subset of the historical resources category. Archaeological sites may be considered historical resources. If not, archaeological resources may be determined to be "unique" as defined by the CEQA Statute (Section 21083.2). A unique archaeological resource is an artifact, object, or site that: (1) contains information (for which there is a demonstrable public interest) needed to answer important scientific research questions; (2) has a special and particular quality, such as being the oldest of its type or the best available example of its type; or (3) is directly associated with a scientifically recognized important prehistoric or historic event or person. Non-unique archaeological resources are not typically addressed in Environmental Impact Reports (EIRs).

Native American Resources

Native American resources are cultural resources such as archaeological resources, rock art, and the prominent topographical areas, features, habitats, plants, animals, or minerals that contemporary Native Americans value and consider essential for the preservation of their traditions. Traditional culture often prohibits Native Americans from sharing the locations of these cultural resources with the public.

Paleontological Resources

For the purpose of this EIR, "paleontological resources" refers to the fossilized plant and animal remains of prehistoric species. They are valued for the information they yield about the history of the earth and its

past ecological settings. Paleontological resources represent a limited, non-renewable, impact-sensitive, scientific, and educational resource. Fossil remains such as bones, teeth, shells, and leaves are found in geologic deposits (i.e., rock formations). Paleontological resources generally include the geologic formations and localities in which the fossils are collected.

4.5.1 Environmental Setting

This section provides information regarding prehistory, ethnography, and history of the proposed project area, based on the cultural resources sections of the Proponent's Environmental Assessment for the proposed project (SDG&E 2012) unless otherwise cited.

4.5.1.1 Prehistoric, Ethnohistoric, and Historic Background and Search, Survey, and Consultation Results (Historic, Archaeological, and Native American Resources)

The cultural history of the proposed project area will be discussed in terms of four chronological divisions: Prehistory, Ethnohistory and Ethnography[1], and History. The time periods associated with these divisions are not all precisely defined.

Prehistory covers the period before the existence of written records and is known primarily through archaeology. Prehistory begins with the first humans occupation of California more than 10,000 years ago and continues until the time the Spanish established the mission system (1769) and began keeping records and describing the people living in the vicinity of the missions.

Ethnohistory and Ethnography deal with the period documented by historic accounts of Native peoples and anthropological inquiry, focusing on indigenous people. The Ethnohistoric period extends back a few centuries and ends generally in the early 20th century, although these boundaries are not firm. The account of the 16th century explorers provides the first ethnohistoric information on the California Indians, and this is augmented by missionaries, military, and settler records. Ethnography in California began as an attempt to record Native American lifestyles that anthropologists perceived to be rapidly disappearing. As part of this effort, anthropologists in the late 19th and early 20th centuries investigated people with memories of life before the missions and EuroAmerican settlement.

History is characterized as the period for which written records are readily available. The Historic period in California is defined as beginning in 1769 and extending to the present.

Prehistory

Although archaeologists have uncovered a great deal of evidence indicating human occupation of the west coast of North America as early as 14,000 years ago, the earliest widely accepted archaeological materials in mainland Southern California are the San Dieguito/Lake Mojave complexes, dating to around 10,000 years ago (Warren 1967; Sutton et al. 2007). San Dieguito/Lake Mojave sites yield an artifact assemblage that includes a variety of scrapers, as well as stemmed points and flaked crescent-shaped artifacts called "crescentics." Archaeologists interpret these sites as remains left by people who depended primarily on hunting.

[1] Ethnohistory uses both historical and ethnographic data as its foundation. Its historical methods and materials go beyond the standard use of books and manuscripts. Practitioners recognize the utility of maps, music, paintings, photography, folklore, oral tradition, ecology, site exploration, archaeological materials, museum collections, enduring customs, language, and place names. (American Society for Ethnohistory 2011)

About 8,000 years ago, people appear to have begun changing their adaptation. Sites of this period yield fewer projectile points, scrapers, and choppers, and more ground stone implements (milling bases or "metates" and handstones or "manos") associated with processing seeds and other vegetable foods. Archaeologists interpret this as evidence of increasing dependence on plant resources and decreasing dependence on hunting; based on the abundance of such implements, this period is often referred to as the Millingstone Horizon, dated between 8,000 and 3,000 years ago.

During the Intermediate Horizon (3,000 to 1,250 years ago) mortars and pestles (pounding tools) were used rather than grinding tools like the metates and manos. Archaeologists have interpreted the mortars and pestles as evidence of acorn processing and as a sign of an increase in a sedentary lifestyle. Intermediate Horizon sites also yield large stemmed or notched projectile points.

The Late Prehistoric Horizon is marked by sites that yield small triangular projectile points suitable for use with the bow and arrow about 1,250 years ago.

Ethnography and Ethnohistory

The proposed project would be located in an area known ethnographically to have been occupied by the Juaneño (now known as the Acjachemen) when the Spanish arrived in 1769. The Juaneño/Acjachemen were semi-sedentary hunters and gatherers. One of the most important food resources for the group was acorns gathered from oak groves in canyons, drainages, and foothills. Acorns were ground into flour using mortars and pestles. Protein was supplemented through the meat of deer, rabbits, and other animals, hunted with a bow and arrow or trapped. Shellfish were collected and eaten, and some of the shell was then used to make hooks for fishing, beads, and other ornaments.

The Juaneño/Acjachemen lived in villages of up to 250 people located near permanent water and a variety of food sources. The San Juan Basin was densely populated, and villages were closely spaced because of the year-round availability of fresh water in San Juan Creek. Each village was typically located in the center of an established area from which resources for the group were gathered. Subsequently, small groups would leave the village for a short time to hunt, fish, or gather plant materials.

History

The first Europeans to explore future California were part of the 1542 expedition of Juan Rodriguez Cabrillo. Orange County is thought to have been first visited in 1769 by Gaspar de Portola, as he led a 62-person expedition from San Diego to Monterey. Shortly after this visit, the seventh Franciscan mission in California was founded in 1776, the Mission San Juan Capistrano.

After an initial period of exploration, the Spanish concentrated on the founding of presidios, missions, and secular towns with the land held by the Crown (1769–1821). In contrast, the later Mexican policy stressed individual ownership of the land. In 1821, Mexico declared independence from Spain and within 12 years began closing the missions. Former mission lands were granted to soldiers, other Mexican citizens, and a few wealthy foreigners. In 1841, the former mission became a Mexican pueblo named San Juan Capistrano.

The signing of the Treaty of Guadalupe Hidalgo in 1848 ended the Mexican-American War, and California became a territory of the United States. California became the 31st state in 1850, primarily due to the gold rush. The 1860s and 1870s saw an increase in farmers and merchants in the area. In March 1889, the County of Orange was created, occupying 780 square miles.

Orange County remained primarily agricultural through most of the 20th century. The early 20th century came with advanced technology, including utility distribution companies, such as water, electricity, and

telephone, and paved streets. Interstate 5 was completed in the 1950s and connected many Orange County communities with Los Angeles. By the 1980s, the county was developed with numerous master planned communities.

Cultural Resources Literature and Records Searches

Record searches for the area surrounding the proposed project were conducted by TRC Solutions, Inc. (TRC) at the South Coastal Information Center for San Diego County on February 29, 2012, and at the South Central Coastal Information Center for Orange County on March 5, 2008, and July 3, 2012. These searches included the area of the proposed double-circuit 230-kilovolt (kV) transmission line, the proposed San Juan Capistrano Substation, and the Talega Substation, herein referred to as the "searched area." The purpose of the record searches was to determine the extent of previous investigations within one quarter-mile of the searched area and whether previously documented prehistoric or historic archaeological sites, isolated findings, architectural resources, cultural landscapes, or ethnic resources exist within the project area. The reviewed documentation included survey and evaluation reports, archaeological site records, historic maps, the California Points of Historical Interest, the California Historical Landmarks, the CRHR, the National Register of Historic Places (NRHP), and the California State Historic Resources Inventory listings. The record searches included the records available through the City of San Juan Capistrano, the Orange County Assessor/Recorder's data, Sanborn Fire Insurance Maps and other historic maps, and historic background data provided through the San Diego Historical Society, and the City of San Juan Capistrano history files (on-line data).

There have been 101 cultural resource studies conducted within a quarter-mile radius of the searched area. Of these, 41 of the previously conducted cultural resource studies had survey areas that overlap the searched area. A total of 48 cultural resources have been identified within a quarter-mile radius of the searched area. Thirteen cultural resources are located within the searched area, as detailed in Table 4.5-1.

Table 4.5-1 Previously Discovered Cultural Resources within the Surveyed Area

Segment	Trinomial	Primary Number	Brief Description	Type
Transmission Line Segment 4; Talega Substation	CA-ORA-362	30-000362	Dense lithic scatter[1]	Prehistoric
Transmission Line Segment 4	CA-ORA-363	30-000363	Lithic scatter with groundstone	Prehistoric
Transmission Line Segment 3	CA-ORA-640	30-000640	Light lithic scatter	Prehistoric
Transmission Line Segment 3	CA-ORA-700	30-000700	Sparse flake and groundstone scatter	Prehistoric
Transmission Line Segment 3	CA-ORA-779	30-000779	Minimal lithic scatter	Prehistoric
Transmission Line Segment 3	CA-ORA-780	30-000780	Isolated Mortar	Prehistoric
Transmission Line Segment 3	CA-ORA-781	30-000781	Isolate-core	Prehistoric
Transmission Line Segment 3	CA-ORA-909	30-000909	Small lithic scatter with groundstone	Prehistoric
Transmission Line Segment 3	CA-ORA-1162	30-001162	Lithic scatter-basalt flakes	Prehistoric
Transmission Line Segment 3	CA-ORA-072	30-100072	Isolated felsites flake	Prehistoric
Transmission Line Segment 1a	–	30-176663/ 19-186804	BNSF Railroad	Historic
Transmission Line Segment 1a	–	30-176664	Metrolink Railroad, BNSF	Historic
Capistrano Substation	–	30-179873	1917-1918 SDG&E building	Historic

Key:
BNSF = Burlington Northern Santa Fe Railway
SDG&E = San Diego Gas & Electric Company
Note:
[1] Lithic scatter refers to a surface scatter of cultural artifacts and debris that consists entirely of stone items, stone tools, and chipped stone debris.

Cultural Field Surveys

Surveys of the proposed project's double-circuit 230-kV transmission line, the San Juan Capistrano Substation, and Talega Substation, herein referred to as the "surveyed area," were performed by TRC archaeologists on March 12, March 19, and 21, 2008, and additional field visits and/or surveys occurred on September 29 and 30, October 11 and 12, and December 28 and 29, 2011; February 28, 2012; and March 15, 2012. TRC archaeologists conducted the surveys by walking transects spaced approximately 5 to 15 meters apart, as appropriate and whenever possible. In areas where vegetation was thick, meandering transects were utilized to enable observation of as much of the cleared areas as possible. In the steeper portions, the areas most likely to have occupation (i.e., ridge tops) were examined. All areas with exposed boulders were checked for milling features. A high-precision Trimble unit and a digital camera were available to record the location of any cultural material observed.

No new cultural resources were located during any of the cultural resource surveys. Most of the new pole locations and access roads had good ground visibility. Many of the areas surveyed have been previously disturbed. TRC attempted to find each of the 13 previously documented cultural resource sites within the searched area found by the literature and records search. None of the previously recorded prehistoric cultural resources within the proposed project area were relocated during any of the field surveys. All three historic sites—30-176663, 30-176664, and 30-179873—were found to be the same as they appeared on the site records from the information center.

Historical Assessments

As discussed further in Section 4.5.2.3, the historic site 30-179873, the 1918-constructed building that fronts Camino Capistrano,[2] herein referred to as "the former utility structure," is not listed on the City of San Juan Capistrano's Inventory of Historical and Cultural Landmarks and is not located within the boundaries of the City of San Juan Capistrano's Historic Town Center or Historic Town Center study area, but is included in the City of San Juan Capistrano's Buildings of Distinction (BOD) list (City of San Juan Capistrano 2007a,b; 2010). The BOD list includes "structures and sites which are potentially eligible for inclusion on the City's IHCL [Inventory of Historical and Cultural Landmarks] when they meet all listing criteria and/or have property owner concurrence to the inventory" (City of San Juan Capistrano 2007b).

In 2008, the applicant hired a qualified archaeologist to conduct a historic assessment of the former utility structure to determine its eligibility for NRHP listing. The 2008 assessment determined that the former utility structure lacks the integrity required to meet the minimum eligibility criteria for a historic resource at the state or federal level and does not meet the definition of a "historical resource" under CEQA (McKenna et al. 2008; Appendix M-1). In 2013, the applicant retained ASM Affiliates to review the 2008 evaluation and to provide a second opinion regarding the former utility structure's eligibility for NRHP. ASM Affiliates concurred with the conclusion of the 2008 report that the former utility structure was ineligible due to loss of integrity (TRC 2013; Appendix M-2).

In 2014, the California Public Utilities Commission (CPUC) hired a qualified historian to conduct a historic assessment of the former utility structure to provide an independent opinion of its eligibility for NRHP listing. The 2014 report concluded, as did the 2008 and 2013 historic assessments, that the former utility structure does not meet the minimum eligibility criteria for a historic resource at the state or federal level and does not meet the definition of a "historical resource" under CEQA (Moomjian 2014; Appendix M-3).

[2] Some City of San Juan Capistrano documentation refers to this building as the "Capistrano Substation."

On April 29, 2015, the State Historic Resources Commission (SHRC) held its quarterly commission meeting in San Diego. The nomination of the former utility structure was on the agenda. Office of Historic Preservation staff presented the nomination to the six SHRC members, followed by a presentation by the nominator, Ilse Burns. SDG&E and SCE objected to the proposed nomination, commenting that the building lacks sufficient integrity, and it was once part of an integral complex that is no longer extant. SDG&E pointed out that three qualified consultants (including a third party consultant from the CPUC) did not find the building eligible. The SHRC voted unanimously in favor of recommending the building as eligible for the NHRP. The recommendation was forwarded to the Keeper of the NRHP on July 17, 2015.

Native American Consultation

The applicant submitted a request for information in the Sacred Lands file database to the Native American Heritage Commission (NAHC) on January 18, 2012, for the searched area. The applicant also requested a list of interested Native American tribal groups and individuals for the searched area. The NAHC responded on January 18, 2012, and indicated that there are cultural resources recorded in the NAHC Sacred Lands file for the San Juan Capistrano, Cañada Gobernadora, and the San Clemente United States Geological Survey (USGS) quadrangle maps. There are no recorded cultural resources in the NAHC Sacred lands file within the Dana Point USGS quadrangle map. The NAHC also enclosed a list of Native American individuals and/or organizations that might have further knowledge of cultural resources in or near the searched area.

On January 20, 2012, TRC sent letters and emails to all the individuals and organizations on the list provided by the NAHC. Mr. Andrew Salas, Chairperson for the Gabrieliño Band of Mission Indians responded via email on January 25, 2012. Mr. Salas identified the proposed project as being located in San Juan Capistrano Indians Juaneño Band of Mission Indians territory. On January 26, 2012, Ms. Perry Cultural Resources Coordinator for the Juaneño Band of Mission Indians Acjachemen Nation, responded via telephone and requested a meeting with SDG&E and TRC. On March 19, 2012, Ms. Joyce Perry and Mr. David Belardes (Chairperson for the Juaneño Band of Mission Indians Acjachemen Nation) met with the TRC archaeologist, as well as SDG&E personnel, to view larger scale maps of the proposed project, to discuss the proposed project in more detail, and to express any areas of concern. On March 29, 2012, Ms. Perry sent an email to SDG&E requesting archaeological and Native American monitors for most of the site locations and to be informed of the project's progress. As of April 10, 2015, SDG&E has not received any additional responses.

4.5.1.2 Paleontology Background and Records Search Results

The applicant submitted a request for a records search at the Vertebrate Paleontology Section of the Natural History Museum of Los Angeles County for the proposed project area. The search results found no previously recorded vertebrate paleontological sites within the searched area. However, the search did identify vertebrate paleontological resources in similar rock units in the vicinity of the proposed project. Table 4.5-2 details the paleontological sensitivity of the geologic units with potential to contain paleontological resources in the proposed project area.

Table 4.5-2 Geologic Units and Paleontological Sensitivity within the Project Area

Segment	Geologic Unit	Age	Typical Fossil Types	Resource Potential
Transmission Line Segment 4 ; Talega Substation	Santiago Formation (Tsa)	> 45 mya	Vertebrates and Invertebrates	High
Transmission Line Segment 3	Monterey Formation (Tm)	12 to 14 mya	Vertebrates	High
Transmission Line Segments 1,2, 3	Capistrano Formation-Siltstone Member (Tcs)	6 to 9 mya	Vertebrates and Invertebrates	High

Table 4.5-2 Geologic Units and Paleontological Sensitivity within the Project Area

Segment	Geologic Unit	Age	Typical Fossil Types	Resource Potential
Transmission Line Segment 1	Terrace Deposits (Qt)	> 32,600 years ago	Non-marine Vertebrates	Low
Transmission Line Segments 1,3	Quaternary alluvium (Qac)	< 2.5 mya	Vertebrates	Low

Key:
mya = Millions of years ago

4.5.2 Regulatory Setting

4.5.2.1 Federal

National Historic Preservation Act of 1966

Enacted in 1966, the National Historic Preservation Act (NHPA) declared a national policy of historic preservation and instituted a multifaceted program, administered by the Secretary of the Interior, to encourage the achievement of preservation goals at the federal, state, and local levels. The NHPA authorized the expansion and maintenance of the NRHP, established the position of State Historic Preservation Officer, and provided for the designation of State Review Boards, set up a mechanism to certify local governments to carry out the purposes of the NHPA, assisted Native American tribes to preserve their cultural heritage, and created the Advisory Council on Historic Preservation (ACHP). Section 106 of the NHPA states that federal agencies with direct or indirect jurisdiction over federally funded, assisted, or licensed undertakings must take into account the effect of the undertaking on any historic property that is included in, or eligible for inclusion in, the NRHP and that the ACHP must be afforded an opportunity to comment, through a process outlined in the ACHP regulations at 36 Code of Federal Regulations (CFR) Part 800, on such undertakings.

National Register of Historic Places

As presented in 36 CFR 60.2, the NRHP was established by the NHPA of 1966 as "an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment." The NRHP recognizes properties that are significant at the national, state, and local levels. To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:

- ***Criterion A****: It is associated with events that have made a significant contribution to the broad patterns of our history.*
- ***Criterion B****: It is associated with the lives of persons who are significant in our past.*
- ***Criterion C****: It embodies the distinctive characteristics of a type, period, or method of construction; represents the work of a master; possesses high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction.*
- ***Criterion D****: It has yielded, or may be likely to yield, information important in prehistory or history.*

The following properties are not eligible for the NRHP unless they satisfy certain conditions: cemeteries, birthplaces, or graves of historic figures; properties owned by religious institutions or used for religious

purposes; structures that have been moved from their original locations; reconstructed historic buildings; and properties that are primarily commemorative in nature. In general, a resource must be at least 50 years of age to be considered for the NRHP, unless it satisfies a standard of exceptional importance. The former utility structure in the proposed project area was found not to be eligible for the NRHP by three separate consultants (McKenna et al. 2008; Appendix M-1) (TRC 2013; Appendix M-2) (Moomjian 2014; Appendix M-3). However, on April 29, 2015, the SHRC voted unanimously in favor of recommending the building eligible for the NRHP. The recommendation was forwarded to the Keeper of the NRHP on July 17, 2015. The Keeper reviews the nomination and makes a determination of eligibility within 45 days of receipt of a nomination.

Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act of 1990 sets provisions for the intentional removal and inadvertent discovery of human remains and other cultural items from federal and tribal lands. It clarifies the ownership of human remains and sets forth a process for repatriation of human remains and associated funerary objects and sacred religious objects to the Native American groups claiming to be lineal descendants or culturally affiliated with the remains or objects. It requires any federally funded institution housing Native American remains or artifacts to compile an inventory of all cultural items it contains or within its agency and to provide a summary to any Native American tribe claiming affiliation. This act would apply to the proposed project if human remains are discovered during ground disturbing activities.

4.5.2.2 State

California Office of Historic Preservation

The State of California implements the NHPA through its statewide comprehensive cultural resources surveys and preservation programs. The California Office of Historic Preservation, as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The Office of Historic Preservation also maintains the California Historic Resources Inventory. The State Historic Preservation Officer is an appointed official who implements historic preservation programs within the state's jurisdictions.

California Register of Historical Resources

The CRHR is an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources ~~deserve~~potentially qualify to be protected, to the extent prudent and feasible, from substantial adverse change (PRC §5024.1[a]). The criteria for eligibility for listing on the CRHR are based on NRHP criteria (PRC §5024.1[b]). Certain resources are determined by the statute to be automatically included in the CRHR, including California properties formally determined eligible for, or listed in, the NRHP. Therefore, the former utility structure would automatically be included in the CRHR if the Keeper of the NRHP determines the structure to be eligible for inclusion in the NRHP following review of the nomination. This criterion would also be used to determine if previously undiscovered resources are significant historical resources.

Public Resources Code Sections

These codes would apply to known or previously undiscovered cultural resources that would be affected by the proposed project and found to be potentially significant.

PRC 5024.1. This section defines historical resources and establishes the CRHR, sets forth criteria to determine resource significance, defines CRHR-eligible resources, and lists nomination procedures.

PRC 5097.5, PRC 5097.9, and PRC 30244. These sections regulate the removal of paleontological resources from state lands, define unauthorized removal of fossil resources as a misdemeanor, and require mitigation of disturbed sites, respectively.

PRC 5097.91 through PRC 5097.991. These sections pertain to the establishment and authorities of the NAHC. They also prohibit the acquisition or possession of Native American artifacts or human remains taken from a Native American grave or cairn, except in accordance with an agreement reached with the NAHC, and provide for Native American remains and associated grave artifacts to be repatriated.

PRC 5097.98 (b) and (e). These sections require a landowner on whose property Native American human remains are found to limit further development activity in the vicinity until conferring with the most likely descendants (as identified by the NAHC) to consider treatment options.

PRC 5097.993 through PRC 5097.994. These sections establish the Native American Historic Resource Protection Act, which makes it a misdemeanor crime to perform unlawful and malicious excavation, removal, or destruction of Native American archaeological or historical sites on public or private lands.

PRC 6254 (r). This section establishes the California Public Records Act, which protects Native American graves, cemeteries, and sacred places maintained by the NAHC by protecting records of such resources from public disclosure.

PRC 21083.2. This section of the CEQA Statute provides for the protection of "unique" archaeological resources as defined in the statute. If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require that reasonable efforts be made to preserve in place or avoid the resources. This section also establishes mitigation requirements for the excavation (data recovery) of unique archaeological resources. See also Section 15064.5(c) of the CEQA Guidelines (14 CCR).

PRC 21084.1. This section of the CEQA Statute establishes that an adverse effect on a historical resource qualifies as a significant effect on the environment. See also Sections 15064.5 and 15126.4(b) of the CEQA Guidelines (14 CCR).

PRC 65092. This section provides for notice of projects in consideration for construction to be sent to California Native American tribes who are on the contact list maintained by the NAHC.

California Code of Regulations Sections

These codes would apply to known or previously undiscovered cultural resources that would be affected by the proposed project and found to be potentially significant.

14 CCR 1427. This code recognizes that California's archaeological resources are endangered by urban development and population growth and by natural forces. It declares that these resources need to be preserved in order to illuminate and increase public knowledge of the historic and prehistoric past of California.

14 CCR 4307. This code states that no person shall remove, injure, deface, or destroy any object of paleontological, archaeological, or historical interest or value.

14 CCR 15064.5. This section of the CEQA Guidelines recognizes that a historical resource includes: (1) a resource listed in, or determined to be eligible by, the State Historical Resources Commission for listing in the CRHR; (2) a resource included in a local register of historical resources; and (3) any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. In some cases, an archaeological resource may be considered a historical resource.

14 CCR 15064.5(c). If an archaeological resource does not meet the criteria for a historical resource contained in the CEQA Guidelines Section 15064.5, it may be treated in accordance with the provisions of PRC Section 21083.2 if it is a "unique" archaeological resource. If an archaeological resource is neither unique nor historical, effects of the proposed project on the resource would not be considered significant.

14 CCR 15126.4(b). This section of the CEQA Guidelines establishes mitigation guidelines for effects on historical resources and historical resources of an archaeological nature.

California Health and Safety Code (HSC)

These codes would apply to the proposed project in the event that human remains are discovered during ground disturbing activities.

HSC 7050 through HSC 7054. These sections are statutes that pertain to disturbance and removal of human remains, felony offenses related to human remains, and depositing human remains outside of a cemetery.

HSC 8010 through HSC 8011. These HSC sections establish the California Native American Graves Protection and Repatriation Act, which is consistent with and facilitates implementation of the federal Native American Graves Protection and Repatriation Act.

Senate Concurrent Resolutions

These resolutions would apply to known or previously undiscovered cultural resources found to be significant that would be affected by the proposed project.

Number 43. This resolution requires all state agencies to cooperate with programs of archaeological survey and excavation and to preserve known archaeological resources whenever it is reasonable to do so.

Number 87. This resolution provides for the identification and protection of traditional Native American resource-gathering sites on state land.

Penal Code Section 622 (Destruction of Sites)

This code establishes as a misdemeanor the willful injury, disfiguration, defacement, or destruction of any object or thing of archaeological or historical interest or value, whether situated on private or public lands. This code would apply to known or previously undiscovered cultural resources that would be affected by the proposed project and found to be potentially significant.

4.5.2.3 Regional and Local

Orange County

The Resource Element of the Orange County General Plan describes the cultural, historic, and paleontological history and sensitivity in the County. The Resources Element includes the following goal and policies that deal with management of cultural, historic, and paleontological resources:

- ***Goal 2:*** *To encourage through a resource management effort the preservation of the County's cultural and historic heritage.*
- ***Archaeological Resources Policy 1:*** *To identify archaeological, paleontological, and historic resources through literature and records research and/or surface or on-site surveys.*
- ***Archaeological Resources Policy 2:*** *To evaluate archeological resources through subsurface testing to determine significance and extent, to evaluate historic resources through comparative analysis or through subsurface or materials testing.*
- ***Archaeological Resources Policy 3:*** *To observe and collect archaeological resources during the grading of a project; to monitor and salvage paleontological resources during the grading of a project.*
- ***Archaeological Resources Policy 4:*** *To preserve archaeological resources by: a) maintaining them in an undisturbed condition; or b) excavating and salvaging materials and information in a scientific manner.*
- ***Paleontological Resources Policy 1:*** *To identify paleontological resources through literature and records research and surface surveys.*
- ***Paleontological Resources Policy 2:*** *To monitor and salvage paleontological resources during the grading of a project.*
- ***Paleontological Resources Policy 3:*** *To preserve paleontological resources by maintaining them in an undisturbed condition.*
- ***Historic Resources Policy 1:*** *To identify historic resources through literature and records research and/or on-site surveys.*
- ***Historic Resources Policy 2:*** *To evaluate historic resources through comparative analysis or through subsurface or materials testing.*
- ***Historic Resources Policy 3:*** *To preserve significant historic resources by one or a combination of the following alternatives, as agreed upon: a) adaptive reuse of historic resource; b) maintaining the historic resource in an undisturbed condition; c) moving the historic resource and arranging for its treatment; d) salvage and conservation of significant elements of the historic resources; or e)documentation (i.e. research narrative, graphics, photography) of the historic resource prior to destruction.*

Additionally, a figure within the Resource Element identifies the San Juan Capistrano – San Clemente District as sensitive for paleontological resources. (Orange County 2014)

City of San Juan Capistrano

Historical and Cultural Landmarks Ordinance and Historic Preservation Ordinance

The City of San Juan Capistrano has adopted a Historical and Cultural Landmark Ordinance (Section 9-2.327). This ordinance requires city approval for any damage to a resource listed on the City's IHCL.

The proposed project would not affect any resources listed on the IHCL, the six historic districts, or four historic streets.

As noted above, the City's BOD lists structures and sites that are potentially eligible for inclusion on the City's Inventory of Historical and Cultural Landmarks when they meet all listing criteria and/or have property owner concurrence to be added to the Inventory. The BOD is an honorary designation and imposes no restrictions nor conveys any benefits. The former utility structure at the existing Capistrano Substation is included in the BOD list. (City of San Juan Capistrano 2007a,b)

The City has also adopted a series of policies (Council Policies 601, 602, 603, 606) to supplement the Historical and Cultural Landmarks Ordinance and address a broad range of preservation issues, including archaeological monitoring for development projects, reports for potentially historic sites, modifications to designated historic sites, and historic depiction programs for new non-residential projects.

The City has adopted a Cultural Resources/Historic Preservation District as an Environmental Overlay. The purpose of the Historic Preservation overlay is "to establish regulations for those areas of the City which, due to their historical or cultural significance, require special consideration to insure their preservation as a community resource" (San Juan Capistrano Municipal Code, Sec. 9-3.407). The proposed project would not be located within the Historic Preservation District.

General Plan

The Cultural Resources Element of the City of San Juan Capistrano General Plan includes the following goal and policies applicable to the proposed project (City of San Juan Capistrano 1999):

- ***Cultural Resources Goal 1:*** *Preserve and protect historical, archaeological, and paleontological resources.*
- ***Policy 1.1:*** *Balance the benefits of development with the project's potential impacts to existing cultural resources.*
- ***Policy 1.2:*** *Identify, designate, and protect buildings and sites of historic importance.*
- ***Policy 1.3:*** *Identify funding programs to assist private property owners in the preservation of buildings and sites of historic importance.*

The City is currently developing a Historic Town Center Master Plan, the boundaries of which are Acjachema Street to the north, the Interstate 5 Freeway to the east, Avenue La Paloma to the south, and Paseo Adelanto to the west. This proposed Historic Town Center does not include the proposed project area.

City of San Clemente

The Natural Resource Element of the City of San Clemente General Plan addresses the natural resources within the Orange County. The Natural Resource Element contains the following goal and policies pertaining to archeological and paleontological resources (City of San Clemente 2014):

- ***Goal:*** *Protect archaeological and paleontological resources in a manner which preserves history or cultural traditions, provides scientific or cultural knowledge or provides educational value.*
- ***Policy NR-3.01: Project Impacts.*** *We require assessment and mitigation of potential impacts to archaeological and paleontological resources as part of applications for general plan amendments, zoning changes, or any projects requiring environmental review per the California Environmental Quality Act (CEQA).*

- ***Policy NR-3.02: Notification.*** *We require the notification of cultural organizations, including California Native American organizations, of proposed projects that have the potential to adversely impact archaeological or cultural resources.*
- ***Policy NR-3.03: Inventory of Archeological and Paleontological Resources.*** *We maintain up-to-date information regarding archaeological and paleontological resources and contact information for responsible organizations and qualified individuals who can analyze, record, and preserve findings.*

The Historic Preservation Element of the City of San Clemente General Plan has the primary goal of preserving and rehabilitating buildings and other sites with archaeological, historical and cultural significance to San Clemente (City of San Clemente 2014). The following policy is the only one that applies to the proposed project:

- ***Policy HP-2.03. CEQA Requirement:*** *We require mitigation of significant, adverse impacts to onsite and nearby historic resources as part of applications for general plan amendments, zoning changes, or any projects requiring environmental review per the California Environmental Quality Act (CEQA).*

4.5.3 Impact Analysis

4.5.3.1 Methodology and Significance Criteria

To determine whether cultural or paleontological resources have been previously identified within the proposed project area, the CPUC reviewed published scientific documents and technical and survey reports regarding areas in proximity to components of the proposed project, as well as general plan and policy documents. In addition, database searches, field studies, and Native American consultations were completed, and Native American group comments were reviewed (Section 4.5.1.1). For paleontological resources, literature reviews and database searches were conducted to identify previously recorded paleontological resources in the proposed project area (Section 4.5.1.2).

Impacts on cultural resources were evaluated according to the following significance criteria. The criteria are based on Appendix G of the CEQA Guidelines. The proposed project would cause a significant impact on cultural resources if it would:

a) Cause a substantial adverse change in the significance of a historical resource as defined in CEQA § 15064.5;

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA § 15064.5;

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or

d) Disturb any human remains, including those interred outside of formal cemeteries.

4.5.3.2 Applicant Proposed Measures

The applicant has committed to the following Applicant Proposed Measures (APMs) as part of the design of the proposed project. See Section 2.6, "Applicant Procedures, Plans, Standards, and Proposed Measures," for a complete description of each project commitment.

APM CUL-1: Worker Training for Cultural Resources. Prior to the initiation of construction or ground-disturbing activities, all SDG&E, contractor, and subcontractor personnel would receive training regarding the appropriate work practices necessary to effectively implement the APMs and to comply with the applicable environmental laws and regulations, including the potential for exposing subsurface cultural resources and paleontological resources and to recognize possible buried resources. Training would inform all construction personnel of the anticipated procedures that would be followed upon the discovery or suspected discovery of archaeological materials, including Native American remains, and their treatment, as well as of paleontological resources.

APM CUL-2: Cultural Resource Monitoring. A qualified archaeologist would attend preconstruction meetings, as needed, and a qualified archaeological monitor would monitor ground disturbing activities in the vicinity of all known cultural resources within the proposed project area. The requirements for archaeological monitoring would be noted on the construction plans. The archaeologist's duties would include monitoring, evaluation of any finds, analysis of collected materials, and preparation of a monitoring results report conforming to Archaeological Resource Management Reports guidelines.

APM CUL-3: Avoid Known Cultural Resources. Known cultural resources that can be avoided would be demarcated as Environmentally Sensitive Areas. Construction crews would be instructed to avoid disturbance of these areas.

APM CUL-4: Unanticipated Cultural Finds. In the event that cultural resources are discovered, the archaeologist would have the authority to divert or temporarily halt ground disturbance to allow evaluation of potentially significant cultural resources. The archaeologist would contact SDG&E's Cultural Resource Specialist and Environmental Project Manager at the time of discovery. The archaeologist, in consultation with SDG&E's Cultural Resource Specialist, would determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities are allowed to resume. For significant cultural resources, a Research Design and Data Recovery Program would be prepared and carried out to mitigate impacts.

APM CUL-5: Curate Cultural Discoveries. All collected cultural remains would be cataloged and permanently curated with an appropriate institution. All artifacts would be analyzed to identify function and chronology as they relate to the history of the area. Faunal material would be identified as to species.

APM CUL-6: Archeological Monitoring Results Report. An archaeological monitoring results report (with appropriate graphics), which describes the results, analyses, and conclusions of the monitoring program, would be prepared and submitted to SDG&E's Cultural Resource Specialist, SDG&E's Environmental Project Manager, and the CPUC. Any new cultural sites or features encountered would be recorded with the SCCIC or SCIC.

APM CUL-7: Monitoring by Native Americans. Native American monitoring may be implemented if transmission line construction has the potential to impact identified and mapped traditional locations and places. The role of the Native American monitor would be to represent tribal concerns and communicate with the tribal council. Appropriate representatives would be identified based on the location of the identified traditional location or place.

APM CUL-8: Paleontological Monitoring. A paleontological monitor would work under the direction of a qualified project paleontologist and would be on site to observe excavation operations that involve the original cutting of previously undisturbed deposits with high paleontological resource sensitivity. A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials.

APM CUL-9: Discovery of Fossils. In the event that fossils are encountered, the paleontological monitor would have the authority to divert or temporarily halt construction activities in the area of discovery to allow recovery of fossil remains in a timely fashion. The paleontologist would contact SDG&E's Cultural Resource Specialist and Environmental Project Manager at the time of discovery. The paleontologist, in consultation with SDG&E's Cultural Resource Specialist, would determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities are allowed to resume. Because of the potential for recovery of small fossil remains, it may be necessary to set up a screen-washing operation on site. When fossils are discovered, the paleontologist (or paleontological monitor) would recover them along with pertinent stratigraphic data. In most cases, this fossil salvage can be completed in a short period of time. Because of the potential for recovery of small fossil remains, such as isolated mammal teeth, recovery of bulk sedimentary- matrix samples for off-site wet screening from specific strata may be necessary, as determined in the field. Fossil remains collected during monitoring and salvage would be cleaned, repaired, sorted, cataloged, and deposited in a scientific institution with permanent paleontological collections, and a paleontological monitoring report would be written.

APM CUL-10: Building of Distinction Requirements. The applicant proposes to take the following steps found in Council Policy 602, which applies to the alteration, modification, or demolition of "significant" structures:

1. Advertise for a period of three months that the former utility structure may be available for relocation.
2. Prepare a photographic record of the former utility structure. Photographs will include:
    a. Each elevation;
    b. Close-ups of any unusual or unique architectural features; and
    c. Views of the structure from a distance.

    In addition, measured drawings or plans will be included.
3. If not relocated, allow the removal of any architectural elements of the former utility structure for a period of two weeks at the expense of any local historic interest group or organization removing the element.

4.5.3.3 Environmental Impacts

Impact CUL-1: Substantial adverse change in the significance of an historical resource. *SIGNIFICANT*

Field surveys of the surveyed area were performed by TRC archaeologists on March 12, March 19, and 21, 2008, and additional field visits and/or surveys occurred on September 29 and 30, October 11 and 12, and December 28 and 29, 2011; February 28, 2012; and March 15, 2012. There are three known historical resources within the surveyed area, as presented in Table 4.5-1. Ground disturbing activities during construction or restoration would not impact two of the historical sites—30-176663/19-186804 and 30-176664—as proposed disturbance areas would avoid these sites. Additionally, the applicant would

implement APM CUL-3, which would require the applicant to demarcate cultural resources as Environmental Sensitive Areas in the field.

The third historical site, the former utility structure (historic site 30-179873) at the existing Capistrano Substation, would be demolished as part of the proposed project. Two historical assessments of the former utility structure provided by the applicant found that the former utility structure is not a historic resource as defined by CEQA and fails to meet the minimum requirements for significance under Section 106 of the federal regulations. A subsequent evaluation of the former utility structure, conducted by the CPUC concurred with the applicant's finding that the former utility structure is ineligible for the NRHP CRHR, or the City of San Juan Capistrano IHCL (Moomjian 2014). However, on April 29, 2015, the SHRC voted unanimously in favor of recommending the building as eligible for the NRHP. The recommendation was forwarded to the Keeper of the NRHP on July 17, 2015. ~~The Keeper will review the nomination and make a determination of eligibility for the former utility structure to be listed in the NRHP within 45 days of receipt of the nomination. Because the former utility structure's eligibility for listing in the NRHP has not yet been determined, it is assumed for the purposes of this analysis that the structure will be determined to be eligible for listing in the NRHP. Therefore, the demolition of the former utility structure would be considered a significant impact under CEQA because this structure is potentially historic resource as defined by CEQA~~. In a letter dated September 22, 2015, the Keeper of the NRHP declined to make a determination of eligibility of the former utility structure for listing on the NRHP based on the inadequacy of the nomination and returned the nomination to State Historic Preservation Officer for substantive and technical revisions (Appendix S). The Keeper of the NRHP states the following in his letter:

> *It is our opinion that the building is eligible for inclusion in the National Register of Historic Places under Criterion A, but that the documentation submitted is inadequate to fully support this finding and fails to address significant questions brought up by the petitioner.*

The Keeper of the NRHP further states:

> *Where the document falls short is in the analysis of integrity of the substation as a whole as it relates to the extant, nominated building. The petitioner rightly points out that a "substation" is more than a building, that it includes many elements that work together to facilitate the flow of power. The nomination as presented gives short shrift to the discussion of what the key components are and of how such a facility works. By limiting the boundaries and description and, for the most part, the focus of the nomination to the footprint of the building, the nomination does not truly provide an analytical discussion of integrity. The substation may have had many of its components moved or demolished but there are remnants evident on the ground that can help tell the story and illustrate the working facility. It might be best, if this property is resubmitted, to revisit the boundaries of the nominated property and to look at the entirety of the facility.*

Although the Keeper of the NRHP declined to make a determination of eligibility based on the nomination package, the CPUC understands based on the above language that the former utility structure as well as the surrounding property may be determined eligible for listing on the NRHP. Therefore, the proposed project would have significant impacts on a historic resource.

The applicant identified a Preservation Alternative to the proposed project to avoid significant impacts on the former utility structure. The Preservation Alternative includes a partial preservation and partial demolition of the former utility structure (Appendix S) and a redesign of the proposed San Juan Capistrano Substation to accommodate the preserved portion of the former utility structure. Although SDG&E presented the Preservations Alternative as an alternative to the proposed project, the CPUC has implemented the Preservation Alternative as MM CUL-8 to the proposed project in accordance with

Section 15126.4 of the CEQA Guidelines. Implementation of MM CUL-8 would reduce impacts on a portion of the former utility structure, however because the entire former utility structure as well as the surrounding property may be determined eligible for listing on the NRHP, impacts would remain to be significant.

The former utility structure is also a locally significant BOD with attributes that render it eligible for local recognition. Because the building is listed as a BOD, the City of San Juan Capistrano's demolition permit could be conditioned with requirements to advertise the building for relocation; prepare updated architectural drawings prior to demolition; fully photo-document the building's interior and exterior; and allow for salvaging of certain elements within the building, such as special casement windows per the City's Council Policy 602 (City of San Juan Capistrano 1992). However, to the extent that issuance of a demolition permit by the City of San Juan Capistrano is a discretionary action, the CPUC's approval of the Certificate of Public Convenience and Necessity would preempt local authority and discretionary approval from the City Council for the demolition permit would not be required. Nonetheless, the applicant would implement APM CUL-10, which includes the conditions of Council Policy 602.

There are 10 known prehistoric sites within the surveyed area; however, none of them were relocated during the applicant's field surveys. Additionally, the San Juan Basin, along San Juan Creek, is known to have been the location of several Juaneño/Acjachemen villages. The alluvial sediments that fill the basin also have the potential to hold buried deposits. Ground disturbing activities during construction or restoration could significantly damage the known prehistoric sites and previously undiscovered historic resources within the proposed project area. To address this, the applicant would implement APM CUL-1 through APM CUL-7, requiring the applicant to train all construction workers on the procedures to follow if cultural resources are discovered, monitor within the vicinity of known cultural resources, demarcate cultural resources as Environmental Sensitive Areas in the field, halt construction in the event that cultural resources are discovered, curate and report cultural discoveries, and prepare a report of the monitoring program. However, significant impacts on previously discovered and undiscovered historic resources could still occur. As discussed in Section 4.5.4, MM CUL-1 through MM CUL-6 address this as follows. MM CUL-1 requires the applicant to train construction workers how to identify cultural resources in the field and their personal legal responsibility to avoid damage to a cultural resource. MM CUL-2 requires the applicant to prepare and implement a Construction Monitoring Plan identifying areas that would require a CPUC-approved cultural monitor present during ground disturbing activities. MM CUL-3 defines the required expertise for a qualified or "CPUC-approved" archaeologist. MM CUL~~T~~-4 requires the applicant to prepare and implement a Native American Consultation and Participation Plan to ensure that Native American resources are not impacted. MM CUL-1 through MM CUL-4 are designed to further prevent impacts on historic resources by requiring a properly qualified archaeologist to be present during any construction and restoration activities with the potential to impact a previously undiscovered historic resource, to ensure proper implementation of procedures for the discovery of cultural resources as detailed in APM CUL-4 through APM CUL-6.

Some portions of the proposed project (i.e., new staging areas and the proposed 12-kV distribution line) have not been surveyed by the applicant for cultural resources. Previously discovered or undiscovered historic resources could occur within the unsurveyed areas of the proposed project area and could be impacted by the construction or restoration of the proposed project. MM CUL-5 requires the applicant to conduct intensive-level cultural resources surveys for all areas to be disturbed that have not already been surveyed for cultural resources.

Impact CUL-2: Substantial adverse change in the significance of an archaeological resource.
LESS THAN SIGNIFICANT WITH MITIGATION

Impacts on archaeological resources from the construction of the proposed project would be similar to impacts on historical resources from construction activities as described under Impact CUL-1. To address this, the applicant would implement APM CUL-1 through APM CUL-6, requiring the applicant to train all construction workers on the procedures to be followed if cultural resources are discovered, monitor within the vicinity of known cultural resources, demarcate cultural resources as Environmental Sensitive Areas in the field, halt construction in the event that cultural resources are discovered, curate and report cultural discoveries, and prepare a report of the monitoring program. However, significant impacts on previously discovered and undiscovered archaeological resources could still occur. As discussed in Section 4.5.4, MM CUL-1 through MM CUL-6 address this as follows. MM CUL-1 requires the applicant to train construction workers how to identify cultural resources in the field and their personal legal responsibility to avoid damage to a cultural resource. MM CUL-2 requires the applicant to prepare and implement a Construction Monitoring Plan identifying areas that would require a CPUC-approved cultural monitor to be present during ground disturbing activities. MM CUL-3 defines the required expertise for a qualified or "CPUC-approved" archaeologist. Implementation of MM CUL-1 through MM CUL-3 would further prevent impacts on archaeological resources by requiring a properly qualified archaeologist to be present during any construction and restoration activities with the potential to impact a previously undiscovered archaeological resource, to ensure proper implementation of procedures for the discovery of cultural resources as detailed in APM CUL-4 through APM CUL-6. Impacts on archaeological resources would be less than significant with mitigation during construction and restoration.

Some portions of the proposed project (i.e., new staging areas and the proposed 12-kV distribution line) have not been previously surveyed by the applicant for cultural resources. Previously discovered or undiscovered archaeological resources could occur within the unsurveyed areas of the proposed project and could be impacted by the construction or restoration of the proposed project. MM CUL-4 would require the applicant to conduct intensive-level cultural resource surveys for all areas to be disturbed that have not already been surveyed for cultural resources. Impacts on archaeological resources would be less than significant with mitigation during construction and restoration.

Impact CUL-3: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
LESS THAN SIGNIFICANT WITH MITIGATION

The proposed project would include ground disturbance in geologic units with high potential to contain paleontological resources (Table 4.5-2). To address this, the applicant would implement APM CUL-1, APM CUL-8, and APM CUL-9, which would require the applicant to train all construction workers on the procedures to follow in the event of a discovery of paleontological resources, have a paleontological monitor present during excavation operations that involve the original cutting of previously undisturbed deposits with high paleontological resource sensitivity, and halt construction in the event that fossils are encountered so that the resources could be recovered. However, potential impacts on paleontological resource would remain significant. As discussed in Section 4.5.4, MM CUL-1, MM CUL-6, and MM CUL-7 would address this as follows by requiring the applicant to provide additional preconstruction training to all onsite personnel regarding paleontological resources; prepare the Paleontological Monitoring and Treatment Plan to meet additional standards and submit the plan to the CPUC for review; and use a qualified paleontological consultant as determined by the CPUC. Impacts under this criterion would be less than significant with mitigation.

Impact CUL-4: Disturb any human remains, including those interred outside of formal cemeteries.
LESS THAN SIGNIFICANT WITH MITIGATION

A review of records and field studies in the proposed project area has revealed that potential disturbance of human remains is possible as a result of the proposed project. If human remains are encountered, HSC Section 7050.5 states that no further disturbance will occur until the County Coroner has made the necessary findings regarding origin. Further, pursuant to California PRC Section 5097.98, remains will be left place and free from disturbance until a final decision regarding treatment and disposition is made. If the County Coroner determines that the remains are Native American, the NAHC must be contacted within 24 hours. The NAHC must then identify the most likely descendants within 48 hours of receiving notification of the discovery. The most likely descendants will make recommendations and engage in consultations concerning treatment of the remains pursuant to PRC 5097.98. In the event of dispute regarding human remains, and upon request, the NAHC may mediate negotiations pursuant PRC 5097.94 and 5097.98.

To prevent damage to any discovered human remains, the applicant would implement APM CUL-1 through APM CUL-6, which would require the applicant to train all construction workers on the procedures to follow if a cultural resource is discovered, monitor within the vicinity of known cultural resources, demarcate cultural resources as Environmental Sensitive Areas in the field halt construction in the event that cultural resources are discovered, curate and report cultural discoveries, and prepare a report of the monitoring program. However, significant impacts on human remains could still occur. As discussed in Section 4.5.4, MM CUL-1 through M CUL-3 address this as follows. MM CUL-1 requires the applicant to train construction workers how to identify human remains in the field and their personal legal responsibility to avoid damage to a cultural resource. MM CUL-2 requires the applicant to prepare and implement a Construction Monitoring Plan identifying areas that would require a CPUC-approved cultural monitor present during ground disturbing activities. MM CUL-3 defines the require expertise for a qualified or "CPUC-approved" archaeologist. MM CUL-1 through MM CUL-3 are designed to further prevent impacts on human remains by requiring a properly qualified archaeologist to be present during any construction and restoration activities with the potential to impact a previously undiscovered human remain, to ensure that proper implementation of procedures for the discovery of human remains are implemented. Impacts on human remains would be less than significant with mitigation.

4.5.4 Mitigation Measures

MM CUL- 1: Supplemental Worker Training for Cultural Resource. As a supplement to APM CUL-1, this measure requires the applicant to incorporate the following specific topics into the pre-construction cultural resource training for all onsite personnel:

- Describe the role of cultural and paleontological resources monitors and the role of Native American monitors;
- Describe the types of cultural and paleontological resources that may be found in the proposed project area;
- Describe the potential for human remains to be discovered during ground disturbing activities; and
- Describe the penalties associated for breaking the laws relevant to the protection of cultural and paleontological resources.

The cultural and paleontological resources training components will be ~~presented~~developed by a CPUC-approved cultural resources consultant (see MM CUL-3) and CPUC-approved paleontological consultant (see MM CUL-6). The applicant shall provide a copy of the training material and trainee sign-in sheets to the CPUC prior to construction.

MM CUL-2: Construction Monitoring Plan. Prior to construction, the applicant will submit a Construction Monitoring Plan for the proposed project, prepared by the approved consultant(s) (MM CUL-3) for review and approval by the CPUC. The final Construction Monitoring Plan shall be implemented, as specified, throughout construction and restoration. The Construction Monitoring Plan shall, at a minimum:

- Identify areas where native soil will be disturbed by construction or restoration of the proposed project or where known cultural resources (APM CUL-2) occur in the project area as areas that will be monitored by a CPUC-approved archaeologist.
- Confirm that archeological monitoring will be performed during all ground disturbing activities along Segment 1a of the 230-kV transmission line, Segment A of the 12-kV distribution line, and within the proposed San Juan Capistrano Substation to prevent potential damage to buried Juaneño/Acjachemen deposits.
- Describe monitoring procedures that will take place for each project component area as required.
- Describe how often monitoring will occur (e.g., full-time, part time, spot checking).
- Describe monitoring reporting requirements (APM CUL-6).
- Describe the Testing and Evaluation Plans and Data Recovery Plans (APM CUL-4 and APM CUL-5).
- Include contact information for those to be notified or reported to.

MM CUL-3: Qualified Cultural Resources Consultants. The applicant will retain the services of qualified professional (CPUC-approved) cultural resources consultants who meet or exceed the United States Secretary of the Interior qualification standards for professional archaeologists published in 36 Code of Federal Regulations (CFR) 61 and who have experience working in the jurisdictions traversed by components of the proposed project sufficient to identify the full range of cultural resources that may be found in the proposed project area. The consultants will also have knowledge regarding the cultural history of the proposed project area. The resumes and supporting information for each cultural resources consultant will be submitted to the CPUC for approval. At least one qualified cultural resources consultant must be approved by the CPUC prior to start of construction.

MM CUL-4: Native American Consultation and Participation Planning. As a supplement to APM CUL-7, prior to construction, the applicant will provide evidence to the CPUC that tribes requesting consultation with the applicant regarding the project design and impacts on cultural resources were consulted. In addition, the applicant will provide evidence to the CPUC that tribes that ~~have~~ expresse~~d~~ interest in the project during any phase (i.e., project application through end of construction and restoration) have been given the opportunity to participate in additional cultural resources surveys (MM CUL-~~1~~5) and/or cultural resources monitoring when performed by a CPUC-approved cultural resources consultant (MM CUL-3).

To outline the expected duties and responsibilities of all parties involved, the applicant and a CPUC-approved cultural resources consultant will submit a Native American Participation Plan prior to construction. The final Native American Participation Plan shall be implemented, as specified, throughout

construction and restoration. Tribes that have expressed interest in the project prior to construction will be given the opportunity to participate in development of the plan. At a minimum, the plan will specify that:

- Native American monitors, if approved by a tribe, are expected to participate in worker environmental awareness and health and safety training and follow all health and safety protocols.
- Attendance by Native American monitors during construction and restoration of the proposed project is at the discretion of the tribe, and the absence of a Native American monitor, should the tribes choose to forgo monitoring for some reason, will not delay work.
- The Native American monitors will have the ability to notify a CPUC-approved cultural resources consultant who has the authority to temporarily stop work (MM CUL-3) if they find a cultural resource that may require recordation and evaluation.
- Interpretation of a find will be requested from Native American monitors involved with the discovery, evaluation, or data recovery of unanticipated finds for inclusion in the final Cultural Resources Report ~~(MM CUL-10)~~.
- The tribes involved with preparation of the Native American Participation Plan will be given the opportunity to participate in the development of Testing and Evaluation Plans and Data Recovery Plans (MM CUL-2) if the development of these plans is required.
- Native American monitors approved by a tribe for monitoring work on the project will be notified 30 days prior to start of construction of the various project components.
- The Native American monitors will be compensated for their time. If more than one tribal group wishes to participate in the monitoring, SDG&E will work out an agreement for sharing of monitoring compensation.
- Define a process to inform tribes of completed cultural surveys and to provide a copy of the survey to interested tribes.

MM CUL-5: Additional Cultural Resources Surveys. Prior to issuance of ~~construction permits~~the notice to proceed, the applicant will ensure that qualified archaeological consultants, as specified in MM CUL-3, will conduct intensive-level cultural resources surveys (transects no greater than 10 meters) for all areas to be disturbed that have not already been surveyed for cultural resources and that, prior to the project, had been undisturbed. Surveys shall also include a California Historic Resources Information System search and Native American Heritage Commission Sacred Lands file database search. Reports that specify the research design, methods, and survey results will be submitted to the CPUC for review and must be accepted by the CPUC prior to the start of ground disturbance in the previously unsurveyed areas.

MM CUL-6: Qualified Paleontological Consultants. The applicant will retain the services of qualified professional paleontological consultants with knowledge of the local paleontology and the minimum levels of experience and expertise as defined by the Society of Vertebrate Paleontology's Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010). The resumes and supporting information for each paleontological consultant will be submitted to the CPUC for approval. At least one qualified paleontological consultant must be approved by the CPUC prior to start of construction.

MM CUL-7: Paleontological Monitoring and Treatment Plan. Prior to start of construction, the applicant will submit a Paleontological Monitoring and Treatment Plan for the proposed project that is prepared by a CPUC-approved paleontological consultant (MM CUL-6) to the CPUC for approval. This plan will be adapted from the Society of Vertebrate Paleontology's Standard Procedures for the

Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010) to specifically address each project component. In addition, the plan will, at a minimum:

- Describe the criteria used to determine whether an encountered resource is significant and if it should be avoided or recovered.
- Identify construction and restoration impact areas of moderate to high sensitivity for encountering paleontological resources and the shallowest depths at which those resources may be encountered.
- Describe methods of recovery, preparation, and analysis of specimens, final curation of specimens at a federally accredited repository, data analysis, and reporting.
- Briefly identify and describe the types of paleontological resources that may be encountered.
- Describe monitoring procedures that will take place for each component of the project that requires monitoring.
- Describe how often monitoring will occur (e.g., full time, part time, spot checking), as well as the circumstances under which monitoring will be increased or decreased.
- Describe the circumstances that will result in the halting of work.
- Describe the procedures for halting work and for notifying construction and restoration crews when work is to be halted and to be resumed.
- Include testing and evaluation procedures for resources encountered.
- Describe procedures for curating any collected materials.
- Outline coordination strategies to ensure that the CPUC-approved paleontological consultant (MM CUL-6) conducts full-time monitoring of all grading activities in sediments determined to have a moderate to high sensitivity.
- Include reporting procedures.
- Include contact information for those to be notified or reported to.

For sediments of low or undetermined sensitivity, the Paleontological Monitoring and Treatment Plan will specify the level of monitoring necessary. Sediments with no sensitivity will not require paleontological monitoring. The plan will define specific conditions in which monitoring of earthwork activities could be reduced and/or depth criteria established to trigger monitoring. These factors will be defined by an approved (MM CUL-6) paleontologist.

MM CUL-8: Preservation of Former Utility Structure at Capistrano Substation. The applicant shall incorporate the following design specifications at the Capistrano Substation and features shown in Appendix S of this EIR with the purpose to rehabilitate the west wing of the former utility structure at Capistrano Substation per the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings:

- Replacement of the current landscaping with landscaping that returns the existing utility structure's setting to an earlier appearance.
- Construction of an approximately 5-foot-tall retaining wall parallel to the northern and eastern walls of the retained West Wing.
- Construction of a masonry wall approximately 10 feet tall on the inside of the western perimeter of the substation. When viewed from the exterior, the masonry would vary from 12 to 15 feet in

height due to grading behind the substation wall. The northern and southern perimeter walls would remain at approximately 10 feet in height.

- The existing utility structure shall remain approximately 4 inches from the western perimeter wall.
- The southern and western walls of the retained portion of the existing substation shall be located outside of the secured substation facility and will be visible from Camino Capistrano. The northern and eastern walls of the existing utility structure shall effectively act as part of the substation security wall.
- Installation of new steel doors to replace the doors in the southern, eastern and northern walls of the existing utility structure. The northern and eastern doors will serve as part of the security wall.
- Construction of a driveway from the main substation access to the structure's southern door.
- Set back the southern driveway vehicle access gate by approximately 80 feet from Camino Capistrano.
- Set back the northern driveways access gate by approximately 35 feet from Camino Capistrano.
- The northern and southern vehicular access gate shall be approximately 30 feet wide. Each pair of gates will be made of black wrought iron and be approximately 15 feet in width.
- Grading and the phased site development would be similar to that of the Proposed Project Substation.

Modifications to the existing utility structure shall include:

- East Wing Demolition: Retain 12 inches of roof and walls where the east wing intersects the west wing of the existing structure. This will allow the remaining portion of the roof and wall visually to read as a "ghost" of the east wing once it is removed.
- West Wing Rehabilitation:
  - Western Wall: the exterior wall, concrete wall iron jacking, and windows will be repaired. Security bars will be installed on all interior windows.
  - Northern Wall: Deteriorated, non-original, sidelights and transom windows shall be replaced to match the original. Those that are replaced shall be made from steel rather than wood for increased security. Door assembly does not require glazing, but shall be constructed exclusively of steel following the original pattern. This wall and replacement door will only be accessible from the interior.
  - Eastern Wall: The interior door shall be replaced with a new exterior door that matches the original but is designed for exposure to the elements. Glazing is not required for the door or existing windows, but design should follow the original pattern. The eastern wall, window and door will only be accessible from the interior.
  - Southern Wall: Deteriorated, non-original, sidelights and transom windows shall be replaced to match the original. Those that are replaced shall be made from steel rather than wood for increased security. Door assembly does not require glazing, but shall be constructed exclusively of steel following the original pattern. Due to visibility from the street, the door should include translucent wire glass at the transom. Where glazing occurs at the transom, security bars shall be installed on the interior.
  - Interior Window Sills: Where water damage has occurred, windows sills shall be repaired.
  - Interior Crane: The movable crane shall be retained.

- Lighting: A lighting plan shall be developed and implemented. It will include manually operating exterior wall scones on the north and south walls.

Applicant shall prepare and implement a historic architect monitoring plan. The plan shall include, but shall not be limited to, the following information:

- Qualifications of the historic architect monitor (must meet the Secretary of the Interior's Professional Qualifications Standards);
- Activities that shall be monitored by the historic architect monitor;
- Authority given to the historic architect monitor to halt construction on the former utility structure in order to prevent damage to the structure;
- Procedures of how the historic architect monitor will halt construction and the procedures to restart construction; and
- Reporting procedures for the historic architect.

The historic monitoring plan shall be submitted to the CPUC for approval at least six weeks prior to start of construction on the former utility structure.

The applicant shall also prepare a Historic American Building Survey (HABS) photographic documentation for the utility structure before the east wing is removed. The applicant shall provide the HABS documentation to the CPUC at least six weeks prior to start of construction on the former utility structure.

4.6 Geology, Soils, and Mineral Resources

This section describes the environmental and regulatory settings and discusses impacts associated with construction and operation of the South Orange County Reliability Enhancement Project (proposed project) with respect to geology, soils, and mineral resources. During scoping, comments were received regarding the proper plugging and abandonment of undocumented oil and gas wells. These comments are addressed in Section 4.8, "Hazards and Hazardous Materials."

4.6.1 Environmental Setting

The proposed project components would be located in the City of San Juan Capistrano, the City of San Clemente, and unincorporated areas of Orange and San Diego counties.

Topography

Elevations in the proposed project area range from a low of about 110 feet above mean sea level (amsl) in the floodplain of San Juan Creek to 753 feet amsl in the foothills of San Clemente. The existing Capistrano Substation site is composed of an upper yard and lower yard and gently slopes about 205 feet amsl at the high point in the east to about 150 feet amsl at the lower point in the west. The majority of the proposed transmission line would cross the foothills of the Santa Ana Mountains, which are incised by numerous drainages that generally flow south toward the Pacific Ocean.

Geologic Setting

The proposed project area lies within the western portion of the Peninsular Ranges geomorphic province[1]. The Peninsular Ranges geomorphic province is bounded to the north by the Transverse Ranges, to the south by Mexico, to the west by the Pacific Ocean, and to the east by the Colorado Desert geomorphic provinces (CGS 2002a). The Peninsular Ranges geomorphic province is characterized by a series of northwest/southeast trending alignments of mountains, hills, and intervening valleys, subparallel to faults branching from the San Andreas Fault.

The majority of the proposed project is underlain by the Capistrano (Tcs) or Monterey Shale (Tm) formations. The Capistrano Formation consists of white to pale-gray, massive to crudely bedded, friable, marine siltstone, mudstone, and diatomaceous shale. The Monterey Shale formation consists of interbedded white to pale-brown, thinly laminated siltstone and tan, fine- to medium-grained feldspathic sandstone (CGS 2007a). Both formations are landslide-prone, and extensive ancient to recent landsliding has occurred throughout the proposed project area. Folding and faulting within the sedimentary rocks of these formations further contribute to slope stability issues throughout the proposed project area. Table 4.6-1 lists the geologic units within the proposed project area.

[1] A geomorphic province is a large area with landforms or surface features that have similar attributes.

Table 4.6-1 Geologic Units within the Proposed Project Area

Map Symbol	Unit Name	Age	Formation Description	Project Component
Tcs	Capistrano Formation	Late Miocene to Early Pliocene	Poorly consolidated, fossiliferous sandy siltstone and mudstone. Highly prone to landsliding in the San Juan Capistrano and San Clemente areas.	TL Segment 1b, TL Segment 3
Tm	Monterey Shale	Middle Miocene	Massive accumulations of diatomite consisting of one-celled, glassy plant shells; commercially mined. Fossils include fish scales, fish bones, and microfossils.	TL Segment 3
Tsa	Santiago Formation	Eocene	A basal member consisting of buff and brownish-gray massive, coarse-grained, poorly sorted sandstone and conglomerate. In some areas, the basal member is overlain by a central member that consists of gray and brownish-gray soft, medium-grained, moderately-well sorted sandstone. The upper member consists of gray, coarse-grained sandstone and grit. Claystone interbeds are also present vertically and laterally throughout the formation.	Talega Substation, TL Segment 4
Qls	Landslide deposits, undivided	Holocene and Pleistocene	Unconsolidated silt and sand deposits transported by landslide movement of eroded surface rocks (mainly Tcs).	TL Segment 1b, TL Segment 2, TL Segment 3, TL Segment 4
Qoa	Old alluvial flood-plain deposits, undivided	Late to Middle Pleistocene	Fluvial sediments deposited on canyon floors. Consists of moderately well consolidated, poorly sorted, permeable, commonly slightly dissected gravel, sand, slit and clay-bearing alluvium.	TL Segment 1b, 12-kV Segments A and C
Qvoa	Very old alluvial flood-plain deposits, undivided	Middle to Early Pleistocene	Fluvial sediments deposited on canyon floors. Consists of moderately to well-indurated, reddish brown, mostly very dissected gravel, sand, silt, and clay-bearing alluvium.	TL Segment 1b
Qw	Wash deposits	Late Holocene	Unconsolidated boulder to sandy alluvium of active and recently active washes.	TL Segment 1a, Tl Segment 1b
Qya	Young alluvial flood-plain deposits	Holocene and Late Pleistocene	Poorly consolidated, poorly sorted, permeable flood-plain deposits of sandy, silty or clay-bearing alluvium.	TL Segment 1a, TL Segment 1b, San Juan Capistrano Substation, 12-kV Segments A, C, and H

Sources: CGS 2007a; Morton and Miller 2006; USGS 2006
Key:
TL = transmission line
Holocene (Late Quaternary) = within the past 11,500 years; Pleistocene (Early Quaternary) = within the past 11,500 and 1.8 million years; Miocene = within the past 23.03 to 5.3 million years; Eocene = within the past 33.9 to 56 million years

1
2

Soils

Soils within the proposed project area are generally well-drained with rapid runoff rates and high erosion potential. Major mapped soil units at the proposed project area are listed in Table 4.6-2.

Table 4.6-2 Soil Types at the Proposed Project Area

Name	Description/Percent Slope (Low to High)/ Existing Erosion	Runoff Rate	Erosion Potential	Shrink-swell Potential[a]
Alo clay, 15 to 30% slopes	Well drained soil that generally occurs on broad ridgetops in the foothills.	Rapid	High	High
Alo clay, 30 to 50% slopes	Steep soil that generally occurs on side slopes in the foothills.	Rapid	High	High
Alo clay, 9 to 15% slopes	Strongly sloping soil that generally occurs on ridges and toe slopes in the foothills.	Medium	Moderate	High
Anaheim clay loam, 30 to 50% slopes	Well drained, steep soil that commonly occurs on or near the top of broad rounded ridgetops.	Rapid	High	Moderate
Bosanko clay, 15 to 30% slopes	Moderately steep soil, 16 to 28 inches deep over decomposed rock.	Medium to Rapid	Moderate to High	High
Bosanko clay, 30 to 50% slopes	Well drained, steep soil that generally occurs on north-facing hillsides.	Rapid	High	High
Bosanko clay, 9 to 15% slopes	Strongly sloping soil that generally occurs on broad hilltop ridges and on toe slopes.	Medium	Moderate	High
Bosanko-Balcom complex, 30 to 50% slopes	Steep soil that is about 45% Bosanko clay and about 40% Balcom clay loam. The Bosanko clay is on north- and east-facing side slopes and swales, and the Balcom clay loam is on hill ridgetops and on south-and west-facing side slopes.	Rapid	High	High for Bosanko clay Moderate for Balcom clay loam
Botella clay loam, 9 to 15% slopes	Strongly sloping soil that generally occurs on alluvial fans in narrow foothill valleys.	Medium	Moderate	Moderate
Calleguas clay loam, 50 to 75% slopes, eroded	Well drained soils on uplands. Very steep soil that generally has south-facing slopes. As much as 75% of the original surface layer has been lost in areas with disturbance due to sheet, rill, and gully erosion.	Rapid	High	Moderate
Capistrano sandy loam, 2 to 9% slopes	Well drained soils that formed in granitic alluvium on alluvial fans and plains. Gently to moderately sloping soil generally occurs as long, narrow areas in small valleys.	Slow to Medium	Moderate	Low
Cieneba sandy loam, 30 to 75% slopes, eroded	Excessively drained, shallow course sandy loam. Hilly upland soil with rapid permeability.	Rapid to Very Rapid	High to Very High	Low
Corralitos loamy sand	Nearly level to gently sloping soil that generally occurs as long narrow areas along stream channels.	Slow	Slight	Low
Cropley clay, 2 to 9% slopes	Well drained soils on alluvial fans and valley fill. Gently to moderately sloping soil that generally occurs as irregular, oblong areas.	Medium	Slight	High
Huerhuero loam, 15 to 30% slopes, eroded	The soil is moderately steep and has moderate sheet and rill erosion. The soils have a clay subsoil and are moderately well drained.	Medium to Rapid	Moderate to High	High
Myford sandy loam, 9 to 30% slopes, eroded	Moderately well drained soils on marine terraces.	Medium to Rapid	Moderate to High	Low to High

Table 4.6-2 Soil Types at the Proposed Project Area

Name	Description/Percent Slope (Low to High)/ Existing Erosion	Runoff Rate	Erosion Potential	Shrink-swell Potential[a]
Riverwash	Areas of unconsolidated alluvium, generally stratified and varying widely in texture, recently deposited by intermittent streams, and subject to frequent changes through stream overflow. Sandy, gravelly, cobbly, and boulder deposits.	Rapid	High	Low
Soper-rock outcrop complex, 30 to 75% slopes	These well drained soils formed in weakly consolidated sandstone and conglomerate. This mapping unit commonly occurs on hillsides and ridges and includes 10 to 15% rock outcrop. The soil is severely eroded.	Rapid	High	Low to Moderate
Sorrento clay loam, 2 to 9% slopes	Gently sloping to moderately sloping soil that generally occurs on upper valley fans and along stream channels in 10- to 100-acre areas.	Slow to Medium	Slight to Moderate	Moderate
Sorrento loam, 0 to 2% slopes	Nearly level soil that generally occurs on alluvial fans and floodplains and in small valleys.	Slow	Slight	Low to Moderate
Sorrento loam, 2 to 9% slopes	Gently to moderately sloping soil that generally occurs on upper valley fans and along stream channels.	Slow to Medium	Slight to Moderate	Low to Moderate
Yorba cobbly sandy loam, 30 to 50% slopes	Well drained soil that generally occurs on terrace escarpments. Cobbly and sandy surface layer.	Rapid	High	Low to Moderate
Yorba cobbly sandy loam, 9 to 30% slopes	Well drained strongly to moderately sloping soil that generally occurs terrace escarpments.	Rapid	High	Low to Moderate
Yorba cobbly sandy loam, 9 to 30% slopes, eroded	Well drained strongly to moderately sloping soil that generally occurs on concave terraces. Surface layer is cobbly sandy loam and severely eroded.	Rapid	High	Low to Moderate
Yorba gravelly sandy loam, 2 to 9% slopes	Well drained gently to moderately sloping soil that generally occurs on broad terraces.	Medium	Moderate	Low to Moderate

Sources: USDA 1973; USDA 1978; USDA 2014

Note:

[a] Linear extensibility of less than 3% = low shrink-swell potential; 3 to 6% = moderate potential; 6 to 9% = high potential; greater than 9% = very high potential.

4.6.1.1 Geologic Hazards

The following section describes typical geologic hazards including those associated with faulting and seismicity, erosion, landslides, liquefaction, subsidence, collapsible soil, and expansive soil.

Faulting and Seismicity

The Alquist–Priolo Earthquake Fault Zoning Act (Pub. Res. Cod. Div. 7, Ch. 2.5) requires the delineation of earthquake faults for the purpose of protecting public safety. Faults included in the Alquist–Priolo Earthquake Fault Zoning Program are classified by activity:

- Faults classified as "active" are those that have been determined to be "sufficiently active and well defined," with evidence of movement within Holocene time (CGS 2007b).
- Faults classified as "potentially active" have shown geologic evidence of movement during Quaternary time (CGS 2007b).
- Faults considered "inactive" have not moved in the last 1.6 million years (CGS 2007b).

There are no known active faults within the proposed project area; however, there are four active fault zones within 20 miles of the proposed project area (Table 4.6-3). The faults are primarily strike-slip (horizontal side-to-side motion).

Table 4.6-3 Maximum Credible Earthquake and Slip Rate for Active Southern California Faults within 20 Miles of the Proposed Project Area

Fault Name	Age of Faults within Fault System	Distance to Proposed Project Area	Maximum Magnitude[a.]	Slip Rate (millimeters per year)
Elsinore fault zone, Glen Ivy Section	Holocene[b]	19 miles	6.8	5.0
Newport-Inglewood-Rose Canyon fault zone, South Los Angeles Basin Section	Holocene	18 miles	7.1	1.0
Elsinore fault zone, Temecula Section (Wildomar fault)	Holocene	19 miles	6.8	5.0
Coronado Bank fault zone, Coronado Bank – Palos Verdes Section	Holocene	14 miles	7.3	3.0

Sources: CGS 2003; USGS 2006
Notes:
[a.] The maximum magnitude is expressed based on the Moment Magnitude scale, which is used to measure the size of earthquakes according to the amount of energy released.
[b] Holocene = Within the last 11,500 years

Alquist-Priolo Earthquake Fault Zones (A-P Zones) are designated areas within 500 feet of known active fault traces. The closest active fault to the proposed project area is an offshore segment of the Coronado Bank fault zone located approximately 14 miles to the southwest; however, this segment of the fault zone has not been mapped under the Alquist-Priolo Act because it is located offshore. The closest A-P Zones to the proposed project include those associated with the Elsinore fault zone, Glen Ivy section (located about 18 miles to the northeast of the proposed project area) and the Elsinore fault zone, Temecula section (Wildomar fault) (located about 19 miles to the east/northeast of the proposed project area). Figure 4.6-1 shows the regional faults and earthquake epicenters in the area.

Faults generally produce damage in two ways: ground shaking and surface rupture. Seismically induced ground shaking covers a wide area and is greatly influenced by the distance to the seismic source, soil conditions, and groundwater depth. Potential hazards associated with seismically induced ground shaking include earthquake triggered landslides and tsunamis. Surface rupture is limited to the areas closest to the faults.

Fault Surface Ruptures. Fault surface ruptures generally occur along preexisting active faults when movement along a fault line breaks through to the surface. Surface ruptures may occur suddenly along with a large earthquake or slowly in the form of fault creep. As listed in Table 4.6-3, there are no known active or potentially active faults within the proposed project area. Therefore, there are no locations within the proposed project area that are prone to surface fault rupture.

Ground Shaking. The intensity of the seismic shaking, or strong ground motion, during an earthquake is dependent on the distance to the earthquake's epicenter (point at the earth's surface directly above the initial movement of the fault at depth), the magnitude (seismic energy released), and the geologic conditions underlying and surrounding the area impacted. Large magnitude earthquakes occurring along the faults closest to components of the proposed project would generate the greatest amount of ground shaking. Earthquakes occurring in more distant areas or small, local earthquakes could cause intense ground shaking in areas underlain by thick, loose, unconsolidated, and water-saturated sediments.

The proposed project would be located in a seismically active region and would likely experience moderate to severe ground shaking if a large magnitude earthquake occurs on one of the region's active faults during the lifespan of the proposed project. Seismic hazards in a region are estimated using statistics of earthquake occurrence to estimate the level of potential ground motion. A common parameter used for estimating ground motion at a particular location is the peak ground acceleration (PGA). PGA is a measure of earthquake intensity; it is a measure of how hard the earth shakes at a given geographic location during the course of an earthquake (USGS 2007). The higher the PGA value, the more intense the ground shaking[2].

The U.S. Geological Survey (USGS) National Seismic Hazards Mapping Program performed a probabilistic seismic hazard assessment for the continental United States. Using an interactive web mapping tool, PGA values were assessed for a location near the center of the project site in Transmission Line Segment 3[3]. Based on the interactive map, there is a 10 percent chance in 50 years (a recurrence interval of 475-years) that areas within and in the vicinity of the proposed project area would experience ground shaking with a PGA exceeding 0.25g (very strong perceived shaking and moderate property damage). There is a 2 percent chance in 50 years (a recurrence interval of 2,475 years) that areas within and in the vicinity of the proposed project area would experience ground shaking with a PGA exceeding 0.46g (severe perceived shaking and moderate to heavy property damage) (USGS 2008).

Erosion

Many of the soils throughout the proposed project area are prone to erosion or have already been heavily eroded, particularly soils that occur along steep slopes. As shown in Table 4.6-2, erosion hazard ratings for soils throughout the proposed project area range from slight to high, with the majority of the soils having a high rating.

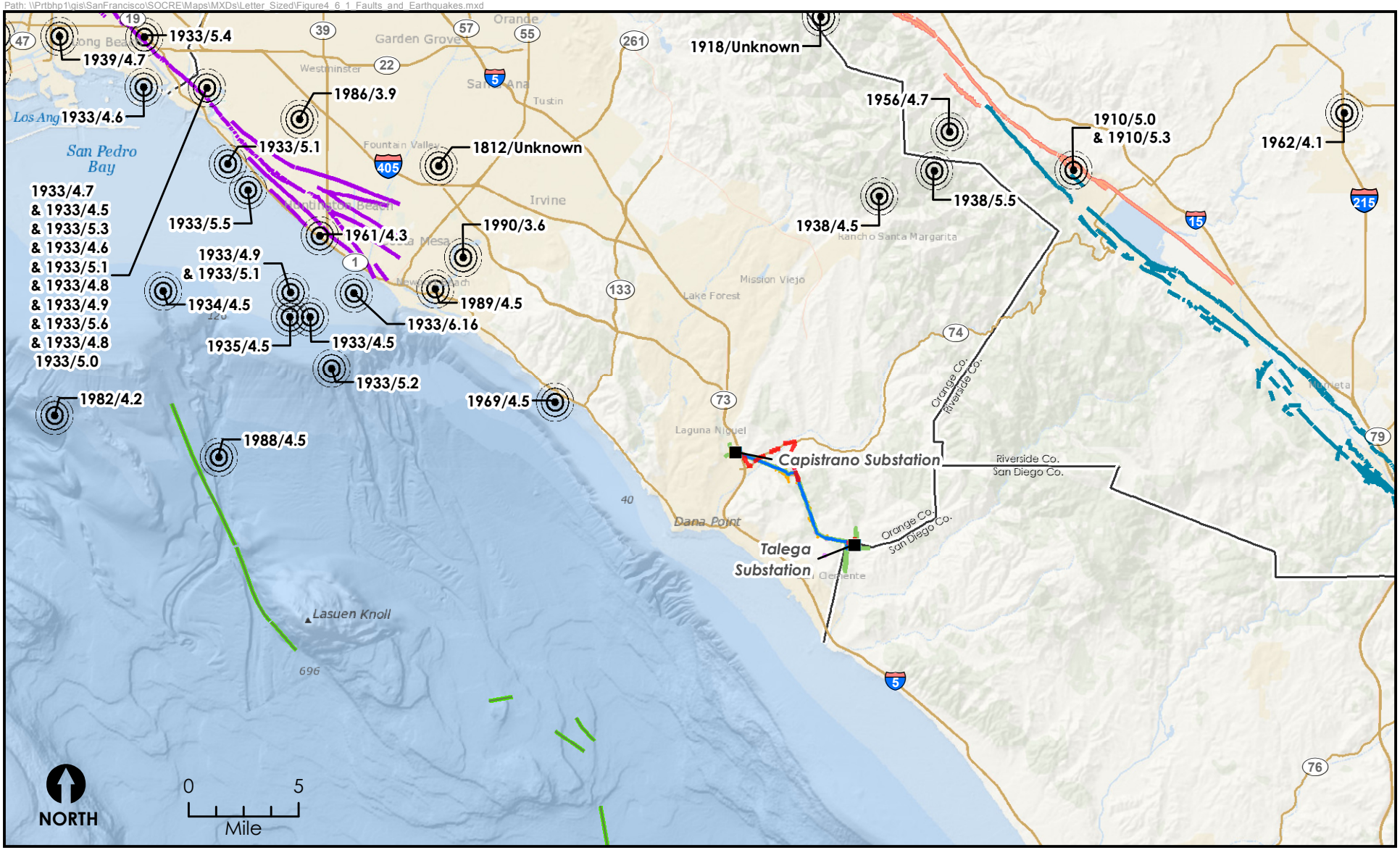
Landslides

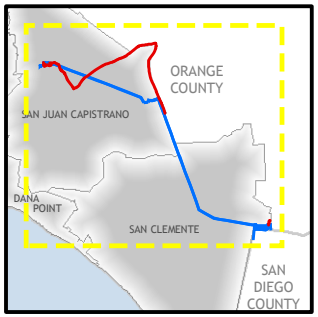
The principal natural factors contributing to landslides are topography, geology, and precipitation. Anthropogenic factors, such as over-steepening/overloading slopes or introducing excessive water into soils or fractures in rock, can also lead to landslides. Much of the proposed project would cross through steep foothill areas underlain by the Capistrano or Monterey formations. Both formations are landslide prone and contain numerous landslide prone Tertiary (Miocene) sedimentary deposits. These deposits have been folded and faulted, further complicating slope stability issues (URS 2012).

Extensive landslides, both recent and ancient, have occurred throughout the proposed project area (URS 2012). Most of the landslides have occurred within the Capistrano and Monterey formations (Transmission Line Segments 1a through 3 and 12-kV Segments A through L), but landslides have also occurred within the Santiago Formation (Transmission Line Segment 4, 12-kilovolt [kV] Segment M, and Talega Substation). The California Geological Survey (CGS), previously called the California Department of Conservation, Division of Mines and Geology, has mapped areas of earthquake-induced landslide potential in the San Juan Capistrano and San Clemente areas (CGS 2001a, 2001b, 2002b) based on previous occurrence of landslide movement, or local topographic, geological, geotechnical, and subsurface water conditions indicate a potential for permanent ground displacements ~~such that mitigation, as defined in California Public Resources Code Section 2693(c), would be required~~. Landslide susceptibility in the proposed project area is shown in Figure 4.6-2.

[2] The acceleration due to gravity is relatively constant at the earth's surface: 980 centimeters per second per second (cm/sec/sec). An acceleration of 16 feet per second is 16*12*2.54 = 487 cm/sec/sec. Therefore, an acceleration of 16 feet per second = 487/980 = .50 g.

[3] PGA values were assessed for a location near Segment 3 of the proposed project – Lat: 33.476451; Lon: -117.608571.





- Proposed transmission line
- Existing transmission line
- Access road
- Distribution Line
- Staging areas, stringing sites, work areas, and helicopter fly yards
- Roads
- Local road
- County Boundary
- Coronado Bank fault zone, Coronado Bank - Palos Verdes Section
- Elsinore fault zone, Glen Ivy Section
- Elsinore fault zone, Temecula Section (Wildomar fault)
- Newport-Inglewood-Rose Canyon fault zone, South Los Angeles Basin Section
- Earthquake Epicenter (year/magnitude)

Sources: USGS 2014

Figure 4.6-1

Regional Faults and Earthquake Epicenters

South Orange County Reliability Enhancement Project

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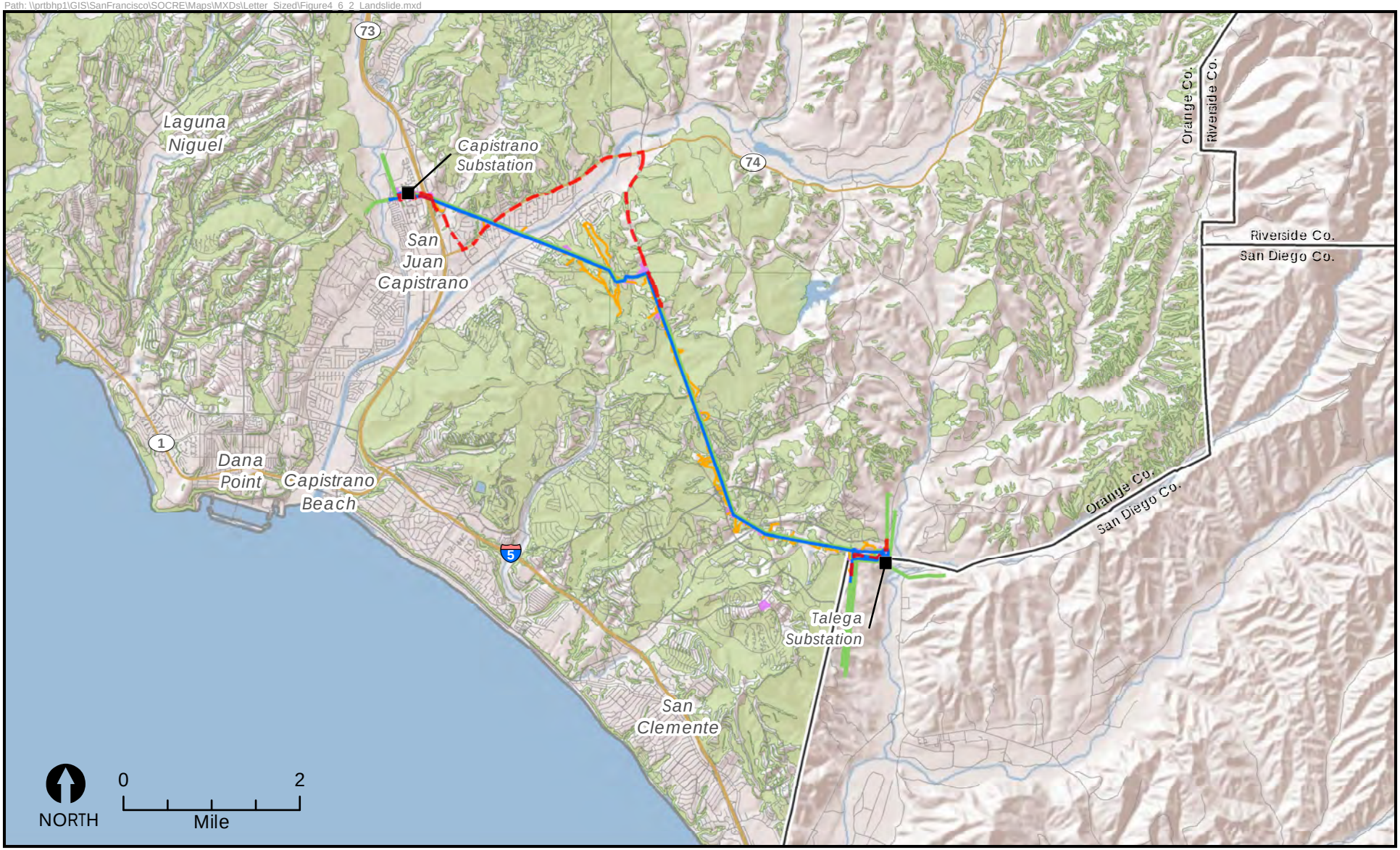

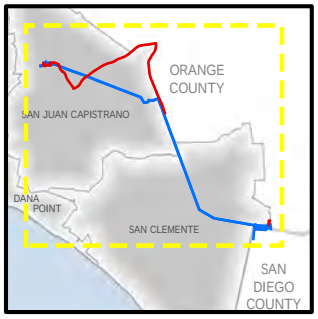

- Proposed transmission line
- Existing transmission line
- Access road
- Distribution Line
- Staging areas, stringing sites, work areas, and helicopter fly yards
- Roads
- Local road
- County Boundary
- Area of high landslide susceptibility

Sources: California Geological Survey 2001 and 2002

Figure 4.6-2 Landslide Susceptibility

South Orange County
Reliability Enhancement Project

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Liquefaction

Liquefaction primarily occurs in saturated, loose, fine- to medium-grained soils in areas where the groundwater table is within approximately 50 feet of the ground surface. Liquefaction occurs when soils temporarily lose their shear strength during strong ground shaking events and can include loss of bearing strength (the ability to support a load such as a building foundation), lateral spreading (the flow of soil down a slope due to liquefaction), and subsidence. CGS has mapped areas with liquefaction potential in the San Juan Capistrano and San Clemente areas (CGS 2001a, 2001b, 2002b) based on historic occurrence of liquefaction or other local geological, geotechnical, and groundwater conditions that indicate a potential for permanent ground displacements~~ such that mitigation as defined in Public Resources Code Section 2693(c) would be required~~. Liquefaction susceptibility in the proposed project area is shown in Figure 4.6-3.

Subsidence

Subsidence is the settling of the ground surface due to compaction (consolidation) of underlying, unconsolidated (loosely packed) sediments. Subsidence is most common in uncompacted soil, thick unconsolidated alluvial material, and improperly constructed artificial fill. Subsidence can result from earthquakes or fluid withdrawal (e.g., extraction of groundwater) from compressible sediments resulting in the settling or sinking of the ground surface over a regional area. None of the proposed project components overlay areas known to be susceptible to subsidence.

Collapsible Soil

Soil collapse typically occurs in recently deposited, Holocene (within the last 11,500 years) soils that were deposited in an arid or semi-arid environment. These soils typically contain minute pores and voids. The soil particles may be partially supported by clay or silt or chemically cemented with carbonates. When saturated, water removes the cohesive material and rapid, substantial settlement results. An increase in surface water infiltration (e.g., from irrigation or a rise in the groundwater table) combined with the weight of a building or structure can initiate settlement and cause foundations and walls to crack. Collapsible soils may be present in Holocene-age deposits within the proposed project area.

Expansive Soil

Expansive soils shrink or swell with changes in moisture content. This characteristic is typically associated with high clay-mineral content in soils. Changes in soil moisture could result from a number of factors, including rainfall, landscape irrigation, utility leakage, and/or perched groundwater. Expansive soils are typically very fine-grained with high to very high percentages of clay. Soils in the proposed project area generally exhibit a low to moderate shrink-swell (expansive) potential; however, some of the clay-rich soils in the proposed project area have high expansion potential (Table 4.6-2). In areas where soils have moderate to high shrink-swell potential, project components may require special design features to prevent damage.

4.6.1.2 Minerals

Current mineral extraction activities in the vicinity of the proposed project are limited to sand, gravel, and clay (USGS 2012). The Bedford Canyon Formation in the Santa Ana Mountains contains silver, lead, tin, and zinc mines, but only limited quantities of ore have been recovered since the late 1800s (Stadum 2007). Although Orange County contains significant amounts of mineral resources, mineral resources necessary to meet the County's existing and future development needs, such as construction aggregate, are of particular importance (County of Orange 2011). These resources are located in portions of the Santa Ana River, Santiago Creek, San Juan Creek, Arroyo Trabuco, and other areas (County of Orange

2011). There are no known significant mineral resources within the proposed project area or in the immediate vicinity of the proposed project area.

4.6.2 Regulatory Setting

4.6.2.1 Federal

Clean Water Act

The Clean Water Act of 1972 (33 United States Code [U.S.C.] §1251 et seq.) requires states to set standards to protect water quality, including the regulation of storm water and wastewater discharge during construction and operation of a facility. This includes the creation of a system that requires states to establish discharge standards specific to water bodies (National Pollutant Discharge Elimination System, or NPDES), which regulates storm water discharge from construction sites through the implementation of a Storm Water Pollution Prevention Plan (SWPPP). Erosion and sedimentation control measures are fundamental components of SWPPPs. In California, the NPDES permit program is implemented and administered by Regional Water Quality Control Boards. Refer to Section 4.9, "Hydrology and Water Quality," for further information.

4.6.2.2 State

Seismic Hazards Mapping Act / Seismic Hazards Zonation Program

The Seismic Hazards Mapping Act directs the CGS to delineate Seismic Hazard Zones. The purpose of the Act is to reduce the threat to public health and safety and to minimize the loss of life and property by identifying and mitigating seismic hazards. State, county, and city agencies are directed to use Seismic Hazard Zone maps developed by CGS in their land use planning and permitting processes.

~~In accordance with the provisions of the~~The Seismic Hazards Mapping Act and implementing regulations in California Code of Regulations Title 14, Division 2, Chapter 8, Subchapter 1, Article 10 require that a geotechnical report be prepared by a qualified registered civil engineer or certified engineering geologist when an undertaking in a Seismic Hazard Zone meets the Act's definition of a "project." Because the proposed project does not meet the definition of a "project" under the Seismic Hazards Mapping Act, the Applicant has proposed APM GEO-1 and APM GEO-2 committing to geotechnical studies that would address seismic hazards.~~of the California Code of Regulations (CGS Seismic Hazards Zonation Program), requires that site-specific geotechnical investigations be performed prior to permitting projects within Seismic Hazard Zones. The geotechnical report must be prepared by a registered civil engineer or certified engineering geologist having competence in the field of seismic hazard evaluation and mitigation. The geotechnical report must contain site-specific evaluations of the seismic hazard affecting the project and identify portions of the project site containing seismic hazards. The report must also identify any known off-site seismic hazards that could adversely affect the site in the event of an earthquake.~~

Alquist-Priolo Earthquake Fault Zoning Act

The purpose of the Alquist-Priolo Earthquake Fault Zoning Act is to regulate development near active faults to mitigate the hazard of surface fault rupture. The Act requires disclosure to potential real estate buyers and a 50-foot setback for new occupied buildings. While the Act does not specifically regulate overhead powerlines, it does help define areas where fault rupture is most likely to occur.

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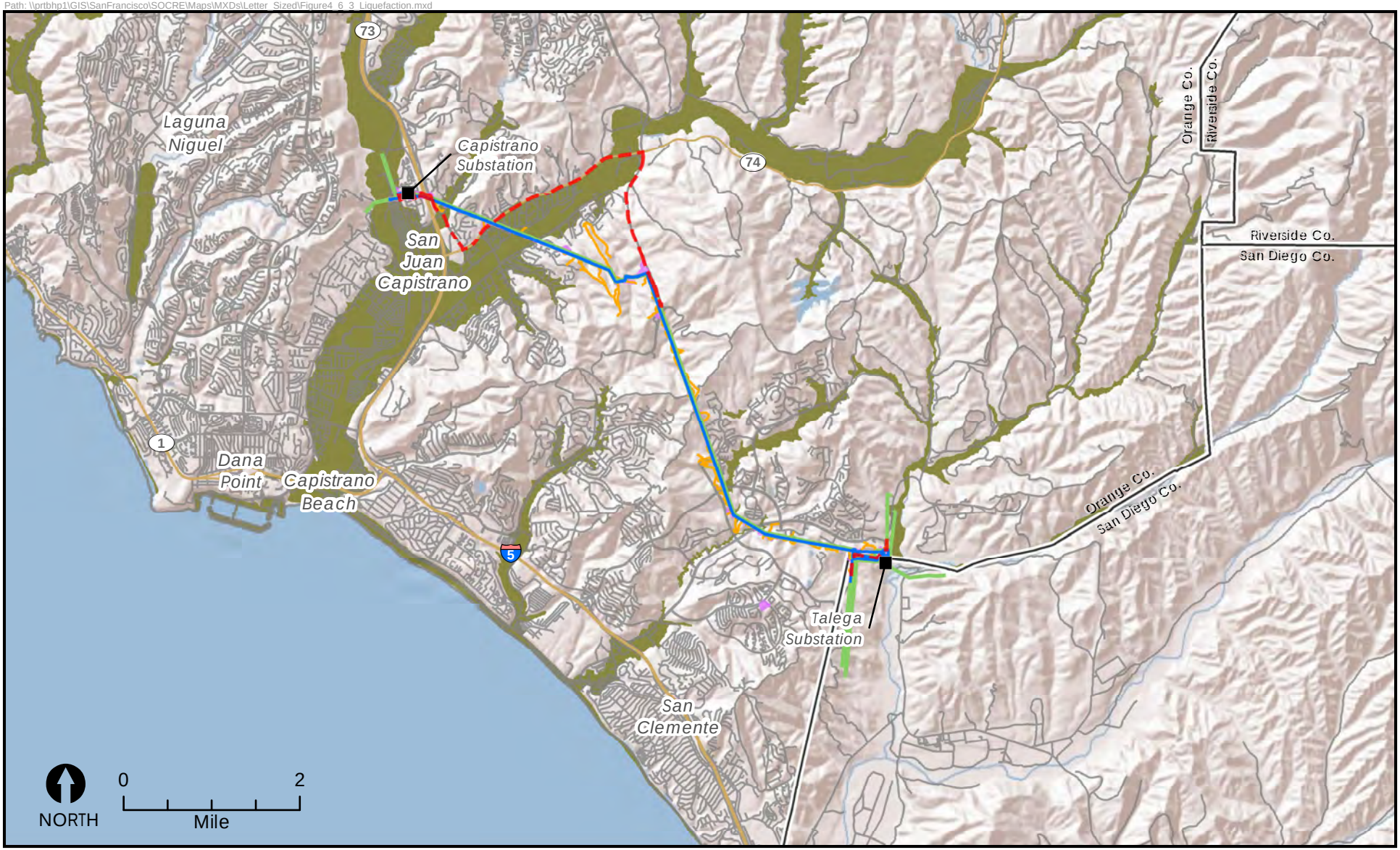

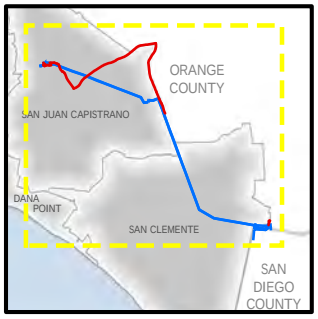

- Proposed transmission line
- Existing transmission line
- Access road
- Distribution Line
- Staging areas, stringing sites, work areas, and helicopter fly yards
- Roads
- Local road
- County Boundary
- Liquefaction Zone Area

Sources: Cal-Atlas 2009

Figure 4.6-3

Liquefaction Susceptibility in the Proposed Project Area

South Orange County Reliability Enhancement Project

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California Building Code / Seismic Zones

The California Building Code (California Code of Regulation, Title 24) defines minimum building requirements based on a region's seismic hazard potential. There are four types of seismic zones, with Seismic Zone 1 having the lowest seismic potential and Seismic Zone 4 having the highest seismic potential. The proposed project would be located within Seismic Zone 4 and subject to the relevant standards listed for Seismic Zone 4. The California Building Standards Commission is responsible for administration of California's building codes.

Surface Mining and Reclamation Act

The intent of the Act is to promote production and conservation of mineral resources, minimize environmental effects of mining, and ensure that mined lands will be reclaimed to conditions suitable for alternative uses. The Act requires that the State Geologist classify land according to the presence or absence of significant mineral deposits. Local jurisdictions are given the authority to permit or restrict mining operations in accordance with the Act. Classification of land within California takes place according to a priority list established in 1982 or when the State Mining and Geology Board is petitioned to classify a specific area. Once classification of an area has taken place, the Board transmits the information to the appropriate lead agencies for mandated incorporation into their land use planning processes.

4.6.2.3 Regional and Local

San Diego Regional Water Quality Control Board

The San Diego Regional Water Quality Control Board manages water quality for the jurisdictions traversed by components of the proposed project. Because construction of the proposed project would disturb a surface area greater than 1 acre, the applicant would be required to obtain a NPDES permit from the Board. To acquire this permit, the applicant would prepare a SWPPP that would include information about the proposed project, monitoring and reporting procedures, and best management practices (BMPs), including those for erosion, sedimentation, and stormwater runoff control. The SWPPP would be based on final engineering design and would include all components of the proposed project.

Orange County

The County of Orange General Plan establishes policies to support the goals of: (1) providing for a safe living and working environment consistent with available resources; (2) minimizing the effects of public safety hazards through implementation of appropriate regulations and standards that maximize protection of life and property; and (3) raising the awareness of Orange County residents, workers, and visitors to the potential threat of public safety hazards (County of Orange 2011). Policies to accomplish these goals related to seismic safety and geologic hazards include the following:

- **Seismic Safety and Geologic Hazards Policy 4:** Implement ordinances, regulations, and procedures that mandate the review, evaluation, and restriction of land use due to possible undue geologic threat.
- **Seismic Safety and Geologic Hazards Policy 5:** Encourage establishment of seismic design criteria and standards for county facilities (e.g., transmission lines, water and sewage systems, and highways), any structures, housing, necessary mobile units, and support equipment, and other vital resources that would be needed following an earthquake (e.g., "back-up" power generation facilities and water storage).
- **Seismic Safety and Geologic Hazards Policy 8:** Establish development standards for land use, new construction, and proposed improvements to ensure proper design and location of structures.

City of San Juan Capistrano

The City of San Juan Capistrano has adopted the ~~1997 Uniform~~2013 California Building Code~~s~~, ~~1997 Uniform~~2013 California Mechanical Code, ~~1997 Uniform~~2013 California Fire Code, and the ~~1997 National~~2013 California Electrical Code, which contain structural requirements for existing and new buildings (City of San Juan Capistrano ~~2002~~1980). The City of San Juan Capistrano General Plan establishes policies to support Safety Goal 1, which is to reduce the risk to the community from hazards related to geologic conditions, seismic activity, wildfires, structural fires, and flooding. The following policies related to geologic conditions and seismic activity are applicable to the proposed project:

- **Safety Element Policy 1.1:** Reduce the risk of impacts from geologic and seismic hazards by applying proper development engineering, building construction, and retrofitting requirements.
- **Land Use Element Policy 4.1:** Preserve areas of natural hazards, such as landslides and floodplains, which would jeopardize the public health and safety.

City of San Clemente

The City of San Clemente General Plan establishes policies to support the goal of minimizing risk to life, property, economic and social dislocation and disruption of vital services that could result from geologic and seismic hazards (City of San Clemente 2014). Although there are no known active faults within the City of San Clemente, ground shaking resulting from regional seismic activity can have a significant local impact. In addition, some areas of the city have potential for liquefaction during a seismic event, and coastal and canyon bluffs and hillsides within parts of the city are subject to landslides and slope failures. The following policies related to geologic, seismic, and soil hazards are applicable to the proposed project:

- **Policy S-1.04. Landslide Risk:** Where development is proposed on unstable terrain, excessively steep slopes, and other areas deemed hazardous due to landslide risk, the City of San Clemente prohibits development unless acceptable mitigation measures are implemented.
- **Policy S-1.05. Assessment and Mitigation:** Where appropriate, the City of San Clemente requires new development to assess the potential for liquefaction, slope instability, and landslides, and requires that appropriate measures be incorporated into the project to mitigate such hazards.

The City of San Clemente General Plan establishes policies to support the goal of properly managing mineral resources and protecting land uses and environmental resources near mining or mineral extraction operations (City of San Clemente 2014). There has been extensive exploration for mineral resources in Southern California, and it is unlikely that economically viable, undiscovered mineral resources exist within the city. The following policy related to mineral resources is applicable to the proposed project:

- **Policy NR-4.05. Project Impacts:** The City of San Clemente requires assessments and mitigation of potential impacts to mineral resources as part of applications for general plan amendments, zoning changes, or any projects requiring environmental review per the California Environmental Quality Act (CEQA), consistent with the Surface Mining and Reclamation Act (SMARA).

4.6.3 Impact Analysis

4.6.3.1 Methodology and Significance Criteria

Information and data from available published resources, including journals, maps, and government websites, were collected and reviewed. This information was evaluated within the context of applicable federal, state, and local laws, regulations, standards, and policies. Potential impacts on geology, soils, and mineral resources and from geologic hazards were evaluated according to the following significance criteria. The criteria were defined based on the checklist items presented in Appendix G of the CEQA Guidelines. The proposed project would cause a significant impact if it would:

a) Expose people or structures to potential, substantial, adverse effects, including the risk of loss, injury, or death involving:

   i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42;

   ii) Strong seismic ground shaking;

   iii) Seismic-related ground failure, including liquefaction; or

   iv) Landslides.

b) Result in substantial soil erosion or the loss of topsoil;

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property;

Appendix G of the CEQA Guidelines also includes the following checklist items:

- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.
- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

The proposed project would not involve the installation of restroom facilities, a septic tank, or a wastewater disposal system. Portable toilets would be provided at the proposed substation site for use by construction workers and would be maintained by a licensed sanitation contractor. Therefore, this checklist item is not applied as a criterion for the analysis of environmental impacts. No significant mineral resources that would be of value to the region or residents of California, nor locally important mineral resource recovery sites, are known to exist within the proposed project area or in the immediate vicinity of the proposed project area. Therefore, checklist items pertaining to the loss of mineral resources are not applied as criteria for the analysis of environmental impacts in the following section.

4.6.3.2 Applicant Proposed Measures

The applicant has committed to the following as part of the design of the proposed project. See Section 2.6, "Applicant Procedures, Plans, Standards, and Proposed Measures," for a complete description of each project commitment.

APM GEO-1: Conduct an Engineering-level Geotechnical Investigation for Liquefaction Potential and Implement Recommended Design Measures. A geologic hazard evaluation was conducted by URS in 2008 to evaluate the pole locations along the Proposed Project transmission line route for the presence of geologic hazards that may affect the new towers and poles. The geologic hazard evaluation indicated the presence of geologic conditions potentially susceptible to liquefaction at the locations of proposed Pole Nos. 8, 9 and 10. Prior to construction, an engineering-level geotechnical investigation would be performed at these locations under the supervision of a California Certified Engineering Geologist or California licensed Geotechnical Engineer to further evaluate the liquefaction potential at each of these pole locations and to develop design measures to minimize the potential for damage to Proposed Project structures in the event of strong ground shaking. Recommendations of the geotechnical investigation would be incorporated into the final design for these structures. These recommendations would include augmented grading practices, expanded erosion control measures and deeper foundations.

APM GEO-2 Conduct an Engineering-level Geotechnical Survey for Landslides and Implement Recommended Design Measures to Ensure Slope Stability is not Impacted and the Potential for Damage to Protect Structures is Minimized. A geologic hazard evaluation was conducted by URS in 2008 to evaluate the structure locations along the Proposed Project transmission line route for the presence of geologic hazards that may affect the new towers and poles. The geotechnical hazard evaluation identified areas with recent and ancient landslides along the Proposed Project transmission line route due to unstable slope conditions in portions of both the Capistrano and Monterey formations Prior to construction, an engineering-level geotechnical investigation would be performed at each pole location along the transmission line route that is in or near a mapped landslide or other unstable slope condition. This investigation would be performed under the supervision of a California Certified Engineering Geologist or California licensed Geotechnical Engineer, and would identify protection measures to be designed and implemented to ensure that the Proposed Project does not materially increase slope stability risks and to minimize potential for damage to Proposed Project structures in the event of landslides. These recommendations would include augmented grading practices, expanded erosion control measures and deeper foundations.

4.6.3.3 Environmental Impacts

Impact GE-1: **Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist, for the area or based on other substantial evidence of a known fault.**
LESS THAN SIGNIFICANT

The potential for fault surface rupture is generally considered to be greatest along active faults (those with evidence of movement within the past 11,500 years), and to a lesser degree along potentially active faults (those with evidence of movement within the past 1.6 million years). No active or potentially active faults are located in the immediate vicinity of the proposed project (Table 4.6-3). The closest active fault to the proposed project area is an offshore segment of the Coronado Bank fault zone located about 14 miles to

the southwest, and the closest potentially active fault is an offshore segment of the Newport-Inglewood fault zone located about 5 miles to the southwest. There are no proposed project components within an A-P Zone. The nearest A-P Zone in relation to proposed project components is the Alberhill A-P Zone, which is approximately 18 miles northeast of the proposed project area ~~(Figure 4.6-1)~~. There is very low potential that ground rupture would occur at or in the immediate vicinity of any proposed project components; therefore, any impacts under this criterion would be less than significant.

Impact GE-2: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.
LESS THAN SIGNIFICANT

The proposed project would be located in a seismically active region with active faults capable of producing strong seismic ground shaking in the event of a large magnitude earthquake (Table 4.6-3). Therefore, the proposed project could experience moderate to high levels of earthquake-induced ground shaking during the life of the project. However, none of the proposed project components would be used for human occupancy and there is a low likelihood for a moderate to large earthquake to occur during the 64-month construction phase of the project. The transmission structures would be designed in accordance with CPUC GO 95, which requires overhead line construction to be capable of withstanding wind, temperature, and wire tension loads. Accounting for these factors would contribute to a design adequate to withstand expected seismic loading. The proposed San Juan Capistrano Substation would be engineered and constructed in accordance with the recommendations of the American Society of Civil Engineers (ASCE) Manual of Practice 113 (Substation Structure Design Guide), the Institute of Electrical and Electronics Engineers Standard 693 (Recommended Practices for Seismic Design of Substations), and applicable requirements of ASCE Standard 07-10 (Minimum Design Loads for Buildings and Other Structures) to withstand strong ground movement and moderate ground deformation. In addition, the results of the geotechnical investigation and geotechnical soil borings (APM GEO-1 and APM GEO-2) would provide recommendations for the design of project components to ensure compliance with applicable California Building Code standards, which require structures and permanently attached nonstructural components be designed and built to resist the effects of earthquakes. With the implementation of APM GEO-1 and APM-GEO-2, compliance with CPUC GO 95, industry requirements, and the applicant's internal structural design requirements, impacts related to strong seismic ground shaking would be reduced during construction and operation of the proposed project. Therefore, impacts under this criterion would be less than significant.

Impact GE-3: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction.
LESS THAN SIGNIFICANT <u>WITH MITIGATION</u>

Structural damage from earthquakes is often the result of liquefaction. Strong ground shaking from a moderate to large regional earthquake could result in liquefaction in saturated, loose, fine- to medium-grained soils that overlay a shallow groundwater table. The risk of liquefaction at the proposed San Juan Capistrano Substation site is very low due to the relatively dense nature of compacted fill, older alluvium, formational material, and lack of a shallow groundwater table underlying the substation site (Geosyntec Consultants 2014). A number of areas with liquefaction potential are present within the proposed project area (Figure 4.6-2); the proposed project components that would be located within areas potentially subject to liquefaction are:

- Pole Nos. 8, 9, and 10, which are located in close proximity to the San Juan Creek stream channel; and

- Pole Nos. 1a-5a, which are located west of the proposed San Juan Capistrano Substation.

Prior to construction, an engineering-level geotechnical investigation would be performed at Pole Nos. 8, 9, and 10 under the supervision of a California c~~C~~ertified e~~E~~ngineering g~~G~~eologist or California licensed g~~G~~eotechnical e~~E~~ngineer to further evaluate the liquefaction potential at each of these pole locations and to develop design measures to minimize the potential for damage to proposed project structures in the event of strong ground shaking (APM GEO-1).

Pole Nos. 1a through 5a are also included in areas with potential liquefaction hazards (CGS 2001a). Poles Nos. 1a through 5a would create a potentially significant risk on people or structures if the structures were to fall as a result of liquefaction from a seismic event. To ensure that structures are designed to minimize potential damage, the Applicant shall conduct additional geotechnical investigations at these locations prior to the start of construction. Recommendations from the additional geotechnical investigations at these locations shall be incorporated into the final design for these structures (MM GEO-1). Implementation of MM GEO-1 would reduce the potential risk to less than significant. ~~In accordance with the provisions of the Seismic Hazards Mapping Act, Article 10 of the California Code of Regulations (CGS Seismic Hazards Zonation Program), geotechnical investigations would also be required at Pole Nos. 1a-5a prior to the start of construction.~~ Recommendations of the geotechnical investigation would be incorporated into the final design for these structures. These recommendations could include augmented grading practices, expanded erosion control measures, and deeper foundations.

There is a low likelihood that an earthquake capable of producing liquefaction would occur during the construction phase of the proposed project and, based on the results of the geotechnical investigations, incorporated project design features would minimize the likelihood that structures located in areas potentially susceptible to liquefaction would collapse, potentially resulting in injury or death, during the life of the proposed project. Therefore, impacts under this criterion would be less than significant with mitigation.

Impact GE-4: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.
LESS THAN SIGNIFICANT

Extensive landslides, both ancient and recent, have occurred throughout the proposed project area. The majority of the proposed transmission line route would be located in areas with rugged topography, steep slopes, and highly unstable bedrock. As a result, landslides (seismically induced or otherwise) are a potential hazard throughout most of the project area. In addition, slope destabilization could result from construction activities, such as grading or dewatering.

Twenty-three of the proposed new 230-kV transmission structures (Pole Nos. 11-14, 18-21, 24-28, 31-36, 41-42, and 44), three of the proposed new 138-kV structures (Pole Nos. 8a, 10a, and 11a), two of the proposed new 69-kV structures (Pole Nos. 3b and 4b), and Pole No. D10 of the proposed12-kV distribution poles would be located in or very close to areas that have been mapped by CGS as susceptible to landslide hazards (Figure 4.6-2). Although proposed transmission structure sites are located in or near areas mapped as being potentially susceptible to landslides, none of the proposed transmission line facilities appear to be in immediate danger from landslides or potential slope instability associated with landsliding (URS 2012). However, a number of the proposed new transmission structures would be located in areas where there is a risk of potential slope instability.

There is low potential for landslides or other slope instability issues at the proposed San Juan Capistrano Substation site. While the Capistrano formation is generally considered to be a landslide prone deposit, the material encountered in the existing slopes at the substation site were not composed of predominantly

clayey material, and clay seams were not encountered at the site or within the areas where new slopes may expose the Capistrano Formation. Furthermore, adverse bedding and bedding plane shears were not encountered in the test pits performed at the site, and new slopes at the site would be engineered at 2:1 (horizontal: vertical), which is flatter than the slopes that currently exist at the site (Geosyntec Consultants 2014). Therefore, the potential for slope instability and landslides at the proposed San Juan Capistrano Substation site is considered negligible. Although the Talega Substation is located in an area potentially susceptible to landslide or slope stability hazards, no new grading, drainage, or footprint changes are proposed at the substation, thus the existing stability would not be altered, so the proposed project would not affect the potential for landslide or slope stability hazards at the Talega Substation site.

The applicant would implement APM GEO-2, in which the applicant would perform an engineering-level geotechnical investigation at each pole location along the transmission line route that is in or near a mapped landslide or other unstable slope condition prior to construction. In accordance with the provisions of the Seismic Hazards Mapping Act, Article 10 of the California Code of Regulations (CGS Seismic Hazards Zonation Program), geotechnical investigations would also be required at Pole No. D10 along the proposed 12-kV distribution line, which is mapped as potentially susceptible to landslide hazards, prior to the start of construction. These investigations would be performed under the supervision of a California Certified Engineering Geologist or California licensed Geotechnical Engineer, and would identify site-specific protection measures to be designed and implemented to ensure that the proposed project does not materially increase slope stability risks and to minimize potential for damage to proposed project structures in the event of landslides. These recommendations could include augmented grading practices (e.g., flattened cut slopes), expanded erosion control measures (e.g., 60^{o} reinforced slopes, compacted backfill), deeper foundations, and other project design features (e.g., cast-in-place reinforced concrete walls, soldier piles, and lagging walls).

There is a low likelihood that an earthquake capable of producing landslides or other slope stability issues would occur during the 64-month construction phase of the proposed project. Project design features developed based on the results of the geotechnical investigation would minimize the likelihood that structures located in areas potentially susceptible to landslides or slope instability would collapse, potentially resulting in injury or death, during the life of the proposed project.

The potential for the proposed project to create harm during a landslide event would be similar to the existing potential, as there are existing structures in the proposed project area. With the incorporation APM GEO-1 and APM GEO-2, the potential for the proposed project to create a landslide event during operation would be less than significant under this criterion.

Impact GE-5: Result in substantial soil erosion or the loss of topsoil.
LESS THAN SIGNIFICANT

The majority of the soils in the proposed project area occur on steep slopes and have high erosion potential. During construction, grading would be required to develop new access and spur roads, level the proposed San Juan Capistrano Substation site, and create level pads at some of the proposed transmission structure sites. In addition, excavation and trenching would be required to facilitate construction of some of the proposed project components, such as the proposed San Juan Capistrano Substation and underground segments of the transmission line and distribution line. Grading, excavation, and trenching could result in soil erosion and loss of topsoil. The applicant would be required to obtain a NPDES Construction General Permit because the proposed project would require disturbance of more than one acre of soil. As part of obtaining a NPDES Construction General Permit, the applicant would be required to design and implement a SWPPP. The SWPPP would incorporate BMPs for erosion and sedimentation controls. Erosion controls consist of source control measures that are designed to prevent soil particles from detaching and being transported off-site. Examples of erosion control measures include use of straw

mulch, geotextiles and mats, hydraulic mulch, hydroseeding, velocity dissipation devices, grading operations during non-rainy periods only, and application of soil binders. Sedimentation controls are structural measures intended to complement and enhance the selected erosion control measures and reduce sediment discharges from active construction areas. Examples of sediment control measures include silt fences, sediment traps, check dams, fiber rolls, gravel bag berms, and sandbag barriers. The qualified SWPPP preparer would consider information about the physical properties of subsurface soils, soil resistivity, and slope stability data from the geotechnical investigations while developing the SWPPP.

In addition to mandatory compliance with the measures outlined in the SWPPP, the applicant would also comply with its BMP Manual (SDG&E 2011). The BMP Manual contains specific erosion control BMPs and guidance on when, where, and how to implement them based on site-specific conditions or activities. Examples of erosion control BMPs in the manual include preservation of existing vegetation, dust control, and soil preparation (e.g., roughening surface soils by mechanical methods to prepare soils for additional BMPs or to break up sheet flow).

During construction, topsoil would be salvaged from areas where grading, excavation, or trenching would otherwise result in the loss of topsoil. The salvaged topsoil would be stockpiled and protected from erosion through implementation of appropriate BMPS (e.g., plastic covers over stockpiles and gravel bag berms around the base of the stockpiles). Upon completion of surface disturbances, the salvaged topsoil would be used to reclaim areas of temporary construction disturbance, and areas not subject to additional disturbance would be stabilized by landscaping.

During operations, long-term use of access roads may lead to rutting, which could concentrate runoff and increase rill erosion. However, the applicant would regularly maintain water bars and other erosion control features that would be implemented to comply with permit requirements.

The BMPs and measures identified in the SWPPP and the applicant's BMP Manual would be employed during all land-disturbing activities resulting from construction and/or operation of the proposed project. Therefore, impacts under this criterion would be less than significant.

Impact GE-6: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.
LESS THAN SIGNIFICANT

The majority of the project components would be sited on naturally unstable geologic units and soils with high erosion potential. Areas where the natural slope is over-steepened by the construction of access roads, transmission structure foundations, or other excavated areas would have increased landslide susceptibility. In addition, ancient and recent landslides occur throughout the proposed project area, and project construction activities could reactivate a landslide if appropriate project design features are not implemented. However, the applicant would implement APM GEO-2, in which the applicant would perform an engineering-level geotechnical investigation at each pole location along the transmission line route that is in or near a mapped landslide or other unstable slope condition prior to construction. The applicant would incorporate the results of the geotechnical investigations to design and implement site-specific protection measures to ensure that the proposed project does not materially increase slope stability risks and to minimize potential for damage to proposed project structures in the event of landslides. The SWPPP would require additional site-specific erosion control measures.

Liquefaction and lateral spreading could result in lowland areas where saturated sandy soil loses strength and cohesion due to ground shaking during an earthquake. In these areas, based on the results of the geotechnical investigation and as part of implementing APM GEO-1, the applicant would design project

components to minimize potential for liquefaction and incorporate ground improvements in liquefiable zones.

The proposed project is not anticipated to result in subsidence because groundwater would not be used to facilitate construction or operation of proposed project. Dewatering may be required if shallow groundwater is encountered in structure footings or other project excavations, but the effects of dewatering would be localized and short-term. Furthermore, the majority of project components do not overlay a substantial groundwater basin, and shallow groundwater has not been encountered during geotechnical investigations at proposed facility sites (e.g., the proposed San Juan Capistrano Substation site) that do overlay a substantial groundwater basin (Geosyntec Consultants 2012).

Soil collapse typically occurs in recently deposited Holocene (within the last 11,500 years) soils that were deposited in an arid or semi-arid environment or at the base of steep canyons or hillsides where mudflows have dried and allowed the formation of air pockets in subsurface soils. The only Holocene-age deposits within the proposed project area include landslide areas and wash deposits. However, because these areas coincide with CGS-mapped Seismic Hazard Zones, site-specific geotechnical investigations would be required at these locations in accordance with the provisions of the Seismic Hazards Mapping Act, Article 10 of the California Code of Regulations. If collapsible soils are found during the geotechnical investigations, site-specific project design features would be incorporated to minimize the potential for soil collapse.

With the incorporation of project design features, implementation of the SWPPP, and incorporation of APM GEO-1 and APM GEO-2, construction and operational impacts associated with landslides, liquefaction, and/or lateral spreading, subsidence, or soil collapse would be less than significant.

Impact GE-7: Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
LESS THAN SIGNIFICANT

Expansive soils (e.g., those with high-plasticity clay content) can cause structural failure of foundations, such as those associated with the proposed project components. The shrink-swell potential is an indicator of the potential for encountering expansive soil within a soil map unit (Table 4.6-2). The shrink-swell potential of soil map units throughout the project area varies, but the shrink-swell potential of the majority of the soil map units is moderate.

Shallow, reinforced concrete spread footing foundations, such as those proposed for the San Juan Capistrano Substation site, can be adversely affected if the foundations overlay expansive soils close to the ground surface. However, the laboratory results of the geotechnical investigation at the proposed San Juan Capistrano Substation site indicate that the majority of near-surface soil (up to 5 feet below the existing surface) is not considered expansive in accordance with California Building Code Section 1803A.5.2 (Geosyntec Consultants 2012).

Several soil types along the proposed project transmission line route have a moderate to high shrink-swell (expansion) potential (Table 4.6-2). However, transmission structure foundations are typically deep-drilled, pier-reinforced concrete foundations that are designed for the structural properties of the various soil layers, taking into account the maximum allowable deflections and rotations. Therefore, expansive soils are not anticipated to have a significant adverse impact on transmission line structures.

The applicant would use the results of the geotechnical investigations (as described in APM GEO-1 and APM GEO-2) to inform the final engineering designs of the transmission line foundations and other

structures that may be impacted by expansive soils. The project would also be required to comply with all applicable building codes. Therefore, impacts under this criterion would be less than significant.

4.6.4 Mitigation Measures

MM GEO-1: Conduct an Engineering-level Geotechnical Investigation for Liquefaction Potential and Implement Recommended Design Measures. Prior to construction, an engineering-level geotechnical investigation shall be performed at Pole Nos. 1a through 5a under the supervision of a California certified engineering geologist or California licensed geotechnical engineer to further evaluate the liquefaction potential at each of these pole locations and to develop design measures to minimize the potential for damage to Proposed Project structures in the event of strong ground shaking. Recommendations of the geotechnical investigation shall be incorporated into the final design for these structures.

~~No significant impacts to geology, soils, and minerals were identified; therefore, no mitigation measures are required.~~