

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.

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

9
10 Additional categories used in the FMMP mapping system include “urban and built-up lands” and “lands
11 committed to non-agricultural use.”

12 **Williamson Act**

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

19 **Public Resource Codes Section 12220(g)**

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

27 **Public Resource Codes Section 4526**

28
29 “Timberland” means land, other than land owned by the federal government and land designated by the
30 board as experimental forest land, which is available for, and capable of, growing a crop of trees of any
31 commercial species used to produce lumber and other forest products, including Christmas trees.
32 Commercial species shall be determined by the board on a district basis after consultation with the
33 district committees and others. The proposed project would not occur within “timberland.”

34 **Government Code Section 51104(g)**

35
36 A “timberland production zone” is an area that has been zoned pursuant to Section 51112 or 51113 and is
37 devoted to and used for growing and harvesting timber, or for growing and harvesting timber and
38 compatible uses, as defined in 51104(h).

39
40 With respect to the general plans of cities and counties, the term “timberland preserve zone” is
41 synonymous with a timberland production zone. The proposed project would not occur within a
42 timberland production zone.

1 **4.2.2.3 Regional and Local**

2
3 **Orange County**

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

- 8
9
 - 10 • **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.*
 - 11 • **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.*

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18
19 Section 7-9-55.3 of the Orange County municipal code allows public/private utility buildings and
20 structures, with approval of a site development permit, within land zoned A1 "General Agricultural"
21 District. Within land zoned A1 by Orange County, the proposed project would be located within existing
22 rights-of-way (ROWs) W (Orange County 2005b, c).

23
24 **City San Juan Capistrano**

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

- 28
29
 - 30 • **Policy 3.2:** *Reduce the negative impacts resulting from urban uses and neighboring agricultural uses in close proximity.*

31
32 The San Juan Capistrano General Plan or municipal code does not outline any policies regarding forest
33 land applicable to the proposed project.

34
35 **City of San Clemente**

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

38
39 **4.2.3 Impact Analysis**

40
41 **4.2.3.1 Methodology and Significance Criteria**

42
43 The environmental impacts analysis presented in this section considers whether the proposed project
44 would result in impacts, in terms of acres temporarily or permanently disturbed, on Prime Farmland,
45 Unique Farmland, Farmland of Statewide Importance, or forest or timberlands. Potential impacts were
46 evaluated according to the significance criteria listed below. The criteria were defined based on the

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

- 3
- 4 a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as
5 shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-
6 agricultural use;
- 7 b) Conflict with existing zoning for agricultural use or a Williamson Act contract; or
- 8 c) Involve other changes in the existing environment, which, due to their location or nature, could
9 result in conversion of Farmland, to non-agricultural use or conversion of Forest Land to non-
10 forest use.

11
12 Appendix G of CEQA Guidelines identifies two additional checklist items:

- 13
- 14 • Conflict with existing zoning for, or cause rezoning of, Forest Land (as defined in Public
15 Resources Code section 12220[g]), or Timberland (as defined by Public Resources Code section
16 4526), or timberland zoned Timberland Production (as defined by Government Code section
17 51104[g]); or
 - 18 • Result in the loss of Forest Land or conversion of Forest Land to non-forest use.

19
20 The proposed project would not be located on land designated as Forest Land, Timberland, or
21 Timberland Production by City of San Juan Capistrano, City of San Clemente, or Orange County zoning
22 ordinances. The proposed project would be primarily located within existing ROWs. Construction of
23 Transmission Line Segment 1A would require the temporary and permanent removal of several trees;
24 however, based on a review of the City of San Juan Capistrano General Plan and aerial imagery, these
25 trees are located within the El Camino Real Park and an area designated as high density, multi-family
26 residential by the City of San Juan Capistrano and would not be considered Forest Land¹. No other trees
27 would be removed for the remaining components of the proposed project. Therefore, these checklist
28 items are not applied as criteria in the analysis of environmental impacts related to agriculture and
29 forestry resources.

30 31 **4.2.3.2 Applicant Proposed Measures**

32
33 The applicant has not committed to any applicant proposed measures that apply to agriculture and
34 forestry resources.

35 36 **4.2.3.3 Environmental Impacts**

37
38 **Impact AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide**
39 **Importance (Farmland), as shown on the maps prepared pursuant to the**
40 **FMMP of the California Resources Agency, to non-agricultural use.**
41 *NO IMPACT*

42
43 The proposed San Juan Capistrano and Talega substations and the proposed double-circuit 230-kilovolt
44 (kV) transmission line would not be located on lands designated as Prime Farmland, Unique Farmland,
45 or Farmland of Statewide Importance. Portions of the proposed 12-kV distribution line along State Route
46 (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]

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

5
6 **Impact AG-2: Conflict with existing zoning for agricultural use or a Williamson Act contract.**
7 *LESS THAN SIGNIFICANT*
8

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

10
11 Several portions of the proposed project would be located on lands in unincorporated Orange County
12 zoned General Agriculture, including a laydown area and portions of Transmission Line
13 Segments 3 and 4, the Talega Substation, and the 12-kV distribution line. Section 7-9-55.3 of the Orange
14 County municipal code allows public/private utility buildings and structures with approval of a site
15 development permit within A1 "General Agricultural" District (Orange County 2005b). One pole along
16 Transmission Line Segment 1b would be located within land zoned as Residential/Agriculture by the
17 City of San Juan Capistrano. Transmission Line Segment 1b would be located within the existing ROW
18 in this area and would not result in a new conflict to existing zoning for agriculture in the City of San
19 Juan Capistrano. No other portions of the proposed project would be located on lands with existing
20 zoning for agriculture. Therefore, impacts under this criterion would be less than significant.

21
22 Additionally, as further described in Section 4.10 "Land Use and Planning," in the context of electric
23 utility projects, California Public Utilities Commission (CPUC) G.O. 131-D, Section XIV.B, states that
24 "local jurisdictions acting pursuant to local authority are preempted from regulating electric power line
25 projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the
26 Commission's jurisdiction. However in locating such projects, the public utilities shall consult with local
27 agencies regarding land use matters."

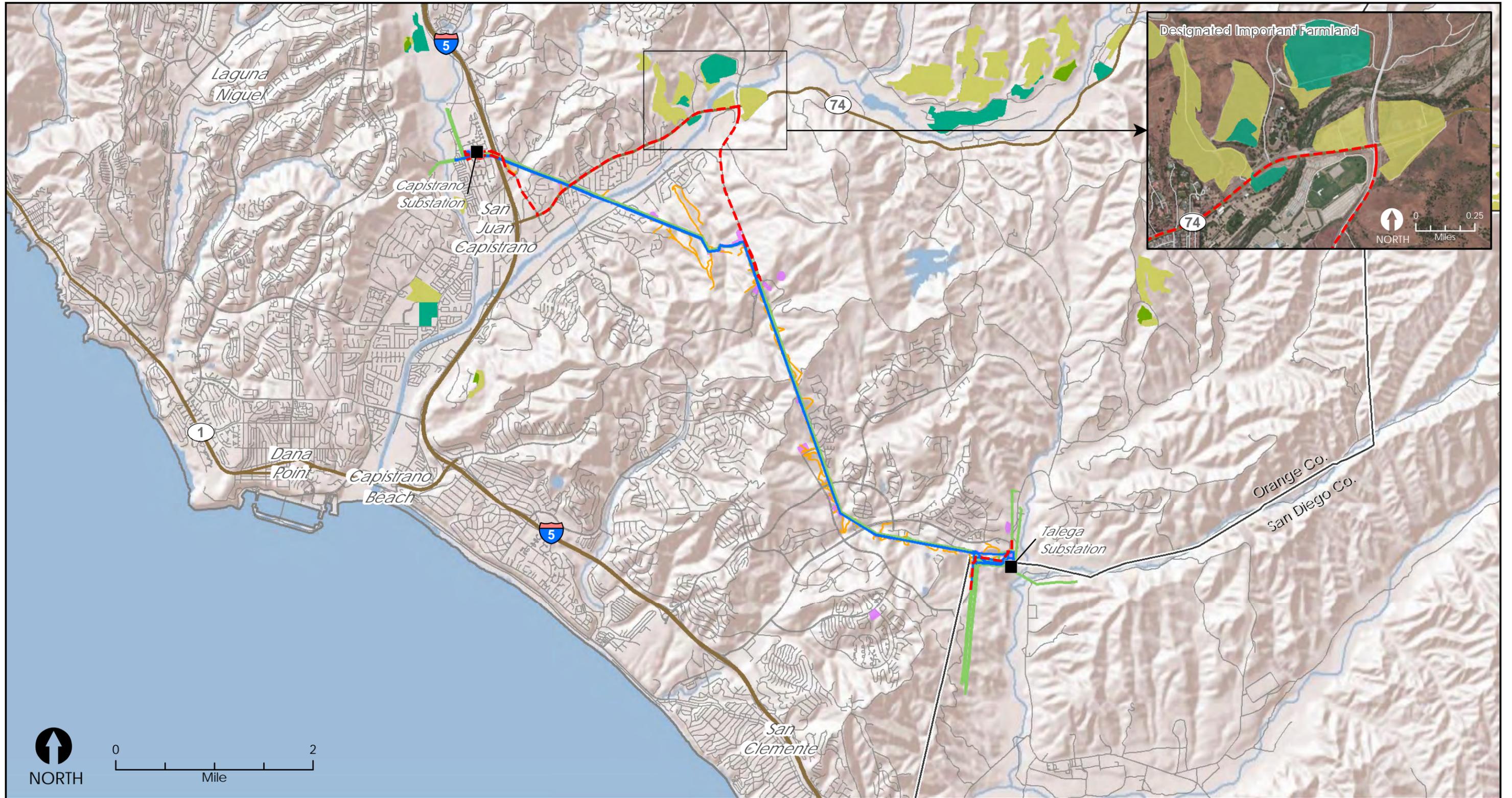
28
29 **Impact AG-3: Involve other changes in the existing environment, which, due to their location**
30 **or nature, could result in conversion of Farmland to non-agricultural use or**
31 **conversion of Forest Land to non-forest use.**
32 *LESS THAN SIGNIFICANT*
33

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

42
43 **4.2.4 Mitigation Measures**
44

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

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Sources: FMMP 2010



- | | | |
|----------------------------|-------------------|----------------------------------|
| Proposed transmission line | Distribution Line | Important Farmland |
| Existing transmission line | Roads | Prime Farmland |
| Access road | Local road | Farmland of Statewide Importance |
| Impact areas | County Boundary | Farmland of Local Importance |
| | | Unique Farmland |

Figure 4.2-1 Designated Important Farmland in the Vicinity of the Proposed Project

South Orange County Reliability Enhancement Project

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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 1993a)

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 Niño² 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)

1
2 **4.3.1.2 Ambient Air Quality**
3

4 The topography and climate of Southern California combine to create high air pollution potential in the
5 SCAB. During the summer months, a warm air mass frequently descends over the cool, moist marine
6 layer produced by the interaction between the ocean’s surface and the lowest layer of the atmosphere. The
7 warm upper layer forms a cap over the cool marine layer and inhibits the pollutants in the marine layer
8 from dispersing upward. Light winds during the summer can also further limit ventilation. Additionally,
9 abundant sunlight triggers photochemical reactions that produce ozone and the majority of particulate
10 matter. (SCAQMD 2013a)
11

12 The topography of San Diego County is highly varied, comprising flatlands and mesas, broad valleys,
13 canyons, foothills, mountains, and deserts. This topography drives the pollutant levels. The SDAB is not
14 classified as a contributor, but it is classified as a transport recipient. The transport pollutants are ozone,
15 oxides of nitrogen (NO_x), and volatile organic compounds (VOCs) that are transported from the SCAB in
16 the north and, when the wind shifts direction, Tijuana, Mexico, in the south. (SDAPCD 2011)
17

18 **Air Pollutants**

19 The United States Environmental Protection Agency (EPA) has set National Ambient Air Quality
20 Standards (NAAQS) for widespread pollutants from numerous and diverse sources considered harmful to
21 public health and the environment. Primary standards set limits to protect public health, including the
22 health of “sensitive” populations such as asthmatics, children, and the elderly. Secondary standards set
23 limits to protect public welfare, including protection against visibility impairment and damage to animals,
24 crops, vegetation, and buildings. The EPA periodically reviews the standards and the science on which
25 they are based. The EPA has set NAAQS for seven principal pollutants, which are called “criteria”
26 pollutants:
27

- 28 • Carbon monoxide (CO);
 - 29 • Lead;
 - 30 • Nitrogen dioxide (NO₂);
 - 31 • Ozone;
 - 32 • Particulate matter less than or equal to 10 microns in diameter (PM₁₀);
 - 33 • Particulate matter less than or equal to 2.5 microns in diameter (PM_{2.5}); and
 - 34 • Sulfur dioxide (SO₂).
- 35

36 Ozone is not emitted directly from emission sources but rather created near ground level by a chemical
37 reaction between NO_x and reactive organic gases (ROG) in the presence of sunlight. As a result, NO_x
38 and ROG are often referred to as ozone precursors and are regulated as a means to prevent ground-level
39 ozone formation. ROG are sometimes also referred to as VOCs.
40

41 The State of California has established California Ambient Air Quality Standards (CAAQS) for these
42 criteria pollutants, as well as ambient air quality standards for sulfates, hydrogen sulfide (H₂S), vinyl
43 chloride, and visibility-reducing particles. NAAQS and CAAQS are summarized in Table 4.3-1.
44

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 ₂ S	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/m³ = micrograms per cubic meter

CAAQS = California Ambient Air Quality Standards

CO = Carbon monoxide

H₂S = Hydrogen sulfide

NAAQS = National Ambient Air Quality Standards

NO₂ = Nitrogen dioxide

PM₁₀ = 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

SO₂ = 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 PM₁₀, 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/m³. 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/m³. 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/m³.
- ^b Standards for ozone, CO (except Lake Tahoe), SO₂ (1- and 24-hour), NO₂, PM₁₀, 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.

1
2 The SCAQMD is the local air pollution control agency for the SCAB and the portions of the Salton Sea
3 Air Basin in Riverside County. The SCAQMD operates 38 permanent, multi-pollutant monitoring
4 stations and four single pollutant source impact air monitoring sites in the SCAB and a portion of the
5 Salton Sea Air Basin in Coachella Valley. (SCAQMD 2014)
6
7 The closest SCAQMD air monitoring stations to the proposed project are the Mission Viejo and Costa
8 Mesa monitoring stations. The Mission Viejo monitoring station is approximately 8 miles north of the
9 Capistrano Substation and measures CO, ozone, PM₁₀, and PM_{2.5}. The Costa Mesa station is
10 approximately 18 miles northwest from the Capistrano Substation and measures CO, NO₂, SO₂, and
11 ozone (SCAQMD 2014). Historical air pollutant measurements at these air quality monitoring stations are
12 presented in Table 4.3-2.
13

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/m ³)			
		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

NO₂ = Nitrogen dioxide

PM₁₀ = 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

SO₂ = Sulfur dioxide

Notes:

¹ 1-hr CO, 8-hr CO, 1-hr NO₂, and 1-hr ozone reported as maximum concentrations. 8-hour ozone reported as fourth-highest concentration.

² 24-hr PM₁₀ reported as maximum concentration. 24-hour PM_{2.5} reported as 98th percentile concentration.

14
15 The SDAPCD is the local air pollution control agency for San Diego County and operates 12 permanent
16 multi-pollutant monitoring stations (SDAPCD 2014). The closest SDAPCD air monitoring sites to the
17 proposed project location are the Camp Pendleton and McClellan-Palomar Airport monitoring stations,
18 which are approximately 18 miles and 28 miles, respectively, south of the Talega Substation. However,
19 due to their proximity to the proposed project, the SCAQMD Mission Viejo and Costa Mesa monitoring
20 stations provide a better representation of the ambient conditions for the proposed project area.
21

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

Pollutant	Attainment Status			
	NAAQS		CAAQS	
	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 ₂ S	–	–	Unclassified	Unclassified
VRP	–	–	Unclassified	Unclassified

Sources: EPA 2013; CARB 2013.

Key:

CAAQS = California Ambient Air Quality Standards

CO = Carbon monoxide

H₂S = Hydrogen sulfide

NAAQS = National Ambient Air Quality Standards

NO₂ = Nitrogen dioxide

PM₁₀ = 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

SO₂ = 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

1 established for TACs. Instead, the compounds are managed on a case-by-case basis, depending on the
2 quantity and type of emissions and proximity of potential receptors. Statewide and local programs
3 identify industrial and commercial emitters of TACs and require reductions of these emissions. Federal
4 programs also require control of certain categories of TACs. CARB also recently identified diesel
5 particulate matter (PM) as a TAC. Diesel engines emit a complex mix of pollutants, the most visible of
6 which are very small carbon particles or “soot,” known as diesel PM. (CARB 2011)
7

8 **4.3.1.3 Sensitive Receptors**

9

10 Sensitive receptors include schools, hospitals, residences, and other sensitive land uses. Land use conflicts
11 can arise when sensitive receptors are located next to major sources of air pollutant emissions. Table 4.11-
12 5 in Section 4.11, “Noise and Vibration,” provides information on the closest sensitive receptors to the
13 proposed project.
14

15 **4.3.2 Regulatory Setting**

16

17 Ambient air quality and air pollutant emissions from stationary and mobile sources are managed under a
18 framework of federal, state, and local rules and regulations.
19

20 **4.3.2.1 Federal**

21

22 **Clean Air Act**

23 The Clean Air Act (CAA; U.S Code Title 42, Chapter 85) is the law that defines EPA responsibilities for
24 protecting and improving the nation’s air quality and the stratospheric ozone layer. The last major change
25 in the law, the CAA Amendments of 1990, was enacted by Congress in 1990. Legislation passed since
26 then has resulted in several minor changes. Under the CAA, the EPA oversees implementation of federal
27 programs for permitting new and modified stationary sources, controlling toxic air contaminants, and
28 reducing emissions from motor vehicles and other mobile sources. The sections of the CAA that are most
29 applicable to the proposed project include Title I (Air Pollution Prevention and Control), Title II
30 (Emission Standards for Mobile Sources), and Title V (Permits).
31

32 Title I of the CAA requires establishment of NAAQS, air quality designations, and plan requirements for
33 nonattainment areas. States are required to submit a state implementation plan (SIP) to the EPA for areas
34 in nonattainment for NAAQS. The SIP, which is reviewed and approved by the EPA, must demonstrate
35 how state and local regulatory agencies will institute rules, regulations, and/or other programs to achieve
36 attainment with NAAQS.
37

38 Title II of the CAA contains a number of provisions regarding mobile sources, including requirements for
39 reformulated gasoline, new tailpipe emission standards for cars and trucks, standards for heavy-duty
40 vehicles, and a program for cleaner fleet vehicles.
41

42 Title V of the CAA requires an operating permit program for larger industrial and commercial sources
43 that release pollutants into the air. Operating permits include information on which pollutants are being
44 released, how much may be released, and what kinds of steps the source’s owner or operator is required to
45 take to reduce the pollutants. Permits must include plans to measure and report the air pollutants emitted.
46

1 **4.3.2.2 State**

2
3 **California Clean Air Act**

4 The California Clean Air Act (CCAA) outlines a statewide air pollution control program in California.
5 CARB is the primary administrator of the CCAA, while local air quality districts administer air rules and
6 regulations at the regional level. CARB is responsible for establishing the CAAQS, maintaining oversight
7 authority in air quality planning, developing programs for reducing emissions from motor vehicles,
8 developing air emission inventories, collecting air quality and meteorological data, and preparing the SIP.
9

10 **4.3.2.3 Regional and Local**

11 **SCAQMD**

12 ***Air Quality Management Plan***

13
14 The SCAQMD is the administrator of air pollution rules and regulations within the SCAB. The
15 SCAQMD is responsible for implementing measures and local air pollution rules that ensure NAAQS and
16 CAAQS are achieved and maintained. Every three years, the SCAQMD prepares an air quality
17 management plan (AQMP) for air quality improvement to be submitted for inclusion in the California
18 SIP. The AQMP analyzes air quality at a regional level and identifies region-wide attenuation methods
19 and policies to achieve attainment levels with respect to air quality standards. Each successive iteration of
20 the AQMP is an update of the previous plan. The Final 2012 AQMP was adopted by the AQMD
21 Governing Board in February 2013.
22

23 ***Rule 403: Fugitive Dust Regulations***

24 The purpose of Rule 403 is to reduce the amount of PM entrained in the ambient air as a result of human-
25 caused fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions.
26 The rule also requires construction activities to use applicable best available control measures to minimize
27 fugitive dust emissions from a wide variety of construction activities, including backfilling, clearing,
28 earth-moving activities, stockpiling, and vehicle traffic.
29

30 **SDAPCD**

31 The SDAPCD is responsible for Regional Air Quality Strategy (RAQS) development and
32 implementation. The RAQS control measures focus on emission sources under the district's authority—
33 specifically, stationary emission sources and some area-wide sources. The 2009 RAQS was adopted by
34 the San Diego County Air Pollution Control Board on April 22, 2009.
35

36 **County of Orange**

37 The Resources Element of the County of Orange General plan does not include any goals, policies, or
38 implementation programs that are applicable to the proposed project (Orange County 2014).
39

40 **City of San Clemente General Plan**

41 The San Clemente General Plan includes the following air quality policies that are applicable to the
42 proposed project:
43

- 44 • ***Goal NR-5: Reduce levels of air pollution and greenhouse gas emissions so that the City meets or***
45 ***exceeds regional, State, and Federal mandates.***
- 46 • ***Policy NR-5.01. New Development. We require new development to utilize appropriate***
47 ***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.

1 **South Coast Air Quality Management District Significance Criteria**

2 The SCAQMD has adopted significance thresholds in its SCAQMD CEQA Air Quality Handbook for air
3 quality that define whether a project could have a significant impact. The general thresholds are derived
4 from Appendix G of the state CEQA Guidelines. The SCAQMD’s regional significance thresholds
5 present quantitative emissions thresholds by which to evaluate whether a project’s impacts could have a
6 significant impact on air quality. To determine significance, the quantitative emission thresholds
7 presented in Table 4.3-4 were compared to daily maximum emissions that are expected from the proposed
8 project.
9

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	
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/m ³ Annual average: 1 µg/m ³	24-hour average: 2.5 µg/m ³ Annual average: 1 µg/m ³
	PM _{2.5}	24-hour average: 10.4 µg/m ³	24-hour average: 2.5 µg/m ³
	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 µg/m ³ (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/m ³ (State) Rolling 3-month average: 0.15 µg/m ³ (Federal) Quarterly average: 1.5 µg/m ³ (Federal)	

Source: SCAQMD 1993b

Key:

µg/m³ = micrograms per cubic meter

CO = Carbon monoxide

H₂S = Hydrogen sulfide

lbs = pounds

NO₂ = Nitrogen dioxide

NO_x = Oxides of nitrogen

PM₁₀ = 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

SO₂ = 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.

1 To further evaluate the potential for significant impacts associated with the construction phase of the
 2 proposed project, the SCAQMD’s Final Localized Significance Threshold (LST) Methodology was used
 3 to assist with the identification of significant impacts. The LST Methodology determines significance
 4 levels by modeling hypothetical 1-, 2-, and 5-acre sites. The LST Methodology applies to on-site
 5 emissions and impacts from NO₂, CO, PM₁₀, and PM_{2.5} concentrations. The LST Methodology does not
 6 apply to emissions from on-road vehicles. Additionally, the LST Methodology states that “screening
 7 procedures are, by design conservative, that is, the predicted impacts tend to overestimate the actual
 8 impacts.” Therefore the determination made from the LST Methodology provides a means of conducting
 9 a screening analysis to assess whether a significant impact could result from project construction
 10 activities.

11
 12 The transmission and distribution sites are long and narrow, and therefore most accurately represented by
 13 the 1-acre model in the LST Methodology. Both the proposed San Juan Capistrano Substation (6.4 acres)
 14 and the Talega Substation (7.1 acres) are slightly larger than the 5-acre model for the LST Methodology;
 15 however, the 5-acre model was used for each substation location. Similarly, although some sensitive
 16 receptors are located less than 25 meters from the proposed project, the 25-meter distance to nearest
 17 receptor is the most conservative option allowed by the LST Methodology and therefore, was used for all
 18 of the LST analyses. The proposed project would be located in Source Receptor Area Zone 21-Capistrano
 19 Valley. The LSTs for the Zone 21-Capistrano Valley are shown in Table 4.3-5. (SCAQMD 2008a)
 20

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

PM₁₀ = 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

21
 22 **San Diego Air Pollution Control District Significance Criteria**

23 The SDAPCD has adopted quantitative emission thresholds that define whether a project would have a
 24 significant impact (SDAPCD 2008a). These quantitative emission thresholds are included in Table 4.3-6.
 25

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

Table 4.3-6 SDAPCD Screening Level Thresholds

Pollutant	Total Emissions		
	Lbs. Per Hour	Lbs. Per Day	Tons Per Year
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

PM₁₀ = 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

1
2 **4.3.3.2 Applicant Proposed Measures**
3

4 San Diego Gas & Electric Company (the applicant) has committed to the following measures as part of
5 the design of the proposed project. See Section 2.6, “Applicant Procedures, Plans, Standards, and
6 Proposed Measures,” for a complete description of each applicant proposed measure (APM).
7

8 **APM AQ-1: Control fugitive dust emissions.** The applicant would minimize fugitive dust by:
9

- 10
- 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.
 - 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 PM₁₀ efficient vacuum units a minimum of once per month.
- 11
12
13
14
15
16
17
18

19 **APM AQ-2: Minimize NO_x and PM emissions from off-road diesel-powered construction**
20 **equipment.** Where available, the applicant will ensure that all off-road diesel-powered construction
21 equipment with engines greater than 50 horsepower are compliant with Tier 4 interim or Tier 4 off-
22 road emissions standards, as specified by the phase-in schedule below:
23

- 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
- 24
25
26
27
28
29

1
2 In the event that equipment with a Tier 4/Tier 4 interim engine is not available for any off-road engine
3 larger than 50 horsepower, that engine shall be operated with tailpipe retrofit controls that reduce exhaust
4 emissions of NOx and PM to no more than Tier 3 emission levels.

5
6 Equipment with an engine not compliant with the Tier 4/Tier 4 interim standard will be allowed only
7 when the applicant has performed (and documented) a good faith effort (due diligence) to locate Tier 4
8 and/or Tier 4 interim equipment in the Project vicinity (defined as within 200 miles of the Project site).
9 Use of older equipment (operated with tailpipe retrofit controls that reduce exhaust emissions of NOx and
10 PM to no more than Tier 3 emission levels) would be allowable following due diligence and associated
11 documentation that no Tier 4/Tier 4 interim equipment (or emissions equivalent retrofit equipment) is
12 available for a particular equipment type. Each case shall be documented with written correspondence (or
13 signed statement and electronic mail) by the appropriate construction contractor, along with documented
14 correspondence from at least two construction equipment rental firms providing equipment within the
15 defined project vicinity (200 miles). Documentation of due diligence will be submitted to California
16 Public Utilities Commission staff for before equipment is used on the project.

17
18 The applicant will make available to California Public Utilities Commission staff and/or construction
19 monitors a copy of each piece of construction equipment's certified tier specification, best available
20 control technology documentation, and/or CARB or SCAQMD operating permit, as applicable, at the
21 time of mobilization of each applicable unit of equipment.

22 23 **4.3.3.3 Environmental Impacts**

24
25 **Impact AQ-1: Conflict with/obstruct implementation of SCAQMD or SDAPCD air quality**
26 **plan.**
27 *LESS THAN SIGNIFICANT*

28
29 The proposed project would generate emissions during construction activities.

30 31 **SCAQMD**

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

44 45 **SDAPCD**

46 Like the SCAQMD's AQMP, the SDAPCD's 2009 RAQS outlines the long-term strategies for regional
47 air quality to comply with NAAQS and CAAQS and includes a regional emissions inventory accounting
48 for emissions from a variety of sources, including stationary point sources, area sources, on-road vehicles,
49 and off-road equipment. As shown in Tables 4.3-9a and 4.3-9b, construction emissions that would take
50 place in San Diego County during the proposed project would be low and represent only a very small

1 fraction of the regional emission inventory included in the SDAPCD's 2009 RAQS. In addition, these
2 emissions would be temporary in nature. Construction equipment for the proposed project would be
3 operated in compliance with applicable local, state, and federal regulations mandating reductions in
4 emissions as outlined in the plan and related SIP, and project emissions would be consistent with the 2009
5 SDAPCD. Impacts under this criterion that would be associated with the portion of proposed project that
6 would be constructed in San Diego County would be less than significant under this criterion.
7

8 Operation and maintenance activities associated with the proposed project would be similar to those
9 associated with the existing substations, transmission, and distribution lines operation and maintenance
10 activities. Therefore, operation of the proposed project would not create a new impact on air quality plans
11 in both the SCAQMD and SDAPCD.
12

13 **Impact AQ-2: Violate any air quality standard or contribute substantially to an existing or**
14 **projected air quality violation.**
15 *SIGNIFICANT*
16

17 SCAQMD

18 To identify the maximum daily emissions that would result from the simultaneous construction of various
19 segments and the substation construction associated with the proposed project, the schedule was reviewed
20 to identify the year in which maximum emissions would occur. Maximum daily emissions are expected to
21 occur in 2015, as presented in Table 4.3-7. It was assumed that all 2015 activities could occur
22 simultaneously except building removal, and distribution undergrounding. Detailed emissions estimates
23 are provided in Appendix K.
24

25 As shown in Table 4.3-7, maximum daily construction emissions would exceed the regional significance
26 thresholds for all criteria pollutants except CO and SO_x. Implementation of APM AQ-1 and APM AQ-2
27 to control fugitive dust emissions and reduce emissions from vehicles and heavy equipment would reduce
28 emissions, but not to the extent that all emissions would be lower than LST and regional significant
29 thresholds. As discussed in Section 4.3.4, Mitigation Measure (MM) AQ-1, would require the applicant to
30 purchase NO_x emission offsets through the SCAQMD's Regional Clean Air Incentive Market Trading
31 Credits for every pound of NO_x emissions in excess of the SCAQMD regional significance threshold of
32 100 pounds per day (see Section 4.3.4). Implementation of MM AQ-1 would reduce impacts from NO_x
33 emissions to less than significant. ROG, PM₁₀ and PM_{2.5} emissions would remain to be significant and
34 unavoidable. Construction would, therefore, result in a significant, but temporary, impact on the ambient
35 air quality with respect to ROG, PM₁₀, and PM_{2.5} emissions.
36

37 Daily emissions related to construction of the substations, transmission line, and distribution line for each
38 phase of construction, were compared to SCAQMD LSTs. Table 4.3-8a presents a summary of the
39 significance determinations for the substations (Talega Substation and the proposed San Juan Capistrano
40 Substation) and the proposed double-circuit 230-kV transmission line construction phases using the LST
41 Methodology. Appendix K presents a quantitative detailed analysis for each phase of construction, in
42 comparison with the SCAQMD LSTs.
43

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
<i>SCAPCD Significance Threshold</i>	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
PM₁₀ = 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
 PM₁₀ = 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

1
 2 As shown in Table 4.3-8a, emissions of NO_x, PM₁₀ and PM_{2.5} during various substation and transmission
 3 line construction phases are above the LSTs and would have a short-term, significant impact on air
 4 quality during construction. Implementation of MM AQ-1 would reduce impacts from NO_x emissions to
 5 less than significant. PM₁₀ and PM_{2.5} would remain significant and unavoidable. Emissions of CO are
 6 below the LSTs for all phases of construction.

7
 8 Table 4.3-8b presents a summary of the significance determinations for the distribution line construction
 9 using the LST Methodology. Appendix K presents quantitative detailed analysis for each phase of
 10 construction, in comparison with the SCAQMD LSTs.

11
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

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 - 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
Conductor Pulling (underground) - Talega	No	No	No	No

Key:

CO = carbon monoxide

LST = Localized Significance Threshold

NO_x = oxides of nitrogen

PM₁₀ = 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

1
2 As shown in Table 4.3-8b, emissions from the construction of the proposed 12-kV distribution line would
3 not exceed the LSTs and would have a less than significant impact on air quality during construction.

4
5 **SDAPCD**

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

11 Table 4.3-9 Maximum Daily and Annual Emissions in 2015

Construction Phase	Daily Emissions (lbs/day)						Annual Emission (tons/year)					
	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
<i>SDAPCD Significance Thresholds</i>	<i>75</i>	<i>550</i>	<i>250</i>	<i>150</i>	<i>150</i>	<i>55</i>	<i>13.7</i>	<i>100</i>	<i>40</i>	<i>40</i>	<i>15</i>	<i>10</i>
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

PM₁₀ = 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

1
2 As shown in Table 4.3-9, maximum daily construction emissions would not exceed the SDAPCD's
3 screening level thresholds. Impacts associated with the portion of the proposed project that would be
4 constructed in San Diego County would be less than significant under this criterion.

5
6 Operation and maintenance activities associated with the proposed project would be similar to those
7 associated with the existing substations, transmission, and distribution lines operation and maintenance
8 activities. Therefore, operation of the proposed project would not create a new impact on air quality
9 standards in both the SCAQMD and SDAPCD.

10
11 **Impact AQ-3: Result in a cumulatively considerable net increase of any criteria pollutant**
12 **for which the project region is nonattainment.**
13 *SIGNIFICANT*

14
15 Emissions from construction activities generated by the proposed project are anticipated to cause
16 localized temporary increases in ambient air pollutant concentrations for which the project region is
17 nonattainment.

18
19 **SCAQMD**

20 As shown in Table 4.3-3, the SCAQMD is currently in nonattainment for ozone, PM₁₀, and PM_{2.5}. As
21 discussed under Impact AQ-2 and shown in Table 4.3-7, maximum daily construction emissions would
22 exceed the regional significance thresholds for ozone precursors, PM₁₀, and PM_{2.5}. Implementation of
23 APM AQ-1 and APM AQ-2 to control fugitive dust emissions and reduce emissions from vehicles and
24 heavy equipment would reduce emissions, but not to levels below the regional significant thresholds.
25 These emissions would therefore result in a cumulatively significant, but temporary, impact on the
26 ambient air quality during construction activities.

27
28 **SDAPCD**

29 As shown in Table 4.3-3, the SDAPCD is currently in nonattainment for ozone, PM₁₀, and PM_{2.5}. As
30 discussed under Impact AQ-2 and shown in Table 4.3-9, the maximum daily construction emissions
31 would be below the SDAPCD's significance threshold for all pollutants for each phase of construction.
32 Criteria pollutant emissions in the SDAPCD would not be cumulatively considerable, and impacts under
33 this criterion would be less than significant.

34
35 Operation and maintenance activities associated with the proposed project would be similar to those
36 associated with the existing substations, transmission, and distribution lines operation and maintenance
37 activities. Therefore, operation of the proposed project would not create a new impact on cumulatively
38 considerable criteria pollutant emissions in both the SCAQMD and SDAPCD.

39
40 **Impact AQ-4: Exposure of sensitive receptors to substantial pollutant concentrations.**
41 *SIGNIFICANT*

42
43 Sensitive receptors include schools, hospitals, residences, and other sensitive land uses. Land use conflicts
44 can arise when sensitive receptors are located next to major sources of air pollutant emissions. As
45 discussed in Section 4.11, "Noise and Vibration," the sensitive receptors closest to the proposed project
46 components include residences, schools, places of worship, and recreational users. Sensitive receptors
47 located in the proximity of work areas could be exposed to criteria air pollutants and TACs produced by
48 diesel-fueled vehicles and equipment.

As shown in Table 4.3-8a, criteria air pollutant emissions of NO_x, PM₁₀, 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. PM₁₀ 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 PM₁₀ 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

- 1 SCAQMD prior to the start of project construction. The applicant will also track actual daily emissions
- 2 during construction according to a monitoring plan that includes records of equipment and vehicle usage.

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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,” 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) (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 (CNDDDB). CNDDDB 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 CNDDDB, 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 (CDFG 2011);
- CDFW's Endangered and Threatened Animal List (CDFW 2014); 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 (*Poliophtila 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. 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 ^{1,2,4}	April 15,17,18, 2008; April 19–21, 24, 25, 2010 ⁴	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. ⁵
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 ⁵
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 <i>San Juan Capistrano 7.5'</i> quadrangle and Talega Creek in the southern portion of the USGS <i>San Clemente 7.5'</i> quadrangle.	Only potential breeding habitat ⁵
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 <i>San Juan Capistrano 7.5'</i> quadrangle and Talega Creek in the southern portion of the USGS <i>San Clemente 7.5'</i> quadrangle.	Only potential breeding habitat ⁵

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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.

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4.4.1.2 Common and Special Status Natural Communities

The proposed project would 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 Area¹

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	565.90

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.

1

2 **Special Status Vegetation Communities**

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

12

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

18

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

25

26 Riparian vegetation, including SWS, CFM, and Riparian Scrub communities, is found along the drainages
27 that occur in the proposed project area (see Section 4.4.1.3). Approximately 2.3 acres of southern
28 sycamore alder riparian forest, a type of SWS that is a CDFW-designated special status natural
29 community, was documented within the proposed project area (CNDDDB 2013). This occurrence is located
30 east of Talega Substation on the rocket test site associated with MCB Camp Pendleton, and no impacts
31 are expected on this sensitive natural community. Additionally, there is 0.20 acre of CFM within the

1 proposed project area, which is also listed as a special status natural community. Both CFM and SWS
2 areas were determined to also be wetlands.

4 Critical Habitat and Soils

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

15 4.4.1.3 Jurisdictional Waters

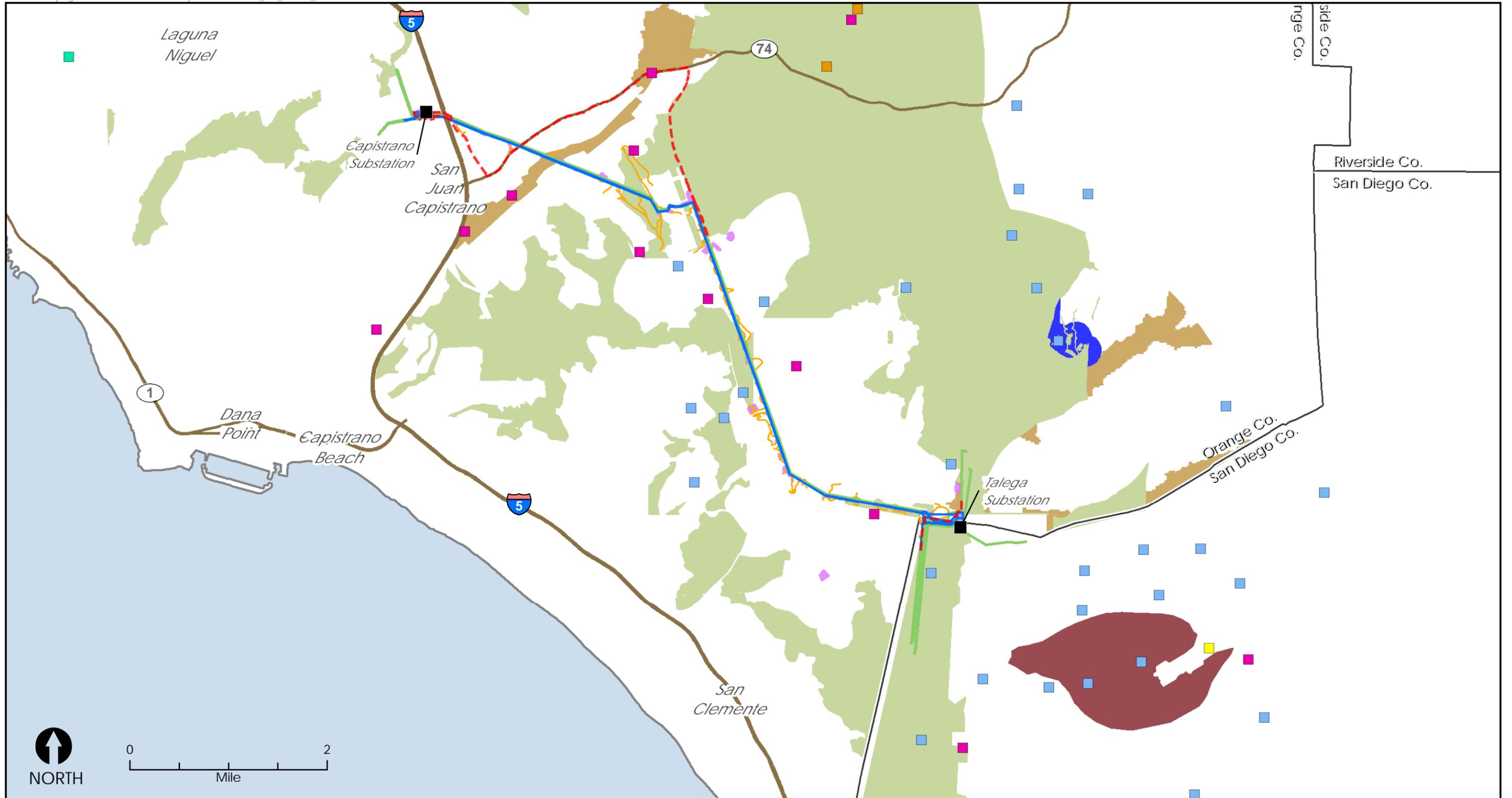
16
17 Wetlands are ecologically productive habitats that support a diversity of plant and animal life. Often,
18 species endemic to wetlands are found in no other habitat type. Wetlands are recognized as important
19 natural systems because of their value to fish and wildlife and their functions as storage areas for flood
20 flows, groundwater recharge, nutrient recycling, and water quality improvement. Wetlands are defined as
21 areas that are periodically or permanently inundated by surface or ground water and support vegetation
22 adapted to saturated soils.

23
24 The proposed project area traverses numerous drainages and wetland areas within the San Clemente
25 Coastal Streams Watershed (part of the larger Aliso Creek-Frontal Gulf of Santa Catalina Water Basin)
26 and the San Juan Creek Watersheds (USGS 2014). Section 4.9, “Hydrology and Water Quality,”
27 describes additional water resources within the proposed project area, and Appendices L-1 “Biological
28 Resources Assessment” and L-2 “Addendum to Biological Resources Assessment”.

29
30 The majority of waterways in the proposed project area are minor ephemeral drainages that contain water
31 for short periods of time during large storm events. Larger waterways, including the San Juan Creek,
32 Cristianitos Creek, and Prima Deshecha Cañada may be identified as seasonal waterways, containing
33 water for longer periods on a seasonal basis but not always perennially throughout their entire reaches.
34 Table 4.4-3 lists potentially jurisdictional waters within the proposed project area. Figure 4.4-2 shows the
35 location of jurisdictional waters in the project area.

37 4.4.1.4 Common Wildlife Species

38
39 A variety of regionally abundant wildlife species are likely to occur throughout proposed project area.
40 During the field surveys, numerous native and non-native common wildlife species were observed within
41 the proposed project area. A complete list of species observed is included in Appendices L-1 and L-2.
42



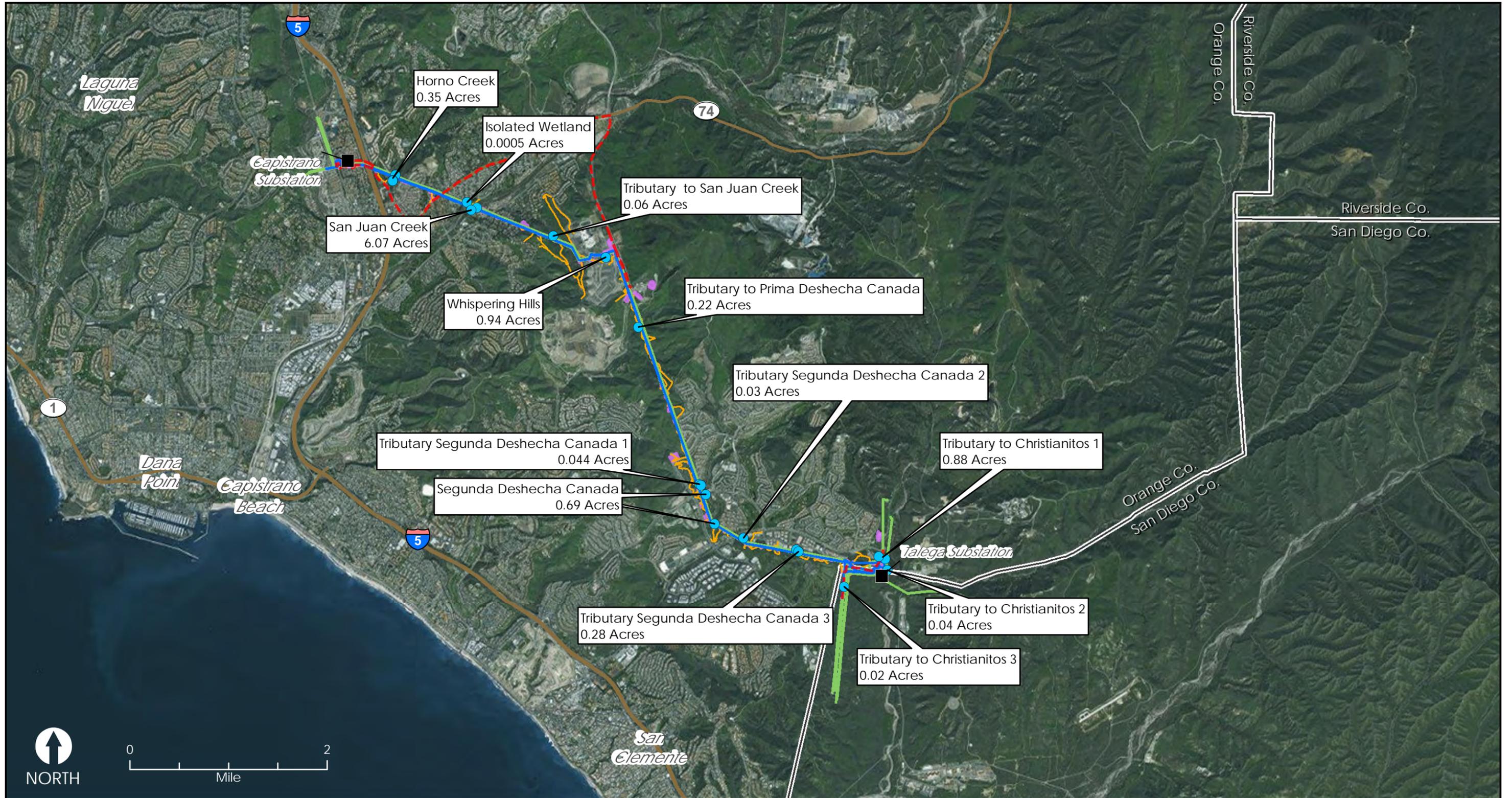
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|----------------------------|----------------------------|--------------------------------|------------------------|--------------------------------|
| Proposed transmission line | Existing transmission line | Access road | Impact areas | Distribution Line |
| USFWS Critical Habitat | Arroyo Southwestern toad | Coastal California gnatcatcher | San Diego fairy shrimp | Thread-leaved brodiaea |
| CNDDDB | Stephens' kangaroo rat | Big-leaved crownbeard | Least Bell's vireo | Southwestern willow flycatcher |
| Roads | Least Bell's vireo | Southwestern willow flycatcher | Thread-leaved brodiaea | County Boundary |

Sources: CNDDDB, 2014; USFWS, 2014

Figure 4.4-1 Critical Habitat in the Proposed Project Area

South Orange County Reliability Enhancement Project

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Sources: CPUC 2014



- Jurisdictional Water Features
- Proposed transmission line
- Existing transmission line
- Access road
- Impact areas
- Roads
- County Boundary
- Distribution Line

Figure 4.4-2 Jurisdictional Features in the Proposed Project Area

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1

Table 4.4-3 Potentially Jurisdictional Waters in the Proposed Project Area¹

Feature	Approximate Linear Feet	USACE Jurisdiction (acres)			CDFW Jurisdiction (acres)		
		Wetlands	Other Waters	Total	Riparian	Bed/Bank/Channel	Total
Horno Creek	1,120	0.22	0.14	0.36	1.83	0	1.83
San Juan Creek	1,015	4.21	1.86	6.07	7.07	0	7.07
Tributary to San Juan Creek	2,300	0	0.06	0.06	0.55	0.06	0.56
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
Tributary to Prima Deshecha Cañada	3,880	0	0.22	0.22	0.59	0.13	0.72
Segunda Deshecha Cañada	1,040	0.68	0	0.68	1.38	0	1.38
Tributary to Segunda Deshecha Cañada 1	155	0.01	0.03	0.04	0.01	0.03	0.04
Tributary to Segunda Deshecha Cañada 2	715	0	0.03	0.03	0	0.03	0.03
Tributary to Segunda Deshecha Cañada 3	515	0.26	0.02	0.28	0.55	0.01	0.56
Tributary to Cristianitos Creek 1	1,290	0.8	0.08	0.88	2.78	0.01	2.79
Tributary to Cristianitos Creek 2	610	0	0.04	0.04	0	0.04	0.04
Tributary to Cristianitos Creek 3	630	0	0.02	0.02	0.26	0.01	0.27
Totals	15,530.00	6.18	3.48	9.66	17.58	0.35	17.88

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).

2

3

4.4.1.5 Special Status Species

4

5

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.

6

7

Special Status Plants with Potential to Occur

8

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

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CNDDDB 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 CNDDDB within 3 miles; or (3) species are not identified in the CNDDDB 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 CNDDDB 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. CNDDDB 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 (CNDDDB 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 CNDDDB record is 1.6 miles from the proposed project (CNDDDB 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 CNDDDB records for this species are between 0.02 miles of the proposed double-circuit 230-kV transmission line and 2.6 miles from the proposed 12-kV distribution line (CNDDDB 2013).

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

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. CNDDDB records indicate that there are documented occurrences within a 3-mile radius of the proposed project (CNDDDB 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

1 habitats between 345 and 2,800 feet elevation. There is suitable habitat in the proposed project area. The
2 nearest CNDDDB records for this species are within 0.5 miles of the proposed double-circuit 230-kV
3 transmission line, and another nine records are within 3 miles (CNDDDB 2013).

4
5 **Many-stemmed dudleya (*Dudleya multicaulis*, CNPS 1B.2, NCCP Covered Species)**

6 This succulent is endemic to California, where it is found in chaparral, CSS, and grasslands. This species
7 prefers clay soils between 50 and 2,600 feet elevation. There is suitable habitat for this species in the
8 proposed project area. The nearest CNDDDB records for this species are within 1.0 mile of the proposed
9 12-kV distribution line, and another nine records are within 3 miles of the proposed project area (CNDDDB
10 2013). In addition, the species occurs at MCB Camp Pendleton (MCB Camp Pendleton 2012).

11
12 **Mud nama (*Nama stenocarpum*, CNPS 2.2)**

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

17
18 **Palmer's grapplinghook (*Harpagonella palmeri*, CNPS 4.2, NCCP Covered Species)**

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

23
24 **Salt spring checkerbloom (*Sidalcea neomexicana*, CNPS 2.2)**

25 This perennial species is usually found in wetlands and playas and alkaline and mesic soils, but it is also
26 occasionally found in CSS, creosote bush scrub, chaparral, and alkali sinks. This species occurs between
27 50 and 5,020 feet elevation. There is suitable habitat in the proposed project area. The nearest CNDDDB
28 record for this species is within 1.2 miles of the proposed project (CNDDDB 2013).

29
30 **Thread-leaved brodiaea (*Brodiaea filifolia*; FT, SE, CNPS 1B.1, NCCP Covered Species)**

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

38
39 **White rabbit-tobacco (*Pseudognaphalium leucocephalum*; CNPS 2.2)**

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

44
45 **Special Status Wildlife Present or with Potential to Occur**

46 Special status wildlife species with the potential to occur in the proposed project area are listed in Table 2
47 of Appendix L-3, along with their habitat suitability and an indication of their known presence or
48 assessment of their potential to occur within the proposed project area. Thirty-seven special status wildlife

1 species with the potential to occur within 3 miles of the proposed project were identified through survey
2 efforts or by examining queries from CNDDDB records searches and reviewing the SDG&E Subregional
3 NCCP/HCP Covered Species. As with special status plant species, each wildlife species with the potential
4 to occur was analyzed and determined to be likely or unlikely to occur in the proposed project area.
5

6 Of the 37 special status wildlife species with the potential to occur in the proposed project area, six are
7 known to be present in the proposed project area, and 19 special status wildlife species are likely to occur
8 in the proposed project area. These 25 special status wildlife species are further discussed below. The 13
9 special status wildlife species unlikely to occur in the proposed project area are further discussed in
10 Appendices L-1, L-2, and L-3.
11

12 **Invertebrates**

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

14 Neither the ESA or CESA lists the monarch butterfly as a special status species, but it is ranked as
15 vulnerable in California by the NatureServe rank system.¹ Monarch butterflies congregate in clusters in
16 trees, primarily eucalyptus, during fall and winter migration. In general, they use the same trees every
17 year. This habitat is considered sensitive during the winter roosting and clustering period. The CNNDDB
18 indicates that the species occurs in both San Clemente and San Juan Capistrano USGS quadrangles, but
19 there are no known roosting trees in the proposed project area.
20

21 **Fish**

22 **Arroyo chub (*Gila orcuttii*; SSC)**

23 The arroyo chub inhabits slow moving coastal streams in southern California with muddy or sandy
24 bottoms. This species has CNDDDB records documenting occurrence in San Juan Creek where the
25 proposed project area crosses the creek, as well as upstream and downstream of the area and in nearby
26 tributaries (CNDDDB 2013). The northern portion of the proposed project area near San Juan Capistrano
27 provides suitable habitat for the species.
28

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

30 Southern steelhead is a sea-run rainbow trout (anadromous) that historically inhabited major coastal
31 streams in southern California. CNDDDB records document occurrence of this species in San Mateo Creek,
32 and it has been documented occurrences within MCB Camp Pendleton as recently as 2003 (MCB Camp
33 Pendleton 2012). In addition, Cristianitos Creek, near the eastern portion of the proposed project area is a
34 tributary of San Mateo Creek and may provide suitable habitat for the species. Furthermore, restoration
35 projects near the proposed project could also support steelhead within the proposed project area
36 (California State Coastal Conservancy 2007).
37

38 **Amphibians and Reptiles**

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

40 Arroyo toad requires shallow gravelly or sandy pools of intermittent streams for breeding that are in
41 proximity to upland grasslands or mixed scrub for foraging and aestivation. Records from the CNDDDB

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).

1 document the species within 0.1 mile of the proposed project area, specifically in San Juan Creek, San
2 Mateo Creek and Canyon, Cristianitos Creek, Talega Canyon, and Gabino Canyon. Suitable upland
3 foraging habitat exists in the proposed project area (CNDDDB 2013).

4
5 Arroyo toad protocol-level surveys were conducted during the summer of 2010 (Appendix L-1; SDG&E
6 2012a). Three areas were surveyed within the SDG&E easement and a 250-foot buffer along San Juan
7 Creek in the southeast corner of the USGS *San Juan Capistrano 7.5'* quadrangle and Talega Creek in the
8 southern portion of the USGS *San Clemente 7.5'* quadrangle. The surveys were conducted according to
9 the USFWS standard protocol as outlined in the USFWS Survey Protocol for the Arroyo Toad (USFWS
10 1999a) and included both daytime and nighttime surveys. The arroyo toad was absent from all survey
11 areas, although potential suitable upland foraging habitat was identified within the proposed project area
12 (refer to Appendix L-1). Areas within 0.9 mile of Cristianitos and Gabino Creeks would be considered
13 suitable upland habitat for the species, but not suitable for breeding.

14
15 **Belding's orange-throated whiptail (*Aspidoscelis hyperythra*; SSC, Covered Species)**

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

20
21 **Coast horned lizard (*Phrynosoma coronatum blainvillei*; SSC, Covered Species)**

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

27
28 **Northern red-diamond rattlesnake (*Crotalus ruber ruber*; SSC, Covered Species)**

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

33
34 **Two-striped garter snake (*Thamnophis hammondi*; SSC, Covered Species)**

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

40
41 **Western pond turtle (*Emys marmorata*; SSC, Covered Species)**

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

1 **Western spadefoot (*Spea hammondi*; SSC, Covered Species)**

2 The western spadefoot occupies various habitats, including CSS, chaparral, and grasslands, but requires
3 perennial pools for breeding and egg-laying. Suitable habitat was identified in the proposed project area,
4 but no occurrences were detected during surveys. The nearest CNDDDB record for this species, dated
5 2001, is within 0.1 mile of the proposed double-circuit 230-kV transmission line, specifically in a pond at
6 the base of an existing transmission line tower. Additional records include those from Horno Creek within
7 2.2 miles of the proposed 12-kV distribution line and an extirpated record from within 2.6 miles of the
8 proposed double-circuit 230-kV transmission line (CNDDDB 2013).

9
10 **Birds**

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

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

18
19 **Coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*; SSC, Covered
20 Species, Narrow and Endemic)**

21 The coastal cactus wren uses CSS habitat that has prickly pear and coastal cholla (*Opuntia littoralis* and
22 *O. oricola*) tall enough to support and protect the bird's nest. These cactus species are necessary for the
23 presence of this species. Habitats with these key components were identified in the proposed project area;
24 however, field surveys did not record the presence of coastal cactus wren (Appendix L-1; SDG&E
25 2012a). The nearest CNDDDB record for this species is within 0.2 mile of the proposed project, and there
26 are five additional records within 3 miles (CNDDDB 2013).

27
28 **Coastal California gnatcatcher (FT, SSC, Covered Species)**

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

39
40 **Cooper's hawk (*Accipiter cooperii*; WL, Covered Species)**

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

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

2 Least Bell's vireo is the subspecies distributed along the western portion of the nominate species range.
3 Research has shown that least Bell's vireo benefits from using both riparian and non-riparian habitats
4 (Kus et al. 2010). A dense shrub layer from 2 to 10 feet above the ground is critical for this species to
5 conceal nests and to provide a variety of plant species for adult foraging (Kus et al. 2010). Breeding
6 territory size ranges from 0.5 to 7.5 acres (Kus 2002). Riparian overstory is usually dominated by
7 cottonwood (*Populus* spp.), sycamore (*Platanus* spp.), and willows (*Salix* spp.) (Kus 2002). Common
8 understory and nesting plant species that provide concealment are, mule fat (*Baccharis salicifolia*), marsh
9 baccharis (*Baccharis glutinosa*), blackberry (*Rubus ursinus*), and mugwort (*Artemisia douglasiana*)
10 (Olson & Gray 1989). Threats to this species include habitat degradation and loss and parasitism by
11 brown-headed cowbirds (*Molothrus ater*). Least Bell's vireo was observed during focused surveys at four
12 drainage locations spanned or paralleled by the proposed project area. Seven adults were heard and/or
13 observed during the surveys, and none of them appeared to be banded (Appendix L-1; SDG&E 2012a).
14 Additionally, there are nine CNDDDB records of this species within 3 miles of the proposed project area
15 (CNDDDB 2013).

16
17 **Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*; WL,
18 Covered Species)**

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

25
26 **Southwestern willow flycatcher (FE, SE, Covered Species)**

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

33
34 There is suitable breeding habitat for southwestern willow flycatcher in the proposed project area. The
35 nearest CNDDDB records for this species are 1.4, 1.8, and 2.4 miles from the proposed project (CNDDDB
36 2013). Focused surveys conducted in 2008 observed willow flycatchers that were presumed to be
37 migratory individuals because they were only recorded once during the migratory period and not again
38 during the breeding season. These observations were in the riparian habitats 0.5 mile west and at 1 mile
39 southwest of Talega Substation (Appendix L-1; SDG&E 2012a). No southwestern willow flycatchers
40 were observed during the 2010 focused surveys for this species (Appendix L-1; SDG&E 2012a).

41
42 **Tricolored blackbird (*Agelaius tricolor*; BCC, SSC, Covered Species)**

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

1
2 **Western Burrowing owl (*Athene cunicularia*; SSC, Covered Species, Narrow and**
3 **Endemic)**

4 Western burrowing owls are resident throughout southern California open grassland, desert, and
5 scrubland habitats with widely spaced vegetation. A ground nesting species, burrowing owls will often
6 use mammal burrows or other previously excavated holes for nesting. For foraging, this species requires
7 open areas with insects and small reptiles or mammals. This type of habitat, and in particular the presence
8 of California ground squirrel burrows, is found at various locations throughout the project area.
9

10 No western burrowing owls were observed in the proposed project area at the time of surveys (Appendix
11 L-1; SDG&E 2012a). Occurrences of western burrowing owl have been recorded within the proposed
12 double-circuit 230-kV transmission line project area near the Prima Deshecha Landfill (CNDDDB 2013).
13 Though no western burrowing owls were observed in the project area, these owls are highly mobile and it
14 is likely that they could move into the area at any time.
15

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

17 White-tailed kites generally occur in low elevation grassland, agricultural, wetland, oak woodland, and
18 riparian areas adjacent to open flat to steep areas and nest in trees. Suitable foraging and nesting habitat
19 was identified in the proposed project area and white-tailed kites were seen during surveys. In addition,
20 there are CNDDDB records for this species within 0.3, 0.6, and 2.0 miles of the proposed double-circuit
21 230-kV transmission line (CNDDDB 2013).
22

23 **Mammals**

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

25 The Dulzura pocket mouse occurs in grasslands, chaparral, and CSS. Suitable habitat was identified in the
26 proposed project area, but no occurrences were recorded during surveys (Appendix L-1; SDG&E 2012a).
27 The nearest CNDDDB record for this species is within 2.7 miles of the proposed double-circuit 230-kV
28 transmission line (CNDDDB 2013).
29

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

31 This species' northernmost range is within the southernmost extent of the proposed project area. It often
32 feeds on nectar obtained from neighborhood hummingbird feeders and roosts in mine tunnels, caves, rock
33 fissures, and buildings near oak and mixed woodlands, which are sporadic throughout the proposed
34 project area. Although no occurrences were identified during field surveys, suitable roosting habitat was
35 identified in the proposed project area. Furthermore, there is a CNDDDB occurrence within 2.7 miles of the
36 proposed project area (CNDDDB 2013).
37

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

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

1
2 **Pallid bat (*Antrozous pallidus*; SSC)**

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

9
10 **Southern mule deer (*Odocoileus hemionus*; Covered Species)**

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

14
15 **4.4.1.6 Wildlife Corridors**

16
17 A wildlife corridor is defined as a linear landscape feature that allows animal movement between two
18 patches of habitat or between habitat and geographically discrete resources such as water. Connections
19 between extensive areas of open space are integral to maintaining regional biological diversity and
20 population viability. Areas that serve as wildlife movement corridors are considered biologically sensitive
21 because they can facilitate the persistence of special status species. In the absence of corridors, habitats
22 become fragmented, isolated islands surrounded by development. Fragmented habitats support much
23 lower numbers of species and increase the likelihood of extinction for select species.

24
25 Important distinctions exist between regional and local corridors. Regional corridors link two or more
26 large areas of natural open space and maintain demographic and genetic exchange between wildlife
27 populations residing within these geographically distinct areas, whereas local corridors give resident
28 animals access to essential resources (water, food, cover, or den sites) within a large habitat patch and
29 may also function as secondary connections to the regional corridor system. Different species have
30 different corridor use potentials. For example, a landscape feature that functions as a corridor for a
31 songbird may not suffice for a mountain lion or a reptile.

32
33 Another useful distinction can be drawn between natural and constructed corridor elements. Natural
34 elements are features of the landscape such as canyons, streams, or riparian strips that are conducive to
35 animal movement. Constructed elements such as roadway bridges and drainage culverts, are often part of
36 a corridor. Wildlife corridors in a partially developed landscape generally include both natural and
37 constructed elements. The SDG&E Subregional NCCP/HCP conserves habitats to the maximum extent
38 practicable and preserves corridors connecting habitat by allowing the use of selected transmission right-
39 of-way (ROW) for wildlife corridors as mitigation for certain impacts. These corridors are designed to
40 maintain connections between the primary preserves and to support supplemental populations between
41 preserves.

42
43 In the proposed project area, riparian corridors provide shade, cover, water, food, and discrete corridors
44 for wildlife movement. Barriers to movement include highways and paved roads (such as Interstate 5 and
45 Highway 74), as well as the numerous residential neighborhoods along the proposed transmission
46 corridor. Areas of mountainous terrain, while providing corridors, may also present barriers to some
47 species unable to navigate the steep elevation. The SDG&E Subregional NCCP/HCP has identified
48 numerous species that may utilize habitat corridors for movement, including mountain lion, southwestern
49 willow flycatcher, least Bell's vireo, Belding's orange-throated whiptail, and many others (SDG&E

1 1995a). The SDG&E Subregional NCCP/HCP promotes the conservation of contiguous habitat for these
2 species, especially habitat containing appropriate refugia, foraging, and breeding habitat.

3 4 **4.4.1.7 SDG&E Subregional NCCP/HCP Preserve Areas**

5
6 Under the SDG&E Subregional NCCP/HCP, certain areas containing habitat for Covered Species are
7 considered preserve areas. Preserve areas include existing reserve or conservation areas established by
8 regional planning documents (e.g., Orange County Southern Subregion HCP); state, federal, and local
9 preserve areas; lands designated as public and private open space, community parks, and preserve land by
10 local general land use plans² and public or private areas set aside for the long-term protection of plants
11 and wildlife (SDG&E 1995a,b). The proposed project would traverse through preserve areas identified
12 within the Orange County Southern Subregion HCP.

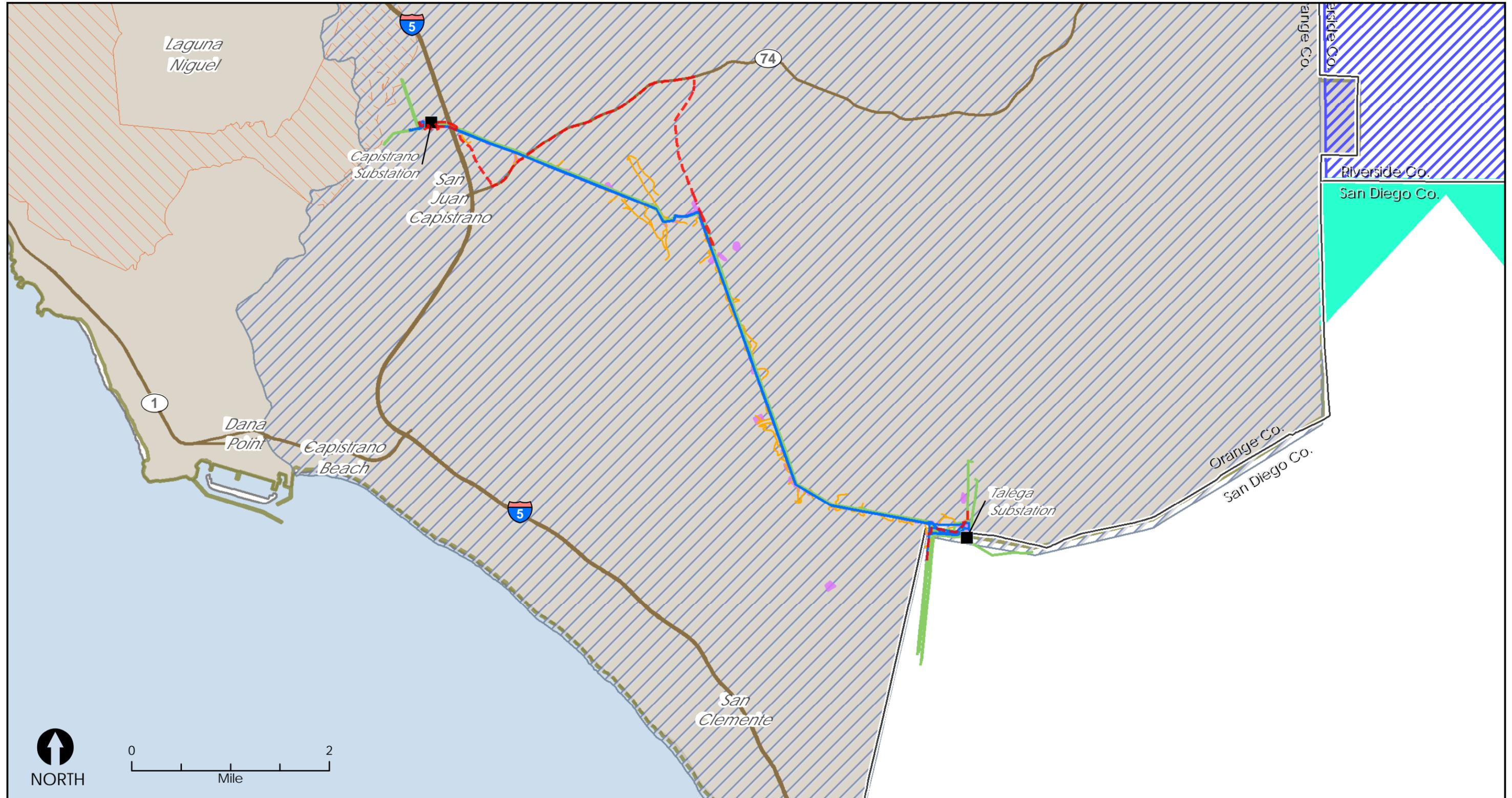
13
14 The Orange County Southern Subregion HCP designates open space or preserve areas within the counties
15 of Orange and San Diego, including areas within the city of San Clemente, the city of San Juan
16 Capistrano, and the family-held Rancho Mission Viejo (RMV) (Figure 4.4-3, “HCPs and NCCPs within
17 the Proposed Project Area”).

18
19 The City of San Clemente has two open space land use designations: one for publicly owned existing and
20 dedicated parklands, passive open space areas, recreational facilities, and golf courses (OS 1) and one for
21 privately owned parklands, recreational facilities, passive open space areas, and golf courses (OS 2) (San
22 Clemente 2014). Some of the dedicated open space areas traversed by the proposed project may be
23 considered preserve areas under the SDG&E Subregional NCCP/HCP.

24
25 Similarly, the City of San Juan Capistrano has multiple open space land use designations, including:

- 26
27 • General Open Space – this designation is general in nature and provides for the possible
28 combined development of several of the uses or the individual development of one of the uses
29 specifically identified by the other open space and recreation designations;
 - 30 • Open Space Recreation – this designation provides for outdoor recreational facilities, including
31 golf courses, swimming schools, tennis clubs, equestrian clubs, and caretaker facilities; and
 - 32 • Natural Open Space – this designation provides for natural open space land that separates
33 developed areas from one another, preserves natural features like creeks, ridgelines or hillsides, or
34 includes natural hazards like landslides. This designation includes approximately 449 acres
35 located in the southern portion of the City of San Juan Capistrano (San Juan Capistrano 1999).
36 Some of the dedicated open space areas traversed by the proposed project may be considered
37 preserve areas under the SDG&E Subregional NCCP/HCP.
- 38

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.”



Sources: USFWS 2014d



- | | | | |
|----------------------------|-------------------|--|--|
| Proposed transmission line | Distribution Line | Orange County Southern Subregion HCP | San Diego North County Multiple Species Conservation Plan NCCP/HCP |
| Existing transmission line | Roads | Central Coastal Orange NCCP/HCP | Orange County Transportation Authority NCCP/HCP |
| Access road | County Boundary | Western Riverside County Multiple Species Habitat Conservation Plan NCCP/HCP | |
| Impact areas | | | |

Figure 4.4-3 Natural Community Conservation Planning Areas in the Proposed Project Area

South Orange County Reliability Enhancement Project

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

10
11 Some of the proposed project would also traverses through RMV land in Orange County, some of which
12 is indicated to be reserve area. The Reserve at RMV is a growing reserve system of RMV land reserved
13 for purposes such as education, stewardship, and research. The Reserve is managed by the Rancho
14 Mission Viejo Land Trust. These areas would be considered preserve areas under the SDG&E
15 Subregional NCCP/HCP (SDG&E 1995a,b).

16
17 Portions of the proposed project near Talega Substation are located on lands designated as Open Space or
18 Preserve but fall within the San Onofre State Beach, which is under the jurisdiction of the California
19 Department of Parks and Recreation (California Department of Parks and Recreation 2014). These areas
20 would also be considered preserve areas under the SDG&E Subregional NCCP/HCP (SDG&E 1995a,b).

21 22 **4.4.2 Regulatory Setting**

23 24 **4.4.2.1 Federal**

25 26 **Federal Endangered Species Act**

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

34
35 Provisions under the ESA allow for authorized “incidental” take of listed species under certain terms and
36 conditions while conducting otherwise lawful activities. An applicant can procure an Incidental Take
37 Permit by two processes, both of which require consultation with the USFWS, which administers the ESA
38 for all terrestrial species and habitat, or the National Marine Fisheries Service, which administers the ESA
39 for marine species and habitat. The first pathway (ESA Section 10(a)) is established for situations in
40 which a non-federal government entity (where no federal nexus exists) must resolve potential adverse
41 impacts on species protected under the ESA. The second pathway (ESA Section 7) involves projects with
42 federal connections or requirements; typically, these are projects sponsored or permitted by a federal lead
43 agency.

44
45 The USFWS or National Marine Fisheries Service ultimately issues a final Biological Opinion on
46 whether the project would affect federally listed species. The Biological Opinion includes an Incidental
47 Take statement of anticipated incidental take accompanied by the appropriate and reasonable mitigation
48 measures to minimize such take. Biological Opinions for Section 10 permits require appropriate National
49 Environmental Policy Act documentation and an HCP for the listed species affected by the action. The
50 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

1 the Waters of the United States and adjacent wetlands. “Waters of the United States” are defined broadly
2 as waters susceptible to use in commerce, including interstate waters and wetlands; all other waters
3 (intrastate waterbodies, including wetlands); and their tributaries (33 CFR 328.3). Wetland delineation is
4 fundamental to USACE and United States Environmental Protection Agency regulatory responsibilities
5 under Section 404 of the CWA. Wetland delineations follow standardized procedures to determine
6 whether a wetland is present on a site and, if so, establish wetland boundaries in the field. In combination
7 with current regulations and policies, delineations are used to define areas of federal responsibility under
8 the CWA within which jurisdictional agencies (e.g., USACE) attempt to minimize project impacts on the
9 physical, chemical, and biological integrity of the waters. In determining jurisdiction under the CWA, the
10 USACE is governed by federal regulations that define wetlands (33 CFR 320–330). The USACE
11 Wetlands Delineation Manual is the accepted standard for delineating wetlands pursuant to the Section
12 404 regulatory program. A Regional Supplement to the USACE Wetlands Delineation Manual for the
13 Arid West Region was released by the USACE in September 2008 (Version 2.0) and is the current
14 accepted standard for the region.

15
16 The USACE evaluates permit applications for all construction activities that may impact Waters of the
17 United States, including navigable waters. The USACE either performs or receives jurisdictional
18 delineations for proposed developments and then provides a jurisdictional determination. The
19 jurisdictional review performed by the USACE may require modifications of development plans to avoid
20 or reduce impacts on Waters of the United States.

21
22 Potential wetland areas, according to the three criteria used to delineate wetlands stated in the *Corps of*
23 *Engineers Wetlands Delineation Manual* (USACE 1987), are identified by the presence of (1)
24 hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated for
25 sufficient duration and depth to exclude growth of hydrophytic vegetation are subject to Section 404
26 jurisdiction as “other waters” and are often characterized by an ordinary high water mark. Other waters,
27 generally include lakes, rivers, and streams. The placement of fill material into Waters of the United
28 States (including wetlands) generally requires an individual or nationwide permit from the USACE under
29 Section 404 of the CWA.

30 31 **Section 401**

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

42
43 Waters of the State have high resource value, are vulnerable to filling, and are not systematically
44 protected by other programs. The RWQCB’s jurisdiction includes “isolated” wetlands and waters that
45 may not be regulated by the Corps under Section 404. The RWQCB regulates Waters of the State under
46 the State Water Quality Certification Program, which monitors discharges of fill, and dredged material
47 under Section 401 of the CWA and the California Water Code. Projects that require a USACE permit, or
48 fall under other federal jurisdiction, and have the potential to impact Waters of the State, are required to
49 comply with the terms of the Water Quality Certification determination. If a proposed project does not
50 require a federal permit, but does involve dredge or fill activities that may result in a discharge to Waters
51 of the State, the RWQCB has the option to regulate the dredge and fill activities under its state authority

1 in the form of Waste Discharge Requirements. The proposed project would be located within the
2 jurisdiction of the San Diego RWQCB, which would be responsible for ensuring compliance with Section
3 401.

4 5 **Section 402**

6 As authorized by Section 402 of the CWA, the California SWRCB administers the statewide National
7 Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Storm Water
8 Associated with Construction Activity (General Construction Activity NPDES Storm Water Permit,
9 2009-0009-DWQ and 2010-0014-DWQ) that covers a variety of construction activities that could result
10 in wastewater discharges. Under this General Permit, the state issues a construction permit for projects
11 that disturb more than one acre of land. To obtain the permit, applicants must notify the SWRCB of the
12 construction activity by providing a Notice of Intent, develop a storm water pollution prevention plan
13 (SWPPP), and implement water quality monitoring activities as required.

14 15 **Marine Corps Base Camp Pendleton Integrated Natural Resources Management Plan**

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

30 31 **4.4.2.2 State**

32 33 **California Endangered Species Act**

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

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

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

11 **California Fish and Game Code, Wildlife Protection**

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

21
22 Sections 3511, 4700, 5050 and 5515 prohibit the taking and possession of birds, mammals, fish, and
23 reptiles listed as “fully protected.” Section 3513 provides for the adoption of the MBTA provisions. As
24 with the MBTA, this state code offers no statutory or regulatory mechanism for obtaining an incidental
25 take permit for the loss of non-game migratory birds. The CDFW administers sections 3511, 3513 4700,
26 5050, and 5515.

27
28 **California Native Plant Protection Act of 1977**

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

33
34 **California Code of Regulations**

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

39
40 **CEQA Guidelines Section 15380**

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

- 44
45 (1) "Endangered" when its survival and reproduction in the wild are in immediate jeopardy from one
46 or more causes, including loss of habitat, change in habitat, overexploitation, predation,
47 competition, disease, or other factors; or

1 (2) "Rare" when either:

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

5 (B) The species is likely to become endangered within the foreseeable future throughout all or a
6 significant portion of its range and may be considered "threatened" as that term is used in the
7 Federal Endangered Species Act.
8

9 **4.4.2.3 Regional and Local**

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

11
12 In December 1995, the USFWS and CDFW approved the SDG&E Subregional NCCP/HCP, developed in
13 coordination with the resource agencies noted above. These plans address potential impacts on species
14 and habitat associated with SDG&E's ongoing installation, use, maintenance, and repair of its gas and
15 electric systems, and typical expansion to those systems throughout much of SDG&E's existing service
16 territory. Concurrent with the approval date, SDG&E, the USFWS, and the CDFW entered into a long-
17 term Implementing Agreement that describes the legal rights and obligations regarding each of these
18 parties with respect to the implementation and maintenance of the NCCP/HCP. The Implementing
19 Agreement authorizes SDG&E to conduct its activities within the plan area, provided they are performed
20 in conformance with the plan. SDG&E's Subregional NCCP/HCP does not exempt projects subject to
21 permits from the California Public Utilities Commission (CPUC); therefore, the proposed project would
22 still be subject to the requirements of CEQA.
23

24 SDG&E's activities may impact certain sensitive plant and animal species or their habitat, which may
25 include species listed as threatened or endangered under the ESA or the CESA. As a part of the SDG&E
26 Subregional NCCP/HCP, SDG&E has been issued incidental take authorizations for 110 Covered Species
27 and their habitat by the USFWS under ESA Section 10(a) and CDFW under Fish and Game Code
28 Sections 2081 and/or 2835. Some of these species are restricted in their distribution, may have narrow
29 ecological requirements, and generally have low population numbers (refer to Section 4.4.2.3). As such,
30 take of these Covered Species is to be avoided; 20 of the SDG&E Subregional NCCP/HCP Covered
31 Species are provided only limited Incidental Take under the existing SDG&E Subregional NCCP/HCP
32 (SDG&E 1995a). The SDG&E Subregional NCCP/HCP limits take authorizations for these species to
33 emergencies and unavoidable impacts from repairs to existing facilities. Specifically, take of the "species
34 to be avoided" may not occur for non-emergency repair work without first conferring with the USFWS
35 and CDFW. For new projects, kill or injury of such animal species or destruction of such plants or their
36 supporting habitat would not be covered by the SDG&E Subregional NCCP/HCP and Implementing
37 Agreement.
38

39 The SDG&E Subregional NCCP/HCP was developed using a multiple species and habitat conservation
40 planning approach. SDG&E's goal is to avoid, minimize, and/or mitigate any take of Covered Species
41 and their habitat to the maximum extent possible. SDG&E would implement the following measures
42 during construction, operations, and maintenance activities as part of the SDG&E Subregional
43 NCCP/HCP:
44

- 45 • Avoidance whenever possible, accomplished by the implementation of developed operational
46 protocols;
- 47 • Allowing use of SDG&E fee-owned ROW for wildlife corridors to connect regional conservation
48 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).

1 **County of Orange General Plan**

2 The Resources Element of the County of Orange General Plan includes the following goal, objective, and
3 policy for biological resources that are applicable to the proposed project:
4

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

11
12 **San Diego County General Plan**

13 The Conservation and Open Space Element of the San Diego County General Plan includes the following
14 goals and policies for biological resources that are applicable to the proposed project:
15

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

1 **City of San Clemente General Plan**

2 The Natural Resources Element of the City of San Clemente General Plan includes the following policies
3 relating to biological resources that are applicable to the proposed project:
4

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

37
38 **City of San Clemente Tree Ordinance**

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

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

3 4 **City of San Juan Capistrano General Plan**

5 The Conservation and Open Space Element of the City of San Juan Capistrano General Plan includes the
6 following goal and policies for natural resources that is applicable to the proposed project:
7

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

17 18 **City of San Juan Capistrano Tree Ordinance**

19 The City of San Juan Capistrano's Municipal Code (Section 9-2.349) establishes regulations for removal
20 of trees within its boundaries. The ordinance requires a discretionary permit for the removal of trees over
21 6 inches in diameter measured 3 feet above grade. Permits are required for new development projects,
22 utility easements, common landscape areas, nonresidential projects, City of San Juan Capistrano facilities
23 and ROW, individual residential lots, and heritage trees.

24 25 **4.4.3 Impact Analysis**

26 27 **4.4.3.1 Methodology and Significance Criteria**

28
29 The impact analysis for biological resources that may be affected by the proposed project was conducted
30 by (1) gathering and analyzing information from numerous sources (see description of sources below) in
31 addition to the data provided by the applicant (Section 4.4.1.1); and (2) evaluating temporal and spatial
32 effects to habitats and organisms that may be present within the project area and within a regional
33 geographic context. The CPUC assessed survey data provided by the applicant for accuracy and
34 appropriate implementation of resource agency protocols. Calculations for temporary and permanent
35 disturbance to vegetation habitat were based on the applicant's projections of land disturbance resulting
36 from construction of project components. Potential impacts and appropriate general minimization and
37 mitigation measures were developed using guidelines or input from resource agencies, specifically, the
38 USFWS, CDFW, and USACE. Biologists with specific local and regional knowledge were consulted to
39 determine potential impacts. Species occurrence maps in the area were reviewed to determine resource
40 location, distribution, and seasonality. Other relevant environmental documents for projects occurring in
41 the proposed project area were reviewed to ensure consistency with impact analyses and proposed
42 mitigation, including the La Pata Avenue Gap Closure and Camino Del Rio Extension Project
43 Environmental Impact Report (LSA 2010).

44
45 The impact analysis identifies and describes the proposed project's potential impacts on biological
46 resources within the proposed project area. In addition to the proposed project components, this analysis
47 considers impacts caused by staging areas and access roads, and impacts on habitat adjacent to project
48 components. The analyses focus on foreseeable changes to the baseline conditions in the context of the

1 significance criteria presented below. Impacts on biological resources resulting from the construction and
2 operation of the proposed project can be characterized as direct or indirect, and temporary or permanent,
3 which are defined as follows:
4

- 5 • *Direct effects*, or primary effects, are those effects that are caused by the project and occur at the
6 same time and place (CEQA Guideline §15358). Examples include incidental take during
7 construction, or elimination or degradation of suitable habitat due to construction-related
8 activities.
- 9 • *Indirect effect*, or secondary effects, are those effects which are caused by the project and are later
10 in time or farther removed in distance, but are still reasonably foreseeable (CEQA Guideline
11 §15358). Examples include the erosion, sedimentation, and increased risk of fire that adversely
12 affect vegetation communities or sensitive habitat within the project area.
- 13 • *Permanent impacts* are irreversible such as habitat loss due to clearing and development.
- 14 • *Temporary impacts* are short in duration and/or reversible with the implementation of mitigation
15 measures such as habitat loss mitigation by habitat restoration.
16

17 Potential impacts on biological resources were evaluated according to the following significance criteria.
18 The criteria were defined based on the checklist items presented in Appendix G of the CEQA Guidelines.
19 The proposed project would cause a significant impact on biological resources if it would:
20

- 21 a) Have a substantial adverse effect, either directly or through habitat modifications, on any species
22 identified as a candidate, sensitive, or special status species in local or regional plans, policies, or
23 regulations, or by the CDFW or USFWS;
- 24 b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community
25 identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- 26 c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the
27 CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal,
28 filling, hydrological interruption, or other means;
- 29 d) Interfere substantially with the movement of any native resident or migratory fish or wildlife
30 species or with established native resident or migratory wildlife corridors, or impede the use of
31 native wildlife nursery sites;
- 32 e) Conflict with any local policies or ordinances protecting biological resources, such as a tree
33 preservation policy or ordinance; or
- 34 f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community
35 Conservation Plan, or other approved local, regional, or state habitat conservation plan.
36

37 **4.4.3.2 Applicant Proposed Measures**

38
39 The applicant has not committed to any Applicant Proposed Measures beyond those provided in the
40 SDG&E Subregional NCCP/HCP (see Section 2.6.1.1 “SDG&E Natural Community Conservation
41 Plan”).
42

1 **4.4.3.3 Environmental Impacts**

2
3 **Impact BR-1: Have a substantial adverse effect, either directly or through habitat**
4 **modifications, on any species identified as a candidate, sensitive, or special**
5 **status species in local or regional plans, policies, or regulations, or by the**
6 **CDFW or USFWS.**

7 *LESS THAN SIGNIFICANT WITH MITIGATION*
8

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

19
20 Overall, construction and operation of the proposed project could potentially impact the 11 special status
21 plant species likely to occur within the proposed project area and the 25 special status wildlife species
22 known to be present or likely to occur within the proposed project area (Section 4.4.1.5). With the
23 exception of steelhead, arroyo chub, monarch butterfly, pallid bat, and white-tailed kite, the wildlife
24 species described below are Covered Species in the SDG&E Subregional NCCP/HCP. The NCCP
25 outlines avoidance, mitigation, and compensation measures for Covered Species. The applicant would be
26 responsible for adhering to these requirements.

27
28 Construction and operation of the proposed project could also result in adverse impacts on migratory bird
29 species and special status vegetation communities.

30
31 **Special Status Plants**

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

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

44 Impacts of project construction, operation, and maintenance on special status plants would be reduced by
45 implementing the avoidance and minimization measures included in the SDG&E Subregional
46 NCCP/HCP (SDG&E 2012a). Compliance with the SDG&E Subregional NCCP/HCP would reduce
47 impacts on Covered Species to a less-than-significant level.
48

1 **Critical Habitat**

2 Portions of the existing Talega Substation site, proposed double-circuit 230-kV transmission line, and
 3 proposed 12-kV distribution line occur within USFWS-designated critical habitat for arroyo toad and
 4 coastal California gnatcatcher. Portions of all three project components cross critical habitat for coastal
 5 California gnatcatcher. This species was confirmed to be present adjacent to Transmission Line Segment
 6 3 and Segment 4 in 2008 (Table 4.4-4). Critical habitat for arroyo toad occurs adjacent to Transmission
 7 Line Segment 1b and Segment 4 and associated 12-kV distribution line Segment M near Talega
 8 Substation.
 9

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					Access Roads	12-kV Distribution Line ¹
			1a	1b	2	3	4		
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.

1
2 In its December 2007 Final Rule, the USFWS determined that a recovery plan for the coastal California
3 gnatcatcher is not beneficial to the species and that the NCCP program in southern California (including
4 the SDG&E Subregional NCCP/HCP) is superior to the development of a recovery plan in terms of
5 promoting conservation actions that would further recovery of the species (USFWS 2007b). The proposed
6 project's anticipated impacts on the USFWS designated critical habitat for these species are presented in
7 Table 4.4-5. The acreages presented in the table were calculated by overlaying the disturbance areas
8 provided by the applicant with the critical habitat boundaries of these species provided by USFWS.
9

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	---	---	0.15	0.01	0.25
Temporary	---	---	---	0.16	---	---	0.85	---	1.01
Coastal California Gnatcatcher Critical Habitat									
Permanent	---	---	---	0.13	---	0.74	1.22	0.19	2.28
Temporary	0.40	---	---	0.27	0.25	1.50	1.52	---	3.94

Source: USFWS 2014a,b and Appendices L-1 and L-2; SDG&E 2012a,b

Key:

kV = kilovolt

--- = Critical Habitat not present.

10

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

6
7 Temporary impacts on critical habitat are anticipated to result from project construction and restoration.
8 Construction activities would temporarily disturb or remove vegetation and produce elevated levels of
9 noise, dust, and light within and adjacent to the proposed project area. Potential disruption of animal
10 migration, breeding, and foraging through increased noise, light and glare, human or domestic animal
11 intrusion, and by degrading adjacent habitat through fragmentation, and the introduction or spread of
12 noxious or invasive wildlife and plant species could significantly affect special status wildlife. Elevated
13 levels of dust could also impact critical habitat by limiting a plant's ability to complete photosynthesis.
14 These impacts are associated with construction staging areas, wire stringing sites, the removal of existing
15 towers, and the use and improvement of existing access roads.

16
17 The areas of critical habitat that may be impacted by the proposed project exist within the boundaries of
18 the SDG&E Subregional NCCP/HCP. The SDG&E Subregional NCCP/HCP requires the applicant to
19 implement conservation measures (described in Section 7 of the SDG&E Subregional NCCP/HCP) that
20 would reduce impacts on critical habitat from construction and restoration activities, including employee
21 training programs, pre-activity surveys, and flagging of boundaries of habitats that must be avoided. The
22 proposed project has been designed to avoid habitat areas that may support special status wildlife species
23 to the greatest extent possible. Where avoidance of critical habitat is not possible (refer to Table 4.4-5),
24 implementation of these conservation measures would reduce impacts on critical habitat resulting from
25 project construction, restoration, operation, and maintenance to less than significant levels. Additionally,
26 the SDG&E Subregional NCCP/HCP requires land mitigation for permanent and temporary impacts on
27 critical habitat. Thus, impacts on critical habitat would be compensated for through site remediation
28 and/or deduction of mitigation credits, as described in Section 7 of the NCCP.

29 30 **Special Status Fish**

31 ***Arroyo chub***

32 The arroyo chub may occur where the proposed project would cross San Juan Creek, as well as upstream
33 and downstream of the area and in nearby tributaries. The proposed project components would span the
34 creek; however, direct and indirect impacts on the arroyo chub may still occur. Ground disturbing
35 activities in and around the San Juan Creek could impact the arroyo chub habitat. As described in Section
36 4.9, "Hydrology and Water Quality," to minimize potential impacts on water quality resulting from
37 sedimentation or accidental spills, the applicant would comply with applicable state storm water
38 regulations and city and county grading ordinances. Because the proposed project would result in more
39 than 1 acre of ground disturbance, the applicant would be required to apply for coverage under the
40 NPDES Construction General Permit to address storm water discharges. The Construction General Permit
41 requires development and implementation of a SWPPP, which specifies best management practices
42 (BMPs) to reduce or eliminate pollutants in storm water discharges from the site during construction that
43 would otherwise violate water quality standards. In addition to compliance with the NPDES Construction
44 General Permit, the applicant would implement applicable BMPs from its Best Management Practices
45 Manual for Water Quality Construction (BMP Manual), which includes BMPs for sediment controls,
46 waste management and material controls, non-storm-water discharge controls, and erosion control and
47 soil stabilization (SDG&E 2011). The applicant would also be required to prepare and implement a Spill
48 Prevention, Control, and Countermeasure plan to prevent oil spills from impacting water quality. The
49 operation of construction equipment and lighting could still impact arroyo chub. Arroyo chub is not a
50 Covered Species under the SDG&E Subregional NCCP/HCP. Therefore, direct and indirect impacts on

1 the species could be potentially significant. As discussed in Section 4.4.4, Mitigation Measure (MM) BR-
2 1 limits construction to designated areas and require spanning of riparian, aquatic, and wetland areas to
3 the greatest extent feasible. MM BR-2 requires biological monitors to be present during construction
4 activities in areas where sensitive resources have been identified and to halt construction in the event that
5 construction or restoration activities have the potential to impact an arroyo chub.

6
7 Implementation of MM BR-1 and MM BR-2 would reduce potentially significant impacts on the arroyo
8 chub to a less-than-significant level by avoiding this species' suitable habitat and employing monitors to
9 prevent any foreseeable impact on the arroyo chub.

10 11 ***Southern steelhead***

12 CNDDB records document this species' occurrence in San Mateo Creek, and it has been documented
13 within MCB Camp Pendleton as recently as 2003 (MCB Camp Pendleton 2012). Cristianitos Creek, near
14 the eastern portion of the proposed project area, is a tributary of San Mateo Creek and may provide
15 suitable habitat for the species. The proposed project components would span the creek; however, direct
16 and indirect impacts on the southern steelhead may still occur. To address this, the applicant will
17 implement a SWPPP and Spill Prevention, Control, and Countermeasure plan as described above under
18 the arroyo chub heading. In addition, the applicant will implement MMBR-1 and MM BR-2. MM BR-1
19 limits construction to designated areas and require spanning of riparian, aquatic, and wetland areas, to the
20 extent feasible. MM BR-2 requires biological monitors to be present during construction activities in
21 areas where sensitive resources have been identified and to halt construction in the event that construction
22 or restoration activities have the potential to impact an arroyo chub. Implementation of MM BR-1 and
23 MM BR-2 would reduce potentially significant impacts on the arroyo chub to a less-than-significant level
24 by avoiding suitable habitat for this species and employing monitors to prevent any foreseeable impact on
25 the southern steelhead.

26 27 **Special Status Amphibians and Reptiles**

28 ***Arroyo toad***

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

36 37 ***Belding's orange-throated whiptail***

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

44 45 ***Coast horned lizard***

46 The coast horned lizard occurs in relatively open landscapes such as CSS, annual grasslands, chaparral,
47 oak woodlands, and riparian woodlands in the proposed project area. Suitable habitat for the coast horned
48 lizard was identified in or adjacent to the Talega Substation, Transmission Line Segment 1b, Segment 2,
49 Segment 3, and Segment 4, as well as access roads and proposed 12-kV distribution line areas throughout

1 the proposed project area. Surveys did not detect any coast horned lizards. Because the coast horned
2 lizard is a Covered Species and the applicant would adhere to the requirements of the SDG&E
3 Subregional NCCP/HCP, potential impacts on this species would be less than significant.

4 5 ***Northern red-diamond rattlesnake***

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

14 15 ***Two-striped garter snake***

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

27 28 ***Western pond turtle***

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

37 38 ***Western spadefoot***

39 The western spadefoot occupies various habitats, including CSS, chaparral, and grasslands, but requires
40 perennial pools for breeding and egg-laying. Suitable habitat for the spadefoot was identified in or
41 adjacent to the Talega Substation, Transmission Line Segment 1b, Segment 2, Segment 3, and Segment 4,
42 as well as access roads and proposed 12-kV distribution line areas throughout the proposed project area.
43 Surveys did not detect any western spadefoot. Because the western spadefoot is a Covered Species and
44 the applicant would adhere to the requirements of the SDG&E Subregional NCCP/HCP, potential impacts
45 on this species would be less than significant.

46 47 **Special Status Birds**

48 Some of the waterways and vegetation communities within the proposed project area contain suitable
49 habitat for one or more special status birds known to occur or with potential to occur in the proposed

1 project area and for migratory birds protected by the MBTA. Several individual and pairs of coastal
2 California gnatcatcher (FT), least Bell's vireo (FE/SE), southwestern willow flycatcher (FE/SE), and
3 American peregrine falcon (BCC/FP) were documented within the survey area (Appendix L-1; SDG&E
4 2012a). Cooper's hawk was also identified within the survey area. In addition, during habitat assessment
5 and focused surveys conducted for the proposed project, several stick nests, including two active red-
6 tailed hawk nests, were identified on various tower structures within the proposed project area. Locations
7 of these nests can also be found in Appendix L-1. Suitable breeding and/or foraging habitat for these birds
8 exist in the proposed project area, and portions of the proposed project area are considered critical habitat
9 by the USFWS for the coastal California gnatcatcher.

10
11 Construction, restoration, and operation of the proposed project components could result in direct
12 mortality of adult birds, chicks, or eggs, and temporary and permanent habitat loss. Tree trimming,
13 vegetation removal, and other ground-disturbing activities could result in direct take of birds through
14 mortality or injury to individuals or the loss of active nests, or could result in indirect impacts by
15 removing nesting or foraging habitat or by degrading adjacent habitat through fragmentation and the
16 introduction or spread of noxious or invasive wildlife and plant species. Noise and visual disturbances
17 during construction could result in direct impacts on birds through nesting habitat avoidance or nest
18 abandonment. Additional direct impacts could result from collision with new transmission structures and
19 electrocution. Many standard designs of electrical industry hardware place conductors and groundwires
20 sufficiently close that larger birds can touch them simultaneously with their wings or other body parts,
21 causing electrocution. Birds are opportunistically attracted to transmission lines because they provide
22 perch sites for hunting, resting, feeding, or territorial defense, or serve as nesting structures. Birds may
23 collide with transmission lines or poles, which can be difficult for birds to detect when flying at night,
24 during inclement weather conditions, or for other reasons. Strategies to avoid conflicts between birds and
25 new transmission lines are described by the Edison Electric Institute's Avian Power Line Interaction
26 Committee (APLIC 2012).

27
28 Construction disturbance that results in loss of individual birds, or during the general bird breeding season
29 for the region that results in loss of eggs or nestlings, or otherwise leads to nest abandonment, would be
30 considered a "take" by the USFWS under the MBTA or ESA or by the CDFW under the California Fish
31 and Game Code or CESA. In approving the applicant's NCCP, the USFWS and CDFW granted the
32 applicant authorization to take a Covered Species or a species' habitat when incidental to otherwise
33 lawful activities and determined that the mitigation measures and operational protocols avoid potential
34 impacts and provide appropriate mitigation where such impacts are unavoidable to Covered Species
35 (SDG&E 2012a). All of the special status birds with potential to occur in the proposed project area, with
36 the exception of the white-tailed kite, are Covered Species under the SDG&E Subregional NCCP/HCP.
37 The applicant would adhere to the requirements of the SDG&E Subregional NCCP/HCP, and potential
38 impacts on Covered Species, with the exception of coastal cactus wren and western burrowing owl would
39 be less than significant. The SDG&E Subregional NCCP/HCP has restricted the take of coastal cactus
40 wren and western burrowing owl to emergencies because they are considered narrow endemic species
41 (see Section 4.4.2.3). Based on the project-specific habitat assessment, areas within the proposed project
42 area are likely to support cactus wren and western burrowing owl. In addition to the requirements of the
43 NCCP/HCP, the applicant will implement MM BR-7 (Coastal Cactus Wren Avoidance) and MM BR-8
44 (Western Burrowing Impacts Reduction Measures), which include compensatory requirements and
45 avoidance of habitat. Implementation of MM BR-7 and MM BR-8 would reduce impacts on coastal
46 cactus wren and western burrowing owl to less than significant.

47
48 Construction of the proposed project could cause adverse impacts on avian species, including nesting
49 raptors and birds protected by the MBTA. Impacts on these bird species would typically result from
50 activities that would cause nest abandonment or destruction of chicks or eggs in active nests or death of
51 adults due to collision, or activities that would reduce potential forage and nesting habitat. For most

1 species, impacts from the proposed project would be confined to project areas and areas immediately
2 adjacent to the project. For other species such as raptors, project-related impacts could extend up to a mile
3 or more beyond project boundaries, depending on the nature of the site (e.g., urban or rural) and
4 topography.

5
6 Active bird nests in shrubs or near the ground would be susceptible to being crushed during clearing and
7 grading operations, and during any activities where vegetation would be crushed. Noise and visual
8 disturbance caused by construction and project-related traffic, including construction at work sites and
9 traffic along project access roads, could cause nest abandonment or habitat avoidance by birds nesting on
10 or off site in adjacent areas. Nest abandonment would result in death to chicks and hatching failure of
11 eggs. Alternatively, construction might cause birds to avoid suitable habitat and opt to nest or forage in
12 less suitable habitat. Many birds, but particularly small passerines when foraging or feeding young,
13 perform short flights, both in distance and time, for which take-offs, landings, ascents, descents and
14 maneuvering require energy. Short, repetitive flights caused by intermittent disturbances (i.e.,
15 construction-related activities) require more energy for take-off (and climbing) and acceleration (Nudds
16 and Bryant 2000). Such impacts could cause energetic costs to these birds and could indirectly contribute
17 to stress, unsuccessful reproductive efforts, or death. Decreased foraging success due to habitat avoidance
18 or removal of foraging habitat could decrease the survival of chicks in nests near the project. Because
19 these impacts could occur at isolated nest sites within the proposed project area, and because the project
20 area is relatively small compared with the amount of similar habitat in the region, impacts on nesting
21 birds would be localized.

22
23 Construction of new transmission line towers, or larger ones to replace old towers, could increase the risk
24 of death of adult raptors and larger non-raptor species by collision (APLIC 2006). Impacts on white-tailed
25 kite and other migratory birds that are not Covered Species but are protected under the MBTA or
26 California Fish and Game Code would be partially reduced by adhering to the protocols described in the
27 SDG&E Subregional NCCP/HCP. Thus, construction activities and traffic related to the proposed project
28 would have the potential to cause adverse impacts on MBTA-protected birds and nesting bird species;
29 however, to reduce impacts on MBTA bird species and raptors, a number of additional mitigation
30 measures are recommended. MM BR-3 requires the applicant to conduct preconstruction surveys sweeps
31 for all wildlife. MM BR-4 limits removal of vegetation in riparian and other areas that may support white-
32 tailed kite and other migratory bird species' nesting habitat. MM BR-5 requires the applicant to use Avian
33 Safe Building Standards to further reduce impacts on migratory bird species. MM BR-6 requires the
34 applicant to prepare and implement a Nesting Bird Management Plan that would provide a comprehensive
35 document to protect special status and MBTA birds by providing methods for avoidance, such as survey
36 methodology and distances of nest exclusion buffers for all species.

37
38 Implementation of MM BR-2 through MM BR-8 would reduce potentially significant impacts on birds to
39 a less-than-significant level. Under these measures, structures will be built to reduce direct impacts on
40 avian species and avian habitat, a Nesting Bird Management Plan will outline how potential impacts on
41 nests would be avoided, and surveys will prevent direct impact on species within the proposed project
42 area.

43
44 Disturbances associated with the operation and maintenance of the project could cause impacts similar to
45 those caused by construction of the project, although operations and maintenance impacts would likely be
46 less intense. Noise and visual disturbances caused by operations and maintenance crews could cause
47 abandonment of active nests, which would result in the death of chicks or hatching failure of eggs.
48 Raptors often occupy nests built onto transmission line towers or poles. Nest abandonment caused by
49 noise and visual disturbances is likely, as well as increased susceptibility of chicks to death and/or
50 hatching failure of eggs from falls or from being crushed if active nests were moved or disturbed during
51 operations and maintenance. Such impacts could occur to active nests on transmission line towers or other

1 project facilities, but could also occur outside of established access roads and tower sites. The potential
2 for these impacts on nesting birds after the construction phase of the project is relatively small. In general,
3 due to the lower levels of disturbance associated with operation and maintenance activities, post-
4 construction adverse impacts on raptors would be short term and localized. Due to the lower levels of
5 disturbance associated with operations and maintenance activities, any adverse impacts on birds or raptor
6 species would be minor, short term, and localized.

8 **Special Status Mammals**

9 ***Dulzura pocket mouse***

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

18 ***Mountain lion***

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

26 ***Pallid bat***

27 The proposed project area has suitable foraging habitat for the pallid bat (e.g., grasslands, shrublands, and
28 woodlands), and roosting habitats may be present in tree cavities, rock crevices, and human-made
29 structures, including bridges within the survey area. No occurrences or specific surveys were conducted
30 for bats. Pallid bat is a CDFW Species of Special Concern and is not a Covered Species under the
31 SDG&E Subregional NCCP/HCP. Therefore, direct and indirect impacts on the species could be
32 potentially significant. However, measures described in the SDG&E Subregional NCCP/HCP, and
33 implementation of MM BR-3 and MM BR-4, which require the applicant to conduct preconstruction
34 surveys sweeps for all wildlife and limit removal of vegetation in riparian and other areas that may
35 support pallid bat habitat, would lessen potentially significant impacts to a less-than-significant level
36 because the species' habitat would be avoided (e.g., tree cavities for roosting) and pre-construction
37 surveys would evaluate potential habitat.

39 ***San Diego black-tailed jackrabbit***

40 Suitable scrub habitat for the San Diego black-tailed jackrabbit was identified in or adjacent to
41 Transmission Line Segment 1b, Segment 3, and access roads associated with the transmission line.
42 Potential habitat may also be found adjacent to portions of the proposed 12-kV distribution line
43 disturbance areas. No jackrabbits were observed during field surveys (Appendix L-1; SDG&E 2012a).
44 Because this species is a Covered Species under the SDG&E Subregional NCCP/HCP and the applicant
45 would adhere to the requirements of the SDG&E Subregional NCCP/HCP, potential impacts on this
46 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 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, 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.

Table 4.4-6 Impacts on Sensitive Natural Communities (in acres¹)

	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	---	---	---	0.10	---	0.35	1.13	0.01	1.59
Temporary	---	---	---	0.18	0.08	0.59	1.16	---	2.01
Coastal Freshwater Marsh (CFM)									
Permanent	---	---	---	---	---	---	---	---	0.00
Temporary	---	---	---	---	---	---	---	---	0.00
Southern Willow Scrub (SWS)									
Permanent	---	---	---	---	---	---	---	---	0.00
Temporary	---	---	---	---	---	---	---	---	0.00
Riparian Scrub									
Permanent	---	---	---	---	---	---	---	---	0.00
Temporary	---	---	---	---	---	---	---	---	0.00

Table 4.4-6 Impacts on Sensitive Natural Communities (in acres¹)

	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		
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'.

1
2 Direct, permanent impacts on special status natural communities would result from the removal of
3 vegetation for substation construction, pole and tower installation, and access road construction. Impacts
4 may also result from the use of temporary staging yards and wire-stringing sites. In addition, trees or
5 native vegetation may require trimming, crushing, or removal to accommodate construction of the
6 proposed project. Indirect effects, such as introduction of non-native invasive weeds and increased dust
7 could result from the use of access roads through sensitive habitat and significantly impact sensitive
8 natural communities. MM BR-9 requires the applicant to implement invasive species control measures
9 during construction and restoration activities.

10
11 Impacts analyses for special status natural communities were completed by overlaying the applicant-
12 provided geographic information system (GIS) data for the vegetation communities over the disturbance
13 area for the proposed project (Table 4.4-6). Because final project designs are not yet available, all special
14 status natural communities that intersect with the disturbance buffers for the proposed project components
15 are considered to be directly and permanently impacted for the purpose of this analysis unless otherwise
16 noted in the applicant's data. However, this is a conservative estimate, and it is assumed that actual
17 impacts on these sensitive communities would be less than what is analyzed here.

18
19 Although compliance with the SDG&E Subregional NCCP/HCP pre-activity studies requirements would
20 minimize the removal of special status natural communities, construction activities and traffic related to
21 the proposed project would have the potential to cause significant impacts on sensitive natural
22 communities. As described in Section 4.4.4, MM BR-2 and MM BR-3 require preconstruction clearance
23 surveys and biological monitoring during construction, which will further reduce impacts on these natural
24 communities by identifying the locations of sensitive natural resources and special status natural

1 communities that would be avoided during construction. Restoration, reclamation, and/or compensation
2 via mitigation credits for temporary and permanent impacts on vegetation are described in Section 7 of
3 the SDG&E Subregional NCCP/HCP. Implementation of requirements and measures described in the
4 SDG&E Subregional NCCP/HCP, in combination with MM BR-2 and MM BR-3 would reduce
5 potentially significant impacts on riparian habitat or other sensitive natural communities.
6

7 As described previously, areas designated as reserve or conservation land, or other core areas described in
8 local conservation plans, would be considered “preserve areas” under the SDG&E Subregional NCCP/
9 HCP. These preserve areas are protected because they provide areas of intact habitat for special status
10 species and areas of special status communities.
11

12 The proposed project would traverse multiple conservation easements. Based on discussions with the
13 USFWS and CDFW, reserves or other areas subject to conservation easements are located within San
14 Juan Capistrano (View pers. comm. 2014), San Clemente, unincorporated Orange County (e.g., RMV
15 preserve areas), and within portions of San Onofre State Beach (Gower pers. comm. 2013). Discrepancies
16 among publicly available GIS data, data prepared by the CDFW and RMV, and confidential USFWS
17 data(USFWS 2014d,e), prevent an accurate estimate of impacts on these conservation easements, or
18 specific locations where impacts would occur. However, under the SDG&E Subregional NCCP/HCP,
19 SDG&E is required to compensate for impacts on preserve areas, as defined in Section 7 of the NCCP.
20

21 With the implementation of avoidance and minimization measures required by the SDG&E Subregional
22 NCCP/HCP and MM BR-2, MM BR-3, and MM BR-9, the impacts on riparian or natural communities
23 from construction, operation, and maintenance would be reduced to less than significant levels.
24

25 **Impact BR-3: Have a substantial adverse effect on federally protected wetlands as defined**
26 **by Section 404 of the Clean Water Act (including, but not limited to, marsh,**
27 **vernal pool, coastal, etc.) through direct removal, filling, hydrological**
28 **interruption, or other means.**
29 *LESS THAN SIGNIFICANT*
30

31 Direct, permanent impacts on wetlands (including upland areas and drainages) as defined by Section 404
32 of the CWA may occur from constructing new access roads; clearing vegetation, which exposes topsoil to
33 weathering and erosion; and installing facilities within wetland or upland drainage areas. Numerous
34 wetlands, drainages, or riparian areas, including many known to be subject to federal jurisdiction, have
35 been identified in proximity to components of the proposed project (Figure 4.4-2, “Jurisdictional Features
36 within the Proposed Project Area”). There are no vernal pools within the proposed project area
37 (Appendices L-1 and L-2; SDG&E 2012a,b).
38

39 The applicant has identified portions of 13 aquatic features within the proposed project area (Table 4.4-3
40 and Appendices L-1 and L-2). These areas include approximately 17.88 acres of Waters of the State, of
41 which 17.58 acres are riparian, and 9.66 acres of Waters of the United States, of which 6.18 acres are
42 wetland. These features were identified during project-wide jurisdictional delineations (Appendices L-1
43 and L-2; SDG&E 2012a,b). Not all of the features are considered federally protected wetland systems, but
44 most support riparian habitat and several support sensitive wildlife species.
45

46 Construction of the proposed project would not result in permanent impacts on waters under the
47 jurisdiction of the USACE, RWQCB, and CDFW (Appendices L-1 and L-2; SDG&E 2012a, b).
48 However, construction of the proposed project would temporarily impact 25 linear feet (approximately
49 0.0006 acre) of an ephemeral drainage with a 1-foot width located within the tributary to Prima Deshecha
50 Cañada northwest of Transmission Line Pole 23. There are no wetlands associated with the tributary. The
51 portion of this tributary within the proposed project area is an incised channel with a distinct ordinary
52 high water mark. Vegetation within the tributary comprises annual weedy species such as non-native

1 bromes, tocalote, black mustard, and native upland species such as Mexican elderberry (*Sambucus*
2 *mexicana*), California sagebrush, deer weed (*Acmispon glaber*), and coyote bush (*Baccharis pilularis*).
3 No wetland soils were identified within the tributary (Appendices L-1 and L-2; SDG&E 2012a, b). In
4 addition, the portion of the tributary within the proposed project area did not include a riparian canopy
5 that would be subject to CDFW jurisdiction.

6
7 Temporary impacts on the drainage would require permits from the regulatory agencies (USACE,
8 RWQCB, and CDFW). Because final project designs are not yet available, the applicant would likely
9 avoid these impacts by reorienting the temporary workspace. In addition, the USACE has not verified the
10 jurisdictional delineation prepared by the applicant. The extent of jurisdictional features within the
11 proposed project area is subject to their approval (Jurisdictional Determination), which can be obtained by
12 submitting an Approved Jurisdictional Determination Form to the USACE. Alternatively, the applicant's
13 jurisdictional delineation data could be used upon approval from the USACE (i.e., the USACE would
14 take jurisdiction based on the existing delineation and assessment of jurisdiction). In the event that the
15 applicant could not avoid impacts on the tributary, then additional consultation, permitting, and/or
16 mitigation would be required.

17
18 The operation and maintenance of the proposed project would be consistent with SDG&E's existing
19 operations and maintenance activities and would not materially increase in frequency or intensity. Any
20 future potential maintenance-related construction projects would be evaluated under General Order 131-D
21 and CEQA to assess whether further CPUC or regulatory agency approval is required and would be
22 conducted in compliance with the SDG&E Subregional NCCP/HCP. Implementation of the SDG&E
23 Subregional NCCP/HCP operational protocols (in particular, 7.1.4-20 through 23) and additional
24 measures required by the permitting process (e.g., BMPs, compensation, restoration, etc.) would
25 minimize and avoid erosion and siltation into any creeks, streams, rivers, or bodies of water. Through
26 these measures, direct and indirect impacts on jurisdictional waters would be less than significant.

27
28 **Impact BR-4: Interfere substantially with the movement of any native resident or**
29 **migratory fish or wildlife species or with established native resident or**
30 **migratory wildlife corridors, or impede the use of native wildlife nursery**
31 **sites.**

32 *LESS THAN SIGNIFICANT*

33
34 There are no known native wildlife nursery sites within the proposed project area. The construction of the
35 proposed project may interfere with the movement of wildlife on a local scale, but would not substantially
36 impede the movement of migratory species such as birds or large mammals. Wildlife tend to utilize linear
37 features, such as canyons and rivers, that connect large blocks of habitat and provide links for dispersal
38 and migration. Components of the proposed project would transect several preserve areas that could be
39 used for wildlife movement because of the larger amount of space protected. The proposed project would
40 cross the Trampas Canyon and San Juan Creek corridors and would construct or replace overhead
41 transmission lines adjacent to the Cristianitos Canyon corridor (LSA 2010; Orange County Public Works
42 2004). Furthermore, creeks within the proposed project area support migratory fish such as southern
43 steelhead and contain ponds that support resident fish, invertebrates, amphibians, and birds (SCC n.d.)

44
45 Construction or operation of the proposed project is not expected to interfere substantially with the
46 movement of native fish or wildlife species because the proposed 230-kV transmission and proposed 12-
47 kV distribution line structures would be sufficiently spaced to allow wildlife movement. In addition, the
48 SDG&E Subregional NCCP/HCP protects corridors as mitigation for impacts due to operations activities.
49 SDG&E's fee-owned ROW would be available for use as wildlife corridors in order to connect the
50 region's conservation areas. SDG&E would also allow the use of certain ROWs held in easements for

1 such corridors with the consent of the underlying land owner (SDG&E 1995a). Therefore, impacts under
2 this criterion would be less than significant.

3
4 **Impact BR-5: Conflict with any local policies or ordinances protecting biological resources,**
5 **such as a tree preservation policy or ordinance.**
6 *LESS THAN SIGNIFICANT*
7

8 Expansion and/or construction of substations and other project components may require the removal of
9 several trees and the trimming of numerous more. Several local policies and ordinances govern the
10 removal or trimming of such trees (i.e., City of San Juan Capistrano Municipal Code (Section 9-2.349)
11 and the City of San Clemente ordinance, City Owned Trees: Protection and Administration (Policy 301-2-
12 1)). The proposed project would remove approximately 49 trees from an area west of the proposed San
13 Juan Capistrano Substation between Camino Capistrano and Avenida de la Vista, within the city of San
14 Juan Capistrano. The City’s ordinance states that “tree removal proposed by utility companies for trees
15 within utility easements shall require issuance of a tree removal permit, except in cases where a Qualified
16 Tree Expert has determined, in writing, that such tree(s) are a hazard to utility lines or facilities” (San
17 Juan Capistrano 2014). The proposed project would carry out tree trimming and removal activities in
18 accordance with applicable county regulations and the terms of any applicable permits.
19

20 The proposed project area may include individual oak trees and stands of oak trees or eucalyptus that
21 support special status species. Implementation of the operational protocols in the SDG&E Subregional
22 NCCP/HCP, designed to reduce impacts on native vegetation and habitats, would reduce impacts on trees
23 and sensitive natural communities (SDG&E 1995a). As compensation for impacts on sensitive areas,
24 enhancement methods may be proposed by SDG&E, with the USFWS and CDFW concurring prior to
25 implementation. If habitat enhancement is not selected, or is not successful according to the NCCP
26 criteria, then a deduction from the SDG&E mitigation credits shall be made in accordance with ratios
27 contained in Section 7.4 (SDG&E 1995a).
28

29 **Operation and Maintenance**

30 Operation of the proposed project would require periodic maintenance of access and spur roads and areas
31 around transmission structures. This periodic maintenance may require trimming of protected trees to
32 ensure safe operation of the transmission lines and to ensure access for routine and emergency
33 maintenance. This maintenance work would be conducted consistent with CPUC General Order 95, Rule
34 35 and California Public Resources Code Sections 4292 and 4293. Additionally, incorporation of MM
35 BIO-1 through MM BIO-4, designed to reduce impacts on native vegetation and special status species,
36 including trees and special status natural communities, along with following the SDG&E Subregional
37 NCCP/HCP, would reduce impacts on trees to a level that is less than significant. By incorporating the
38 measures described above, the proposed project would not conflict with local policies or ordinances
39 protecting biological resources, including tree preservation policies or ordinances.
40

41 **Impact BR-6: Conflict with the provisions of an adopted Habitat Conservation Plan,**
42 **Natural Community Conservation Plan, or other approved local, regional,**
43 **or state habitat conservation plan.**
44 *LESS THAN SIGNIFICANT WITH MITIGATION*
45

46 All proposed project components would be constructed within the plan area of the SDG&E Subregional
47 NCCP/HCP, as well as the Orange County Southern Subregion HCP (Figure 4.4-3). The SDG&E
48 Subregional NCCP/HCP states that it is independent of other NCCPs or HCPs; therefore, it is neither
49 dependent upon the implementation of other NCCPs or HCPs, nor is it superseded by other plans.
50 However, the SDG&E Subregional NCCP/HCP also states that it takes the objectives of other HCPs and

1 NCCPs in the area “into consideration,” and the SDG&E Subregional NCCP/HCP implementation would
2 include coordination with other HCPs and NCCPs (SDG&E 1995a).

3
4 Under the SDG&E Subregional NCCP/HCP, certain areas containing habitat for Covered Species are
5 considered preserve areas; specified mitigation activities and ratios are required for impacts on a preserve
6 area. Preserve areas include existing reserve or conservation areas established by regional planning
7 documents (e.g., HCPs); state, federal, and local preserve areas; and public or private areas set aside for
8 the long-term protection of plants and wildlife (SDG&E 1995a,b). The proposed project would traverse
9 through areas covered by the Orange County HCP that have been or are in the process of being designated
10 as mitigation or preservation areas, including the Reserve at RMV, designated open space in the cities of
11 San Clemente and San Juan Capistrano and the County of Orange, and San Onofre State Beach (see
12 Section 4.4.1.7).

13
14 Section 6.2.1 of the SDG&E Subregional NCCP/HCP provides a consultation process with the USFWS
15 and CDFW that SDG&E would follow for the proposed project when proposed new transmission
16 facilities would occur in a preserve area. The process specifies that SDG&E shall provide the USFWS
17 and CDFW with written notice of intent to construct in a preserve area, and then the wildlife agencies
18 shall provide a written response with any objections or alternatives within 20 working days. The process
19 continues with specified timelines for a reply from SDG&E, for USFWS and CDFW to object to this
20 reply, and finally, for an appeal to a review panel who shall make a final decision, consisting of the
21 Regional Director of the USFWS, Director of the CDFW, and SDG&E.

22
23 The processes specified in the SDG&E Subregional NCCP/HCP to consider the objectives of other
24 HCPs/NCCPs and to coordinate within preserve areas would reduce conflicts with the provisions of an
25 adopted HCP or other conservation areas, but not to a level that is less than significant. The SDG&E
26 Subregional NCCP/HCP does not specify a process for coordination with all landowners, conservation
27 easement holders, and regional plans in the proposed project area to determine the locations of preserve
28 areas (SDG&E 1995a,b). In addition, the SDG&E Subregional NCCP/HCP was written in 1995, and land
29 ownership and conservation easements and plans, as well as staffing levels and responsibilities of
30 USFWS and CDFW staff, have changed since then. The CDFW has confirmed that the proposed project
31 is an activity covered by the SDG&E Subregional NCCP/HCP (Ponce pers. comm. 2013). The wildlife
32 agencies have also affirmed that preserve areas under the SDG&E Subregional NCCP/HCP include any
33 land the ownership or use of which has been conveyed or dedicated to, or is otherwise managed by, any
34 entity for long term conservation. For example, dedicated conservation easements owned or managed by
35 RMV or RMV Land Trust would be considered preserve areas under the SDG&E Subregional
36 NCCP/HCP. Furthermore, the process described above provides timeframes that may be difficult for the
37 wildlife agencies to meet.

38
39 The proposed project is considered a covered action under the SDG&E Subregional NCCP/HCP; the
40 SDG&E Subregional NCCP/HCP contains measures to coordinate with the NCCP/HCP implementing
41 entities and to provide additional mitigation in the event of permanent impacts on HCP/NCCP preserve
42 areas. Therefore, no conflicts are expected with the Orange County Southern Subregional NCCP or the
43 Camp Pendleton INRMP. As described above, SDG&E would coordinate with the appropriate authorities
44 during the proposed project’s approval process to ensure that the impacts, mitigation measures, and
45 operational protocols are implemented for the proposed project under the SDG&E Subregional
46 NCCP/HCP. However, the SDG&E Subregional NCCP/HCP does not specify a process for coordination
47 with all landowners, conservation easement holders, and regional plans in the proposed project area to
48 determine the locations of preserve area. Coordination is necessary to ensure that the proposed project is
49 consistent with provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP, the
50 lack of which could result in a significant conflict. MM BR-10 requires the applicant to participate in
51 further coordination with the implementing agencies. With the implementation of the SDG&E

1 Subregional NCCP/HCP and MM BR-10, any potentially significant impacts on the provisions of an
2 adopted HCP, NCCP, or other approved local, regional, or state HCP will be reduced to a less-than-
3 significant level.

4 5 **4.4.4 Mitigation Measures**

6
7 **MM BR-1: Limit Construction to Designated Areas and Protect Riparian, Aquatic, and Wetland**
8 **Areas.** In all project locations, vehicular traffic (including movement of all equipment) will be restricted
9 to established construction areas indicated by flagging and signage. CPUC notification and approval will
10 be required for any additional disturbance areas already identified and evaluated for the project pursuant
11 to CEQA. Sensitive resources such as waterbodies, oak trees, special status plant populations, and natural
12 communities will be clearly marked.

13
14 All aquatic features, including vegetated washes, creeks, drainages (ephemeral and perennial), and
15 riparian areas will be spanned by the 230-kV transmission and 12-kV distribution line where possible. If
16 construction will occur within 200 feet of an aquatic feature, biological monitors will establish and
17 maintain a minimum exclusionary buffer of 50 feet from the delineated extent of all jurisdictional wetland
18 features. If the applicant cannot maintain the 50-foot exclusionary buffer, the applicant will submit best
19 management practices (BMPs) to the CPUC for review and approval prior to construction.

20
21 If nighttime lighting is necessary adjacent to aquatic areas, lighting shall be shielded away from these
22 areas to prevent impacts on aquatic wildlife.

23
24 **MM BR-2: Biological Monitoring.** CPUC-approved, qualified biological monitors will be present
25 during construction and restoration activities in areas where sensitive resources identified by a CPUC-
26 approved biologist may be impacted by construction of the project. Biological monitors will be assigned
27 to the project in areas of sensitive biological resources. The monitors will be responsible for ensuring that
28 impacts on special status species, native vegetation, wildlife habitat, or unique resources will be avoided
29 to the fullest extent possible. Where appropriate, monitors will flag the boundaries of areas where
30 activities will need to be restricted in order to protect native plants and wildlife or special status species.
31 Those restricted areas will be monitored to ensure their protection during construction.

32
33 **MM BR-3: Preconstruction Surveys.** Preconstruction surveys will be conducted by CPUC-approved,
34 qualified biologists according to standardized methods, or for species for which protocols exist as
35 outlined in the most current protocols available. Surveys will encompass all construction areas. As part of
36 preconstruction surveys, the composition of the vegetation community will be surveyed to establish
37 baseline conditions prior to disturbance, which could later be used during post-construction restoration
38 efforts as outlined in Section 7 of the SDG&E Subregional NCCP/HCP. The surveys will be conducted
39 for the presence of aquatic features, special status plants, noxious weeds, and all wildlife species to
40 prevent direct loss of vegetation and wildlife and the spread of noxious plant species. Preconstruction
41 surveys will take place for each discrete work area within 14 days of the start of ground disturbance, or if
42 work has lapsed for longer than 14 days.

43
44 Additionally, a CPUC-approved, qualified biologist will conduct preconstruction clearance sweeps for
45 special status species at all access, staging, and work areas where suitable habitat is present within
46 approximately 24 hours of construction and restoration activities each day.

47
48 If a special status species is found at any time, the CPUC will be notified within 48 hours, and the CPUC
49 will determine the need for additional consultation with the appropriate resource agency or agencies.

1 **MM BR-4: Limit Removal of Native Vegetation Communities and Trees.** The removal of native
2 vegetation and trees will be limited to the minimum practicable area required for construction of the
3 project. Grading, grubbing, graveling, or paving will only occur for permanent project components.
4 Temporary staging areas will be used in such a way that it facilitates post-construction restoration, per
5 Section 7 of the SDG&E Subregional NCCP/HCP. Drive-and-crush methods will be employed.

6
7 **MM BR- 5: Avian Safe Building Standards.** The applicant will design all transmission structures
8 installed as part of the proposed project to be consistent with the *Suggested Practices for Raptor*
9 *Protection on Power Lines: The State of the Art in 2006* (APLIC 2006).

10
11 **MM BR-6: Migratory Birds and Raptors Impact Reduction Measures.** The applicant will develop a
12 Nesting Bird Management Plan in consultation with the USFWS, CDFW, and CPUC that outlines
13 protective measures and BMPs that will be employed to prevent disturbance to active nests of both special
14 status and Migratory Bird Treaty Act (MBTA)-protected bird species with the potential to occur in the
15 project area. The Nesting Bird Management Plan will include the following components:

- 16
17 • Appropriate survey timing, extents, and methods, including dates of local breeding season when
18 surveys must take place; monitoring and reporting protocols; protocol for determining whether a
19 nest is active; and protocol for documenting, reporting, and protecting active nests within
20 construction and restoration areas will be included in the Nesting Bird Management Plan. If
21 preconstruction survey protocols exist for a certain species, the plan will outline the
22 implementation of these protocols. The survey area will include the construction area, plus an
23 additional distance large enough to accommodate the protective buffer of bird species likely to
24 occur in proximity to the construction area. The Nesting Bird Management Plan will specify that
25 active bird nests will not be removed during breeding season unless the project is expressly
26 permitted to do so by the USFWS or CDFW. The plan will also specify approved nest deterrent
27 methods, inactive nest management, and project-related nest failures will be reported to the
28 USFWS and CDFW.
- 29 • Appropriate and effective buffer distances, including horizontal buffers from nests, horizontal
30 buffers from territories, if appropriate, and vertical buffers for helicopters will be included.
31 Buffers will not be based on generalized assumptions regarding all nesting birds, but will be
32 specific to the site and species/guild and account for specific stage of nesting cycle and
33 construction work type. During construction and restoration, a CPUC-approved avian biologist
34 will implement the appropriate buffer distance in accordance with the plan, and a process for a
35 reduction from the plan's nesting buffer distances will be specified. Buffer reductions for special
36 status species and raptors must be approved by appropriate wildlife agencies and the CPUC.
37 Buffer reductions for common species must be approved by the CPUC.
- 38 • The Nesting Bird Management Plan will include the minimum requirements to become a CPUC-
39 approved avian biologist and biological monitor for nesting birds, including education,
40 experience in conducting biological surveys, and experience with specific birds in the project
41 area.
- 42 • The CPUC-approved biological monitor will halt work if it is determined that active nesting will
43 be disturbed by construction or restoration activities until further direction or approval to work is
44 obtained from the CPUC and/or appropriate wildlife agencies.

45
46 The Nesting Bird Management Plan will be submitted to the USFWS, CDFW, and CPUC for comment
47 and approval no more than six months prior to the start of construction, with the intent that the plan will
48 be finalized no more than two months prior to the start of construction. The final plan will be
49 implemented during construction and restoration activities.

1
2 **MM BR-7: Coastal Cactus Wren Avoidance.**

- 3 a. **Preconstruction Surveys.** CPUC-approved biologists will perform preconstruction surveys in
4 potential coastal cactus wren habitat and record the location and quality. Preconstruction surveys
5 will take place within two weeks prior to the start of ground disturbance or when work has lapsed
6 for longer than two weeks.
- 7 b. **Conservation.** Should suitable coastal cactus wren habitat patches be identified in or within 200
8 feet of proposed work areas, they will be avoided to the greatest extent possible during
9 construction. Habitat includes, but is not limited to, mature cholla or prickly-pear cactus typically
10 less than 1 meter in height, interspersed with California sagebrush, California buckwheat, and
11 blue elderberry. Habitat patches may be as small as approximately 1 acre. Habitat patches located
12 in close proximity to construction activities should be protected by physical barriers, such as rope
13 or signage. If habitat patches cannot be avoided, the applicant shall consult with the CDFW to
14 determine appropriate mitigation, restoration, and/or compensation measures.
- 15 c. **Take Avoidance.** Take of coastal cactus wrens is prohibited except in emergency situations.
16 Should biologists identify nesting coastal cactus wrens at any time during construction, biologists
17 will erect a buffer around the nest that sufficiently protects the nesting pair from disturbance
18 caused by construction activities, as determined by the project-specific Nesting Bird Management
19 Plan. The nest should be monitored regularly according to methods outlined in the Nesting Bird
20 Management Plan and the buffer must remain in place until the nest fledges or fails. Should take
21 be unavoidable in the event of an emergency, the applicant shall consult with CDFW to determine
22 appropriate mitigation, restoration, and/or compensation measures.

23
24 **MM BR-8: Western Burrowing Owl Impacts Reduction Measures.**

- 25 a. **Preconstruction Surveys for Burrowing Owls.** Prior to ground disturbance, a CPUC-approved
26 biologist will conduct preconstruction take-avoidance surveys for burrowing owls within 150
27 meters of project areas in suitable habitat no more than 14 days prior to ground-disturbing
28 activities according to methods outlined in the CDFW's 2012 (or most recent) *Staff Report on*
29 *Burrowing Owl Mitigation* (CDFG 2012). Surveys will provide data on whether burrowing owls
30 occupy the site and, if so, whether the owls are actively nesting.
- 31 b. **Burrowing Owl Impact Avoidance.** If pre-construction take-avoidance surveys reveal the
32 presence of any active burrowing owl burrows during breeding season, the burrows will be
33 flagged and buffered. Buffer sizes are outlined in the CDFW's *Staff Report on Burrowing Owl*
34 *Mitigation*. Active burrowing owl burrows should be monitored regularly according to methods
35 outlined in the Nesting Bird Management Plan, and buffers should remain in place until the nest
36 fledges or fails.
- 37 c. **Passive Eviction.** Passive eviction and burrow closure are not recommended when this practice
38 can be avoided. However, if passive eviction is required, it will occur according to CDFW's 2012
39 *Staff Report on Burrowing Owl Mitigation*. Owls may not be evicted until a Burrowing Owl
40 Exclusion Plan is developed and approved by CDFW and CPUC; permanent loss of occupied
41 burrows and habitat is mitigated in accordance with the CDFW 2012 document; monitoring is
42 conducted to ensure take is avoided during eviction procedures; and excluded owls are
43 documented using new burrows (if this can be confirmed). Owls may not be actively evicted
44 (e.g., captured) without prior authorization from the CDFW and CPUC.
- 45 d. **Burrowing Owl Habitat Mitigation.** Should impacts on active burrowing owl burrows be
46 unavoidable, the applicant shall consult with the CDFW and CPUC and submit a Burrowing Owl
47 Compensation Plan that is consistent with mitigation guidelines, as outlined in the *Staff Report on*
48 *Burrowing Owl Mitigation* prior to construction. This plan shall be approved by the CDFW and
49 CPUC and implemented, as specified, throughout construction and restoration. The plan will

1 describe the compensatory measures that will be undertaken to address the loss of burrowing owl
2 burrows within the project area. This will include mitigation for permanent impacts on nesting,
3 occupied and satellite burrows, and occupied burrowing owl habitat.
4

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

- 10 • All vehicles and equipment will be cleaned prior to arrival at the work site.
- 11 • Crews, with construction inspector oversight, will ensure that vehicles and equipment are free of
12 soil and debris capable of transporting noxious weed seeds, roots or rhizomes before the vehicles
13 and equipment are allowed use of access roads.
- 14 • Straw or hay bales used for sediment barrier installations or mulch distribution will be obtained
15 from state-cleared sources that are free of invasive weeds.
16

17 The applicant will develop an Invasive Plant Management Plan to outline the methods that will be
18 employed to prevent the spread of invasive plants onsite. This plan will be submitted to the CDFW and
19 CPUC for review and comment no more than six months prior to the start of construction, with the intent
20 to produce a final draft of the plan no later than two months prior to the start of construction.
21

22 **Mitigation Measure BR-10: Mitigation Plan Development.** In order to prevent potential conflicts
23 between the SDG&E Subregional NCCP/HCP and other conservation plans and land, the applicant will
24 prepare a mitigation plan for the project.
25

- 26 • The plan will include a summary of the policies and procedures in the SDG&E Subregional
27 NCCP/HCP that are relevant to other HCPs/NCCPs, conservation plans, and public or private
28 conservation or preserve areas, including but not limited to:
 - 29 – Operational protocols used in sensitive habitat areas;
 - 30 – Mitigation for temporary and permanent impacts, including habitat enhancement and
31 mitigation credits;
 - 32 – Coordination and consultation procedures with the USFWS and CDFW;
 - 33 – Definition of preserve area according to the SDG&E Subregional NCCP/HCP;
 - 34 – Identification and mapping of areas that may qualify as a preserve area within 100 feet of any
35 project component; and
 - 36 – A review of locations where there may be potential conflicts among conservation plans.
- 37 • In order to prevent potential conflicts, SDG&E will coordinate with all relevant jurisdictions, plan
38 participants, and landholders associated with the preserve areas crossed by the project, including
39 but not limited to the City of San Juan Capistrano, City of San Clemente, County of Orange,
40 California Department of Parks and Recreation, Marine Corps Base (MCB) Camp Pendleton,
41 CDFW, and USFWS.
- 42 • The plan will outline how SDG&E will communicate with the relevant jurisdictions, plan
43 participants, and landholders about the project activities in preserve areas. A process for resolving
44 inconsistencies between SDG&E's transmission and distribution activities in a preserve area and
45 the mission of the overlapping jurisdiction, conservation plan, or easement will be outlined.

- 1 • This plan will be submitted to the USFWS, CDFW, and CPUC for review and comment no more
2 than six months prior to the start of construction, with the intent to produce a final draft of the
3 plan, approved by the CPUC, no later than two months 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; 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.

1 **Paleontological Resources**

2 For the purpose of this EIR, “paleontological resources” refers to the fossilized plant and animal remains
3 of prehistoric species. They are valued for the information they yield about the history of the earth and its
4 past ecological settings. Paleontological resources represent a limited, non-renewable, impact-sensitive,
5 scientific, and educational resource. Fossil remains such as bones, teeth, shells, and leaves are found in
6 geologic deposits (i.e., rock formations). Paleontological resources generally include the geologic
7 formations and localities in which the fossils are collected.
8

9 **4.5.1 Environmental Setting**

10
11 This section provides information regarding prehistory, ethnography, and history of the proposed project
12 area, based on the cultural resources sections of the Proponent’s Environmental Assessment for the
13 proposed project (SDG&E 2012) unless otherwise cited.
14

15 **4.5.1.1 Prehistoric, Ethnohistoric, and Historic Background and Search, Survey, and** 16 **Consultation Results (Historic, Archaeological, and Native American** 17 **Resources)** 18

19 The cultural history of the proposed project area will be discussed in terms of four chronological
20 divisions: Prehistory, Ethnohistory and Ethnography¹, and History. The time periods associated with
21 these divisions are not all precisely defined.
22

23 Prehistory covers the period before the existence of written records and is known primarily through
24 archaeology. Prehistory begins with the first humans occupation of California more than 10,000 years
25 ago and continues until the time the Spanish established the mission system (1769) and began keeping
26 records and describing the people living in the vicinity of the missions.
27

28 Ethnohistory and Ethnography deal with the period documented by historic accounts of Native peoples
29 and anthropological inquiry, focusing on indigenous people. The Ethnohistoric period extends back a few
30 centuries and ends generally in the early 20th century, although these boundaries are not firm. The
31 account of the 16th century explorers provides the first ethnohistoric information on the California
32 Indians, and this is augmented by missionaries, military, and settler records. Ethnography in California
33 began as an attempt to record Native American lifestyles that anthropologists perceived to be rapidly
34 disappearing. As part of this effort, anthropologists in the late 19th and early 20th centuries investigated
35 people with memories of life before the missions and EuroAmerican settlement.
36

37 History is characterized as the period for which written records are readily available. The Historic period
38 in California is defined as beginning in 1769 and extending to the present.
39

40 **Prehistory**

41 Although archaeologists have uncovered a great deal of evidence indicating human occupation of the
42 west coast of North America as early as 14,000 years ago, the earliest widely accepted archaeological
43 materials in mainland Southern California are the San Dieguito/Lake Mojave complexes, dating to
44 around 10,000 years ago (Warren 1967; Sutton et al. 2007). San Dieguito/Lake Mojave sites yield an

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)

1 artifact assemblage that includes a variety of scrapers, as well as stemmed points and flaked crescent-
2 shaped artifacts called “crescentics.” Archaeologists interpret these sites as remains left by people who
3 depended primarily on hunting.
4

5 About 8,000 years ago, people appear to have begun changing their adaptation. Sites of this period yield
6 fewer projectile points, scrapers, and choppers, and more ground stone implements (milling bases or
7 “metates” and handstones or “manos”) associated with processing seeds and other vegetable foods.
8 Archaeologists interpret this as evidence of increasing dependence on plant resources and decreasing
9 dependence on hunting; based on the abundance of such implements, this period is often referred to as
10 the Millingstone Horizon, dated between 8,000 and 3,000 years ago.
11

12 During the Intermediate Horizon (3,000 to 1,250 years ago) mortars and pestles (pounding tools) were
13 used rather than grinding tools like the metates and manos. Archaeologists have interpreted the mortars
14 and pestles as evidence of acorn processing and as a sign of an increase in a sedentary lifestyle.
15 Intermediate Horizon sites also yield large stemmed or notched projectile points.
16

17 The Late Prehistoric Horizon is marked by sites that yield small triangular projectile points suitable for
18 use with the bow and arrow about 1,250 years ago.
19

20 **Ethnography and Ethnohistory**

21 The proposed project would be located in an area known ethnographically to have been occupied by the
22 Juaneño (now known as the Acjachemen) when the Spanish arrived in 1769. The Juaneño/Acjachemen
23 were semi-sedentary hunters and gatherers. One of the most important food resources for the group was
24 acorns gathered from oak groves in canyons, drainages, and foothills. Acorns were ground into flour
25 using mortars and pestles. Protein was supplemented through the meat of deer, rabbits, and other animals,
26 hunted with a bow and arrow or trapped. Shellfish were collected and eaten, and some of the shell was
27 then used to make hooks for fishing, beads, and other ornaments.
28

29 The Juaneño/Acjachemen lived in villages of up to 250 people located near permanent water and a
30 variety of food sources. The San Juan Basin was densely populated, and villages were closely spaced
31 because of the year-round availability of fresh water in San Juan Creek. Each village was typically
32 located in the center of an established area from which resources for the group were gathered.
33 Subsequently, small groups would leave the village for a short time to hunt, fish, or gather plant
34 materials.
35

36 **History**

37 The first Europeans to explore future California were part of the 1542 expedition of Juan Rodriguez
38 Cabrillo. Orange County is thought to have been first visited in 1769 by Gaspar de Portola, as he led a
39 62-person expedition from San Diego to Monterey. Shortly after this visit, the seventh Franciscan
40 mission in California was founded in 1776, the Mission San Juan Capistrano.
41

42 After an initial period of exploration, the Spanish concentrated on the founding of presidios, missions,
43 and secular towns with the land held by the Crown (1769–1821). In contrast, the later Mexican policy
44 stressed individual ownership of the land. In 1821, Mexico declared independence from Spain and within
45 12 years began closing the missions. Former mission lands were granted to soldiers, other Mexican
46 citizens, and a few wealthy foreigners. In 1841, the former mission became a Mexican pueblo named San
47 Juan Capistrano.
48

1 The signing of the Treaty of Guadalupe Hidalgo in 1848 ended the Mexican-American War, and
2 California became a territory of the United States. California became the 31st state in 1850, primarily due
3 to the gold rush. The 1860s and 1870s saw an increase in farmers and merchants in the area. In March
4 1889, the County of Orange was created, occupying 780 square miles.

5
6 Orange County remained primarily agricultural through most of the 20th century. The early 20th century
7 came with advanced technology, including utility distribution companies, such as water, electricity, and
8 telephone, and paved streets. Interstate 5 was completed in the 1950s and connected many Orange
9 County communities with Los Angeles. By the 1980s, the county was developed with numerous master
10 planned communities.

11
12 **Cultural Resources Literature and Records Searches**

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

28
29 There have been 101 cultural resource studies conducted within a quarter-mile radius of the searched
30 area. Of these, 41 of the previously conducted cultural resource studies had survey areas that overlap the
31 searched area. A total of 48 cultural resources have been identified within a quarter-mile radius of the
32 searched area. Thirteen cultural resources are located within the searched area, as detailed in Table 4.5-1.
33

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

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

Segment	Trinomial	Primary Number	Brief Description	Type
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.

1

2 Cultural Field Surveys

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

13

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

21

22 Historical Assessments

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

32

33 In 2008, the applicant hired a qualified archaeologist to conduct a historic assessment of the former
34 utility structure to determine its eligibility for NRHP listing. The 2008 assessment determined that the
35 former utility structure lacks the integrity required to meet the minimum eligibility criteria for a historic

² Some City of San Juan Capistrano documentation refers to this building as the “Capistrano Substation.”

1 resource at the state or federal level and does not meet the definition of a “historical resource” under
2 CEQA (McKenna et al. 2008; Appendix M-1). In 2013, the applicant retained ASM Affiliates to review
3 the 2008 evaluation and to provide a second opinion regarding the former utility structure’s eligibility for
4 NRHP. ASM Affiliates concurred with the conclusion of the 2008 report that the former utility structure
5 was ineligible due to loss of integrity (TRC 2013; Appendix M-2).
6

7 In 2014, the California Public Utilities Commission (CPUC) hired a qualified historian to conduct a
8 historic assessment of the former utility structure to provide an independent opinion of its eligibility for
9 NRHP listing. The 2014 report concluded, as did the 2008 and 2013 historic assessments, that the former
10 utility structure does not meet the minimum eligibility criteria for a historic resource at the state or
11 federal level and does not meet the definition of a “historical resource” under CEQA (Moomjian 2014;
12 Appendix M-3)
13

14 **Native American Consultation**

15 The applicant submitted a request for information in the Sacred Lands file database to the Native
16 American Heritage Commission (NAHC) on January 18, 2012, for the searched area. The applicant also
17 requested a list of interested Native American tribal groups and individuals for the searched area. The
18 NAHC responded on January 18, 2012, and indicated that there are cultural resources recorded in the
19 NAHC Sacred Lands file for the San Juan Capistrano, Cañada Gobernadora, and the San Clemente
20 United States Geological Survey (USGS) quadrangle maps. There are no recorded cultural resources in
21 the NAHC Sacred lands file within the Dana Point USGS quadrangle map. The NAHC also enclosed a
22 list of Native American individuals and/or organizations that might have further knowledge of cultural
23 resources in or near the searched area.
24

25 On January 20, 2012, TRC sent letters and emails to all the individuals and organizations on the list
26 provided by the NAHC. Mr. Andrew Salas, Chairperson for the Gabrieliño Band of Mission Indians
27 responded via email on January 25, 2012. Mr. Salas identified the proposed project as being located in
28 San Juan Capistrano Indians Juaneño Band of Mission Indians territory. On January 26, 2012, Ms. Perry
29 Cultural Resources Coordinator for the Juaneño Band of Mission Indians Acjachemen Nation, responded
30 via telephone and requested a meeting with SDG&E and TRC. On March 19, 2012, Ms. Joyce Perry and
31 Mr. David Belardes (Chairperson for the Juaneño Band of Mission Indians Acjachemen Nation) met with
32 the TRC archaeologist, as well as SDG&E personnel, to view larger scale maps of the proposed project,
33 to discuss the proposed project in more detail, and to express any areas of concern. On March 29, 2012,
34 Ms. Perry sent an email to SDG&E requesting archaeological and Native American monitors for most of
35 the site locations and to be informed of the project’s progress.
36

37 **4.5.1.2 Paleontology Background and Records Search Results**

38
39 The applicant submitted a request for a records search at the Vertebrate Paleontology Section of the
40 Natural History Museum of Los Angeles County for the proposed project area. The search results found
41 no previously recorded vertebrate paleontological sites within the searched area. However, the search did
42 identify vertebrate paleontological resources in similar rock units in the vicinity of the proposed project.
43 Table 4.5-2 details the paleontological sensitivity of the geologic units with potential to contain
44 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
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.*

- 1 • *Criterion C: It embodies the distinctive characteristics of a type, period, or method of*
2 *construction; represents the work of a master; possesses high artistic values; or represents a*
3 *significant and distinguishable entity whose components may lack individual distinction.*
- 4 • *Criterion D: It has yielded, or may be likely to yield, information important in prehistory or*
5 *history.*

6
7 The following properties are not eligible for the NRHP unless they satisfy certain conditions: cemeteries,
8 birthplaces, or graves of historic figures; properties owned by religious institutions or used for religious
9 purposes; structures that have been moved from their original locations; reconstructed historic buildings;
10 and properties that are primarily commemorative in nature. In general, a resource must be at least 50
11 years of age to be considered for the NRHP, unless it satisfies a standard of exceptional importance. The
12 former utility structure in the proposed project area was found not to be eligible for the NRHP (McKenna
13 et al. 2008; Appendix M-1).

14 **Native American Graves Protection and Repatriation Act of 1990**

15
16 The Native American Graves Protection and Repatriation Act of 1990 sets provisions for the intentional
17 removal and inadvertent discovery of human remains and other cultural items from federal and tribal
18 lands. It clarifies the ownership of human remains and sets forth a process for repatriation of human
19 remains and associated funerary objects and sacred religious objects to the Native American groups
20 claiming to be lineal descendants or culturally affiliated with the remains or objects. It requires any
21 federally funded institution housing Native American remains or artifacts to compile an inventory of all
22 cultural items it contains or within its agency and to provide a summary to any Native American tribe
23 claiming affiliation. This act would apply to the proposed project if human remains are discovered during
24 ground disturbing activities.

25 **4.5.2.2 State**

26 **California Office of Historic Preservation**

27
28
29 The State of California implements the NHPA through its statewide comprehensive cultural resources
30 surveys and preservation programs. The California Office of Historic Preservation, as an office of the
31 California Department of Parks and Recreation, implements the policies of the NHPA on a statewide
32 level. The Office of Historic Preservation also maintains the California Historic Resources Inventory.
33 The State Historic Preservation Officer is an appointed official who implements historic preservation
34 programs within the state's jurisdictions.

35 **California Register of Historical Resources**

36
37 The CRHR is an authoritative listing and guide to be used by state and local agencies, private groups, and
38 citizens in identifying the existing historical resources of the state and to indicate which resources
39 deserve to be protected, to the extent prudent and feasible, from substantial adverse change (PRC
40 §5024.1[a]). The criteria for eligibility for listing on the CRHR are based on NRHP criteria (PRC
41 §5024.1[b]). Certain resources are determined by the statute to be automatically included in the CRHR,
42 including California properties formally determined eligible for, or listed in, the NRHP. The former
43 utility structure was found not to be eligible for the CRHR (McKenna et al. 2008; Appendix M-1). This
44 criterion would be used to determine if previously undiscovered resources are significant historical
45 resources.

1 **Public Resources Code Sections**

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

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

6
7 **PRC 5097.5, PRC 5097.9, and PRC 30244.** These sections regulate the removal of paleontological
8 resources from state lands, define unauthorized removal of fossil resources as a misdemeanor, and
9 require mitigation of disturbed sites, respectively.

10
11 **PRC 5097.91 through PRC 5097.991.** These sections pertain to the establishment and authorities of the
12 NAHC. They also prohibit the acquisition or possession of Native American artifacts or human remains
13 taken from a Native American grave or cairn, except in accordance with an agreement reached with the
14 NAHC, and provide for Native American remains and associated grave artifacts to be repatriated.

15
16 **PRC 5097.98 (b) and (e).** These sections require a landowner on whose property Native American
17 human remains are found to limit further development activity in the vicinity until conferring with the
18 most likely descendants (as identified by the NAHC) to consider treatment options.

19
20 **PRC 5097.993 through PRC 5097.994.** These sections establish the Native American Historic Resource
21 Protection Act, which makes it a misdemeanor crime to perform unlawful and malicious excavation,
22 removal, or destruction of Native American archaeological or historical sites on public or private lands.

23
24 **PRC 6254 (r).** This section establishes the California Public Records Act, which protects Native
25 American graves, cemeteries, and sacred places maintained by the NAHC by protecting records of such
26 resources from public disclosure.

27
28 **PRC 21083.2.** This section of the CEQA Statute provides for the protection of “unique” archaeological
29 resources as defined in the statute. If it can be demonstrated that a project will cause damage to a unique
30 archaeological resource, the lead agency may require that reasonable efforts be made to preserve in place
31 or avoid the resources. This section also establishes mitigation requirements for the excavation (data
32 recovery) of unique archaeological resources. See also Section 15064.5(c) of the CEQA Guidelines (14
33 CCR).

34
35 **PRC 21084.1.** This section of the CEQA Statute establishes that an adverse effect on a historical
36 resource qualifies as a significant effect on the environment. See also Sections 15064.5 and 15126.4(b) of
37 the CEQA Guidelines (14 CCR).

38
39 **PRC 65092.** This section provides for notice of projects in consideration for construction to be sent to
40 California Native American tribes who are on the contact list maintained by the NAHC.

41
42 **California Code of Regulations Sections**

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

45
46 **14 CCR 1427.** This code recognizes that California’s archaeological resources are endangered by urban
47 development and population growth and by natural forces. It declares that these resources need to be

1 preserved in order to illuminate and increase public knowledge of the historic and prehistoric past of
2 California.

3
4 **14 CCR 4307.** This code states that no person shall remove, injure, deface, or destroy any object of
5 paleontological, archaeological, or historical interest or value.

6
7 **14 CCR 15064.5.** This section of the CEQA Guidelines recognizes that a historical resource includes: (1)
8 a resource listed in, or determined to be eligible by, the State Historical Resources Commission for
9 listing in the CRHR; (2) a resource included in a local register of historical resources; and (3) any object,
10 building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically
11 significant or significant in the architectural, engineering, scientific, economic, agricultural, educational,
12 social, political, military, or cultural annals of California by the lead agency, provided the lead agency's
13 determination is supported by substantial evidence in light of the whole record. In some cases, an
14 archaeological resource may be considered a historical resource.

15
16 **14 CCR 15064.5(c).** If an archaeological resource does not meet the criteria for a historical resource
17 contained in the CEQA Guidelines Section 15064.5, it may be treated in accordance with the provisions
18 of PRC Section 21083.2 if it is a "unique" archaeological resource. If an archaeological resource is
19 neither unique nor historical, effects of the proposed project on the resource would not be considered
20 significant.

21
22 **14 CCR 15126.4(b).** This section of the CEQA Guidelines establishes mitigation guidelines for effects
23 on historical resources and historical resources of an archaeological nature.

24 **California Health and Safety Code (HSC)**

25
26 These codes would apply to the proposed project in the event that human remains are discovered during
27 ground disturbing activities.

28
29 **HSC 7050 through HSC 7054.** These sections are statutes that pertain to disturbance and removal of
30 human remains, felony offenses related to human remains, and depositing human remains outside of a
31 cemetery.

32
33 **HSC 8010 through HSC 8011.** These HSC sections establish the California Native American Graves
34 Protection and Repatriation Act, which is consistent with and facilitates implementation of the federal
35 Native American Graves Protection and Repatriation Act.

36 **Senate Concurrent Resolutions**

37
38 These resolutions would apply to known or previously undiscovered cultural resources found to be
39 significant that would be affected by the proposed project.

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

43
44 **Number 87.** This resolution provides for the identification and protection of traditional Native American
45 resource-gathering sites on state land.

1 **Penal Code Section 622 (Destruction of Sites)**

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

6
7 **4.5.2.3 Regional and Local**

8
9 **Orange County**

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

- 13
14 • **Goal 2:** *To encourage through a resource management effort the preservation of the County's*
15 *cultural and historic heritage.*
- 16 • **Archaeological Resources Policy 1:** *To identify archaeological, paleontological, and historic*
17 *resources through literature and records research and/or surface or on-site surveys.*
- 18 • **Archaeological Resources Policy 2:** *To evaluate archeological resources through subsurface*
19 *testing to determine significance and extent, to evaluate historic resources through comparative*
20 *analysis or through subsurface or materials testing.*
- 21 • **Archaeological Resources Policy 3:** *To observe and collect archaeological resources during the*
22 *grading of a project; to monitor and salvage paleontological resources during the grading of a*
23 *project.*
- 24 • **Archaeological Resources Policy 4:** *To preserve archaeological resources by: a) maintaining*
25 *them in an undisturbed condition; or b) excavating and salvaging materials and information in a*
26 *scientific manner.*
- 27 • **Paleontological Resources Policy 1:** *To identify paleontological resources through literature*
28 *and records research and surface surveys.*
- 29 • **Paleontological Resources Policy 2:** *To monitor and salvage paleontological resources during the*
30 *grading of a project.*
- 31 • **Paleontological Resources Policy 3:** *To preserve paleontological resources by maintaining them*
32 *in an undisturbed condition.*
- 33 • **Historic Resources Policy 1:** *To identify historic resources through literature and records*
34 *research and/or on-site surveys.*
- 35 • **Historic Resources Policy 2:** *To evaluate historic resources through comparative analysis or*
36 *through subsurface or materials testing.*
- 37 • **Historic Resources Policy 3:** *To preserve significant historic resources by one or a combination*
38 *of the following alternatives, as agreed upon: a) adaptive reuse of historic resource; b)*
39 *maintaining the historic resource in an undisturbed condition; c) moving the historic resource*
40 *and arranging for its treatment; d) salvage and conservation of significant elements of the*
41 *historic resources; or e) documentation (i.e. research narrative, graphics, photography) of the*
42 *historic resource prior to destruction.*

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

4 **City of San Juan Capistrano**

5 ***Historical and Cultural Landmarks Ordinance and Historic Preservation Ordinance***

6 The City of San Juan Capistrano has adopted a Historical and Cultural Landmark Ordinance (Section 9-
7 2.327). This ordinance requires city approval for any damage to a resource listed on the City’s IHCL.
8 The proposed project would not affect any resources listed on the IHCL, the six historic districts, or four
9 historic streets.

10
11 As noted above, the City’s BOD lists structures and sites that are potentially eligible for inclusion on the
12 City’s Inventory of Historical and Cultural Landmarks when they meet all listing criteria and/or have
13 property owner concurrence to be added to the Inventory. The BOD is an honorary designation and
14 imposes no restrictions nor conveys any benefits. The former utility structure at the existing Capistrano
15 Substation is included in the BOD list. (City of San Juan Capistrano 2007a,b)

16
17 The City has also adopted a series of policies (Council Policies 601, 602, 603, 606) to supplement the
18 Historical and Cultural Landmarks Ordinance and address a broad range of preservation issues, including
19 archaeological monitoring for development projects, reports for potentially historic sites, modifications
20 to designated historic sites, and historic depiction programs for new non-residential projects.

21
22 The City has adopted a Cultural Resources/Historic Preservation District as an Environmental Overlay.
23 The purpose of the Historic Preservation overlay is “to establish regulations for those areas of the City
24 which, due to their historical or cultural significance, require special consideration to insure their
25 preservation as a community resource” (San Juan Capistrano Municipal Code, Sec. 9-3.407). The
26 proposed project would not be located within the Historic Preservation District.

27 **General Plan**

28
29 The Cultural Resources Element of the City of San Juan Capistrano General Plan includes the following
30 goal and policies applicable to the proposed project (City of San Juan Capistrano 1999):

- 31
- 32 • ***Cultural Resources Goal 1: Preserve and protect historical, archaeological, and***
33 ***paleontological resources.***
 - 34 • ***Policy 1.1: Balance the benefits of development with the project’s potential impacts to existing***
35 ***cultural resources.***
 - 36 • ***Policy 1.2: Identify, designate, and protect buildings and sites of historic importance.***
 - 37 • ***Policy 1.3: Identify funding programs to assist private property owners in the preservation of***
38 ***buildings and sites of historic importance.***
- 39

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

1 City of San Clemente

2 The Natural Resource Element of the City of San Clemente General Plan addresses the natural resources
3 within the Orange County. The Natural Resource Element contains the following goal and policies
4 pertaining to archeological and paleontological resources (City of San Clemente 2014):
5

- 6 • **Goal:** *Protect archaeological and paleontological resources in a manner which preserves*
7 *history or cultural traditions, provides scientific or cultural knowledge or provides educational*
8 *value.*
- 9 • **Policy NR-3.01: Project Impacts.** *We require assessment and mitigation of potential impacts to*
10 *archaeological and paleontological resources as part of applications for general plan*
11 *amendments, zoning changes, or any projects requiring environmental review per the California*
12 *Environmental Quality Act (CEQA).*
- 13 • **Policy NR-3.02: Notification.** *We require the notification of cultural organizations, including*
14 *California Native American organizations, of proposed projects that have the potential to*
15 *adversely impact archaeological or cultural resources.*
- 16 • **Policy NR-3.03: Inventory of Archeological and Paleontological Resources.** *We maintain up-*
17 *to-date information regarding archaeological and paleontological resources and contact*
18 *information for responsible organizations and qualified individuals who can analyze, record,*
19 *and preserve findings.*

20
21 The Historic Preservation Element of the City of San Clemente General Plan has the primary goal of
22 preserving and rehabilitating buildings and other sites with archaeological, historical and cultural
23 significance to San Clemente (City of San Clemente 2014). The following policy is the only one that
24 applies to the proposed project:
25

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

30 4.5.3 Impact Analysis

31 4.5.3.1 Methodology and Significance Criteria

32
33 To determine whether cultural or paleontological resources have been previously identified within the
34 proposed project area, the CPUC reviewed published scientific documents and technical and survey
35 reports regarding areas in proximity to components of the proposed project, as well as general plan and
36 policy documents. In addition, database searches, field studies, and Native American consultations were
37 completed, and Native American group comments were reviewed (Section 4.5.1.1). For paleontological
38 resources, literature reviews and database searches were conducted to identify previously recorded
39 paleontological resources in the proposed project area (Section 4.5.1.2).
40
41
42

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

- 4
- 5 a) Cause a substantial adverse change in the significance of a historical resource as defined in
- 6 CEQA § 15064.5;
- 7 b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to
- 8 CEQA § 15064.5;
- 9 c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic
- 10 feature; or
- 11 d) Disturb any human remains, including those interred outside of formal cemeteries.
- 12

13 **4.5.3.2 Applicant Proposed Measures**

14
15 The applicant has committed to the following Applicant Proposed Measures (APMs) as part of the design
16 of the proposed project. See Section 2.6, “Applicant Procedures, Plans, Standards, and Proposed
17 Measures,” for a complete description of each project commitment.

18
19 **APM CUL-1: Worker Training for Cultural Resources.** Prior to the initiation of construction or
20 ground-disturbing activities, all SDG&E, contractor, and subcontractor personnel would receive
21 training regarding the appropriate work practices necessary to effectively implement the APMs and
22 to comply with the applicable environmental laws and regulations, including the potential for
23 exposing subsurface cultural resources and paleontological resources and to recognize possible
24 buried resources. Training would inform all construction personnel of the anticipated procedures that
25 would be followed upon the discovery or suspected discovery of archaeological materials, including
26 Native American remains, and their treatment, as well as of paleontological resources.

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

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

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

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

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

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

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

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

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

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

1 In addition, measured drawings or plans will be included.

- 2 3. If not relocated, allow the removal of any architectural elements of the former utility structure for
3 a period of two weeks at the expense of any local historic interest group or organization
4 removing the element.
5

6 **4.5.3.3 Environmental Impacts**

7
8 **Impact CUL-1: Substantial adverse change in the significance of an historical resource.**
9 *LESS THAN SIGNIFICANT WITH MITIGATION*

10
11 Field surveys of the surveyed area were performed by TRC archaeologists on March 12, March 19, and
12 21, 2008, and additional field visits and/or surveys occurred on September 29 and 30, October 11 and 12,
13 and December 28 and 29, 2011; February 28, 2012; and March 15, 2012. There are three known
14 historical resources within the surveyed area, as presented in Table 4.5-1. Ground disturbing activities
15 during construction or restoration would not impact two of the historical sites—30-176663/19-186804
16 and 30-176664—as proposed disturbance areas would avoid these sites. Additionally, the applicant
17 would implement APM CUL-3, which would require the applicant to demarcate cultural resources as
18 Environmental Sensitive Areas in the field.
19

20 The third historical site, the former utility structure (historic site 30-179873) at the existing Capistrano
21 Substation, would be demolished as part of the proposed project. Two historical assessments of the
22 former utility structure provided by the applicant found that the former utility structure is not a historic
23 resource as defined by CEQA and fails to meet the minimum requirements for significance under Section
24 106 of the federal regulations. A subsequent evaluation of the former utility structure, conducted by the
25 CPUC concurred with the applicant's finding that the former utility structure is ineligible for the NRHP
26 CRHR, or the City of San Juan Capistrano IHCL (Moonjian 2014). The demolition of the former utility
27 structure would not be considered a significant impact under CEQA because this structure is not a
28 historic resource as defined by CEQA.
29

30 The former utility structure is, however, a locally significant BOD with attributes that render it eligible
31 for local recognition. Because the building is listed as a BOD, the City of San Juan Capistrano's
32 demolition permit could be conditioned with requirements to advertise the building for relocation;
33 prepare updated architectural drawings prior to demolition; fully photo-document the building's interior
34 and exterior; and allow for salvaging of certain elements within the building, such as special casement
35 windows per the City's Council Policy 602 (City of San Juan Capistrano 1992). However, to the extent
36 that issuance of a demolition permit by the City of San Juan Capistrano is a discretionary action, the
37 CPUC's approval of the Certificate of Public Convenience and Necessity would preempt local authority
38 and discretionary approval from the City Council for the demolition permit would not be required.
39 Nonetheless, the applicant would implement APM CUL-10, which includes the conditions of Council
40 Policy 602.
41

42 There are 10 known prehistoric sites within the surveyed area; however, none of them were relocated
43 during the applicant's field surveys. Additionally, the San Juan Basin, along San Juan Creek, is known to
44 have been the location of several Juaneño/Acjachemen villages. The alluvial sediments that fill the basin
45 also have the potential to hold buried deposits. Ground disturbing activities during construction or
46 restoration could significantly damage the known prehistoric sites and previously undiscovered historic
47 resources within the proposed project area. To address this, the applicant would implement APM CUL-1
48 through APM CUL-7, requiring the applicant to train all construction workers on the procedures to
49 follow if cultural resources are discovered, monitor within the vicinity of known cultural resources,

1 demarcate cultural resources as Environmental Sensitive Areas in the field, halt construction in the event
2 that cultural resources are discovered, curate and report cultural discoveries, and prepare a report of the
3 monitoring program. However, significant impacts on previously discovered and undiscovered historic
4 resources could still occur. As discussed in Section 4.5.4, MM CUL-1 through MM CUL-6 address this
5 as follows. MM CUL-1 requires the applicant to train construction workers how to identify cultural
6 resources in the field and their personal legal responsibility to avoid damage to a cultural resource. MM
7 CUL-2 requires the applicant to prepare and implement a Construction Monitoring Plan identifying areas
8 that would require a CPUC-approved cultural monitor present during ground disturbing activities. MM
9 CUL-3 defines the required expertise for a qualified or “CPUC-approved” archaeologist. MM CUL-4
10 requires the applicant to prepare and implement a Native American Consultation and Participation Plan
11 to ensure that Native American resources are not impacted. MM CUL-1 through MM CUL-4 are
12 designed to further prevent impacts on historic resources by requiring a properly qualified archaeologist
13 to be present during any construction and restoration activities with the potential to impact a previously
14 undiscovered historic resource, to ensure proper implementation of procedures for the discovery of
15 cultural resources as detailed in APM CUL-4 through APM CUL-6.

16
17 Some portions of the proposed project (i.e., new staging areas and the proposed 12-kV distribution line)
18 have not been surveyed by the applicant for cultural resources. Previously discovered or undiscovered
19 historic resources could occur within the unsurveyed areas of the proposed project area and could be
20 impacted by the construction or restoration of the proposed project. MM CUL-5 requires the applicant to
21 conduct intensive-level cultural resources surveys for all areas to be disturbed that have not already been
22 surveyed for cultural resources. Impacts on historic resources would be less than significant with
23 mitigation during construction and restoration.

24
25 **Impact CUL-2: Substantial adverse change in the significance of an archaeological resource.**
26 ***LESS THAN SIGNIFICANT WITH MITIGATION***

27
28 Impacts on archaeological resources from the construction of the proposed project would be similar to
29 impacts on historical resources from construction activities as described under Impact CUL-1. To address
30 this, the applicant would implement APM CUL-1 through APM CUL-6, requiring the applicant to train
31 all construction workers on the procedures to be followed if cultural resources are discovered, monitor
32 within the vicinity of known cultural resources, demarcate cultural resources as Environmental Sensitive
33 Areas in the field, halt construction in the event that cultural resources are discovered, curate and report
34 cultural discoveries, and prepare a report of the monitoring program. However, significant impacts on
35 previously discovered and undiscovered archaeological resources could still occur. As discussed in
36 Section 4.5.4, MM CUL-1 through MM CUL-6 address this as follows. MM CUL-1 requires the
37 applicant to train construction workers how to identify cultural resources in the field and their personal
38 legal responsibility to avoid damage to a cultural resource. MM CUL-2 requires the applicant to prepare
39 and implement a Construction Monitoring Plan identifying areas that would require a CPUC-approved
40 cultural monitor to be present during ground disturbing activities. MM CUL-3 defines the required
41 expertise for a qualified or “CPUC-approved” archaeologist. Implementation of MM CUL-1 through
42 MM CUL-3 would further prevent impacts on archaeological resources by requiring a properly qualified
43 archaeologist to be present during any construction and restoration activities with the potential to impact
44 a previously undiscovered archaeological resource, to ensure proper implementation of procedures for
45 the discovery of cultural resources as detailed in APM CUL-4 through APM CUL-6. Impacts on
46 archaeological resources would be less than significant with mitigation during construction and
47 restoration.

48
49 Some portions of the proposed project (i.e., new staging areas and the proposed 12-kV distribution line)
50 have not been previously surveyed by the applicant for cultural resources. Previously discovered or

1 undiscovered archaeological resources could occur within the unsurveyed areas of the proposed project
2 and could be impacted by the construction or restoration of the proposed project. MM CUL-4 would
3 require the applicant to conduct intensive-level cultural resource surveys for all areas to be disturbed that
4 have not already been surveyed for cultural resources. Impacts on archaeological resources would be less
5 than significant with mitigation during construction and restoration.
6

7 **Impact CUL-3: Directly or indirectly destroy a unique paleontological resource or site or**
8 **unique geologic feature.**
9 *LESS THAN SIGNIFICANT WITH MITIGATION*
10

11 The proposed project would include ground disturbance in geologic units with high potential to contain
12 paleontological resources (Table 4.5-2). To address this, the applicant would implement APM CUL-1,
13 APM CUL-8, and APM CUL-9, which would require the applicant to train all construction workers on
14 the procedures to follow in the event of a discovery of paleontological resources, have a paleontological
15 monitor present during excavation operations that involve the original cutting of previously undisturbed
16 deposits with high paleontological resource sensitivity, and halt construction in the event that fossils are
17 encountered so that the resources could be recovered. However, potential impacts on paleontological
18 resource would remain significant. As discussed in Section 4.5.4, MM CUL-1, MM CUL-6, and MM
19 CUL-7 would address this as follows by requiring the applicant to provide additional preconstruction
20 training to all onsite personnel regarding paleontological resources; prepare the Paleontological
21 Monitoring and Treatment Plan to meet additional standards and submit the plan to the CPUC for review;
22 and use a qualified paleontological consultant as determined by the CPUC. Impacts under this criterion
23 would be less than significant with mitigation.
24

25 **Impact CUL-4: Disturb any human remains, including those interred outside of formal**
26 **cemeteries.**
27 *LESS THAN SIGNIFICANT WITH MITIGATION*
28

29 A review of records and field studies in the proposed project area has revealed that potential disturbance
30 of human remains is possible as a result of the proposed project. If human remains are encountered, HSC
31 Section 7050.5 states that no further disturbance will occur until the County Coroner has made the
32 necessary findings regarding origin. Further, pursuant to California PRC Section 5097.98, remains will
33 be left place and free from disturbance until a final decision regarding treatment and disposition is made.
34 If the County Coroner determines that the remains are Native American, the NAHC must be contacted
35 within 24 hours. The NAHC must then identify the most likely descendants within 48 hours of receiving
36 notification of the discovery. The most likely descendants will make recommendations and engage in
37 consultations concerning treatment of the remains pursuant to PRC 5097.98. In the event of dispute
38 regarding human remains, and upon request, the NAHC may mediate negotiations pursuant PRC 5097.94
39 and 5097.98.
40

41 To prevent damage to any discovered human remains, the applicant would implement APM CUL-1
42 through APM CUL-6, which would require the applicant to train all construction workers on the
43 procedures to follow if a cultural resource is discovered, monitor within the vicinity of known cultural
44 resources, demarcate cultural resources as Environmental Sensitive Areas in the field halt construction in
45 the event that cultural resources are discovered, curate and report cultural discoveries, and prepare a
46 report of the monitoring program. However, significant impacts on human remains could still occur. As
47 discussed in Section 4.5.4, MM CUL-1 through M CUL-3 address this as follows. MM CUL-1 requires
48 the applicant to train construction workers how to identify human remains in the field and their personal
49 legal responsibility to avoid damage to a cultural resource. MM CUL-2 requires the applicant to prepare
50 and implement a Construction Monitoring Plan identifying areas that would require a CPUC-approved

1 cultural monitor present during ground disturbing activities. MM CUL-3 defines the require expertise for
2 a qualified or “CPUC-approved” archaeologist. MM CUL-1 through MM CUL-3 are designed to further
3 prevent impacts on human remains by requiring a properly qualified archaeologist to be present during
4 any construction and restoration activities with the potential to impact a previously undiscovered human
5 remain, to ensure that proper implementation of procedures for the discovery of human remains are
6 implemented. Impacts on human remains would be less than significant with mitigation.

7 8 **4.5.4 Mitigation Measures** 9

10 **MM CUL- 1: Supplemental Worker Training for Cultural Resource.** As a supplement to APM CUL-
11 1, this measure requires the applicant to incorporate the following specific topics into the pre-
12 construction cultural resource training for all onsite personnel:
13

- 14 • Describe the role of cultural and paleontological resources monitors and the role of Native
15 American monitors;
- 16 • Describe the types of cultural and paleontological resources that may be found in the proposed
17 project area;
- 18 • Describe the potential for human remains to be discovered during ground disturbing activities;
19 and
- 20 • Describe the penalties associated for breaking the laws relevant to the protection of cultural and
21 paleontological resources.
22

23 The cultural and paleontological resources training components will be presented by a CPUC-approved
24 cultural resources consultant (see MM CUL-3) and CPUC-approved paleontological consultant (see MM
25 CUL-6). The applicant shall provide a copy of the training material and trainee sign-in sheets to the
26 CPUC prior to construction.
27

28 **MM CUL-2: Construction Monitoring Plan.** Prior to construction, the applicant will submit a
29 Construction Monitoring Plan for the proposed project, prepared by the approved consultant(s) (MM
30 CUL-3) for review and approval by the CPUC. The final Construction Monitoring Plan shall be
31 implemented, as specified, throughout construction and restoration. The Construction Monitoring Plan
32 shall, at a minimum:
33

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

- 1 • Include testing and evaluation procedures for resources encountered.
- 2 • Describe procedures for curating any collected materials.
- 3 • Outline coordination strategies to ensure that the CPUC-approved paleontological consultant
- 4 (MM CUL-6) conducts full-time monitoring of all grading activities in sediments determined to
- 5 have a moderate to high sensitivity.
- 6 • Include reporting procedures.
- 7 • Include contact information for those to be notified or reported to.

8
9 For sediments of low or undetermined sensitivity, the Paleontological Monitoring and Treatment Plan
10 will specify the level of monitoring necessary. Sediments with no sensitivity will not require
11 paleontological monitoring. The plan will define specific conditions in which monitoring of earthwork
12 activities could be reduced and/or depth criteria established to trigger monitoring. These factors will be
13 defined by an approved (MM CUL-6) paleontologist.

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 province¹. 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, silt 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

1 **Soils**

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

4

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).

1
2 There are no known active faults within the proposed project area; however, there are four active fault
3 zones within 20 miles of the proposed project area (Table 4.6-3). The faults are primarily strike-slip
4 (horizontal side-to-side motion).
5

**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

6
7 Alquist-Priolo Earthquake Fault Zones (A-P Zones) are designated areas within 500 feet of known active
8 fault traces. The closest active fault to the proposed project area is an offshore segment of the Coronado
9 Bank fault zone located approximately 14 miles to the southwest; however, this segment of the fault zone
10 has not been mapped under the Alquist-Priolo Act because it is located offshore. The closest A-P Zones to
11 the proposed project include those associated with the Elsinore fault zone, Glen Ivy section (located about
12 18 miles to the northeast of the proposed project area) and the Elsinore fault zone, Temecula section
13 (Wildomar fault) (located about 19 miles to the east/northeast of the proposed project area). Figure 4.6-1
14 shows the regional faults and earthquake epicenters in the area.
15

16 Faults generally produce damage in two ways: ground shaking and surface rupture. Seismically induced
17 ground shaking covers a wide area and is greatly influenced by the distance to the seismic source, soil
18 conditions, and groundwater depth. Potential hazards associated with seismically induced ground shaking
19 include earthquake triggered landslides and tsunamis. Surface rupture is limited to the areas closest to the
20 faults.
21

22 **Fault Surface Ruptures.** Fault surface ruptures generally occur along preexisting active faults when
23 movement along a fault line breaks through to the surface. Surface ruptures may occur suddenly along
24 with a large earthquake or slowly in the form of fault creep. As listed in Table 4.6-3, there are no known
25 active or potentially active faults within the proposed project area. Therefore, there are no locations
26 within the proposed project area that are prone to surface fault rupture.
27

28 **Ground Shaking.** The intensity of the seismic shaking, or strong ground motion, during an earthquake is
29 dependent on the distance to the earthquake’s epicenter (point at the earth’s surface directly above the
30 initial movement of the fault at depth), the magnitude (seismic energy released), and the geologic
31 conditions underlying and surrounding the area impacted. Large magnitude earthquakes occurring along
32 the faults closest to components of the proposed project would generate the greatest amount of ground
33 shaking. Earthquakes occurring in more distant areas or small, local earthquakes could cause intense
34 ground shaking in areas underlain by thick, loose, unconsolidated, and water-saturated sediments.
35

1 The proposed project would be located in a seismically active region and would likely experience
2 moderate to severe ground shaking if a large magnitude earthquake occurs on one of the region's active
3 faults during the lifespan of the proposed project. Seismic hazards in a region are estimated using
4 statistics of earthquake occurrence to estimate the level of potential ground motion. A common parameter
5 used for estimating ground motion at a particular location is the peak ground acceleration (PGA). PGA is
6 a measure of earthquake intensity; it is a measure of how hard the earth shakes at a given geographic
7 location during the course of an earthquake (USGS 2007). The higher the PGA value, the more intense
8 the ground shaking².

9
10 The U.S. Geological Survey (USGS) National Seismic Hazards Mapping Program performed a
11 probabilistic seismic hazard assessment for the continental United States. Using an interactive web
12 mapping tool, PGA values were assessed for a location near the center of the project site in Transmission
13 Line Segment 3³. Based on the interactive map, there is a 10 percent chance in 50 years (a recurrence
14 interval of 475-years) that areas within and in the vicinity of the proposed project area would experience
15 ground shaking with a PGA exceeding 0.25g (very strong perceived shaking and moderate property
16 damage). There is a 2 percent chance in 50 years (a recurrence interval of 2,475 years) that areas within
17 and in the vicinity of the proposed project area would experience ground shaking with a PGA exceeding
18 0.46g (severe perceived shaking and moderate to heavy property damage) (USGS 2008).

19 **Erosion**

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

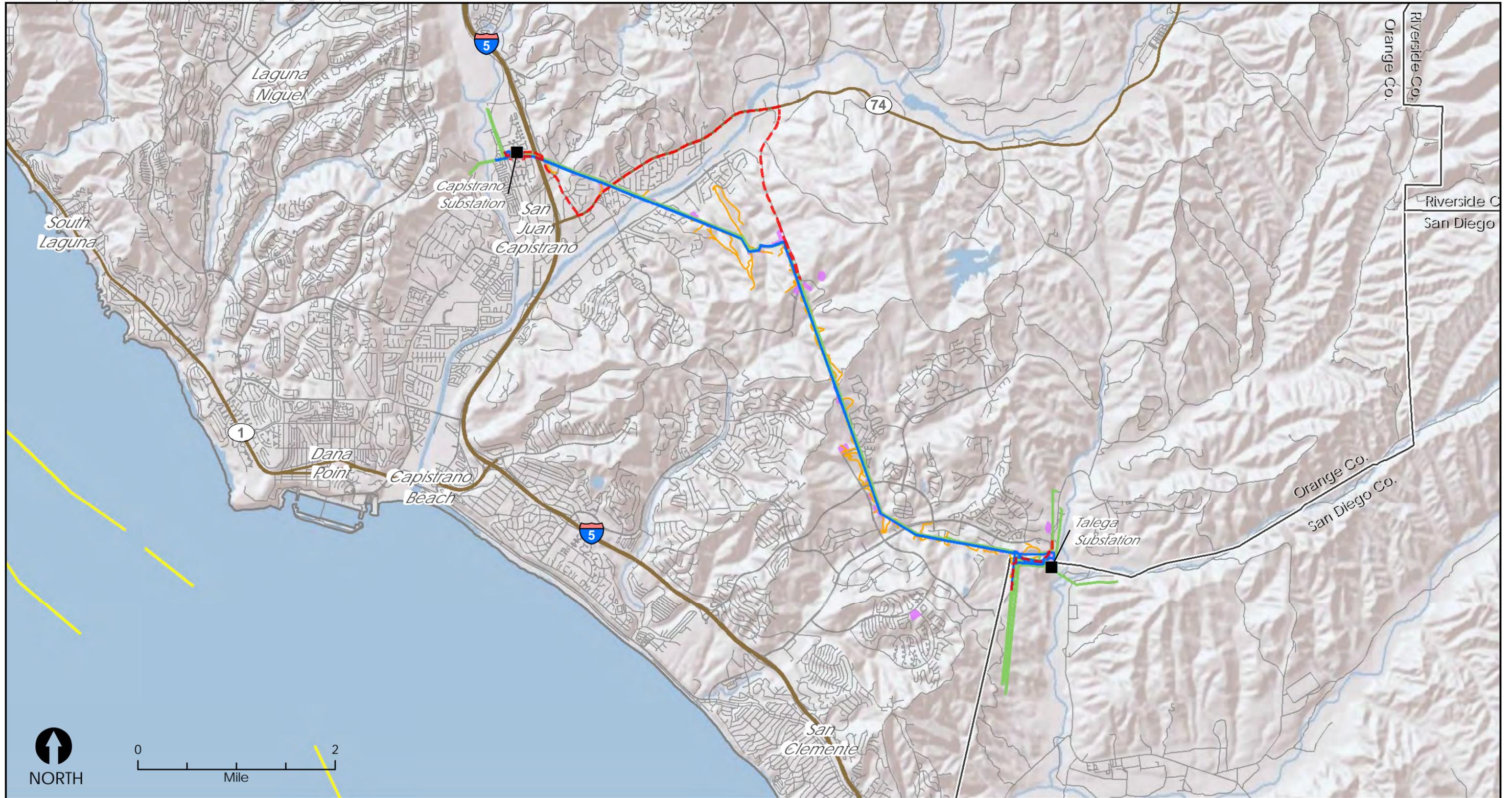
25 **Landslides**

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

33
34 Extensive landslides, both recent and ancient, have occurred throughout the proposed project area (URS
35 2012). Most of the landslides have occurred within the Capistrano and Monterey formations
36 (Transmission Line Segments 1a through 3 and 12-kV Segments A through L), but landslides have also
37 occurred within the Santiago Formation (Transmission Line Segment 4, 12-kilovolt [kV] Segment M, and
38 Talega Substation). The California Geological Survey (CGS), previously called the California
39 Department of Conservation, Division of Mines and Geology, has mapped areas of earthquake-induced
40 landslide potential in the San Juan Capistrano and San Clemente areas (CGS 2001a, 2001b, 2002b) based
41 on previous occurrence of landslide movement, or local topographic, geological, geotechnical, and
42 subsurface water conditions indicate a potential for permanent ground displacements such that mitigation,
43 as defined in California Public Resources Code Section 2693(c), would be required. Landslide
44 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 $16 \times 12 \times 2.54 = 487$ 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.

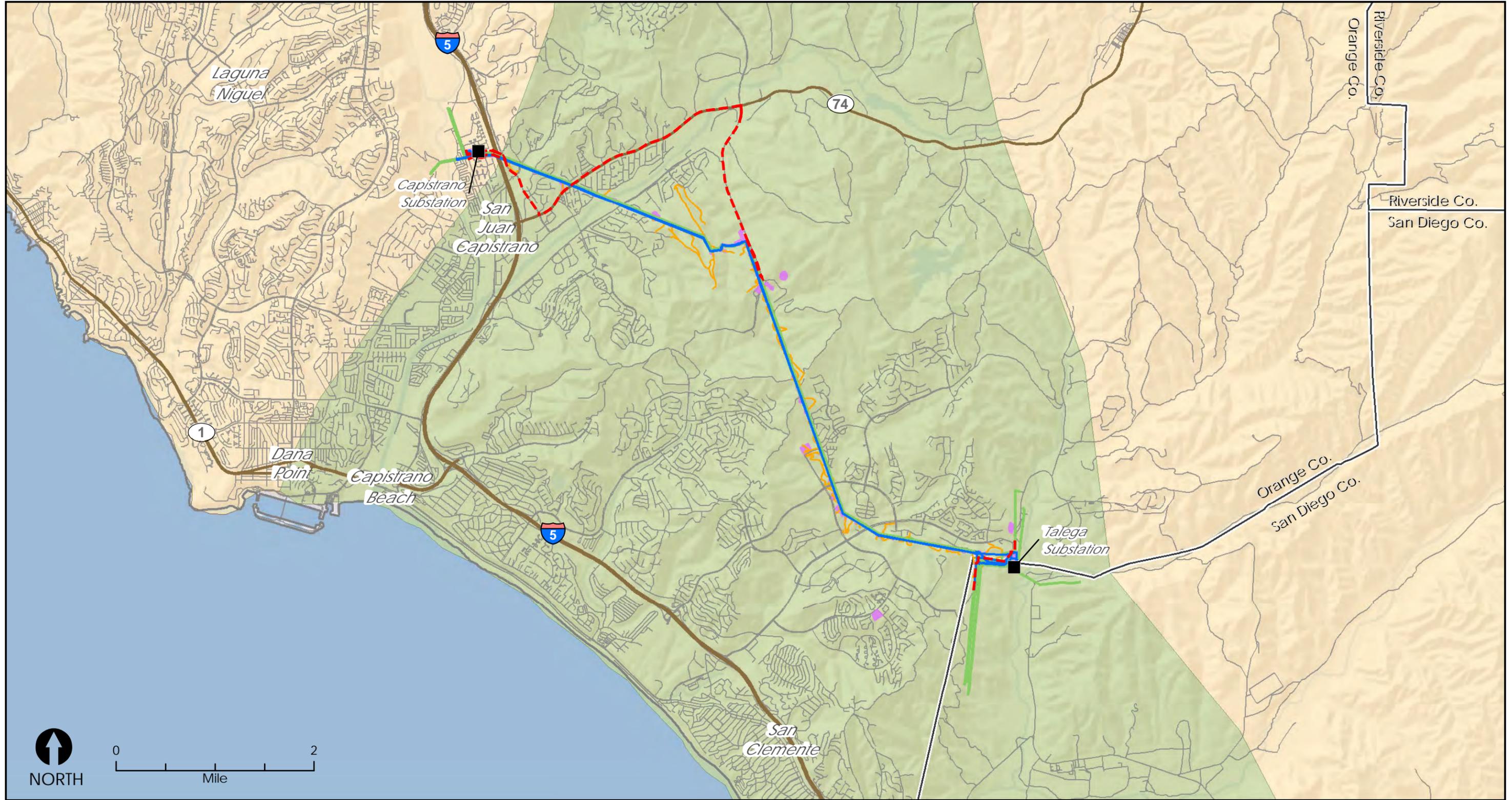


- Proposed transmission line
- Existing transmission line
- Access road
- Impact areas
- Distribution Line
- Roads
- Local road
- County Boundary
- USGS Quaternary Fault
Active <1,600,000 years ago
- Active Earthquake Epicenter

Sources: USGS 2014

Figure 4.6-1 Regional Faults and Earthquake Epicenters

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Sources: USGS 2001



- | | | |
|----------------------------|-------------------|---------------------------------|
| Proposed transmission line | Distribution Line | Landslide Susceptibility |
| Existing transmission line | Roads | High Landslide Incidence |
| Access road | Local road | Moderate Landslide Incidence |
| Impact areas | County Boundary | |

Figure 4.6-2 Landslide Susceptibility

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1
2 **Liquefaction**

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

13
14 **Subsidence**

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

21
22 **Collapsible Soil**

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

30
31 **Expansive Soil**

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

40
41 **4.6.1.2 Minerals**

42
43 Current mineral extraction activities in the vicinity of the proposed project are limited to sand, gravel, and
44 clay (USGS 2012). The Bedford Canyon Formation in the Santa Ana Mountains contains silver, lead, tin,
45 and zinc mines, but only limited quantities of ore have been recovered since the late 1800s (Stadum
46 2007). Although Orange County contains significant amounts of mineral resources, mineral resources
47 necessary to meet the County's existing and future development needs, such as construction aggregate,
48 are of particular importance (County of Orange 2011). These resources are located in portions of the
49 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.

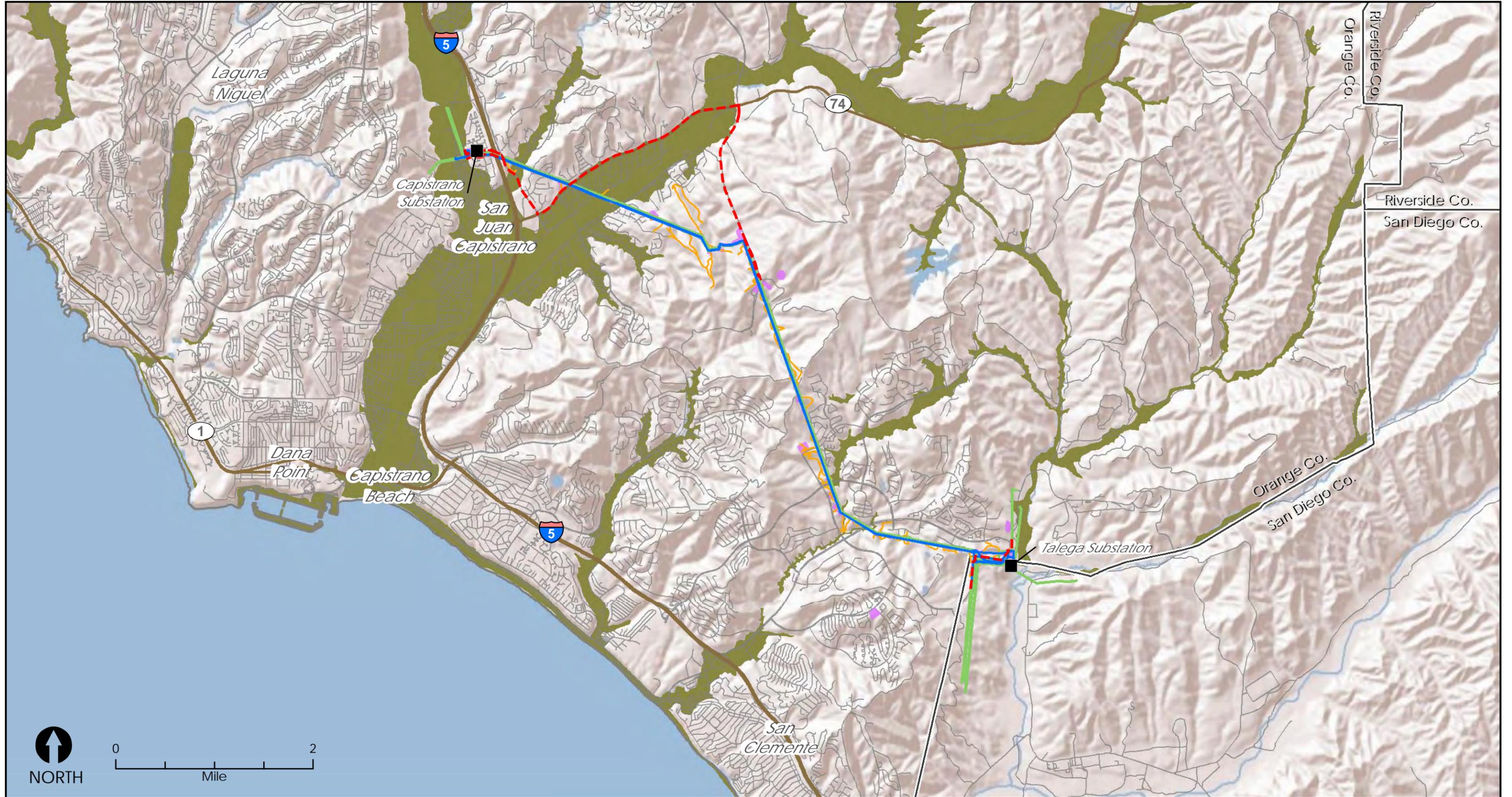
In accordance with the provisions of the Seismic Hazards Mapping Act, Article 10 of the California Code of Regulations (CGS Seismic Hazards Zonation Program), requires that site-specific geotechnical investigations be performed prior to permitting projects within Seismic Hazard Zones. The geotechnical 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.

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.



Sources: CalAtlas 2009



- | | |
|----------------------------|------------------------|
| Proposed transmission line | Distribution Line |
| Existing transmission line | Roads |
| Access road | Local road |
| Impact areas | County Boundary |
| | Liquefaction Zone Area |

Figure 4.6-3 Liquefaction Susceptibility in the Proposed Project Area

South Orange County Reliability Enhancement Project

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1 **Surface Mining and Reclamation Act**

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

11 **4.6.2.3 Regional and Local**

12 **San Diego Regional Water Quality Control Board**

13
14
15 The San Diego Regional Water Quality Control Board manages water quality for the jurisdictions
16 traversed by components of the proposed project. Because construction of the proposed project would
17 disturb a surface area greater than 1 acre, the applicant would be required to obtain a NPDES permit from
18 the Board. To acquire this permit, the applicant would prepare a SWPPP that would include information
19 about the proposed project, monitoring and reporting procedures, and best management practices (BMPs),
20 including those for erosion, sedimentation, and stormwater runoff control. The SWPPP would be based
21 on final engineering design and would include all components of the proposed project.
22

23 **Orange County**

24 The County of Orange General Plan establishes policies to support the goals of: (1) providing for a safe
25 living and working environment consistent with available resources; (2) minimizing the effects of public
26 safety hazards through implementation of appropriate regulations and standards that maximize protection
27 of life and property; and (3) raising the awareness of Orange County residents, workers, and visitors to
28 the potential threat of public safety hazards (County of Orange 2011). Policies to accomplish these goals
29 related to seismic safety and geologic hazards include the following:
30

- 31 • **Seismic Safety and Geologic Hazards Policy 4:** Implement ordinances, regulations, and
32 procedures that mandate the review, evaluation, and restriction of land use due to possible undue
33 geologic threat.
- 34 • **Seismic Safety and Geologic Hazards Policy 5:** Encourage establishment of seismic design
35 criteria and standards for county facilities (e.g., transmission lines, water and sewage systems,
36 and highways), any structures, housing, necessary mobile units, and support equipment, and other
37 vital resources that would be needed following an earthquake (e.g., “back-up” power generation
38 facilities and water storage).
- 39 • **Seismic Safety and Geologic Hazards Policy 8:** Establish development standards for land use,
40 new construction, and proposed improvements to ensure proper design and location of structures.
41

42 **City of San Juan Capistrano**

43 The City of San Juan Capistrano has adopted the 1997 Uniform Building Code, 1997 Uniform
44 Mechanical Code, 1997 Uniform Fire Code, and the 1997 National Electrical Code, which contain
45 structural requirements for existing and new buildings (City of San Juan Capistrano 2002). The City of
46 San Juan Capistrano General Plan establishes policies to support Safety Goal 1, which is to reduce the
47 risk to the community from hazards related to geologic conditions, seismic activity, wildfires, structural

1 fires, and flooding. The following policies related to geologic conditions and seismic activity are
2 applicable to the proposed project:

- 3
- 4 • **Safety Element Policy 1.1:** Reduce the risk of impacts from geologic and seismic hazards by
5 applying proper development engineering, building construction, and retrofitting requirements.
- 6 • **Land Use Element Policy 4.1:** Preserve areas of natural hazards, such as landslides and
7 floodplains, which would jeopardize the public health and safety.
8

9 **City of San Clemente**

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

- 18
- 19 • **Policy S-1.04. Landslide Risk:** Where development is proposed on unstable terrain, excessively
20 steep slopes, and other areas deemed hazardous due to landslide risk, the City of San Clemente
21 prohibits development unless acceptable mitigation measures are implemented.
- 22 • **Policy S-1.05. Assessment and Mitigation:** Where appropriate, the City of San Clemente
23 requires new development to assess the potential for liquefaction, slope instability, and landslides,
24 and requires that appropriate measures be incorporated into the project to mitigate such hazards.

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

- 30
- 31 • **Policy NR-4.05. Project Impacts:** The City of San Clemente requires assessments and
32 mitigation of potential impacts to mineral resources as part of applications for general plan
33 amendments, zoning changes, or any projects requiring environmental review per the California
34 Environmental Quality Act (CEQA), consistent with the Surface Mining and Reclamation Act
35 (SMARA).
36

37 **4.6.3 Impact Analysis**

38 **4.6.3.1 Methodology and Significance Criteria**

39 Information and data from available published resources, including journals, maps, and government
40 websites, were collected and reviewed. This information was evaluated within the context of applicable
41 federal, state, and local laws, regulations, standards, and policies. Potential impacts on geology, soils, and
42 mineral resources and from geologic hazards were evaluated according to the following significance
43 criteria. The criteria were defined based on the checklist items presented in Appendix G of the CEQA
44 Guidelines. The proposed project would cause a significant impact if it would:
45
46
47

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

- 1 i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo
2 Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other
3 substantial evidence of a known fault. Refer to Division of Mines and Geology Special
4 Publication 42;
- 5 ii) Strong seismic ground shaking;
- 6 iii) Seismic-related ground failure, including liquefaction; or
- 7 iv) Landslides.
- 8 b) Result in substantial soil erosion or the loss of topsoil;
- 9 c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of
10 the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence,
11 liquefaction or collapse;
- 12 d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994),
13 creating substantial risks to life or property;

14
15 Appendix G of the CEQA Guidelines also includes the following checklist items:

- 16
- 17 • Have soils incapable of adequately supporting the use of septic tanks or alternative waste water
18 disposal systems where sewers are not available for the disposal of waste water.
 - 19 • Result in the loss of availability of a known mineral resource that would be of value to the region
20 and the residents of the state.
 - 21 • Result in the loss of availability of a locally important mineral resource recovery site delineated
22 on a local general plan, specific plan, or other land use plan.
- 23

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

32

33 **4.6.3.2 Applicant Proposed Measures**

34

35 The applicant has committed to the following as part of the design of the proposed project. See Section
36 2.6, “Applicant Procedures, Plans, Standards, and Proposed Measures,” for a complete description of each
37 project commitment.

38

39 **APM GEO-1: Conduct an Engineering-level Geotechnical Investigation for Liquefaction**
40 **Potential and Implement Recommended Design Measures.** A geologic hazard evaluation was
41 conducted by URS in 2008 to evaluate the pole locations along the Proposed Project transmission
42 line route for the presence of geologic hazards that may affect the new towers and poles. The geologic
43 hazard evaluation indicated the presence of geologic conditions potentially susceptible to liquefaction
44 at the locations of proposed Pole Nos. 8, 9 and 10. Prior to construction, an engineering-level
45 geotechnical investigation would be performed at these locations under the supervision of a California
46 Certified Engineering Geologist or California licensed Geotechnical Engineer to further evaluate the
47 liquefaction potential at each of these pole locations and to develop design measures to minimize the

1 potential for damage to Proposed Project structures in the event of strong ground shaking.
2 Recommendations of the geotechnical investigation would be incorporated into the final design for
3 these structures. These recommendations would include augmented grading practices, expanded
4 erosion control measures and deeper foundations.

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

21 22 **4.6.3.3 Environmental Impacts**

23
24 **Impact GE-1: Expose people or structures to potential substantial adverse effects,**
25 **including the risk of loss, injury, or death involving rupture of a known**
26 **earthquake fault, as delineated on the most recent Alquist-Priolo**
27 **Earthquake Fault Zoning Map issued by the State Geologist, for the area or**
28 **based on other substantial evidence of a known fault.**
29 *LESS THAN SIGNIFICANT*
30

31 The potential for fault surface rupture is generally considered to be greatest along active faults (those with
32 evidence of movement within the past 11,500 years), and to a lesser degree along potentially active faults
33 (those with evidence of movement within the past 1.6 million years). No active or potentially active faults
34 are located in the immediate vicinity of the proposed project (Table 4.6-3). The closest active fault to the
35 proposed project area is an offshore segment of the Coronado Bank fault zone located about 14 miles to
36 the southwest, and the closest potentially active fault is an offshore segment of the Newport-Inglewood
37 fault zone located about 5 miles to the southwest. There are no proposed project components within an
38 A-P Zone. The nearest A-P Zone in relation to proposed project components is the Alberhill A-P Zone,
39 which is approximately 18 miles northeast of the proposed project area (Figure 4.6-1). There is very low
40 potential that ground rupture would occur at or in the immediate vicinity of any proposed project
41 components; therefore, any impacts under this criterion would be less than significant.

42
43 **Impact GE-2: Expose people or structures to potential substantial adverse effects,**
44 **including the risk of loss, injury, or death involving strong seismic ground**
45 **shaking.**
46 *LESS THAN SIGNIFICANT*
47

48 The proposed project would be located in a seismically active region with active faults capable of
49 producing strong seismic ground shaking in the event of a large magnitude earthquake (Table 4.6-3).
50 Therefore, the proposed project could experience moderate to high levels of earthquake-induced ground

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

20
21 **Impact GE-3: Expose people or structures to potential substantial adverse effects,**
22 **including the risk of loss, injury, or death involving seismic-related ground**
23 **failure, including liquefaction.**
24 *LESS THAN SIGNIFICANT*
25

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

- 34
- 35 • Pole Nos. 8, 9, and 10, which are located in close proximity to the San Juan Creek stream
36 channel; and
- 37 • Pole Nos. 1a-5a, which are located west of the proposed San Juan Capistrano Substation.
38

39 Prior to construction, an engineering-level geotechnical investigation would be performed at Pole Nos. 8,
40 9, and 10 under the supervision of a California Certified Engineering Geologist or California licensed
41 Geotechnical Engineer to further evaluate the liquefaction potential at each of these pole locations and to
42 develop design measures to minimize the potential for damage to proposed project structures in the event
43 of strong ground shaking (APM GEO-1).
44

45 In accordance with the provisions of the Seismic Hazards Mapping Act, Article 10 of the California Code
46 of Regulations (CGS Seismic Hazards Zonation Program), geotechnical investigations would also be
47 required at Pole Nos. 1a-5a prior to the start of construction. Recommendations of the geotechnical
48 investigation would be incorporated into the final design for these structures. These recommendations
49 could include augmented grading practices, expanded erosion control measures, and deeper foundations.
50

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

6
7 **Impact GE-4: Expose people or structures to potential substantial adverse effects,**
8 **including the risk of loss, injury, or death involving landslides.**
9 *LESS THAN SIGNIFICANT*

10
11 Extensive landslides, both ancient and recent, have occurred throughout the proposed project area. The
12 majority of the proposed transmission line route would be located in areas with rugged topography, steep
13 slopes, and highly unstable bedrock. As a result, landslides (seismically induced or otherwise) are a
14 potential hazard throughout most of the project area. In addition, slope destabilization could result from
15 construction activities, such as grading or dewatering.

16
17 Twenty-three of the proposed new 230-kV transmission structures (Pole Nos. 11-14, 18-21, 24-28, 31-36,
18 41-42, and 44), three of the proposed new 138-kV structures (Pole Nos. 8a, 10a, and 11a), two of the
19 proposed new 69-kV structures (Pole Nos. 3b and 4b), and Pole No. D10 of the proposed 12-kV
20 distribution poles would be located in or very close to areas that have been mapped by CGS as susceptible
21 to landslide hazards (Figure 4.6-2). Although proposed transmission structure sites are located in or near
22 areas mapped as being potentially susceptible to landslides, none of the proposed transmission line
23 facilities appear to be in immediate danger from landslides or potential slope instability associated with
24 landsliding (URS 2012). However, a number of the proposed new transmission structures would be
25 located in areas where there is a risk of potential slope instability.

26
27 There is low potential for landslides or other slope instability issues at the proposed San Juan Capistrano
28 Substation site. While the Capistrano formation is generally considered to be a landslide prone deposit,
29 the material encountered in the existing slopes at the substation site were not composed of predominantly
30 clayey material, and clay seams were not encountered at the site or within the areas where new slopes
31 may expose the Capistrano Formation. Furthermore, adverse bedding and bedding plane shears were not
32 encountered in the test pits performed at the site, and new slopes at the site would be engineered at 2:1
33 (horizontal: vertical), which is flatter than the slopes that currently exist at the site (Geosyntec Consultants
34 2014). Therefore, the potential for slope instability and landslides at the proposed San Juan Capistrano
35 Substation site is considered negligible. Although the Talega Substation is located in an area potentially
36 susceptible to landslide or slope stability hazards, no new grading, drainage, or footprint changes are
37 proposed at the substation, thus the existing stability would not be altered, so the proposed project would
38 not affect the potential for landslide or slope stability hazards at the Talega Substation site.

39
40 The applicant would implement APM GEO-2, in which the applicant would perform an engineering-level
41 geotechnical investigation at each pole location along the transmission line route that is in or near a
42 mapped landslide or other unstable slope condition prior to construction. In accordance with the
43 provisions of the Seismic Hazards Mapping Act, Article 10 of the California Code of Regulations (CGS
44 Seismic Hazards Zonation Program), geotechnical investigations would also be required at Pole No. D10
45 along the proposed 12-kV distribution line, which is mapped as potentially susceptible to landslide
46 hazards, prior to the start of construction. These investigations would be performed under the supervision
47 of a California Certified Engineering Geologist or California licensed Geotechnical Engineer, and would
48 identify site-specific protection measures to be designed and implemented to ensure that the proposed
49 project does not materially increase slope stability risks and to minimize potential for damage to proposed
50 project structures in the event of landslides. These recommendations could include augmented grading
51 practices (e.g., flattened cut slopes), expanded erosion control measures (e.g., 60° reinforced slopes,

1 compacted backfill), deeper foundations, and other project design features (e.g., cast-in-place reinforced
2 concrete walls, soldier piles, and lagging walls).

3
4 There is a low likelihood that an earthquake capable of producing landslides or other slope stability issues
5 would occur during the 64-month construction phase of the proposed project. Project design features
6 developed based on the results of the geotechnical investigation would minimize the likelihood that
7 structures located in areas potentially susceptible to landslides or slope instability would collapse,
8 potentially resulting in injury or death, during the life of the proposed project.

9
10 The potential for the proposed project to create harm during a landslide event would be similar to the
11 existing potential, as there are existing structures in the proposed project area. With the incorporation
12 APM GEO-1 and APM GEO-2, the potential for the proposed project to create a landslide event during
13 operation would be less than significant under this criterion.

14
15 **Impact GE-5: Result in substantial soil erosion or the loss of topsoil.**
16 *LESS THAN SIGNIFICANT*

17
18 The majority of the soils in the proposed project area occur on steep slopes and have high erosion
19 potential. During construction, grading would be required to develop new access and spur roads, level the
20 proposed San Juan Capistrano Substation site, and create level pads at some of the proposed transmission
21 structure sites. In addition, excavation and trenching would be required to facilitate construction of some
22 of the proposed project components, such as the proposed San Juan Capistrano Substation and
23 underground segments of the transmission line and distribution line. Grading, excavation, and trenching
24 could result in soil erosion and loss of topsoil. The applicant would be required to obtain a NPDES
25 Construction General Permit because the proposed project would require disturbance of more than one
26 acre of soil. As part of obtaining a NPDES Construction General Permit, the applicant would be required
27 to design and implement a SWPPP. The SWPPP would incorporate BMPs for erosion and sedimentation
28 controls. Erosion controls consist of source control measures that are designed to prevent soil particles
29 from detaching and being transported off-site. Examples of erosion control measures include use of straw
30 mulch, geotextiles and mats, hydraulic mulch, hydroseeding, velocity dissipation devices, grading
31 operations during non-rainy periods only, and application of soil binders. Sedimentation controls are
32 structural measures intended to complement and enhance the selected erosion control measures and
33 reduce sediment discharges from active construction areas. Examples of sediment control measures
34 include silt fences, sediment traps, check dams, fiber rolls, gravel bag berms, and sandbag barriers. The
35 qualified SWPPP preparer would consider information about the physical properties of subsurface soils,
36 soil resistivity, and slope stability data from the geotechnical investigations while developing the SWPPP.

37
38 In addition to mandatory compliance with the measures outlined in the SWPPP, the applicant would also
39 comply with its BMP Manual (SDG&E 2011). The BMP Manual contains specific erosion control BMPs
40 and guidance on when, where, and how to implement them based on site-specific conditions or activities.
41 Examples of erosion control BMPs in the manual include preservation of existing vegetation, dust
42 control, and soil preparation (e.g., roughening surface soils by mechanical methods to prepare soils for
43 additional BMPs or to break up sheet flow).

44
45 During construction, topsoil would be salvaged from areas where grading, excavation, or trenching would
46 otherwise result in the loss of topsoil. The salvaged topsoil would be stockpiled and protected from
47 erosion through implementation of appropriate BMPs (e.g., plastic covers over stockpiles and gravel bag
48 berms around the base of the stockpiles). Upon completion of surface disturbances, the salvaged topsoil
49 would be used to reclaim areas of temporary construction disturbance, and areas not subject to additional
50 disturbance would be stabilized by landscaping.

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

4
5 The BMPs and measures identified in the SWPPP and the applicant's BMP Manual would be employed
6 during all land-disturbing activities resulting from construction and/or operation of the proposed project.
7 Therefore, impacts under this criterion would be less than significant.

8
9 **Impact GE-6: Be located on a geologic unit or soil that is unstable, or that would become**
10 **unstable as a result of the project, and potentially result in on- or off-site**
11 **landslide, lateral spreading, subsidence, liquefaction or collapse.**
12 *LESS THAN SIGNIFICANT*

13
14 The majority of the project components would be sited on naturally unstable geologic units and soils with
15 high erosion potential. Areas where the natural slope is over-steepened by the construction of access
16 roads, transmission structure foundations, or other excavated areas would have increased landslide
17 susceptibility. In addition, ancient and recent landslides occur throughout the proposed project area, and
18 project construction activities could reactivate a landslide if appropriate project design features are not
19 implemented. However, the applicant would implement APM GEO-2, in which the applicant would
20 perform an engineering-level geotechnical investigation at each pole location along the transmission line
21 route that is in or near a mapped landslide or other unstable slope condition prior to construction. The
22 applicant would incorporate the results of the geotechnical investigations to design and implement site-
23 specific protection measures to ensure that the proposed project does not materially increase slope
24 stability risks and to minimize potential for damage to proposed project structures in the event of
25 landslides. The SWPPP would require additional site-specific erosion control measures.

26
27 Liquefaction and lateral spreading could result in lowland areas where saturated sandy soil loses strength
28 and cohesion due to ground shaking during an earthquake. In these areas, based on the results of the
29 geotechnical investigation and as part of implementing APM GEO-1, the applicant would design project
30 components to minimize potential for liquefaction and incorporate ground improvements in liquefiable
31 zones.

32
33 The proposed project is not anticipated to result in subsidence because groundwater would not be used to
34 facilitate construction or operation of proposed project. Dewatering may be required if shallow
35 groundwater is encountered in structure footings or other project excavations, but the effects of
36 dewatering would be localized and short-term. Furthermore, the majority of project components do not
37 overlay a substantial groundwater basin, and shallow groundwater has not been encountered during
38 geotechnical investigations at proposed facility sites (e.g., the proposed San Juan Capistrano Substation
39 site) that do overlay a substantial groundwater basin (Geosyntec Consultants 2012).

40
41 Soil collapse typically occurs in recently deposited Holocene (within the last 11,500 years) soils that were
42 deposited in an arid or semi-arid environment or at the base of steep canyons or hillsides where mudflows
43 have dried and allowed the formation of air pockets in subsurface soils. The only Holocene-age deposits
44 within the proposed project area include landslide areas and wash deposits. However, because these areas
45 coincide with CGS-mapped Seismic Hazard Zones, site-specific geotechnical investigations would be
46 required at these locations in accordance with the provisions of the Seismic Hazards Mapping Act, Article
47 10 of the California Code of Regulations. If collapsible soils are found during the geotechnical
48 investigations, site-specific project design features would be incorporated to minimize the potential for
49 soil collapse.

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

4
5 **Impact GE-7: Be located on expansive soil, as defined in Table 18-1-B of the Uniform**
6 **Building Code (1994), creating substantial risks to life or property.**
7 *LESS THAN SIGNIFICANT*
8

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

14
15 Shallow, reinforced concrete spread footing foundations, such as those proposed for the San Juan
16 Capistrano Substation site, can be adversely affected if the foundations overlay expansive soils close to
17 the ground surface. However, the laboratory results of the geotechnical investigation at the proposed San
18 Juan Capistrano Substation site indicate that the majority of near-surface soil (up to 5 feet below the
19 existing surface) is not considered expansive in accordance with California Building Code Section
20 1803A.5.2 (Geosyntec Consultants 2012).

21
22 Several soil types along the proposed project transmission line route have a moderate to high shrink-swell
23 (expansion) potential (Table 4.6-2). However, transmission structure foundations are typically deep-
24 drilled, pier-reinforced concrete foundations that are designed for the structural properties of the various
25 soil layers, taking into account the maximum allowable deflections and rotations. Therefore, expansive
26 soils are not anticipated to have a significant adverse impact on transmission line structures.

27
28 The applicant would use the results of the geotechnical investigations (as described in APM GEO-1 and
29 APM GEO-2) to inform the final engineering designs of the transmission line foundations and other
30 structures that may be impacted by expansive soils. The project would also be required to comply with all
31 applicable building codes. Therefore, impacts under this criterion would be less than significant.

32 33 **4.6.4 Mitigation Measures**

34
35 No significant impacts to geology, soils, and minerals were identified; therefore, no mitigation measures
36 are required.

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4.7 Greenhouse Gases

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 greenhouse gases (GHGs). During scoping, comments regarding the utilization of sulfur hexafluoride (SF₆) were received and are addressed in this section.

4.7.1 Environmental Setting

According to the U.S. Environmental Protection Agency (EPA), the term *climate change* refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period, decades or longer (EPA 2014a). The term is often used interchangeably with the term *global warming*. Climate change or global warming represents an average increase in the temperature of the atmosphere near the earth's surface and in the troposphere, which can contribute to changes in global climate patterns. The global distribution of temperature increase is varied, and in some locations average temperatures have actually decreased. Climate change has been attributed to a variety of causes, including both natural and human activity (EPA 2014a). Current scientific research indicates that potential effects of climate change include variations in temperature and precipitation, sea-level rise, impacts on biodiversity and habitat, impacts on agriculture and forestry, and human health and social impacts (CNRA 2009).

The proposed project would be located within the eastern side of the South Coast Air Basin. Proposed construction, operation, and maintenance activities would occur within unincorporated areas of the County of Orange, the U.S. Marine Corps Camp Pendleton in the County of San Diego, and the cities of San Juan Capistrano and San Clemente in southern California. Climate and meteorological conditions for these areas are described in the setting section of Section 4.3, "Air Quality."

4.7.1.1 Greenhouse Gases

GHGs allow solar radiation (heat) to pass through the earth's atmosphere but prevent heat from escaping, resulting in atmospheric warming. Certain GHGs occur naturally and help balance the earth's temperature. However, research indicates that since the advent of the Industrial Revolution, human activity has resulted in an elevation of the concentration of some of these gases in the atmosphere. In particular, concentrations of carbon dioxide (CO₂) emitted from the burning of fossil fuels has increased significantly. Much of the carbon in the atmosphere is absorbed by natural "carbon sinks," such as forests or ocean kelp. CO₂ is then emitted back into the atmosphere through natural processes such as animal and plant respiration, and oceanic and geological processes. These natural processes represent "sources." When balanced, the amount of CO₂ emitted from sources and absorbed by carbon sinks is roughly equal; this process is known as the "carbon cycle." As emission levels rise from human activity, however, carbon sinks are becoming overwhelmed and are unable to sequester the increasing amounts of CO₂. Further, other human activity, such as deforestation, can lead to the reduction of sinks. The resulting increase in GHGs in the atmosphere is now considered one of the key causes of global climate change.

In 1988, the World Meteorological Organization and United Nations formed the Intergovernmental Panel on Climate Change (IPCC) as a joint effort to assess the impact of human activity on the global climate. In 1990, the IPCC issued its first assessment report, which helped identify climate change as a serious issue and laid the groundwork for the formation of the United Nations Framework Convention on Climate Change (UNFCCC). The second assessment report, issued by the IPCC in 1995, contributed to the drafting of the Kyoto Protocol to the UNFCCC, adopted in 1997. The Kyoto Protocol asked

1 signatories to the UNFCCC to commit to reducing emissions of four primary GHGs (CO₂, methane
2 [CH₄], nitrous oxide [N₂O], and SF₆) and two secondary groups of GHGs (hydrofluorocarbons [HFCs]
3 and perfluorocarbons [PFCs]) to 5 percent below 1990 emission levels by 2012. At the time of this
4 writing, the United States remains the only signatory to the UNFCCC that has not ratified the Kyoto
5 Protocol. The IPCC last updated its assessment report in 2013 (IPCC 2013).
6

7 In 2006, the State of California enacted the California Global Solutions Warming Act of 2006 (Assembly
8 Bill [AB] 32), requiring a reduction in GHG emissions in the state to 1990 levels by 2020. AB 32 targets
9 the same GHGs identified under the Kyoto Protocol. These gases are described further below.
10

11 **Carbon Dioxide**

12 CO₂ is a colorless, odorless gas generated by both natural and human activity. Natural sources of CO₂
13 include respiration by bacteria, fungus, and animals; decomposition of organic matter; evaporation of
14 ocean water; and geological processes. The primary human-induced sources of CO₂ are combustion of
15 fossil fuels, natural gas, and wood.
16

17 **Methane**

18 CH₄ is a highly flammable gas that is a primary component of natural gas. Similar to CO₂, CH₄ is
19 produced both by natural and human activity. Natural sources of CH₄ include anaerobic decay of organic
20 matter; geological deposits (e.g., natural gas fields); and cattle. Human-induced sources include
21 emissions generated by the decay of organic material in landfills and fermentation of manure and other
22 organic material.
23

24 **Nitrous Oxide**

25 As with CO₂ and CH₄, N₂O is produced by both natural and human activity. Natural sources include
26 microbial action in soil and water, particularly at tropical latitudes. Human-induced sources include
27 emissions from manufacturing facilities, fossil fuel power plants, and motor vehicles.
28

29 **Sulfur Hexafluoride**

30 SF₆ is a colorless, odorless, non-flammable, non-toxic gas used mainly as an insulator (when mixed with
31 other gases, such as argon) in the manufacture of electrical equipment. In particular, SF₆ is commonly
32 used in gas-insulated switchgear and circuit breakers installed in electrical substations.
33

34 **Hydrofluorocarbons**

35 HFCs are human-made compounds consisting of carbon, hydrogen, and fluorine atoms. HFCs were
36 introduced as replacements for atmospheric ozone-depleting chemicals in various industrial and
37 commercial applications. They are used in solvents, refrigerants, firefighting agents, and aerosol sprays.
38

39 **Perfluorocarbons**

40 PFCs are human-made chemicals consisting of carbon and fluorine atoms. As with HFCs, PFCs were
41 introduced as an alternative to atmospheric ozone-depleting chemicals and are used in similar industrial
42 and commercial applications.
43

44 **Global Warming Potential**

45 The effect of a particular GHG on global climate change depends on its global warming potential (GWP).
46 Table 4.7-1 shows the GWP for the six GHGs described above. In the IPCC's fourth assessment report

(AR4), the GWPs for several GHGs were updated based on the latest science. Both the EPA and California Air Resources Board (CARB) have updated national and statewide GHG inventory and reporting guidelines based on the GWPs published in AR4. GWP is determined by a number of factors, including the GHG’s molecular structure, the GHG’s ability to absorb infrared radiation, and the amount of time the GHG can exist in the atmosphere before breaking down. These factors help determine the amount of warming potential a pound of GHG would have relative to a pound of CO₂. For example, a pound of methane has approximately 25 times the warming potential of a pound of CO₂.

Table 4.7-1 Global Warming Potential For Greenhouse Gases

Greenhouse Gas	Global Warming Potential ¹ , 100 Years (relative to CO ₂)
Carbon Dioxide (CO ₂)	1
Methane	25
Nitrous Oxide	298
Perfluorocarbons	7,390-10,300
Hydrofluorocarbons	92-14,800
Sulfur Hexafluoride	22,800

Notes:

¹ Effective January 1, 2014, the U.S. EPA adopted the IPCC AR4 GWPs in 40 Code of Federal Regulations Part 98.

CARB reports that CO₂ represents almost 90 percent of the GHG emissions produced in California (CARB 2011). Because CO₂ is such a prevalent GHG, and the GWP for other GHGs is calculated relative to CO₂, GHGs in the atmosphere are reported in terms of CO₂ equivalency (CO₂e). CO₂e measures GHGs by multiplying the mass of each GHG emitted by its GWP to determine the equivalent amount of CO₂. For example, one pound of CH₄ is equivalent to 25 pounds of CO₂e.

Greenhouse Gas Inventories

The latest GHG inventory from the EPA indicates that the United States emitted 6,702 million metric tons of carbon dioxide equivalency (MTCO₂e) in 2011 (EPA 2014a). The State of California makes up a substantial contribution of those GHG emissions: California produced 458.7 million MTCO₂e in 2012, according to the most recent inventory (CARB 2014a). The state represents the second largest contributor in the United States and the 15th largest emitter of GHGs in the world (CEC 2006; EPA 2013).

Locally, the City of San Clemente Climate Action Plan reports baseline inventory GHG emissions of 620,024 MTCO₂e for 2009, with a contribution of 67 percent from transportation sources and 17 percent from energy and electricity (City of San Clemente 2014). No other local agencies maintain GHG inventories.

4.7.1.2 Potential Effects from Climate Change

In 2008, California Governor Arnold Schwarzenegger issued Executive Order S-13-08, directing the California Natural Resources Agency (CNRA) to determine how state agencies can respond to the challenges posed by climate change. As a result, the CNRA worked with several state agencies to draft the 2009 California Climate Adaptation Strategy. A summary of the potential effects of climate change, as identified in the California Climate Adaptation Strategy, is presented below.

1 **Temperature and Precipitation**

2 GHGs can remain in the atmosphere for decades; thus, the temperature changes over the next 30 to 40
3 years will largely be determined by past emissions. By 2050, temperatures could increase by an
4 additional 1.8 to 5.4 degrees Fahrenheit (CNRA 2009). California would likely continue to have
5 relatively cool, wet winters and dry, hot summers; however, temperature increases could become more
6 severe in summer than winter, and inland areas could experience more pronounced warming than coastal
7 regions. Heat waves could also increase in frequency and intensity. Precipitation patterns are anticipated
8 to change due to increasing temperatures, leading to more rainfall and less snow. This would affect
9 California's drinking water supply, which currently originates mainly as snowmelt runoff. More frequent
10 flood events, due to faster runoff, could also increase stress on state and local infrastructure. Finally,
11 these changes in precipitation could lead to more periods of drought, which could have a negative effect
12 on native ecosystems.

13
14 **Sea-level Rise**

15 Recent studies show that sea levels rose by as much as 7 inches during the 20th century and are
16 anticipated to rise up to 55 inches by the end of the century (CNRA 2009). Furthermore, even if
17 emissions were substantially lowered, research shows that sea levels will continue to rise; thus,
18 adaptation strategies will be an important part of dealing with this impact (CNRA 2009). Sea-level rise
19 could have a negative effect on coastal wetlands and marshes through inundation. This would not only
20 negatively impact these specially adapted habitats but could also damage agricultural activities by way of
21 salt water intrusion into fresh water aquifers. Additionally, loss of these habitats as a storm buffer could
22 increase storm-related impacts such as depleted beaches and property damage.

23
24 **Biodiversity and Habitat**

25 As temperatures and precipitation patterns change, plant and animal species adapted to specific
26 conditions could become threatened. These species may have to shift their geographic range to adapt to
27 the changes; however, if the species are unable to adapt, they may face extinction. As the climate shifts,
28 changes in wildfire patterns may also emerge. While many species in California are adapted to regular
29 fire events, higher temperatures may also result in an increase in the frequency and intensity of fires,
30 which could harm the ability of native plant species to re-germinate between events (CNRA 2009).
31 Overall, climate change could result in very harmful effects on biodiversity. Shifts in species ranges
32 could increase the likelihood of habitat fragmentation, and changes in participation could lead to
33 increased periods of drought, making ecosystems vulnerable to colonization by invasive species.

34
35 **Agriculture and Forestry**

36 The State of California has some of the most productive agricultural regions in the world. Shifts in
37 climate may impact the ability of certain crops (e.g., grapes, other fruits, and nuts) to produce substantial,
38 high-quality yields. Sea-level rise, changes in growing season length, variation in precipitation, and
39 changes in water supply could affect agricultural productivity, which could have an impact on food
40 supplies.

41
42 The range of forest lands in the state will also likely shift in response to climate change. Temperature rise
43 has the potential to make current forest ranges inhospitable, expand insect populations that impact tree
44 mortality, and allow for the colonization of invasive, non-native species.

1 Human Health and Social Impacts

2 Climate change could also result in increased public health risks, including an increase in mortality and
3 morbidity due to heat-related illness and a rise in respiratory illness due to poor air quality caused by
4 higher temperatures. Plant species habitat that shifts due to climate change may also lead to variations in
5 the timing and duration of allergies and the colonization of new habitat by disease vectors such as non-
6 native animals and insects. The elderly, chronically and mentally ill, infants, and the economically
7 disadvantaged will be the most at risk of the negative effects of climate-related illness.
8

9 4.7.2 Regulatory Setting

10 11 4.7.2.1 Federal

12
13 According to the EPA, the United States government has established a comprehensive policy to address
14 climate change that includes slowing the growth of emissions; strengthening science, technology, and
15 institutions; and enhancing international cooperation. To implement this policy, the federal government
16 uses voluntary and incentive-based programs to reduce emissions and has established programs to
17 promote climate technology and science (EPA 2014c).
18

19 Endangerment Finding and Cause or Contribute Finding for Greenhouse Gas

20 In December 2009, the EPA issued two separate findings regarding GHGs under Section 202(a) of the
21 Clean Air Act. The Endangerment Finding states that the current and projected concentrations of the six
22 key GHGs (CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆) in the atmosphere threaten public health and welfare.
23 The Cause or Contribute Finding states that the combined emissions of GHGs from new motor vehicles
24 and new motor vehicle engines contribute to GHG pollution.
25

26 Mandatory Reporting of Greenhouse Gases Rule

27 In 2009, the EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule, which requires
28 reporting of GHG emissions from large sources and suppliers in the United States. This rule requires
29 suppliers of fossil fuels and industrial GHGs, manufacturers of vehicles and engines outside of the light-
30 duty sector, and facilities that emit 25,000 metric tons (MT) or more of GHGs per year to submit annual
31 reports to the EPA. The rule is intended to collect accurate and timely emissions data to guide future
32 policy decisions on climate change.
33

34 Final Greenhouse Gas Tailoring Rule

35 The Final GHG Tailoring Rule, established in May 2010, sets thresholds for GHG emissions that define
36 when permits under the New Source Review Prevention of Significant Deterioration and Title V
37 Operating Permit programs are required for new and existing industrial facilities. This final rule tailors
38 the requirements of these Clean Air Act permitting programs to limit which facilities are required to
39 obtain Prevention of Significant Deterioration and Title V permits.
40

41 4.7.2.2 State

42
43 In 2005, Governor Schwarzenegger issued Executive Order S-3-05, establishing a statewide GHG
44 emission reduction target of 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels
45 by 2050. In 2006, Governor Schwarzenegger signed AB 32, the Global Warming Solutions Act, which
46 capped the state's GHG emissions at 1990 levels by 2020. It established the framework for a program of
47 regulatory and market mechanisms designed to achieve quantifiable, cost-effective reductions in GHG
48 emissions (CalEPA 2009). The Climate Change Scoping Plan, approved by CARB in 2008 and updated

1 in 2014 to fulfill AB 32, is California’s roadmap for reaching its GHG reduction goals (CARB 2008,
2 2014b). The plan outlines a number of key strategies to reduce GHG emissions. A summary of relevant
3 GHG legislation in California is presented below.
4

5 **Assembly Bill 32 and Executive Order S-3-05**

6 Executive Order S-3-05, issued in 2005, established statewide GHG emission reduction targets of 2000
7 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050. In 2006, the Global
8 Warming Solutions Act, AB 32, was enacted with the requirement of reducing the state’s GHG emissions
9 to 1990 levels by 2020. Based on 1990 to 2004 inventories of GHG emissions in California, CARB
10 designated a total of 427 million MTCO₂e as the statewide GHG 1990 emissions level and 2020
11 emissions limit. This limit is an aggregated statewide limit, rather than sector- or facility-specific. Taking
12 into account expected growth in population and energy use, the emissions reduction target is estimated to
13 be equivalent to approximately 30 percent below business emissions as usual by the year 2020. AB 32
14 requires that CARB prepare and approve a scoping plan (see below) for achieving the maximum
15 technologically feasible and cost-effective reductions in GHG emissions from sources or categories of
16 sources of GHGs by 2020.
17

18 The 2020 estimates of California’s GHG emissions were recently updated to account for future fuel and
19 energy demand, as well as other factors, such as the recent economic recession and anticipated reductions
20 from implemented regulations and the Renewable Portfolio Standard. This updates provided a baseline
21 for the proposed Cap-and-Trade regulation, and 2020 emissions are currently forecast as 507 million
22 MTCO₂e (CARB 2013).
23

24 **Senate Bill 97**

25 The California Senate passed Senate Bill 97 in 2007, requiring the Governor’s Office of Planning and
26 Research to prepare, develop, and transmit guidelines for the feasible mitigation of GHG emissions or
27 their effects, including, but not limited to, effects associated with transportation and energy consumption.
28

29 **Executive Order S-13-08**

30 As further discussed in Section 4.7.1.2, Executive Order S-13-08, signed in 2008, directs California to
31 develop methods for adapting to climate change impacts through preparation of a statewide plan. In
32 response to this order, the CNRA developed the California Climate Adaptation Strategy, which was
33 adopted in September 2009.
34

35 **Climate Change Scoping Plan**

36 The Climate Change Scoping Plan, developed by CARB in conjunction with the California Climate
37 Action Team, outlines strategies and measures to reduce GHG emissions in California (CARB 2008,
38 2014). Some of the measures, such as California’s Low Carbon Fuel Standard, have become regulations.
39

40 **CEQA Guideline Amendments**

41 In December 2009, pursuant to Senate Bill 97, the CNRA adopted California Environmental Quality Act
42 (CEQA) Guidelines Amendments with new language for addressing the quantification and mitigation of
43 GHG emissions. These amendments became effective in March 2010.
44

45 **Regulation for Reducing Sulfur Hexafluoride Emissions from Gas-Insulated Equipment**

46 California Code of Regulations (CCR) Title 17, Sections 95350 to 95359, establish requirements for
47 reducing SF₆ emissions from gas-insulated equipment. The provisions of this regulation apply to owners

1 of active switchgear equipment. Maximum allowable annual SF₆ emission rates, SF₆ inventory
2 measurement procedures, recordkeeping requirements, and annual SF₆ reporting requirements are
3 specified. Because SF₆ is the most potent GHG (about 24,000 times the GWP of CO₂), even small gas-
4 insulated devices could be responsible for significant GHG emissions. The maximum allowable annual
5 SF₆ emission rate specified is 1.0 percent of the total gas contained in gas-insulated equipment. This rate
6 must be achieved by 2020 and each calendar year thereafter.

7 8 **4.7.2.3 Regional and Local**

9 10 **South Coast Air Quality Management District**

11 The South Coast Air Quality Management District (SCAQMD) is the regional agency with primary
12 responsibility for air quality management in Orange County. To address GHG regulatory developments
13 within the South Coast Air Basin, the SCAQMD issued the *Draft Guidance Document: Interim CEQA*
14 *Greenhouse Gas Significance Threshold* (SCAQMD 2008) and adopted a 10,000 MTCO₂e per year
15 threshold for industrial projects with construction emissions amortized over 30 years and added to
16 operational GHG emissions (SCAQMD 2011).

17 18 **Southern California Association of Governments**

19 Orange County is part of the six-county Southern California Association of Governments (SCAG)
20 region. SCAG's 2008 Regional Comprehensive Plan is an advisory document for local agencies that
21 includes goals, outcomes, and policies to address regional compliance with AB 32 and other federal and
22 state regulations. GHG topics addressed in this plan include traffic and transportation, water, air quality,
23 solid waste, and energy (SCAG 2008). In addition to the Regional Comprehensive Plan, SCAG also
24 adopted the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategies, which
25 provides a plan for meeting regional emissions reduction targets set forth by CARB: 9 percent per capita
26 reduction target by 2020 and 16 percent by 2035, as required by California Government Code Section
27 65080 (b)(2)(J)(ii). These targets for SCAG were accepted by CARB in Executive Order G-12-039
28 (CARB 2012). SCAG Regional GHG goals applicable to the proposed project include the following:

- 29
30 • *Reverse current trends in greenhouse gas emissions to support sustainability goals for energy,*
31 *water supply, agriculture, and other resource areas.*
- 32 • *Reduce the region's greenhouse gas emissions to 1990 levels by 2020.*
- 33 • *Expand green building practices to reduce energy-related emissions from developments to*
34 *increase economic benefits to business and residents.*

35 36 **City of San Juan Capistrano**

37 The City of San Juan Capistrano has not yet adopted a local Climate Action Plan, GHG reduction targets,
38 or specific policies on GHG emissions; however, the City implements the environmental services
39 initiative "Go Green SJC" that focuses on preserving San Juan Capistrano's environment through waste
40 reduction and pollution prevention programs that contribute to GHG emissions reductions, such as solid
41 waste and recycling, air quality, green building, and energy conservation (City of San Juan Capistrano
42 2014).

43 44 **City of San Clemente**

45 The City of San Clemente Climate Action Plan identifies a comprehensive set of targets and related
46 measures that the City will use to reduce GHG emissions, such as alternative transportation, energy
47 efficiency, and waste reduction. The City's goals are to achieve a 15 percent reduction below 2009 levels

1 by 2020 (93,004 MTCO₂e per year) and 38 percent reduction below 2009 levels by 2030 (235,609
2 MTCO₂e per year) (City of San Clemente 2014). This plan includes the following local and state GHG
3 emissions reduction strategies that apply to the proposed project:

- 4 • Implementation of Federal Alternative Fuels Strategies;
- 5 • Implementation of Executive Order S-1-07 (Low Carbon Fuel Standard): reduction of at least 10
6 percent in the carbon intensity of California’s transportation fuels by 2020;
- 7 • Implementation of CARB Heavy Duty Vehicle Regulations; and
- 8 • Compliance with the City Ordinance to achieve a 75 percent waste diversion rate by 2020 and 90
9 percent diversion rate by 2030.

11 **County of San Diego Climate Action Plan**

12 The County of San Diego has developed a Climate Action Plan (CAP) to address the issues of growth
13 and climate change within the unincorporated areas of San Diego County. The CAP establishes a GHG
14 emissions-reduction target of 15 percent below 2005 levels by 2020, which aligns with the
15 recommendation by CARB and the GHG emissions reduction targets set by other local governments. In
16 addition, the County recognizes the goal established by Executive Order S-3-05, which calls for
17 emissions reductions of 80 percent below 1990 levels by 2050. To achieve GHG reduction goals set for
18 2020, the CAP recommends implementation of a range of feasible reduction measures on water
19 conservation, energy-efficiency, land use development, transportation, agriculture, and landscaping and
20 open space (County of San Diego 2012). The GHG reduction measures included in the County of San
21 Diego CAP that would apply to the proposed project are those related to transportation, such as:

- 22 • Increase Ridesharing: 3 percent reduction in vehicle miles traveled (VMT) by using
23 transportation-demand management.
- 24 • Increase Use of Alternative-Fuel Vehicles: 3 percent reduction in VMT by increasing use of
25 electric vehicles.
- 26 • Comply with Pavley Passenger Auto and Light Truck Fuel Efficiency requirements (28.4 percent
27 reduction).
- 28 • Comply with the Low Carbon Fuel Standard (12.0 percent reduction)
- 29 • Comply with the Tire Pressure Program (0.6 percent reduction)
- 30 • Comply with Heavy –Duty Vehicle Aerodynamics requirements (0.7 percent reduction).
- 31
- 32

33 **County of San Diego Guidelines for Determining Significance on Climate Change**

34 On November 2013, the County of San Diego Land Use and Environment Group adopted the Guidelines
35 for Determining Significance and Report Format and Content Requirements for Climate Change. These
36 guidelines establish implementing thresholds for new projects to ensure consistency with the County’s
37 CAP and GHG emission reduction targets (County of San Diego 2013). The implementing thresholds are
38 for *net new emissions*, or net increases in GHG emissions attributable to a specific project relative to an
39 existing baseline. The guidelines include screening criteria for projects that would only increase GHG
40 emissions during construction, such as the proposed modifications in Talega Substation and replacement
41 along transmission line segment relocations for the proposed project within San Diego County. (County
42 of San Diego 2013)

1 Projects are considered with respect to their contribution to the total or cumulative GHG emissions
2 within the County. Projects involving the following construction activities would generally have less-
3 than-cumulative considerable impacts under the San Diego County guidelines:
4

- 5 • Grading and clearing of land involving no more than 1,285 acres of land per year with no soil
6 hauling, and no other aspect of construction or site preparation; and
- 7 • Grading and clearing of land involving no more than 100 acres per year, assuming up to 3,100
8 cubic yards per day of soil hauling.
9

10 In the event that the proposed project exceeds the screening criteria, it should incorporate all applicable
11 CAP measures and estimate emissions applicable to one of the quantified implementing thresholds
12 established in the guidelines. If the projected construction would exceed the criteria, the following
13 threshold to evaluate GHG impacts from the proposed project would apply(County of San Diego 2013):
14

15 *Bright Line Threshold: A proposed project would have a cumulatively considerable contribution*
16 *to climate change impacts if it would result in a net increase of operational greenhouse gas*
17 *emissions, either directly or indirectly, at a level exceeding 2,500 metric tons of CO₂e per year.*
18

19 **4.7.3 Impact Analysis**

20 **4.7.3.1 Methodology and Significance Criteria**

21 To evaluate the potential effects of the GHG emissions generated by the proposed project, emissions
22 were estimated for both construction and operations. The primary sources of long-term direct emissions
23 potential leakage of high GWP gas (SF₆) would be gas-insulated electrical equipment that would be
24 installed and operated at San Juan Capistrano Substation and routine maintenance and use of vehicles.
25 Indirect emissions would be associated with the incremental increases in electricity usage, water and
26 wastewater transport, and solid waste disposal associated with operational-related activities.
27
28
29

30 Direct GHG emissions from equipment and vehicle usage during construction and operation of the
31 proposed project were estimated based on the equipment and vehicle/equipment lists and published
32 emission factors developed by the San Diego Gas & Electric Company (SDG&E, or “the applicant”).
33 Direct GHG emissions of SF₆ from gas-insulated electrical equipment were estimated based on the
34 proposed SF₆ storage capacities of the proposed San Juan Capistrano Substation and conservative
35 leakage rates per year assumptions. Indirect GHG emissions associated with the proposed project
36 operations were estimated to be minimal, since the proposed San Juan Capistrano and Talega substations
37 would be unstaffed, and the proposed transmission and distribution segments would only involve
38 potential solid waste disposal during maintenance and repair activities an annual or as needed basis.
39

40 GHG emission estimates do not account for unforeseeable repairs due to emergency or other causes. In
41 addition, estimates do not include emissions from indirect sources that would be accounted for in a life-
42 cycle analysis. Life-cycle analyses include emissions associated with all stages of development,
43 including, for example, materials manufacturing and distribution.
44

Potential impacts from GHG emissions 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 from GHG emissions if it would:

- a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs.

According to each County's guidelines, to calculate a project's GHG emissions, the proposed project's construction emissions are amortized over the life of the project (defined by SCAQMD as 30 years) and added to its annual operational emissions. The sum is the value compared to the applicable significance thresholds of 10,000 MTCO_{2e} per year for stationary/industrial projects in the SCAQMD and 2,500 MTCO_{2e} per year for projects that exceed the screening criteria in San Diego County (SCAQMD 2008, 2011; County of San Diego 2013). Because the quantitative thresholds developed by SCAQMD and San Diego County noted above are based on AB 32 and the California Climate Change Scoping Plan statewide reduction targets, any project that exceeded these thresholds would be in conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

4.7.3.2 Applicant Proposed Measures

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 GHG-1: Operations Emissions Controls.** SDG&E developed this APM to ensure that sulfur hexafluoride is properly managed. SDG&E would implement its existing sulfur hexafluoride mitigation strategies during the operation and maintenance of sulfur hexafluoride-containing equipment installed as part of the proposed project. These strategies include:
 - Recording company-wide sulfur hexafluoride purchases, use, and emissions rates to comply with the USEPA's requirements for Electrical Transmission and Distribution Equipment Use (Mandatory Reporting of Greenhouse Gases, 40 CFR Part 98, Subpart DD) and the CARB's Regulation for Reducing Sulfur Hexafluoride Emissions from gas-insulated switchgear (Code Regs. Tit. 17, § 95350-95359);
 - Implementing a sulfur hexafluoride recycling program;
 - Training employees on the safety and proper handling of sulfur hexafluoride;
 - Continuing to report GHG emissions with the Climate Registry; and
 - Implementing SDG&E's sulfur hexafluoride leak detection and repair program. This program includes monthly visual inspections of each GCB, which includes checking pressure levels within the breaker and recording these readings in SDG&E's Substation Management System. During the installation or major overhaul of any GCB, the unit is tested over a 24-hour period to ensure no leaks are present. Minor overhauls of each GCB are conducted every 36 to 40 months to check overall equipment health. This process includes checking gas pressure, moisture ingress, and sulfur hexafluoride decomposition. If the GCB fails any of these checks, the unit is checked for leaks and repaired. In addition, all GCBs are equipped with a gas-monitoring device and alarm that automatically alerts SDG&E's Grid Operations Center. If gas pressure approaches minimum operating levels,

an alarm is immediately reported to SDG&E’s Substation Construction and Maintenance Department. The GCB is usually inspected for leaks within 24 hours of such an alarm. SDG&E’s leak detection practice includes the following three methodologies:

- Spraying a leak-detection agent onto common leak points—including O rings, gaskets, and fittings;
- Using a field-monitoring device (sniffer) to detect the presence of sulfur hexafluoride gas; and
- Using a laser-detection camera to detect the presence of sulfur hexafluoride gas when the above two methods are unsuccessful in finding a leak.

4.7.3.3 Environmental Impacts

Impact GG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment
LESS THAN SIGNIFICANT

During the construction of the proposed project, GHGs, primarily CO₂, would be emitted from engine exhaust of diesel- and gasoline-fueled construction equipment and on-road vehicles (e.g., delivery trucks light-duty vehicles, off-road construction equipment, and heavy duty diesel vehicles, and worker vehicles). The majority of direct project-related GHG emissions would be CO₂, with minor amounts of CH₄ and N₂O associated with the combustion of fuel in mobile equipment.

In total, approximately 18,115 MTCO₂e emissions would be generated from construction of the proposed project (see Table 4.7-2). Approximately half of the total construction emissions would be associated with the construction of San Juan Capistrano Substation, while the remaining sources of emissions would be associated with transmission and distribution lines construction., including roadwork, retaining walls, underground installation, and helicopter use. As detailed in Section 4.3, “Air Quality,” the applicant would implement APM AQ-2 to reduce emissions from fossil-fueled construction equipment, which would also reduce GHGs from combustion. Therefore, the actual total GHG emissions from construction would be below the levels presented in Table 4.7-2. Nonetheless, the unmitigated emissions scenario was used in order to estimate the maximum contribution of MTCO₂e emissions from the construction of the proposed project. Detailed emissions calculations and assumptions are presented in Appendix K.

Table 4. 7-2 Total Greenhouse Gas Emissions from Construction of the Proposed Project

Proposed Project Component	Total Unmitigated Greenhouse Gas Construction Emissions (MTCO ₂ e)		
	South Coast AQMD	San Diego County	Total
Substation Construction	9,460	62	9,522
Transmission Line Construction	7,445	886	8,331
Distribution Line Construction	262	0	262
Total emissions	17,167	948	18,115

Source: SDG&E 2012

Key:

AQMD = Air Quality Management District

MTCO₂e = metric tons of carbon dioxide equivalent

Note:

Emissions are based on the unmitigated emissions scenario for project construction.

1 As discussed in Section 4.7.3.1, to assess the potential impacts of GHG emissions for a project, it is
2 necessary to consider both construction and operational emissions. During operations, the primary source
3 of GHG emissions would be the potential leak of SF₆ from gas-insulated electrical equipment at the
4 proposed San Juan Capistrano. SF₆ would be used to insulate the main electrical substation equipment,
5 such as the 230-kilovolt and 138-kilovolt switchgear. SF₆ is a high GWP gas; one pound of SF₆ has a
6 GWP equivalent of 22,800 pounds of CO₂. The applicant estimates that approximately 21,640 pounds of
7 SF₆ gas would be contained at the proposed San Juan Capistrano Substation. As described in Section
8 2.5.1.1, “Gas-Insulated Equipment,” the applicant would monitor the gas-insulated equipment at the
9 proposed San Juan Capistrano Substation for variations in pressure and conduct routine inventory
10 inspections to keep track of onsite inventories and usage rates. The applicant would be required to report
11 SF₆ inventories and emissions from the use of gas-insulated equipment electrical at San Juan Capistrano
12 substation pursuant the EPA’s requirements for Electrical Transmission and Distribution Equipment Use
13 (40 CFR Part 98, Subpart DD) and the CARB’s Regulation for Reducing Sulfur Hexafluoride Emissions
14 from Gas Insulated Switchgear (17 CCR Sections 95350 to 95359). The applicant would install new gas-
15 insulated equipment certified by the manufacturer to have a SF₆ leak rate of less than 0.5 percent per
16 year, resulting in annual emissions of 108.2 pounds of SF₆ or 1,119 MTCO₂e on an annual basis. The
17 applicant would comply with the maximum annual SF₆ emission rates established by 17 CCR 95352,
18 which, by 2020, would be 1 percent per year for all active gas-insulated equipment. To further reduce
19 impacts, the applicant would implement APM GHG-1, which includes implementing a SF₆ gas recycling
20 program, training employees on the safety and proper handling of SF₆ gas, continuing to report GHG
21 emissions with The Climate Registry, and implementing a SF₆ leak detection and repair program.

22
23 Additionally, the use of equipment and vehicles during routine maintenance and inspection activities
24 would emit CO₂ and CH₄ from engine exhaust of diesel- and gasoline-fueled vehicles. The applicant
25 anticipates that since maintenance and inspection activities would be similar to existing operations, GHG
26 emissions associated with equipment and vehicle use during routine maintenance and inspection
27 activities would not significantly differ from baseline conditions and estimated 2 MTCO₂e per year.

28
29 The total construction emissions of the proposed project, 18,115 MTCO₂e, amortized over 30 years,
30 would be equivalent to 604 MTCO₂e per year.

31
32 As noted in Section 4.7.2.3, the SCAQMD adopted a 10,000 MTCO₂e per year threshold, with
33 construction emissions amortized over 30 years and added to operational GHG emissions for industrial
34 projects (SCAQMD 2011). San Diego County adopted a 2,500 MTCO₂e per year threshold, with
35 construction emissions amortized over 30 years and added to operational GHG emissions for all projects
36 that meet the construction screening criteria (see Section 4.7.2.3). Table 4.7-3 compares the annual GHG
37 emission to SCAQMD and San Diego County GHG thresholds. As shown in Table 2-8, “Temporary and
38 Permanent Land Disturbance Estimates,” the estimated temporary disturbance acreage during
39 construction of the proposed project would be significantly below San Diego County’s construction
40 screening criteria, and therefore, San Diego County’s 2,500 MTCO₂e per year threshold is not applicable
41 to the project even though it is included in Table 4.7-3.

Table 4.7-3 Overall Greenhouse Gas Emissions of the Proposed Project

Emission Source	Annual GHG Emissions (MT of CO ₂ e/year)
Motor Vehicle Use ¹	2
SF ₆ Leakage ²	1,119
Amortized Construction Emissions (30-year period)	604 ³
Annual GHG Operational Emissions	1,725
Exceeds SCAQMD GHG Threshold of 10,000 MTCO₂e/year?	No
Exceeds San Diego County GHG Threshold of 2,500 MTCO₂e/year?⁴	No

Source: SDG&E 2012

Key:

GHG = greenhouse gas

MTCO₂e/year = metric tons of carbon dioxide equivalency per year

SCAQMD = South Coast Air Quality Management District

SF₆ = sulfur hexafluoride

Notes:

- ¹ Direct emissions of CO₂ estimated based on vehicle miles traveled (VMT) per day and 1.1 pounds of CO₂ per mile. Assumptions: 65 VMT per day for transmission line inspection, 62 VMT per day for distribution line inspection, and 60 VMT per day for substation maintenance.
- ² Direct emissions of SF₆ estimated by assuming 0.5 percent leak rate from equipment storing 21,640 pounds of SF₆.
- ³ 18,115 MTCO₂e over 30 years = 604 MTCO₂e/year
- ⁴ San Diego County GHG Threshold is not applicable to the proposed project as the proposed project does not exceed the County's construction screening criteria for GHG analysis.

1
2 Since the estimated long-term GHG emissions associated with the proposed project would not exceed the
3 local thresholds of significance, impacts under this criterion would be less than significant.

4
5 **Impact GG-2: Conflict with any applicable plan, policy or regulation adopted for the**
6 **purpose of reducing the emission of GHGs.**
7 *LESS THAN SIGNIFICANT*
8

9 Because the proposed project's GHG emissions would not exceed quantitative thresholds developed to
10 comply with AB 32 and the California Climate Change Scoping Plan statewide reduction targets, the
11 proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose
12 of reducing GHG emissions. Further, project construction and operation would not conflict with any of
13 the policies or GHG emission reduction measures outlined in the SCAG Regional Comprehensive Plan,
14 or the City of San Clemente Climate Action Plan, as the project proponent would be required to comply
15 with federal, state, and local regulations adopted to achieve GHG reduction goals, such as
16 implementation of fuel economy and low carbon fuel standards for project vehicles, and compliance with
17 the City of San Clemente's applicable waste management requirements.¹
18

19 For the major potential permanent source of GHG during project long-term operations (SF₆), the
20 applicant is required to comply with federal and state regulations for reducing emissions from gas-
21 insulated switchgear (40 CFR Part 98, Subpart DD and 17 CCR Sections 95350 to 95359). To comply
22 with these regulations, the applicant would control SF₆ purchases, use, and emission rates and implement
23 APM GHG-1 during operation and maintenance of the proposed project. The gas insulated equipment
24 would be certified by the manufacturer to comply with the maximum annual SF₆ emission rate
25 requirements established by 17 CCR 95352.
26

¹ The City of San Clemente establishes the goal to adopt a Waste Diversion Ordinance that would require waste diversion of 75 percent by 2020 and 90 percent by 2030.

1 Construction, operation, and maintenance of each component of the proposed project would comply with
2 all applicable regulations for the reduction of GHG emissions, including federal and state requirements
3 for vehicle emissions and fuel use, waste management, and SF₆ emissions from gas-insulated equipment.
4 Construction, operation, and maintenance of the proposed project would not conflict with a federal, state,
5 regional, or local plan, policy, or regulation for reducing GHG emissions; therefore, impacts under this
6 criterion would be less than significant.

4.8 Hazards and Hazardous Materials

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 hazards and hazardous materials. During scoping, the following issues were raised and are addressed in this section: the proposed project’s potential to impact gas, oil, and geothermal wells; potential impacts from the soils and materials found within Marine Corps Base (MCB) Camp Pendleton; fire hazards from the overhead transmission line; electromagnetic fields (EMF); and the need to identify potential locations of hazardous materials prior to and during construction. Impacts related to the gas insulated transformers and sulfur hexafluoride (SF₆) are discussed in Section 4.7, “Greenhouse Gases.” Section 4.15, “Transportation and Traffic,” further discusses transportation hazards, and Section 4.13, “Public Services and Utilities,” further discusses impacts on government facilities, including those related to fire and police protection.

4.8.1 Environmental Setting

Materials and wastes may be considered hazardous if they are poisonous (toxicity), can be ignited by open flame (ignitability), corrode other materials (corrosivity), or react violently, explode or generate vapors when mixed with water (reactivity). The term *hazardous material* is defined as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment (California Health and Safety Code [HSC] Chapter 6.95, Section 25501(o)). Hazardous materials have the potential to leach into soils, surface water, and groundwater when spilled or released if not properly contained.

4.8.1.1 Hazardous Materials/Wastes Sites

To determine the location of hazardous materials/wastes sites in within 1 mile of the proposed project, San Diego Gas & Electric Company (SDG&E, or the applicant) employed Environmental Data Resources, Inc. (EDR) to conduct a database analysis. This analysis involved database searches from local, state, and federal agencies with varying levels of enforcement related to the generation, storage and handling, transportation, and treatment of wastes, as well as emergency response activities and remediation of contaminated soil and groundwater sites. EDR’s report is provided in Appendix J. This report did not identify any hazardous materials sites within 1,000 feet of the proposed double-circuit 230-kilovolt (kV) transmission line or the substations with a confirmed contamination or release of hazardous substances (EDR 2012).

In addition to EDR’s search, the California Public Utilities Commission (CPUC) searched the State Water Resource Control Board’s Geotracker database, Cease and Desist Orders and Cleanup and Abatement Orders list; California Environmental Protection Agency’s highly hazardous solid waste sites; and the California Department of Toxic Substance Control’s (DTSC’s) EnviroStor database and hazardous waste sites. These sources are often collectively referred to as the “Cortese List,” and are listed in Government Code Section 65962.5. A search of the Cortese List databases found no active Cortese List sites within 1,000 feet of the proposed project (DTSC 2014a,b; CalEPA 2014; SWRCB 2014a,b).

1 Although search results from hazardous waste databases did not identify any hazardous waste sites on or
2 near the proposed project site, hazardous waste investigations performed by the applicant have identified
3 hazardous waste on the project site. The applicant performed the following hazardous waste
4 investigations at the proposed Capistrano Substation:

- 5
- 6 • In 2002, an asbestos and lead-based paint survey of the existing abandoned concrete building
7 located in the lower yard portion of the substation site was conducted.
- 8 • In 2008, an asbestos inspection survey conducted by a Certified Asbestos Consultant for
9 Capistrano Substation, with emphasis on the abandoned concrete building located in the lower
10 yard.
- 11 • In 2009, a soil sample investigation conducted in the lower yard of the Capistrano Substation site
12 and around the perimeter of the upper yard (see Figure 2-3). (SDG&E 2012)

13
14 The 2002 lead-based paint survey identified lead-based paint on building materials found within the
15 abandoned concrete building located on the lower yard of the existing Capistrano Substation (SDG&E
16 2012). Table 4.8-1 details the finding of the lead-based paint survey.
17

Table 4.8-1 Lead-based Paint Survey Results

Building Location and Type of Material	Concentration of Lead (mg/kg)	Condition of Material Containing Lead ¹
Interior Window	5,323–11,280	Poor
Exterior door and window frames (green paint)	13,920–59,600	Poor
Exterior Stucco (beige paint)	8,468–43,050	Fair to Good

Source: SDG&E 2012

Key:

mg/kg = milligrams per kilogram

Note:

¹ The relative hazard potential from lead-based paint is a function of the condition of the material containing the lead. The worse the condition of the material, the higher the hazard potential.

18
19 The 2002 asbestos survey did not locate any asbestos-containing materials. However, the 2008 asbestos
20 survey identified asbestos-containing materials in building materials found within the abandoned concrete
21 building located on the lower yard of the existing Capistrano Substation site (SDG&E 2012). Table 4.8-2
22 details the findings of the 2008 asbestos survey.
23

Table 4.8-2 Asbestos Containing Material Survey Results

Building Location and Type of Material	Type and Concentration of Asbestos	Approximate Amount of Asbestos Containing Material	Condition of Material Containing Asbestos ¹
Roof (gray mastic)	Chrystoline (7%)	10 square feet	Fair
Roof (felts)	Chrystoline (65%)	5,680 square feet	Fair
2 nd Floor (Electric Conduit/ Transite)	Presumed (not samples taken)	2 linear feet	Good

Source: SDG&E 2012

Note:

¹ The relative hazard potential from asbestos containing materials is a function of the condition of the material containing the asbestos. The worse the condition of the material, the higher the hazard potential. Intact or sealed asbestos is not harmful unless it becomes damaged and friable. Friable means the material can be easily crushed or pulverized to a powder by hand pressure. Friable materials have a higher potential to release fibers. Asbestos fibers that are released into the air and inhaled can accumulate in the lungs and pose a health risk (CalEPA 2005).

1 The 2009 soil sampling effort found one sample with elevated levels of petroleum hydrocarbons, one
 2 sample with a moderately elevated level of lead, and one sample with an elevated level of chromium
 3 (SDG&E 2012). Table 4.8-3 details the results of the soil sampling at the existing Capistrano Substation
 4 site.
 5

Table 4.8-3 Soil Sampling Results

Contaminant	Sample Location and Depth	Concentration	Waste Classification and Other Restrictions
Total recoverable petroleum hydrocarbons	Former transformer area (lower yard) at 0.5 fbs	3,700 mg/kg	Hazardous Waste <ul style="list-style-type: none"> • Concentration exceeds CHHSL solid of 117 mg/kg • Concentration exceeds EPA Region IX RSLs for TPH of 420 mg/kg
Lead	Former transformer area (lower yard) at 0.5 fbs	200 mg/kg total lead / 33 mg/l soluble lead	Hazardous Waste <ul style="list-style-type: none"> • Concentration is below CHHSL within commercial and industrial soils of 320 mg/kg • Concentration is below USEPA Region IX RSLs for lead content of 400 mg/kg.
Chromium	Existing Capistrano Substation perimeter (upper yard) at 8 fbs	450 mg/kg total chromium(III) ¹	Not Hazardous Waste: <ul style="list-style-type: none"> • Concentration is below CHHSL within commercial and industrial soils of 100,000 mg/kg • Concentration is below USEPA Region IX RSLs for chromium (III) of 1,800,000 mg/kg

Source: SDG&E 2012; OEHHA 2014; EPA 2014

Key:

CHHSL = California Human Health Screening Level

EPA Region IX RSL = United States Environmental Protection Agency Region 9 Regional Screening Levels

fbs = feet below surface

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

TPH = Total petroleum hydrocarbons

Note:

¹ Total Chromium detection (450 mg/kg) is assumed to be Chromium III because follow-up tests for the more toxic Chromium VI was detected below the detection limit of 1 mg/kg. Therefore, the screening levels for Chromium III were used to assess potential risk.

6
 7 Talega Substation is located on land owned by the United States Marine Corps (Marine Corps) within its
 8 Camp Pendleton base. The Navy's Installation Restoration (IR) Program identifies, assesses,
 9 characterizes, and cleans up or controls contamination from past hazardous waste-disposal operations and
 10 hazardous materials spills at United States Navy and Marine Corps installations.

11
 12 There are currently 16 active IR sites in MCB Camp Pendleton's IR Program, all in different phases of the
 13 cleanup process (USMC 2014a). The two closest IR sites to the proposed project are over 3 miles from
 14 Talega Substation (USMC 2014b).

15 16 **4.8.1.2 Schools**

17
 18 Schools are considered potentially vulnerable to hazardous materials releases under the California
 19 Environmental Quality Act (CEQA). Seven schools are located within 0.25 miles of the proposed project,
 20 listed in Table 4.8-4. Section 4.8.3 evaluates potential risks to schools located near hazardous materials
 21 associated with the proposed project.
 22

Table 4.8-4 Schools within 0.25 Miles of the Proposed Project

School	Address	Approximate Distance
Harold Ambuehl Elementary School	28001 San Juan Creek Road, San Juan Capistrano	0.10 mile south of the 12-kV distribution line
Jserra Catholic High School	26351 Junipero Serra Road, San Juan Capistrano	0.21 mile north of Capistrano Substation
Saddleback Valley Christian	26333 Oso Road, San Juan Capistrano	0.25 mile northwest of Capistrano Substation
Junipero Serra High School	31422 Camino Capistrano, San Juan Capistrano	0.25 mile south of Capistrano Substation
Marbella Montessori	31113 Rancho Viejo Road, San Juan Capistrano	0.18 mile southwest of Transmission Line Segment 1b
St. Margaret's Episcopal School	31641 La Novia Avenue, San Juan Capistrano	0.00 mile southeast of the 12-kV distribution line
San Juan Hills High School	29211 Vista Montana, San Juan Capistrano	0.00 mile north of Transmission Line Segment 2
Vista Del Mar Middle School	1130 Avenida Talega, San Clemente	0.25 mile south of Transmission Line Segment 3
Heritage Christian	190 Avenida La Pata, San Clemente	0.25 mile west of Transmission Line Segment 3
Talega KinderCare	1141 Puerta del Sol, San Clemente	0.02 mile east of Transmission Line Segment 3

Key:
kV = kilovolt

4.8.1.3 Airports and Airstrips

No airports, public or private, are located within 2 miles of the proposed project. There is an airstrip located within MCB Camp Pendleton property, approximately 2.5 miles southeast of Talega Substation. Additionally, there is an airport located within the MCB Camp Pendleton property, approximately 16 miles southeast of Talega Substation. The closest public airport to the proposed project is the John Wayne Airport, which is located approximately 15 miles north of the proposed San Juan Capistrano Substation site.

4.8.1.4 Oil, Gas, and Geothermal Wells

The applicant conducted a search of the Division of Oil, Gas, and Geothermal Resources (DOGGR) Well Finder Database to identify oil, gas, and geothermal wells within 1,000 feet of the proposed project. The results of this search are provided in Table 4.8-5.

Table 4.8-5 Oil, Gas, and Geothermal Wells within 1,000 feet of the Proposed Project

Well Operator "Lease Name" (API No. ¹)	Well Type and Status (Year)	Approximate Distance
Conley & Associates, Inc. "Conley-Estrella" (059-21186)	OG Plugged (1983)	300 feet west of Laydown area on Calle Saluda, San Clemente
George L. Guthrie "M&J Forster" (059-20690)	OG Plugged (1978)	730 feet west of Transmission Pole 28

Source: DOGGR 2014

Key:
API = American Petroleum Institute Well Number
OG = Oil and gas production

Note:
¹ An API Number is a unique, permanent, numeric identifier assigned to each oil and gas well in the United States.

1 **4.8.1.5 Emergency Response**
2

3 Orange County and the cities of San Juan Capistrano and San Clemente have developed and implemented
4 emergency response plans to help the communities prepare for and organize responses to natural and
5 human-caused disasters. Emergency response and evacuation plans that apply to the proposed project area
6 include Orange County’s *Hazard Mitigation Plan* (n.d.), the City of San Juan Capistrano’s *Emergency*
7 *Operation Plan* (2007), and the City of San Clemente’s *Multi-Hazard Emergency Plan* (2003). The
8 content of these plans is discussed further in Section 4.8.2.3. Daily administration of the disaster
9 preparedness and response programs for these areas is handled by the Orange County Fire Authority,
10 Orange County Sheriff’s Department, and trained city and county staff in the respective jurisdictions.
11

12 **4.8.1.6 Fire Hazards**
13

14 The California Department of Forestry and Fire Protection (CAL FIRE) is the state agency responsible for
15 fire protection in State Responsibility Areas (SRAs) of California and also identifies and maps fire risks
16 in SRA’s, Federal Responsibility Areas (FRAs), and Local Responsibility Areas (LRAs). CAL FIRE
17 designates areas as having very high, high, or moderate fire hazards. Fire Hazard Severity Zone
18 designations are based on fuels, terrain, fire history, and weather of the area (CAL FIRE 2009). Figure
19 4.8-1 shows areas designated as Very High Fire Hazard Severity Zones along the proposed project route.
20

21 **4.8.1.7 Electromagnetic Fields**
22

23 EMFs occur both naturally and as a result of human activity across a broad electrical spectrum. Naturally
24 occurring EMFs are caused by the weather and the earth’s geomagnetic field. The fields caused by human
25 activity result from technological application of the electromagnetic spectrum for uses such as
26 communications, appliances, and the generation, transmission, and local distribution of electricity.
27

28 After several decades of study regarding potential public health and safety risks associated with EMFs
29 from power lines, research results remain inconclusive. In 1993, the CPUC implemented decision D.93
30 11-013, which requires utilities to use “low-cost or no-cost” EMF reduction measures for EMFs
31 associated with electrical facilities requiring certification under CPUC General Order (GO) 131-D. The
32 decision directed utilities to use a 4 percent benchmark for low-cost measures. The applicant included a
33 Field Management Plan as part of its applications for the proposed project that describes the EMF
34 reduction measures that would be part of the proposed project (Appendix H). This decision also
35 implemented a number of EMF measurement, research, and education programs. The CPUC did not
36 adopt any specific numerical limits or regulation of EMF levels related to electric power facilities.
37

38 The CPUC’s January 27, 2006, decision (D.06-01-042) affirmed the 1993 decision on the low-cost/no-
39 cost policy to mitigate EMF exposure for new utility transmission and substation projects. Additionally,
40 the 2006 decision directs the CPUC’s Energy Division to pursue and review all available studies
41 regarding EMFs and to review scientific information and report on new findings. The CPUC has been
42 unable to determine whether there is a significant scientifically verifiable relationship between EMF
43 exposure and negative health consequences, and no change to the CPUC EMF policy has been made to
44 date. The CPUC will reconsider its EMF policies and open a new rulemaking, as necessary, if new
45 findings indicate negative EMF health impacts.
46

47 At present, the CPUC does not consider EMFs, in the context of CEQA, to be an environmental impact
48 because there is no agreement among scientists that EMFs create a potential health risk and because
49 CEQA does not define or adopt standards for defining any potential risk from EMFs. Therefore, EMFs
50 are not addressed in the Environmental Impacts and Mitigation Measures section of this resource section.

1 For further information about EMFs and CPUC guidelines, refer to
2 <http://www.cpuc.ca.gov/PUC/energy/Environment/ElectroMagnetic+Fields>.

4 4.8.2 Regulatory Setting

6 4.8.2.1 Federal

8 **Comprehensive Environmental Response, Compensation, and Liability Act**

9 The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known
10 as Superfund, outlines regulations for the cleanup of toxic waste sites nationwide. In 1986, Superfund was
11 amended by the Superfund Amendment and Reauthorization Act (SARA) Title III, also known as the
12 Emergency Planning and Community Right-to-Know Act. SARA Title III, along with the Clean Air Act
13 of 1990, established a nationwide emergency planning and response program and imposed reporting
14 requirements for businesses that store, handle, or produce significant quantities of extremely hazardous
15 materials. These acts require states to implement a comprehensive system to inform local agencies and the
16 public when a significant quantity of such material is stored or handled at a facility. There are no known
17 CERCLA sites in the immediate vicinity of the proposed project area.

19 **Resource Conservation and Recovery Act**

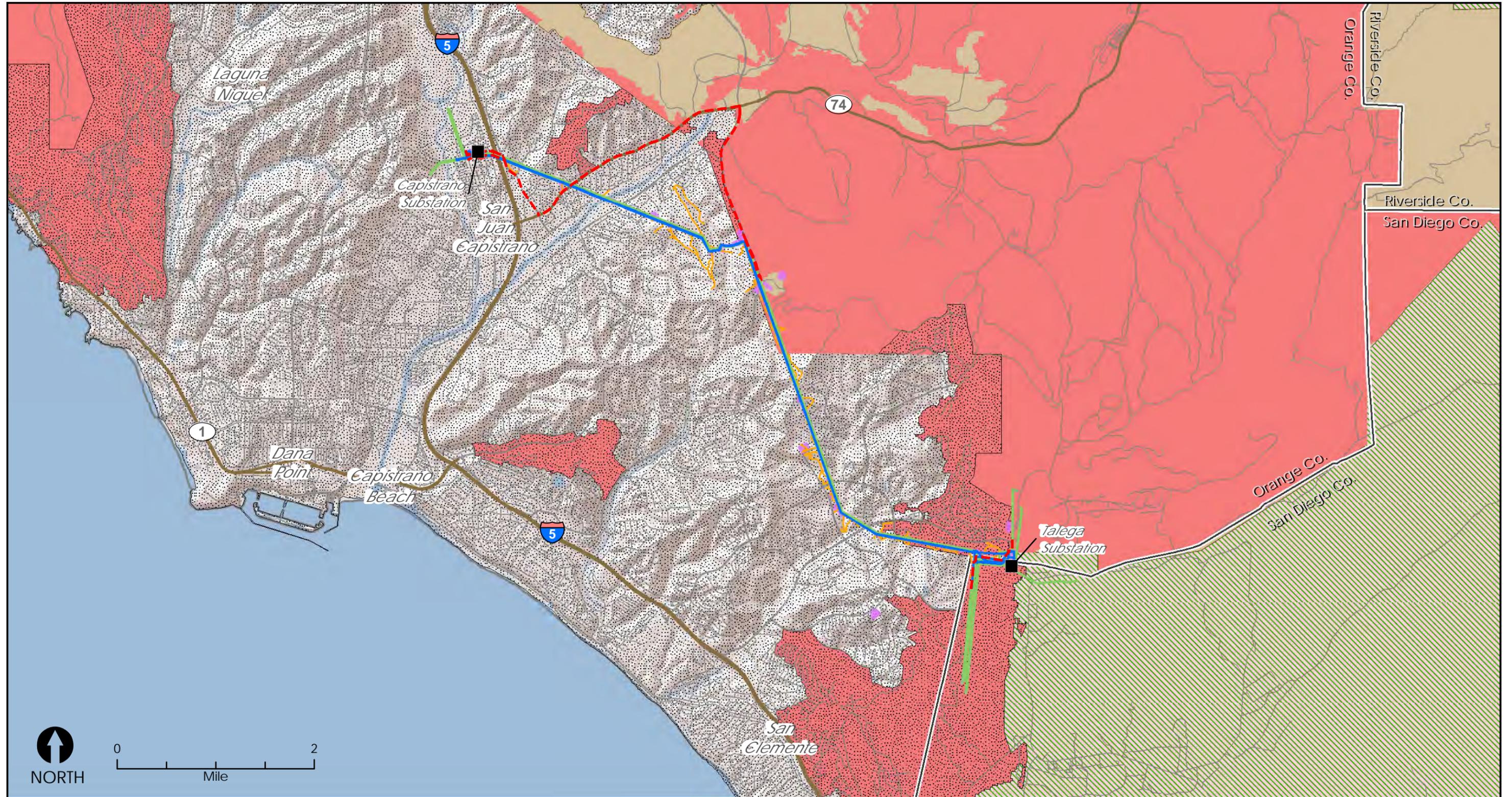
20 The Resource Conservation and Recovery Act (RCRA) regulates hazardous waste from the time that
21 waste is generated through to its management, storage, transport, treatment, and final disposal. The
22 United States Environmental Protection Agency (EPA) has authorized the California DTSC to administer
23 the State's RCRA programs. A RCRA hazardous waste exhibits at least one of four characteristics:
24 ignitability, corrosivity, reactivity, or toxicity. To keep track of hazardous waste activities, treatment,
25 storage, and disposal facility owners and operators must keep certain records and submit reports to the
26 EPA at regular intervals. All facilities that generate, transport, recycle, treat, store, or dispose of
27 hazardous waste are required to notify the EPA (or its state agency) of their hazardous waste activities.
28 An EPA Identification Number must be obtained unless the waste has been excluded from regulation or
29 exempted. National Biennial RCRA Hazardous Waste Reports Sections 3002 and 3004 of RCRA require
30 that the EPA collect information pertaining to hazardous waste management from hazardous waste
31 generators and hazardous waste treatment, storage, and disposal facilities every two years. Used
32 hazardous waste from construction and operation of the proposed project are regulated under this act.

34 **Hazardous Materials Transportation Act**

35 The primary objective of the Hazardous Materials Transportation Act is to provide adequate protection
36 against risks to life and property inherent in the transportation of hazardous materials in commerce. This
37 act empowers the United States Department of Transportation to regulate the transportation of hazardous
38 materials, including explosives, by rail, aircraft, vessel, or public highway. Hazardous materials
39 regulations are subdivided by function into the following four areas within 49 Code of Federal
40 Regulations (CFR) Parts 101, 106, 107, 171 to 177, and 178 to 180: Procedures and/or Policies; Material
41 Designations; Packaging Requirements; and Operational Rules. The transportation of all hazardous
42 materials to and from the proposed project area during construction and operation would be regulated by
43 this act.

45 **Oil Pollution Prevention**

46 The objective of the oil pollution prevention regulation stated in 40 CFR Part 112 is to prevent oil
47 discharges from reaching navigable waters of the United States or adjoining shorelines. This regulation
48 was also written to ensure effective response to oil discharge. The regulation further requires that
49 proactive measures be used to respond to oil discharge. It contains two major types of requirements:



- | | | |
|----------------------------|-------------------|-----------------------------------|
| Proposed transmission line | Distribution Line | Fire Hazard Severity Zones |
| Existing transmission line | Roads | Very High |
| Access road | Local road | Federal Responsibility Area |
| Impact areas | County Boundary | Local Responsibility Area |
| | | State Responsibility Area |

Sources: CalFire 2011

Figure 4.8-1 Fire Hazard Severity Zones

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1 prevention requirements (the Spill Prevention, Control, and Countermeasure [SPCC] rule) and Facility
2 Response Plan requirements.

3
4 SPCC plans are required for facilities that are non-transportation-related, have an aggregate aboveground
5 storage capacity greater than 1,320 gallons or a completely buried storage capacity greater than 42,000
6 gallons, and have a reasonable expectation of a discharge into or upon navigable waters of the United
7 States. An SPCC plan would be required for the operation of the proposed San Juan Capistrano
8 Substation and Talega Substation because these facilities would store more than 1,320 gallons of
9 transformer oil in the transformers, which could reasonably discharge into navigable waters (40 CFR
10 Parts 112.1–112.7). Twelve drainages were identified that may be subject to the jurisdiction of the United
11 States Army Corps of Engineers, California Department of Fish and Wildlife, and San Diego Regional
12 Water Quality Control Board during wetland delineation surveys (SDG&E 2012). Jurisdictional waters
13 and regulatory requirements are further discussed in Section 4.4, “Biological Resources.” The Orange
14 County Environmental Health Division is responsible for administering SPCC plans in Orange County.
15 The applicant has existing SPCC plans for Capistrano and Talega substations.

16 17 **Transformer Oil Transport and Recycling**

18 Title 49 CFR Part 130 applies to the transport of transformer oil (mineral oil) when shipped in containers
19 of 3,500 gallons or more. Mineral oil would be transported in volumes over 3,500 gallons for the
20 proposed project. According to 49 CFR Part 130, containers used for the transportation of oil subject to
21 this regulation must be designed, constructed, maintained, closed, and loaded such that under conditions
22 normally incident to transportation, there will be no release of oil to the environment. In addition, a
23 response plan must be developed pursuant to 49 CFR Part 130 requirements. Standards for the recycling
24 of used transformer oil are established in 40 CFR Part 279.

25 26 **Occupational Safety and Health Administration**

27 The Occupational Safety and Health Administration (OSHA) administers Occupational Safety and Health
28 Standards (CFR Title 29) that establish regulations for safety in the workplace and construction safety,
29 including safety regarding the use of helicopters for construction.

30
31 OSHA standards require implementation of a Hazard Communication Plan to identify and inventory all
32 hazardous materials and material safety data sheets. OSHA’s standards also require employee training in
33 safe handling of hazardous materials. OSHA standards are relevant to the proposed project because its
34 construction and operation would involve the use of heavy-duty equipment, helicopters, and heavy-duty
35 and lighter vehicles that may pose health and safety risks to workers. In addition, workers would handle
36 and use chemical substances.

37 38 **4.8.2.2 State**

39 40 **Hazardous Materials and Waste**

41 California Health and Safety Code (HSC) Section 25501 defines the term *hazardous material* as any
42 material that, because of quantity, concentration, or physical or chemical characteristics, poses a
43 significant present or potential hazard to human health and safety or to the environment. Hazardous
44 materials include, but are not limited to, hazardous substances, hazardous waste, and any material that a
45 handler or the administering agency has a reasonable basis for believing would be injurious to the health
46 and safety of persons or harmful to the environment if released into the workplace or the environment.
47 Title 8, Section 339 of the California Code of Regulations (CCR) lists substances identified as *hazardous*
48 *substances* for which employers must provide material safety data sheets to employees.

1 CCR Title 22, Section 66261.1 identifies those wastes which are subject to regulation as hazardous wastes
2 and that are subject to the notification requirements pursuant to the California HSC. The HSC defines a
3 waste as hazardous if it has any of the following characteristics: ignitability, corrosivity, reactivity, and
4 toxicity. It also provides lists of hazardous wastes listed pursuant to RCRA, non-RCRA hazardous wastes,
5 hazardous wastes from specific sources, extremely hazardous wastes, hazardous wastes of concern, and
6 special wastes. The EPA has authorized the California DTSC to administer the RCRA program in
7 California.

8
9 Under federal regulations, transformer oil, under most intended uses, would become used oil, the
10 recycling of which is regulated by 40 CFR 279. Use resulting in chemical or physical change or
11 contamination may also subject it to regulation as hazardous waste, which is also managed under 40 CFR
12 279. In California, however, all used oil is managed as hazardous waste until tests have shown that it is
13 not hazardous (HSC Section 25250.4). Requirements for the transport of hazardous waste, including
14 driver training, are established in CCR Title 26.

15 16 **Extremely Hazardous Substances**

17 The CEQA Guidelines identify “extremely hazardous substances” as those defined by Section
18 25532(2)(g) of the California HSC. These include the substances listed in Appendix A of Part 355
19 (commencing with Section 355.10) of 40 CFR Chapter I, Subchapter J that provides a list of extremely
20 hazardous substances and their threshold planning quantities. The CEQA Guidelines define “hazardous
21 air emissions” as emissions of air contaminants identified as toxic by the California Air Resources Board
22 (CARB) or the designated air pollution control officer. These include substances identified in Section
23 44321(a to f) of the California HSC.

24 25 **Treated Wood Waste**

26 Section 25150.7 of the California HSC outlines procedures and regulations for the management and
27 disposal of treated wood waste. Wood waste, including the type of wood utility poles that would be
28 disposed of as part of the proposed project, may be treated with pesticides and other chemicals to protect
29 the wood. Because the chemical treatments could leach into water supplies when disposed of, Section
30 25150.7 was developed to restrict how and where treated wood waste can be disposed of.

31 32 **Certified Unified Program Agency and Hazardous Materials Plans**

33 Administration of the Certified Unified Program Agency (CUPA) is authorized by the California HSC
34 (Chapter 6.11, Sections 25404-25404.8) and CCR Title 27, Division 1, Subdivision 4, Chapter 1, Sections
35 15100–15620. This program is implemented at the local level by government agencies certified by the
36 secretary of the California Environmental Protection Agency. The Orange County Environmental Health
37 Division is the CUPA for Orange County. The CUPA coordinates the regulation of hazardous materials
38 and hazardous wastes in Orange County through the following six programs:

- 39
40
- 41 • Hazardous Materials Disclosure,
 - 42 • Business Emergency Plan,
 - 43 • Hazardous Waste,
 - 44 • Underground Storage Tank,
 - 45 • Aboveground Petroleum Storage Tank, and
 - 46 • California Accidental Release Prevention.

1 The Office of the State Fire Marshal is responsible for ensuring implementation of the Hazardous
2 Materials Management Plans and Hazardous Materials Inventory Statement Programs (California HSC
3 Section 25404 and CCR Sections 15100, 15160, and 15330), which are overseen by the CUPA.

5 **Hazardous Materials Release Response Plans and Inventory Act of 1985**

6 The Hazardous Materials Release Response Plans and Inventory Act, also known as the Business Plan
7 Act, requires businesses using hazardous materials to prepare a plan that describes their facilities,
8 inventories, emergency response plans, and training programs. Hazardous materials are defined under the
9 Business Plan Act as raw or unused materials that are part of a process or manufacturing step. Health
10 concerns pertaining to the release of hazardous materials are similar to those relating to hazardous waste.

11
12 California HSC Section 25503.5 requires a business plan for emergency response for facilities that store
13 hazardous materials in excess of 55 gallons (liquid), 500 pounds (solid), or 200 cubic feet (gas). Facilities
14 that handle more than these indicated quantities of hazardous materials must submit a Hazardous
15 Materials Business Plan (HMBP) to the CUPA, prior to project construction. The existing Talega
16 Substation and the proposed San Juan Capistrano Substation would store 85,200 and 65,400 gallons of
17 transformer oil, respectively, would be required to implement an HMBP for construction and operations.
18 In California, all used oil is managed as hazardous waste until tests have shown it is not hazardous (HSC
19 Section 25250.4). The applicant would be required to submit an HMBP to the CUPA for project
20 construction and operation. In general, HMBPs describe and identify storage areas for hazardous
21 materials and waste; describe appropriate handling, storage, and disposal techniques; and include
22 measures for avoiding and addressing spills pursuant to California HSC Section 25504.

24 **Hazardous Waste Control Act**

25 The Hazardous Waste Control Act established the state hazardous waste management program, which is
26 similar to, but more stringent than, RCRA program requirements. CCR Title 26 describes the
27 requirements for the proper management of hazardous waste under the Hazardous Waste Control Act,
28 including the following:

- 29
- 30 • Identification and classification;
- 31 • Generation and transportation;
- 32 • Design and permitting of recycling, treatment, storage and disposal facilities;
- 33 • Treatment standards;
- 34 • Operation of facilities and staff training; and
- 35 • Closure of facilities and liability requirements.

36
37 These regulations list more than 800 materials that may be hazardous and establish criteria for the
38 identification, packaging, and disposal of such waste. Under the Hazardous Waste Control Act, and Title
39 26, the generator of hazardous waste must document waste from generation to transporter to disposal.
40 Copies of this documentation must be filed with the California DTSC.

41
42 The California DTSC operates programs to protect California from exposure to hazardous wastes through
43 the following practices and procedures:

- 44
- 45 • Handling of the aftermath of improper hazardous waste management by overseeing site clean-up;

- 1 • Prevention of the release of hazardous waste by ensuring that those who generate, handle,
2 transport, store, and dispose of wastes do so properly;
- 3 • Enforcement against those who fail to appropriately management hazardous wastes;
- 4 • Exploration and promotion of measure to prevent pollution and encourage reuse and recycling;
- 5 • Evaluation of site-specific soil, water, and air samples and development of new analytical
6 methods;
- 7 • Practice in other environmental sciences, including toxicology, risk assessment, and technology
8 development; and
- 9 • Involvement of the public in the California DTSC’s decision-making.

10
11 Hazardous wastes that may be encountered or generated during the construction and operation of the
12 proposed project would be subject to the requirements of the Hazardous Waste Control Act.

13 14 **Emergency Services Act**

15 Under the Emergency Services Act, the State of California developed an emergency response plan to
16 coordinate emergency services provided by federal, state, and local agencies. Rapid response to incidents
17 involving hazardous material or hazardous waste is an important segment of the plan administered by the
18 California Emergency Management Agency. The California Emergency Management Agency coordinates
19 the response of agencies, including the California Environmental Protection Agency, California
20 Department of Transportation, California Highway Patrol, Regional Water Quality Control Boards, air
21 quality management districts, and county disaster response offices.

22 23 **Government Code Section 65962.5: Cortese List**

24 The Cortese List includes all hazardous waste facilities subject to corrective action; land designated as
25 hazardous waste property or border zone property; information received from the California DTSC about
26 hazardous waste disposals on public land; sites listed pursuant to the California HSC Section 25356
27 (removal and remedial action sites); and sites included in the Abandoned Site Assessment Program.
28 Pursuant to Government Code Section 65962.5, the California DTSC compiles and updates the Cortese
29 List as appropriate, but at least annually. Refer to Section 4.8.1.1 for a discussion of the Cortese List
30 database search results for the proposed project.

31 32 **California Fire Code and Public Resources Code**

33 The California Fire Code is Part 9 of CCR Title 24 (the California Building Standards Code). The
34 California Fire Code incorporates, by adoption, the International Code Council’s International Fire Code
35 with amendments specific to California. All facilities constructed as part of the proposed project must
36 comply with the fire codes established by Title 24 and as amended by local jurisdictions. Title 24 is
37 further discussed in Section 4.13, “Public Services and Utilities.”

38 39 **California Public Resources Code**

40 The California Public Resources Code (PRC) includes fire safety regulations that restrict the use of
41 equipment that may produce a spark, flame, or fire; require the use of spark arrestors on construction
42 equipment that has an internal combustion engine; specify requirements for the safe use of gasoline-
43 powered tools in fire hazard areas; and specify fire suppression equipment that must be provided onsite
44 for various types of work in fire prone areas. The PRC requirements apply to construction activities in
45 areas designated by CAL FIRE as SRAs with substantial wildland fire risk (California PRC Section

1 4125). The proposed project would be located on land designated by CAL FIRE as a Very High Fire
2 Hazard Severity Zone (Figure 4.8-1).

3
4 California PRC Sections 4292 and 4293 address vegetation management in transmission (and
5 subtransmission) line corridors. Within mountainous land, forest-covered land, brush-covered land, or
6 grass-covered land, owners and managers of electrical transmission lines are required to maintain a
7 firebreak consisting of a clearing of not less than 10 feet in each horizontal direction from the outer
8 circumference of structures that support electrical infrastructure that could be a source of ignitions and
9 therefore present a fire risk, including switches, fuses, transformers, and lightning arresters. California
10 PRC Section 4293 requires the felling, cutting, or trimming of dead, rotten, decayed, diseased, or
11 otherwise weakened trees that may affect or fall on an electric line. Sections 4291 through 4299 also
12 specify requirements for maintaining clearance around other types of structures and buildings to reduce
13 fire risk that are applicable to the proposed project.

14 15 **California Occupational Health and Safety Administration**

16 The California Occupational Health and Safety Administration (CalOSHA) is responsible for the
17 development and enforcement of workplace safety standards and ensuring worker safety in the handling
18 and use of hazardous materials. CalOSHA requires businesses to prepare Injury and Illness Prevention
19 Plans and Chemical Hygiene Plans. Its Hazards Communication Standard requires that workers be
20 informed of the hazards associated with the materials they handle. Manufacturers are required to label
21 containers, provide material safety data sheets in the workplace, and provide worker training.

22
23 The employer is required to monitor worker exposure to listed hazardous substances and notify workers
24 of exposure (8 CCR Sections 337-340). The regulations specify requirements for employee training,
25 availability of safety equipment, accident-prevention programs, and hazardous substance exposure
26 warnings. Similar to the federal OSHA, CalOSHA contains requirements to prevent worker exposure to
27 certain types of hazardous substances in the work place, such as asbestos and lead. Specifically, exposure
28 of construction workers to lead is controlled by the Lead Standard and the exposure of workers to
29 asbestos containing materials is controlled by the asbestos Construction Standard.

30 31 **Division of Oil, Gas, and Geothermal Resources**

32 The responsibilities mandated to the Division of Oil, Gas, and Geothermal Resources (DOGGR) are
33 detailed in Section 3000 et seq. of the PRC and Title 14, Chapter 4 of the CCR. DOGGR supervises the
34 drilling, operation, maintenance, and plugging and abandonment of onshore and offshore oil, gas, and
35 geothermal wells, preventing damage to: (1) life, health, property, and natural resources; (2) underground
36 and surface waters suitable for irrigation or domestic use; and (3) oil, gas, and geothermal reservoirs.
37 Division requirements encourage wise development of California's oil, gas, and geothermal resources
38 while protecting the environment. California PRC Section 3208.1 authorizes DOGGR to order the
39 reabandonment of any previously plugged and abandoned wells when construction of any structure over
40 in the proximity of the well could result in a hazard. Oil, gas, and geothermal wells in the vicinity of the
41 proposed project area are identified in Table 4.8-5.

42 43 **Underground Service Alert (DigAlert)**

44 California Government Code 4216 et seq. defines mandatory notification procedures for subsurface
45 excavations and installations. Pursuant to Section 4216 et seq., the applicant must contact the
46 Underground Service Alert of Southern California, also known as DigAlert, at least two working days but
47 no more than 14 days prior to conducting excavation activities for each component of the proposed
48 project (DigAlert 2014).

1 **CPUC General Order 95: Rules for Overhead Electric Line Construction**

2 GO 95 regulates the design, construction, operation, and maintenance of overhead electric lines in
3 California. This order includes safety standards for overhead electric lines, including minimum conductor
4 ground clearance, electric line inspection requirements, and vegetation clearance requirements. Rule 35
5 (Tree Trimming) defines minimum vegetation clearances around power lines and requires 10 feet of
6 radial clearances for any conductor of a line operating at more than 110,000 volts and fewer than 300,000
7 volts. This rule also requires that utility providers remove dead, rotten, and diseased trees that overhang or
8 lean toward a span of an electric line. Rule 31.2 (Inspection of Lines) requires that lines be inspected
9 frequently to ensure that they are in good condition and that lines temporarily out of service be inspected
10 and maintained to prevent a hazard. This order applies to the proposed 230-kV transmission line.

11
12 **CPUC General Order 128: Rules for Construction of Underground Electric Supply and
13 Communication Systems**

14 GO 128 establishes requirements for the construction, operation, and maintenance of all underground
15 electric supply and communications systems under CPUC jurisdiction. Requirements are established to
16 ensure safe design and operation of underground electrical facilities, including design and inspection
17 criteria, to reduce the risk of fire. GO 128 is applicable to the proposed underground 115-kV and fiber
18 optic components.

19
20 **CPUC General Order 165: Inspection Requirements for Electric Distribution and
21 Transmission Facilities**

22 GO 165 establishes requirements for electric distribution and transmission facilities (excluding facilities
23 contained in a substation) regarding inspections to ensure safe and high-quality electrical service. This
24 order establishes a minimum period between inspections and record-keeping requirements. GO 165
25 applies to the proposed 230-kV transmission line.

26
27 **CPUC General Order 166: Standards for Operation, Reliability, and Safety during
28 Emergencies and Disasters**

29 GO 166 applies to all electric utilities subject to the jurisdiction of the CPUC, and addresses electric
30 service reliability and safety. The purpose of the order is to ensure that jurisdictional electric utilities are
31 prepared for emergencies and disasters in order to minimize damage and inconvenience to the public that
32 may occur as a result of electric system failures, major outages, or hazards posed by damage to electric
33 distribution facilities. Investigations as required by this order are conducted following every major
34 outage, pursuant to and consistent with Public Utilities Code Section 364(c) and Commission policy. This
35 order applies to the proposed 230-kV transmission line.

36
37 GO 166 was revised to require investor-owned electric utilities in Southern California, such as SDG&E,
38 to prepare and submit plans to prevent power-line fires during extreme weather events. SDG&E
39 submitted a Fire Management Plan within an Advice Letter to the CPUC that is applicable to operation,
40 design, construction, inspection, and maintenance of the applicant's overhead lines and structures
41 (SDG&E 2012). The CPUC is anticipated to issue a Phase 3 decision for the Electric Safety Order
42 Instituting Rulemaking that will reflect input from CAL FIRE. The third phase of the CPUC proceeding
43 will address the establishment of:

- 44
45
- 46 • Standards for wood structures and materials that will allow utilities to reliably obtain prescribed
47 safety factors enforceable by the CPUC;
 - Modern materials and practices, with the goal of improving fire safety; and

- Fire safety standards for the design and construction of electrical infrastructure in areas of high fire threat.

In addition, the Phase 3 decision will address whether and how proposed fire safety standards should apply to existing facilities in high fire threat districts, as well as the development of a plan for reporting to the CPUC’s Consumer Safety and Protection Division.

4.8.2.3 Regional and Local

Regional Water Quality Control Board and Stormwater Pollution Prevention Plans

Under the National Pollutant Discharge Elimination System (NPDES), California’s Regional Water Quality Control Boards requires a Construction Activities Storm Water General Permit (Order 2009-0009-DWQ) for storm water discharges associated with any construction activity including clearing, grading, excavation reconstruction, and dredge and fill activities that results in the disturbance of at least one acre of total land area. Since the proposed project would disturb more than 1 acre, this permit would be required, along with a Stormwater Pollution Prevention Plan (SWPPP). SWPPPs require the use of site-specific best management practices during construction to reduce the potential for erosion and sedimentation and for vehicle and equipment fueling and maintenance, material storage, spill prevention, and waste management. In Orange County, permits are administered by the San Diego Regional Water Quality Control Board. The NPDES, federal Clean Water Act, and California Water Quality Act are further described in Section 4.9, “Hydrology and Water Quality.”

Orange County General Plan

The Safety Element of the Orange County General Plan identifies goals and objectives to address public safety issues, including hazardous materials, aircraft environment, and fire. The following objectives and policies are applicable to the proposed project:

- *Public Safety Component Objective 1.1: To identify public safety hazards and determine the relative threat to people and property in Orange County.*
- *Public Safety Component Objective 2.2: To encourage the development and utilization of technologies that minimize the effects of public safety hazards.*
- *Public Safety Component Objective 3.1: To provide information, training, and assistance to reduce loss of life and injury and to protect private and public property from public safety dangers.*
- *Fire Component Policy 9: To encourage improvement of fire defense systems in hazardous areas.*
- *Hazardous Materials Component Policy 5: To encourage improvement of fire defense systems in hazardous areas.*
- *Natural Hazards Component Policy 1.1: To identify natural hazards and determine the relative threat to people and property in Orange County.*
- *Natural Hazards Component Policy 2.2: To support the development and utilization of technologies which minimize the effects of natural hazards. (Orange County 2011)*

County of Orange and Orange County Fire Authority Hazard Mitigation Plan

The Hazard Mitigation Plan provides information to assist Orange County residents, public and private sector organizations, and others interested in participating in planning for natural hazards. The plan

1 includes a risk assessment, which identifies hazards and areas vulnerable to hazards (Orange County n.d.).
2 This plan does not have jurisdiction over the proposed project; however, the proposed project could
3 impact the implementation of this plan, as further discussed in Section 4.8.3.3.
4

5 **City of San Juan Capistrano General Plan**

6 The City of San Juan Capistrano is subject to several types of public safety hazards. The Safety Element
7 of the City of San Juan Capistrano General Plan was prepared to protect existing and planned land uses
8 from public safety hazards. The following policies are applicable to the proposed project:
9

- 10 • **Policy 1.3:** *Reduce the risk of wildfire hazards by requiring fire retardant landscaping and*
11 *project design for development located in areas of high wildfire risk.*
- 12 • **Policy 1.4:** *Reduce the risk of fire to the community by coordinating with the Orange County Fire*
13 *Authority.*
- 14 • **Policy 2.1:** *Work with responsible federal, state, and county agencies to decrease air pollution*
15 *emissions occurring within the air basin to reduce the risk posed by air pollution*
- 16 • **Policy 2.3:** *Cooperate with responsible federal, state, and county agencies to minimize the risk to*
17 *the community from the use and transportation of hazardous materials through the City. (City of*
18 *San Juan Capistrano 1999)*

19 **City of San Juan Capistrano Emergency Operation Plan**

20
21 The City of San Juan Capistrano's planned response to emergencies associated with natural disasters and
22 technological incidents is addressed in its Emergency Operation Plan (2007). This plan describes
23 operational concepts, lists components of the City's emergency management organization within the
24 Standardized Emergency Management System (SEMS), and outlines the overall responsibilities of the
25 federal, state and county entities. This plan does not have jurisdiction over the proposed project; however,
26 the proposed project could impact the implementation of the City's designated evacuation routes, which
27 are located at northbound Interstate 5 (I-5), westbound State Route 74 and Camino Capistrano (City of
28 San Juan Capistrano 2007), as further discussed in Section 4.8.3.3.
29

30 **City of San Clemente General Plan**

31 San Clemente is susceptible to a variety of natural and human-made safety hazards, including
32 contaminated soil hazards and wildfires. The City's General Plan seeks to mitigate these potential threats
33 to life, property, environmental quality, and economic vitality through preventative measures and through
34 careful emergency planning. The following policies from the Safety Element of the City's General Plan
35 are applicable to the proposed project:
36

- 37 • **S-3.01. Fire and Building Codes.** *We coordinate with Orange County Fire Authority to*
38 *proactively mitigate or minimize the adverse effects of structural fires, wildfires and related*
39 *hazards like erosion, hazardous materials release and structural collapse by implementing*
40 *appropriate fire and building codes.*
- 41 • **S-6.01. Public Maps.** *We publicize areas of known hazardous materials contamination to reduce*
42 *risk to public health, safety, and welfare.*
- 43 • **S-7.04. Interdepartmental and Interagency Collaboration.** *We collaborate among City*
44 *departments and with organizations outside of the City for a comprehensive approach to*
45 *emergency services and disaster preparedness, response and recovery, including continuity of*
46 *operations (e.g. information technology and financial services). (City of San Clemente 2014)*
47

City San Clemente San Clemente Multi-Hazard Emergency Plan

The City of San Clemente Multi-Hazard Emergency Plan provides the framework for responding to major emergencies or disasters. This plan outlines a strategy to prepare for, respond to, and recover from an emergency or disaster that affects the city. This plan does not have jurisdiction over the proposed project; however, the proposed project could impact the implementation of the City's designated evacuation routes, which are located along northbound I-5, Avenida Pico, and Avenue Vista Hermosa (City of San Clemente 2003) as further discussed in Section 4.8.3.3.

4.8.3 Impact Analysis

4.8.3.1 Methodology and Significance Criteria

The evaluation of impacts from hazards and hazardous materials during construction and operation of the proposed project was based on the review of relevant federal, state, county, and local laws; regulations; plans (e.g., emergency response and hazard mitigation plans); policy documents and standards; and hazards and hazardous materials that would be associated with construction, operation, and maintenance of the proposed project as described in Chapter 2, "Project Description." State, county, and local maps were reviewed to determine the location of schools, known hazardous materials sites, airports, and fire severity zones as classified by CAL FIRE in proximity to the proposed project area.

Potential impacts from hazards and hazardous materials were evaluated in accordance 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 related to hazards and hazardous materials if it would:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school;
- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- e) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- f) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Appendix G of the CEQA Guidelines also includes the following significance criteria under Hazards and Hazardous Materials:

- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

1
2 The proposed project would not be located within an airport land use plan area or 2 miles from a public
3 airport or private airstrip. Therefore, the proposed project would have no impact under these criteria, and
4 they are not further addressed in this section.

6 **4.8.3.2 Applicant Proposed Measures**

7
8 The applicant has committed to the following as part of the design of the proposed project. See Section
9 2.6, “Applicant Procedures, Plans, Standards, and Proposed Measures,” for a complete description of each
10 Applicant Proposed Measure (APM).

11
12 **APM HAZ-1: Conduct Environmental Site Assessment.** Prior to the start of earth disturbance
13 activities at the upper yard portion of the existing Capistrano Substation site, a Phase II
14 Environmental Site Assessment (soil sampling) would be performed and, if any contaminated soil is
15 found to be present, contaminated soils would be managed, removed, transported, and disposed of in
16 accordance with all applicable laws, ordinances and safety standards. The Environmental Site
17 Assessment would be completed pursuant to American Society for Testing and Materials
18 International standard requirements.

19 **APM HAZ-2: Hazardous Materials and Waste Management Plan.** The applicant would prepare a
20 project-specific Hazardous Materials and Waste Management Plan (HMWMP) following final CPUC
21 project approval and be submitted to the CPUC prior to issuance of any applicable Notice to Proceed
22 for the project. Handling, recycling, and waste transportation, and temporary waste storage
23 procedures would be outlined within the HMWMP. The project-specific HMWMP would include
24 site-specific procedures and would be developed based on SDG&E standards and applicable
25 hazardous materials laws, standards, and regulations. Sampling and cleanup levels would be
26 established in the HMWMP as follows:

- 27 • Confirmation samples would be taken to ensure that site conditions are consistent with current
28 and proposed land uses (i.e., electric substation);
- 29 • Confirmation samples would be taken, utilizing industry standard testing methods (e.g. EPA
30 Methods), for appropriate site specific contaminants of concern;
- 31 • Final sampling procedures would be included within the project-specific HMWMP; and
- 32 • Final cleanup levels would be identified in the HMWMP and be consistent with acceptable levels
33 for Commercial Industrial land uses.
- 34 • Plans for the unanticipated discovery of contaminated soil and/or groundwater during
35 construction would be included in the HMWMP, including:
 - 36 - Procedures in response to the discovery of contaminated soil or groundwater, including those
37 for stopping work, securing the contaminated area, preventing the spread of contamination,
38 and appropriate waste management (testing, profiling, shipping disposal);
 - 39 - Training requirements for construction workers performing excavation activities;
 - 40 - Dewatering procedures; and
 - 41 - Procedures for notifying SDG&E and agency personnel in the event of the discovery of
42 contaminated soil and/or groundwater.

43 The applicant’s outline of environmental procedures for management of the following would be
44 addressed in the HMWMP:

- 45 - Asbestos Management;

- 1 - Hazardous Materials Transportation Security Plans;
- 2 - Hazardous Materials and Waste Management;
- 3 - Hazardous Material and Waste Shipping;
- 4 - Hazardous Waste Minimization Plans; and
- 5 - Field Guidelines for Emergency Incidents.

6
7 Soil sampling and building materials sampling results from applicable Environmental Site
8 Assessments would be applied to development of the HMWMP.

9
10 **APM HAZ-3: Personal Protection Equipment.** Specialized crews would be utilized to conduct any
11 remediation (safe removal of contaminants) at the Capistrano Substation site prior to actual
12 construction of the proposed project commencing. Proper personal protection equipment would be
13 utilized by all remediation workers that may come into contact with known contaminated soil or
14 hazardous building materials. Personal protection equipment would be determined based upon the
15 nature of the contamination present at any given portion of the substation site and would comply with
16 all applicable CalOSHA standards.

17 **APM HAZ-4: Dewatering, Discharge, and Contaminated Water.** Pumped water that is not
18 potentially contaminated with sediments or other materials would be discharged in accordance with
19 requirements of the Construction General Permit. The water would be discharged near the extraction
20 location and thereby returned to the local groundwater. Potentially contaminated water would be
21 handled and disposed of offsite in accordance with applicable federal and state laws.

22 **APM HAZ-5: Recycling and Reuse.** It is SDG&E's practice to reuse or recycle all old structures/
23 poles, materials, and components following the retirement of substations, transmission lines, and
24 structures/poles. Whatever cannot be reused or recycled is disposed of at an appropriate facility
25 pursuant to all applicable laws.

26 **APM-HAZ-6: Fire Control.** No work would occur during times of high fire threat, such as Red Flag
27 Warnings issued by the National Weather Service or other severe fire weather conditions as identified
28 by SDG&E.

29 Consistent with SDG&E's Electric Standard Practice 113.1 and the project-specific fire plan, prior to
30 starting construction activities, SDG&E would clear dead and decaying vegetation from proposed
31 project work areas where personnel are active or where equipment is in use or being stored within
32 rights-of-way, staging areas, stringing sites, and access roads. Cleared dead and decaying vegetation
33 would be either removed or chipped and spread on site.

34 The project-specific fire plan would include requirements for equipping diesel and gasoline operated
35 engines with spark arrestors, carrying emergency fire suppression equipment, furnishing a water truck
36 on or immediately adjacent to the proposed project work area, restricting smoking and vehicle idling,
37 construction restrictions during Red Flag Warning periods (as applicable), and conducting pre-
38 activity tailgate meetings that include fire safety discussions.
39

1 **4.8.3.3 Environmental Impacts**

2
3 **Impact HZ-1: Create a significant hazard to the public or the environment through the**
4 **routine transport, use, or disposal of hazardous materials.**
5 *LESS THAN SIGNIFICANT WITH MITIGATION*
6

7 Vehicles and equipment used during construction could contain or require the temporary, short-term use
8 of potentially hazardous substances, such as fuels, lubricating oils, hydraulic fluid, paints, solvents,
9 adhesives, and cleaning chemicals. Construction vehicles and large equipment would be fueled at existing
10 offsite fuel supply facilities. However, helicopters would be fueled at designated laydown areas (fly
11 yards), and small quantities of fuel (10 to 40 gallons) would be stored onsite for gasoline powered hand
12 tools. The routine use of hazardous materials could result in an accidental spill during construction and
13 refueling activities. The proposed project also would generate hazardous wastes during construction,
14 including used motor oils, used hydraulic fluids, discarded batteries, waste solvents and adhesives, and
15 old conductor wire.

16
17 All hazardous materials and wastes would have to be stored, transported, and disposed of in accordance
18 with applicable laws and regulations. The release of hazardous materials or wastes has the potential to
19 significantly impact the public and the environment if they are not properly contained and removed.
20 Implementation of the required Hazardous Material Business Plan (California HSC Section 25503.5
21 through 25504) and SWPPP (required under NPDES) would reduce potential impacts from the routine
22 use of hazardous materials. In addition, the Applicant would implement APM HAZ-2, which would
23 provide hazardous materials transportation security plans, hazardous materials and waste management
24 procedures, hazardous materials and waste shipping procedures, hazardous waste minimization plans, and
25 a field guide for emergency incidents. In this plan, the applicant would also detail the site-specific
26 hazardous waste handling, recycling, transportation, and storage procedures. Implementation of these
27 procedures should prevent significant hazardous from occurring during routine construction and
28 operations; however, the exact contents of these plans are not available at this time and therefore, their
29 comprehensiveness cannot be assessed and impacts could remain significant. Mitigation Measure (MM)
30 HAZ-1, described in Section 4.8.4, is designed to add specificity to APM HAZ-2 or supplement it to
31 ensure that specific measures and procedures are established. The applicant would be required to develop
32 a Hazardous Material Contamination Prevention Plan or would have to supplement its proposed plans
33 with the elements of MM HAZ-1. Through compliance with the regulatory requirements and
34 implementation of APM HAZ-2 and MM HAZ-1, potential impacts associated with hazardous waste
35 management would be less than significant.

36
37 The proposed project would remove 208 wood poles from the project area, which are considered treated
38 wood waste as defined by Section 25150.7 of the California HSC. As detailed in APM HAZ-5, the
39 applicant would reuse or recycle all old wood poles and components to the greatest extent possible. Any
40 remaining treated wood waste would be disposed of at a Class I hazardous landfill or in a composite-lined
41 portion of a solid waste landfill unit. As a result, impacts from the disposal of treated wood waste would
42 be less than significant.

43
44 As identified from past asbestos and lead-based paint surveys (see Tables 4.8-1 and 4.8-2), construction
45 of the proposed San Juan Capistrano Substation would require removal of contaminated materials and site
46 remediation prior to demolition. As detailed in APM HAZ-3, the applicant would use specialized crews to
47 conduct removal and remediation activities. The specialized crews would be qualified to handle asbestos,
48 lead-based paint, and other hazardous materials/wastes in accordance with OSHA and CalOSHA
49 standards. As a result, impacts from the disposal of hazardous waste during construction would be less
50 than significant.

1 A scoping comment received from MCB Camp Pendleton noted that the soil, wood, metal, or other
2 construction debris removed from the project area within the MCB Camp Pendleton property may be
3 contaminated from the activities and materials associated with the Marine base, such as lead
4 contamination from discharged bullets. Improper disposal of this debris could result in a significant
5 impact. MM HAZ-2 would require the applicant to test any materials that would be removed from within
6 MCB Camp Pendleton boundaries in accordance with EPA Best Management Practices for Outdoor
7 Shooting Ranges (EPA-902-B-01-001). Additionally, the mitigation would also require any solid lead or
8 copper removed from the base to be recycled in accordance with the base Qualified Recycling Program
9 regulations. Implementation of MM HAZ-1 and MM HAZ-2 would reduce the risk of improperly
10 disposing of materials and contaminated soils from MCB Camp Pendleton to a less than significant level.

11
12 Removal of the existing transformers at the substation would result in the transportation of approximately
13 40,800 gallons of mineral oil from the project site to an appropriate recycling facility. New transformer
14 equipment would require approximately 55,800 gallons of mineral oil to be transported to the project site
15 for use at the substations. Federal and state laws regulate transport vehicle specifications, driver
16 qualifications, and load container specifications for the transportation of the proposed volume of mineral
17 oil. Compliance with applicable laws and implementation of APM HAZ-2, which requires the
18 development of plans associated with transportation of hazardous materials and waste, would reduce
19 potential impacts associated with the routine transportation of new and waste mineral oil to less than
20 significant.

21
22 Similar to the existing operations, mineral oil would be present in sealed electrical equipment (such as
23 transformers) at both substations during operation. The amount of mineral oil at the proposed San Juan
24 Capistrano Substation would be substantially more than is present at the existing Capistrano Substation.
25 The mineral oil would continue to be contained in equipment with secondary containment and secured
26 from public access. The applicant would prepare new SPCC plans for both substations to address the
27 increased amount of mineral oil stored onsite. Therefore, although there is an increase volume of mineral
28 oil at the substations during operation, the increased mineral oil would not cause any substantial change
29 as compared to current conditions. Operation and maintenance activities would be similar to those
30 associated with the existing facilities and, therefore, would have a less than significant impact on the
31 public or the environment through the routine transport, use, or disposal of hazardous materials.

32
33 **Impact HZ-2: Create a significant hazard to the public or the environment through**
34 **reasonably foreseeable upset and accident conditions involving the release of**
35 **hazardous materials into the environment.**
36 *LESS THAN SIGNIFICANT WITH MITIGATION*
37

38 As described under Impact HZ-1, the applicant would transport, use, or dispose of hazardous materials
39 and petroleum products in accordance with all applicable federal, state, and local regulations. However,
40 accidental releases or spills could still occur, representing a potential hazard to the public and
41 environment during construction and operations. Compliance with applicable regulations and
42 implementation of a SWPPP, HMBP, SPCC plan, APM HAZ-2, and APM HAZ-5 would reduce this risk
43 but not prevent significant impacts that may still occur from upset and accident conditions involving the
44 release of hazardous materials and wastes. MM HAZ-1 would require the implementation of a Hazardous
45 Materials and Waste Management Plan and Contamination Prevention Plan, and MM HAZ-2 would
46 require the applicant to test any materials within MCB Camp Pendleton boundaries in accordance with
47 EPA Best Management Practices for Outdoor Shooting Ranges (EPA-902-B-01-001). Implementation of
48 MM HAZ-1 and MM HAZ-2 would further reduce impacts from reasonably foreseeable accidental
49 conditions from the transport, use, or dispose of hazardous materials to a less than significant level.

1 Damage to an inadequately plugged and abandoned well could create a significant hazard to public health,
2 underground and surface waters, or oil or gas reservoirs. Table 4.8-5 identifies the oil, gas, and
3 geothermal wells within 1,000 feet of the proposed project. Based on the dates of the final abandonment
4 letters filed with DOGGR (1978 and 1983), the wells listed in Table 4.8-5 were capped to relatively
5 recent standards. DOGGR considers the potential risk to damage of the wells listed in Table 4.8-5 to be
6 low based on their capping history and distance from the proposed project (Andrews pers. comm. 2014).
7 In the event that an unanticipated well is discovered during construction, damage to the well could result
8 in significant impact to life, health, and property. Implementation of MM HAZ-5 would reduce potential
9 impacts to less than significant by requiring construction workers to cease work within 50 feet of an
10 unanticipated well until approval to resume work is provided by DOGGR; therefore, the potential for the
11 proposed project to damage a well is less than significant.

12
13 As further discussed in Section 4.10, "Land Use and Planning," Talega Substation is located on land
14 owned by the United States Marine Corps within its Camp Pendleton base, which is an active military
15 base. Military training activities with live ammunition occurs regularly at MCB Camp Pendleton.
16 Therefore, the potential for construction or operations workers at Talega Substation to come into contact
17 with live ammunition exists, although the potential would be low because the construction would occur
18 within the same footprint as the existing substation. Implementation of MM HAZ-3 would require worker
19 training for all construction and operation workers prior to the start of work at Talega Substation to
20 inform the workers of the potential hazards associated with working within MCB Camp Pendleton and to
21 train workers how to identify an unexploded ordinance and what to do if a potential unexploded ordinance
22 is discovered. Significant impacts from worker exposure to unexploded ordinance would be reduced to
23 less than significant with the implementation of MM HZ-3.

24
25 Accidental contact with existing underground utility lines or private utilities line such as leach lines
26 associated with a septic system could result in a release of waste materials or could pose a safety risk for
27 the public and workers. Compliance with California Government Code 4216.1 (DigAlert) would reduce
28 potential impacts to public utility lines because underground utilities would be identified and marked
29 prior to construction so that they could be avoided. The potential for the proposed project to damage
30 existing underground infrastructure is less than significant.

31
32 Similar to the existing operations, mineral oil would be present in sealed electrical equipment (such as
33 transformers) at both substations during operation. The amount of mineral oil at San Juan Capistrano
34 Substation would be substantially more than is present at the existing Capistrano Substation. The
35 applicant would prepare new SPCC plans for both substations to address the increased amount of mineral
36 oil stored onsite. The implementation of the SPCC plan would ensure that the substation is designed with
37 sufficient containment around the stored mineral oil to capture all of the stored oil. Operation and
38 maintenance activities would be similar to those associated with the existing facilities and, therefore,
39 would have a less than significant impact on the public or the environment through the reasonably
40 foreseeable upset and accident conditions involving the release of hazardous materials into the
41 environment.

42
43 **Impact HZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous**
44 **materials, substances, or waste within 0.25 miles of an existing or proposed**
45 **school.**
46 *LESS THAN SIGNIFICANT WITH MITIGATION*
47

48 Under CEQA, emission of toxic air contaminants (TACs) needs to be considered with respect to schools.
49 As discussed in Section 4.3, "Air Quality," TACs are air pollutants suspected or known to cause cancer,
50 birth defects, neurological damage, or death. With the exception of lead, no ambient air quality standards
51 have been established for TACs. Instead, the compounds are managed on a case-by-case basis, depending

1 on the quantity and type of emissions and proximity of potential receptors. Statewide and local programs
2 identify industrial and commercial emitters of TACs and require reductions of these emissions. Federal
3 programs also require control of certain categories of TACs. CARB also recently identified diesel
4 particulate matter (PM) as a TAC. Diesel engines emit a complex mix of pollutants, the most visible of
5 which are very small carbon particles or “soot,” known as diesel PM.

6
7 Seven schools are located within 0.25 miles of the proposed project: (Harold Ambuehl Elementary
8 School, St. Margaret’s Episcopal School, San Juan Hills High School, Vista Del Mar Middle School,
9 Jsera Catholic High School, Saddleback Valley Christian, and Junipero Serra High School) (Table 4.8-
10 4). Because of their proximity, these schools could be exposed to emissions of TACs during construction.
11 The main TAC emission during construction would be diesel PM from construction equipment and
12 heavy-duty vehicles traveling to construction areas. As further discussed in Section 4.3, “Air Quality,”
13 other TAC emissions from such sources as gasoline-powered worker vehicles and construction equipment
14 would be negligible.

15
16 As further discussed in Section 4.3, “Air Quality,” the CARB and Office of Environmental Health Hazard
17 Assessment have identified diesel PM as a carcinogenic. According to the Office of Environmental
18 Health Hazard Assessment, human exposures greater than eight years are considered chronic exposures.
19 Given that the construction of the proposed project would be short term, impacts on students and staff at
20 nearby schools would not result in substantial exposure to TACs. Impacts from hazardous emissions
21 would be less than significant.

22
23 Construction and operation could include the handling of acutely hazardous materials, substances, or
24 waste within 0.25 miles of the seven schools noted above and in Table 4.8-4. As discussed under Impact
25 HZ-1 and Impact HZ-2, compliance with applicable regulations and implementation of a SWPPP, SPCC
26 plan, HMBP, APM HAZ-1, APM HAZ-2, and APM HAZ-5 would reduce the risk of releases but not
27 prevent significant impacts that may still occur from upset and accident conditions involving the release
28 of hazardous materials. Implementation of MM HAZ-1 would further prevent the potential to release
29 hazardous materials and would reduce impacts from the handling of hazardous materials to less than
30 significant levels.

31
32 **Impact HZ-4: Be located on a site which is included on a list of hazardous materials sites**
33 **compiled pursuant to Government Code Section 65962.5 and, as a result,**
34 **would it create a significant hazard to the public or the environment.**
35 *LESS THAN SIGNIFICANT*

36
37 The proposed project would not be located within 1,000 feet of an open Cortese List site. Therefore,
38 construction and operation of the proposed project would not result in any significant hazard to the public
39 or environment due to affecting operations at Cortese List sites. However, MCB Camp Pendleton's IR
40 Program currently has 16 active IR sites that are in different phases of cleanup (USMC 2014b). The two
41 closest IR sites to the proposed project are over 3 miles from Talega Substation (USMC 2014b).
42 Therefore, construction and operation of the proposed project would not unearth contamination or
43 adversely affect activities at these sites, and, as a result, there would be no significant hazard to the public
44 or environment relating to IR sites.

45
46 Construction of the proposed San Juan Capistrano Substation would require significant soil disturbance
47 throughout the existing Capistrano Substation. As discussed in Section 4.8.1.1, soil sampling in 2009
48 found lead, asbestos, and contaminated soil at the lower yard and around the perimeter of the upper yard.
49 The complete extent of contaminated soils in the upper yard of the Capistrano Substation is unknown
50 because the entire upper yard of the existing substation was not sampled. With the implementation of
51 APM HAZ-1, the applicant would conduct a Phase II Environmental Site Assessment soil sampling

1 within the upper yard of the existing Capistrano Substation prior to the start of earth disturbance activities
2 at the upper yard. APM HAZ-2 specifically addresses the unanticipated discovery of contaminated soil or
3 groundwater during construction with procedures, training, and notification requirements. As detailed in
4 APM HAZ-3, the applicant would use specialized crews to conduct removal and remediation activities.
5 The specialized crews would be qualified to handle asbestos, lead-based paint, and other hazardous
6 wastes in accordance with OSHA and CalOSHA standards. All hazardous wastes would be handled and
7 disposed of in accordance with federal, state, and local regulations. Through the implementation of these
8 measures, the impact from unearthing contaminated soils on the public and environment would be less
9 than significant.

10
11 **Impact HZ-5: Impair implementation of or physically interfere with an adopted**
12 **emergency response plan or emergency evacuation plan.**
13 *LESS THAN SIGNIFICANT*

14
15 Primary evacuation routes for the cities of San Juan Capistrano and San Clemente include northbound I-5,
16 westbound State Route 74, Camino Capistrano, Avenida Pico, and Avenue Vista Hermosa (City of San
17 Juan Capistrano 2007; City of San Clemente 2003). The Orange County Hazards Mitigation Plan does not
18 identify specific evacuations routes (Orange County n.d.).

19
20 Construction of the proposed project would require a partial closure of Camino Capistrano, and a full
21 roadway closure may be required for short-term periods during the installation of new underground
22 conduit. Additionally, traffic stops would be required along I-5 during conductor stringing. If an
23 emergency were to occur while Camino Capistrano or I-5 were closed, this would affect the
24 implementation of San Juan Capistrano and San Clemente’s emergency evacuation plan, thus causing a
25 significant impact. With the implementation APM TT-3, “Emergency Access,” and APM TT-7, “Traffic
26 Control Plans,” the proposed project would minimize short-term construction-related impacts on local
27 traffic, including emergency access. The traffic control plans would detail how construction activities
28 would be coordinated with the affected local agencies in order to prevent closure of any emergency access
29 route. Flaggers may briefly hold traffic back while conductor is pulled across a roadway, but emergency
30 vehicles would be provided access even in the event of temporary road closures. Emergency access would
31 not be directly impacted by construction of the proposed project because all streets would remain open to
32 emergency vehicles at all times during construction activities.

33
34 Operation and maintenance activities would be similar to those associated with the existing facilities and,
35 therefore, would not impair an existing emergency response plan or emergency evacuation plan. Impacts
36 on traffic are further discussed in Section 4.15, “Traffic and Transportation.”

37
38 **Impact HZ-6: Expose people or structures to a significant risk of loss, injury, or death**
39 **involving wildland fires, including where wildlands are adjacent to**
40 **urbanized areas or where residences are intermixed with wildlands.**
41 *LESS THAN SIGNIFICANT WITH MITIGATION*

42
43 Construction activities associated with the proposed project would increase fire risk during refueling,
44 vehicle and equipment use, welding, vegetation clearing, worker cigarette smoking, and other high heat
45 activities. The applicant would implement its existing Wildland Fire Prevention and Fire Safety (ESP No.
46 113.1), which includes requirements for carrying emergency fire suppression equipment, conducting
47 “tailgate meetings” that cover fire safety discussions, and restrictions on smoking and idling vehicles.
48 Consistent with ESP 113.1, the applicant would also implement a project-specific fire plan to assist in
49 safe practices to prevent fires. This plan would include equipping diesel and gasoline operated engines
50 with spark arrestors, carrying emergency fire suppression equipment, and furnishing a water truck on or
51 immediately adjacent to the proposed project area. The applicant would also implement APM HAZ-6,

1 which would require the applicant to issue a stop work order during times of high fire threat such as a Red
2 Flag Warning issued by the National Weather Service.

3
4 The applicant would construct and maintain vegetation clearance along the proposed double-circuit 230-
5 kV transmission line in accordance with California PRC Sections 4291 through 4299, which regulate
6 vegetation management and CPUC GO 95, GO 128, GO 165, and GO 166, which regulate overhead and
7 underground transmission line construction, inspection, and safety. Construction activities would
8 significantly increase fire risk regardless of vegetation clearing and compliance with applicable laws,
9 regulations, and standards. To ensure that the applicant's project-specific fire plan meets all of the
10 objectives and standards of the Orange County Fire Authority, the applicant would prepare the fire plan to
11 meet the requirements of MM HAZ-4. MM HAZ-4 requires the applicant to develop a Fire Control and
12 Emergency Response Plan in coordination with the Orange County Fire Authority (OCFA). The Fire
13 Control and Emergency Response Plan would identify fire prevention measures and response and
14 communication protocols in the event of a fire emergency. Implementation of MM HAZ-3 would reduce
15 the impacts associated with the increased fire risk to less than significant.

16
17 Operation and maintenance activities would be similar to those associated with the existing facilities and,
18 therefore, would not result in a new potential for wildfires. As part of the proposed project, the
19 replacement of wood poles with steel poles is often undertaken specifically to minimize the risk of
20 wildfires that exists when certain atmospheric conditions occur within fire threat areas. Additionally,
21 undergrounding the conductors reduces the fire risk. The new steel structures and underground segments
22 of the proposed double-circuit 230-kV transmission line and proposed 12-kV distribution line would
23 withstand more severe fire conditions and reduce overall fire risk from the existing conditions and
24 therefore would be a beneficial impact by reducing risk of loss, injury, or death from wildfires.

25 26 **4.8.4 Mitigation Measures**

27
28 **MM HAZ-1: Hazardous Materials Contamination Prevention Plan.** Prior to construction, the
29 applicant shall prepare and implement a Hazardous Materials Contamination Plan supplementing the
30 Hazardous Material Business Plan to prevent the release of hazardous materials and hazardous waste. The
31 plan will include the following requirements and procedures:

- 32
33 1. Training requirements for construction workers in appropriate work practices, including spill
34 prevention and response measures. Additional training requirements for those performing
35 excavation activities shall be required and shall include training on types of contamination (e.g.,
36 petroleum hydrocarbons, lead, asbestos, and *hazardous materials* (as defined by the California
37 HSC) and identifying potentially hazardous contamination (e.g., stained or discolored soil and
38 odor).
- 39 2. Contain all hazardous materials at work sites and properly dispose of all such materials.
- 40 a. Hazardous materials shall be stored on pallets within fenced and secured areas and protected
41 from exposure to weather and further contamination.
- 42 b. Fuels and lubricants shall be stored only at designated staging areas.
- 43 3. Maintain hazardous material spill kits for small spills at all active work sites and staging areas.
44 Thoroughly clean up all spills as soon as they occur.
- 45 4. Store sorbent and barrier materials at all construction staging areas, including staging areas used
46 during activities for decommissioning. Sorbent and barrier materials will be used to contain
47 runoff from contaminated areas and from accidental releases of oil or other potentially hazardous
48 materials to prevent the runoff from entering the storm drainage system.

- 1 5. Perform all routine equipment maintenance at a shop or at the staging area and recover and
2 dispose of wastes in an appropriate manner.
- 3 6. Monitor and remove any vehicles with chronic or continuous leaks from use and complete repairs
4 before returning them to operation.
- 5 7. Store shovels and drums at the staging areas. If small quantities of soil become contaminated, use
6 shovels to collect the soil and store in drums before proper offsite disposal. Large quantities of
7 contaminated soil may be collected using heavy equipment and stored in drums or other suitable
8 containers prior to disposal. Should contamination occur adjacent to staging areas because of
9 runoff, shovels and/or heavy equipment shall be used to collect the contaminated material.
- 10 8. Transporting, shipping, and disposal procedures for hazardous waste.
- 11 9. Procedures for managing asbestos material.
- 12 10. Procedures for notifying applicant and agency personnel in the event of the discovery of
13 contaminated soil and/or groundwater. Contact information for federal, regional, and local
14 agencies, the applicant's environmental coordinator(s) responsible for the cleanup of
15 contaminated soil or groundwater, and licensed disposal facilities and haulers.
- 16 11. Dewatering procedures including storage, testing, treatment, and disposal requirements and
17 dewatering best management practices with reference to the applicant's SWPPP.
18

19 This plan will be submitted to the CPUC for review and approval 30 days prior to the start of construction of
20 the proposed project.
21

22 **MM HAZ-2: Contaminated Materials from Camp Pendleton.** Excavation, grading, or removal of any
23 materials within MCB Camp Pendleton boundaries shall be accomplished in accordance with EPA Best
24 Management Practices for Outdoor Shooting Ranges (EPA-902-B-01-001), RCRA, the Clean Water Act,
25 40 CFR 260 (Federal Hazardous Waste Regulations), and California Title 22 (California Hazardous
26 Waste Regulations). All work shall be accomplished with every effort to prevent the spread of any
27 potential contamination or release of any potential existing contaminants to the environment in
28 accordance with all federal, state and local laws, regulations and instructions. Prior to the removal of any
29 soil or wood and construction debris that has been used in live fire training and received impact from
30 rounds, the soil or debris shall be sampled for appropriate hazardous in accordance all federal, state and
31 local laws, regulations and instructions. Also, prior to the removal of any wood and construction debris
32 that has been used in live fire training and received impact from rounds, the debris should be sampled for
33 lead and other constituents. If the soil, wood, or debris is determined to be considered hazardous waste, it
34 will be handled and disposed of in accordance with applicable hazardous waste regulations. All hazardous
35 waste manifests shall be signed by the Hazardous Waste Branch, AC/S Environmental Security. Solid
36 lead or copper removed from the base shall be recycled in accordance with the base Qualified Recycling
37 Program regulations.
38

39 **MM HAZ-3: Worker Safety Training.** As part of the worker environmental awareness program, the
40 applicant will prepare a safety training module, in coordination with an appropriate representative from
41 MCB Camp Pendleton, to inform all onsite personnel of the active military training activities occurring
42 within MCB Camp Pendleton and the potential hazards associated with working at Talega Substation.
43 The worker environmental awareness program shall include training on how to identify an unexploded
44 ordinance and what procedures shall be followed if a potential unexploded ordinance is identified,
45 including the "Three R's" method: Recognize, immediately Retreat, and Report to the Provost Marshal's
46 Office at (760) 725-3888 or dial 911 immediately. The applicant shall provide a copy of the training
47 material and trainee sign-in sheets to the CPUC prior to construction.
48

1 **MM HAZ-4: Fire Control and Emergency Response Plan.** The applicant will develop and implement a
2 Fire Control and Emergency Response Plan. This plan, and a record of contact and coordination with the
3 Orange County Fire Authority (OCFA) will be submitted to the CPUC for review and approval 30 days
4 prior to the start of construction of the proposed project. The plan will describe fire prevention and
5 response practices that the applicant will implement during construction of the proposed project to
6 minimize the risk of fire and, in the case of fire, provide for immediate suppression and notification. The
7 plan will include:

- 8
- 9 • Fire prevention and response practices regarding the dispensing and storage of gasoline, diesel, and
10 other fuels and combustible chemicals; power tool and equipment use; emergency access; fire
11 suppression equipment and training; electrical grounding; and vegetation clearing.
- 12 • Communication protocols for onsite workers to coordinate with local agencies and emergency
13 personnel and for the applicant's environmental health and safety personnel to coordinate with on-
14 site workers in the event of fire, flood, or other emergencies or increased risk of emergency during
15 construction or operation of the project.
- 16 • The assignment of Fire Risk Managers who will be present at each worksite during construction
17 activities, whose sole responsibility will be to monitor the contractor's fire-prevention activities,
18 and who will have full authority to stop construction as needed to prevent fire hazards. The Fire
19 Risk Managers will:
 - 20 - Maintain a complete copy of the Fire Control and Emergency Response Plan;
 - 21 - Serve as liaisons to fire departments and act as points of contact for fire departments in the
22 event of fire or other emergency;
 - 23 - Manage the prevention, detection, control, and extinguishing of fires set accidentally as a
24 result of construction activity;
 - 25 - Review site-specific fire control and emergency response plans with construction personnel
26 prior to starting work at each project area;
 - 27 - Ensure that all construction personnel are trained in fire safety measures relevant to their
28 responsibilities. At minimum, construction personnel will be trained in fire and emergency
29 reporting and incipient-stage fire prevention, control, and extinguishing (i.e., the fire can be
30 controlled or extinguished by portable fire extinguishers, small hose systems, or portable
31 water supplies without the need for protective clothing or breathing apparatus). Each member
32 of the construction workforce will be trained and equipped to extinguish small fires;
 - 33 - Be equipped with radio and cellular telephone access for the duration of each work day;
 - 34 - Ensure that all construction personnel are provided with operational radio and cellular
35 telephone access at each worksite to allow for immediate reporting of fires or other
36 emergencies and ensure that communication pathways and equipment are tested and
37 confirmed operational each day prior to initiating construction activities at each worksite;
 - 38 - Maintain an updated key personnel and emergency services contact (telephone and email) list
39 onsite and available to construction personnel; and
 - 40 - Construction workers will immediately report all fires to the nearest Fire Risk Manager.
- 41 • Fire prevention practices, including the proper dispensing and storage of gasoline, diesel, and other
42 fuels and combustible chemicals; electrical grounding; designated parking area, appropriate climatic
43 conditions and designated areas to perform welding or blow torch activities and other hot-work
44 activities; and ceasing any or all work activities, including helicopter use, as directed by the OCFA
45 or other applicable fire department representatives in response to fire incidents.

- 1 • The necessary fire suppression equipment, (e.g., fire extinguishers), tools (e.g., shovels); and other
2 materials necessary to prevent fires, control the spread of fire if started, and providing assistance to
3 extinguish fires started as a result of construction of the project for construction vehicles.
4

5 **MM HAZ-5: Discovery of an Unrecorded Oil or Gas Well.** If an unrecorded oil and gas well is
6 discovered during construction of the proposed project and the well is located within 50 feet of a
7 construction disturbance area, the applicant shall immediately cease work within 50 feet of the well and
8 notify the California Department of Conservation Division of Oil, Gas, and Geothermal Resources
9 (DOGGR) Cypress District Office. Work shall not resume within 50 feet of the unrecorded well until
10 DOGGR has determined appropriate actions to be taken and given written notice of approval for work to
11 resume.

4.9 Hydrology and Water Quality

This section describes the environmental and regulatory setting and discusses impacts associated with the construction and operation of the South Orange County Reliability Enhancement Project (proposed project) with respect to hydrology and water quality. During scoping, the following issues were raised and are addressed in this section: impacts on wetlands and drainages; impacts on drainage patterns and water quality; anticipated changes in impervious surface area; downstream receiving waters that may receive contributory runoff from the project; impacts on municipal drainage systems; and impacts from water extraction activities. Impacts associated with geologic hazards are discussed in Section 4.6, “Geology, Soils, and Mineral Resources,” and impacts on wetlands and aquatic habitats are discussed in Section 4.4, “Biological Resources.” Pollutants generated from construction and operation of the project are discussed in Section 4.8, “Hazards and Hazardous Materials.”

4.9.1 Environmental Setting

4.9.1.1 Regional Area, Precipitation, and Drought

The proposed project would be located within Orange and San Diego counties, with the majority of the project being located in Orange County. The proposed project would fall within the San Juan Hydrologic Unit¹ and would include components in the San Mateo Canyon, San Clemente, and Mission Viejo Hydrologic Areas² (SDRWQCB 2012). The San Juan Hydrologic Unit covers about 500 square miles and includes major population centers, such as San Juan Capistrano and San Clemente, and undeveloped areas of Orange and San Diego counties.

The region’s coastal climate is typically mild, with temperatures averaging about 65 degrees Fahrenheit (SDRWQCB 2012). The majority of the precipitation falls between November and February, and average annual precipitation is between 10 to 13 inches (SDRWQCB 2012).

Drought Conditions

On January 17, 2014, Governor Brown issued an Executive Order declaring a State of Emergency due to current drought conditions in California and urged Californians to reduce water usage by 20 percent (California Office of the Governor 2014). However, over the past 20 years, Southern California has invested over 15 billion dollars in water storage and infrastructure improvements to prepare for times of drought. According to the Municipal Water District of Orange County (MWDOC), there is no immediate danger of water supply interruptions in Orange County as of May 2014 (MWDOC 2014a).

¹ In coastal areas, a Hydrologic Unit is two or more small contiguous watersheds having similar hydrologic characteristics, each watershed being directly tributary to the ocean and all watersheds emanating from one mountain body located immediately adjacent to the ocean.

² A Hydrologic Area is a major logical subdivision of a Hydrologic Unit, which includes both water-bearing and nonwater-bearing formations. It is best typified by a major tributary of a stream, a major valley, or a plain along a stream containing one or more groundwater basins and having closely related geologic, hydrologic, and topographic characteristics.

1 **4.9.1.2 Surface Water Bodies**

2
3 **Lakes, Reservoirs, Dams, and Levees**

4 There is a small reservoir on Trampas Canyon Creek, located about 1.5 miles west of proposed
5 Transmission Line Pole 22 and the Prima Deschecha Landfill. The reservoir is created by the earthen
6 Trampas Canyon Dam (City of San Juan Capistrano 1999). No other large lakes or reservoirs exist within
7 2 miles of the proposed project.
8

9 **Rivers, Drainages, Creeks, and Streams**

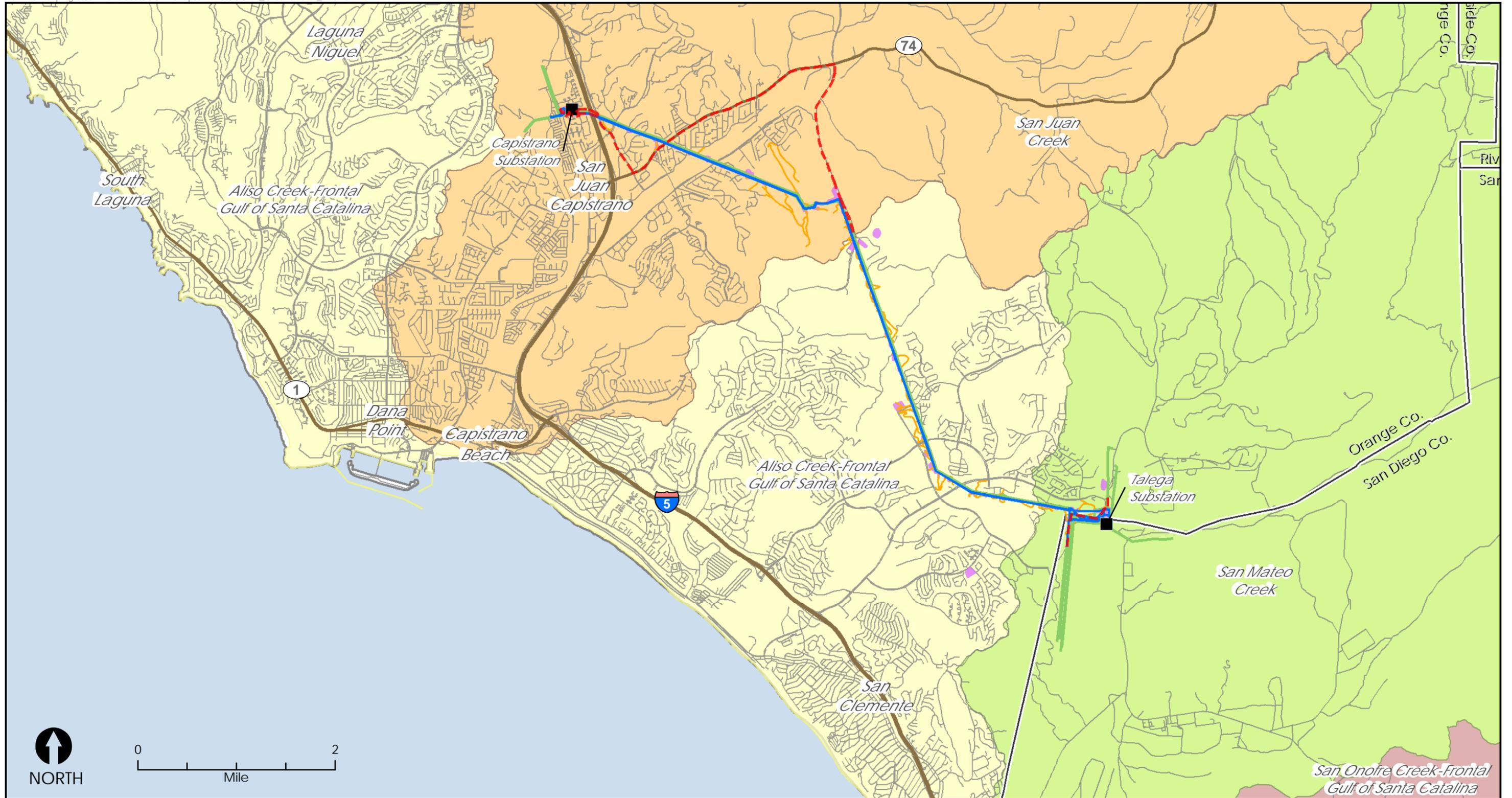
10 The proposed project would cross a number of perennial and intermittent creeks and drainages (Table
11 4.9-1 and Figure 4.9-1). Most of the drainages in the vicinity of the proposed project flow intermittently
12 due to the seasonal nature of precipitation and relatively small size of the watersheds. The majority of the
13 drainages that cross undeveloped foothill terrain along the proposed double-circuit 230-kilovolt (kV)
14 transmission line route remain in their natural conditions, whereas many of the watercourses in the low-
15 lying developed portions of the proposed project area have been altered through straightening and/or
16 fortification with sand levees or concrete channels for flood control purposes. San Juan Creek is the
17 largest surface water body that would be spanned by the proposed project. All of the drainages that
18 would be spanned by the proposed project flow to the Pacific Ocean.
19

Table 4.9-1 Watersheds and Water Bodies Spanned by the Proposed Project

Watershed	Project Segment	Water body Spanned
Mission Viejo	TL Segments 1a and 1b	San Juan Creek
		Horno Creek (Tributary to San Juan Creek)
		Unnamed Tributary to San Juan Creek
	12-kV Segment H	Tributaries (2) to San Juan Creek
San Clemente	TL Segment 2	Rancho San Juan Drainage
	TL Segment 3	Prima Deshecha Canada
		Unnamed Tributary to Prima Deshecha Canada
		Segunda Deshecha Canada
		Unnamed Tributaries (3) to Segunda Deshecha Canada
San Mateo Canyon	TL Segment 4	Tributaries (2) to Christianitos Creek
	12-kV Segment M	Unnamed Tributary to Christianitos Creek

20
21 **Jurisdictional Waters**

22 Jurisdictional waters include wetlands, “Waters of the U.S.,” and “Waters of the State.” Wetlands and
23 drainages within the proposed project area may be subject to the jurisdiction of the U.S. Army Corps of
24 Engineers (USACE), the California Department of Fish and Wildlife (CDFW), and/or the San Diego
25 Regional Water Quality Control Board (SDRWQCB). The jurisdictional limits among the three agencies
26 vary based on different legislation that defines the boundaries of each agency’s regulatory authority.
27
28



- | | | | |
|----------------------------|-----------------|--|---|
| Proposed transmission line | Roads | Groundwater Basins | San Mateo Creek |
| Existing transmission line | Local road | San Juan Creek | San Onofre Creek-Frontal Gulf of Santa Catalina |
| Access road | County Boundary | Aliso Creek-Frontal Gulf of Santa Catalina | |
| Impact areas | | | |
| Distribution Line | | | |

Figure 4.9-1 Groundwater Basins in the Proposed Project Area

South Orange County Reliability Enhancement Project

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1 Field surveys were conducted in May 2010, July 2010, December 2011, and February 2012 to delineate
2 potential jurisdictional wetlands, “Waters of the U.S.,” and “Waters of the State” within the proposed
3 project area (TRC 2012). During the delineation, 12 drainages were identified that may be subject to the
4 jurisdiction of the USACE, CDFW, and the SDRWQCB (TRC 2012). These drainages included
5 relatively permanent (or perennial) waterways, associated riparian areas, and ephemeral drainages.
6

7 Jurisdictional waters and regulatory requirements are further discussed under the “Clean Water Act”
8 heading in Section 4.9.2 and in Section 4.4, “Biological Resources.”
9

10 **4.9.1.3 Groundwater**

11
12 The majority of the proposed project area is located in upland terrain, with bedrock close to the surface,
13 or in narrow canyons without substantial alluvial groundwater basins. The proposed project area crosses
14 two groundwater basins: the San Juan Valley Groundwater Basin and the San Mateo Valley Groundwater
15 Basin (Figure 4.9-1). The San Juan Valley Groundwater Basin underlies the San Juan Valley and several
16 tributary valleys in southern Orange County (DWR 2004). The San Mateo Valley Groundwater Basin
17 underlies the San Mateo Valley and Christianitos Canyon in northwestern San Diego County and
18 southeastern Orange County (DWR 2003). The primary water-bearing hydrogeologic unit in both basins
19 is Quaternary alluvium. Quaternary alluvium can be more than 125 feet thick in the San Juan Valley
20 Groundwater Basin and 100 feet thick in the San Mateo Groundwater Basin, although the average
21 thickness of the Quaternary alluvium is 65 feet thick in the San Juan Valley Groundwater Basin and 60
22 feet thick in the San Mateo Groundwater Basin (DWR 2003, 2004).
23

24 Groundwater recharge in the San Juan Valley Groundwater Basin is primarily from in-stream flows,
25 precipitation to the valley floor, and water from spring-flow (DWR 2004). The total storage capacity of
26 the basin has been estimated to be between 63,000 and 90,000 acre-feet (af) (DWR 2004). A recent study
27 of the basin’s groundwater budget has not been completed, but a 1994 study estimated average annual
28 pumping to be about 5,625 acre-feet per year (afy), average annual subsurface inflow to be about 2,250
29 afy, and average annual subsurface outflow to the Pacific Ocean to be about 450 afy (DWR 2004).
30 Groundwater levels have historically been stable, although depth to groundwater varies based on
31 seasonal cycles and weather conditions (DWR 2004).
32

33 Groundwater recharge in the San Mateo Valley Groundwater basin is primarily from percolation of
34 runoff after precipitation events and from effluent generated by a wastewater treatment plant (DWR
35 2003). Recharge takes places in natural reaches (i.e., areas of the stream channel that are not lined with
36 concrete) and at five spreading basins in the stream channel of San Mateo Creek (DWR 2003). The total
37 storage capacity of the basin has been estimated to be about 14,000 af (DWR 2003). In 1997, average
38 annual groundwater production for potable use was estimated to be about 900 afy, and average annual
39 groundwater production for irrigation was estimated to be about 640 afy (DWR 2003). Groundwater
40 levels in the basin vary depending on weather conditions, but have historically remained stable (DWR
41 2003). In some areas of the basin, groundwater has been encountered at as little as 5 feet below ground
42 surface (DWR 2003).
43

44 **4.9.1.4 Water Quality**

45 **Surface Water**

46
47 Surface water quality in the proposed project area is primarily affected by nonpoint sources of pollution
48 transported in storm water or irrigation runoff (e.g., automotive care products, fertilizers, pesticides).
49 None of the creek segments crossed by the proposed project are included on the California list of

1 impaired waterways pursuant to Clean Water Act (CWA) Section 303(d). However, three creeks crossed
2 by the proposed project have impaired segments downstream: San Juan Creek, Prima Deshecha Creek,
3 and Segunda Deshecha Creek (SDRWQCB 2009) (Table 4.9-2).
4

Table 4.9-2 Water Bodies in the Vicinity of Proposed Project on the California 303(d) List

Stream Segment	Pollutant	Sources
Lower Mile of San Juan Creek	dichlorodiphenyldichloroethylene	unknown source
	indicator bacteria	nonpoint and point sources
	phosphorus	unknown point sources, unknown nonpoint sources, and urban runoff/storm sewers
	selenium	
	total nitrogen	
	toxicity	
Lower Mile of Prima Deshecha Creek	cadmium	unknown point sources, unknown nonpoint sources, and urban
	nickel	
	phosphorus	
	turbidity	
Lower Mile of Segunda Deshecha Creek	phosphorus	unknown point sources, unknown nonpoint sources, and urban
	toxicity	
	turbidity	

Source: SDRWQCB 2009

5
6 **Groundwater**

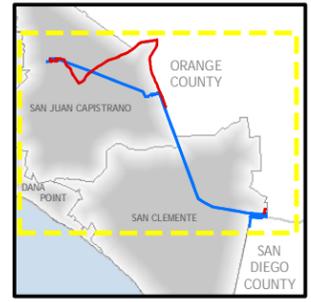
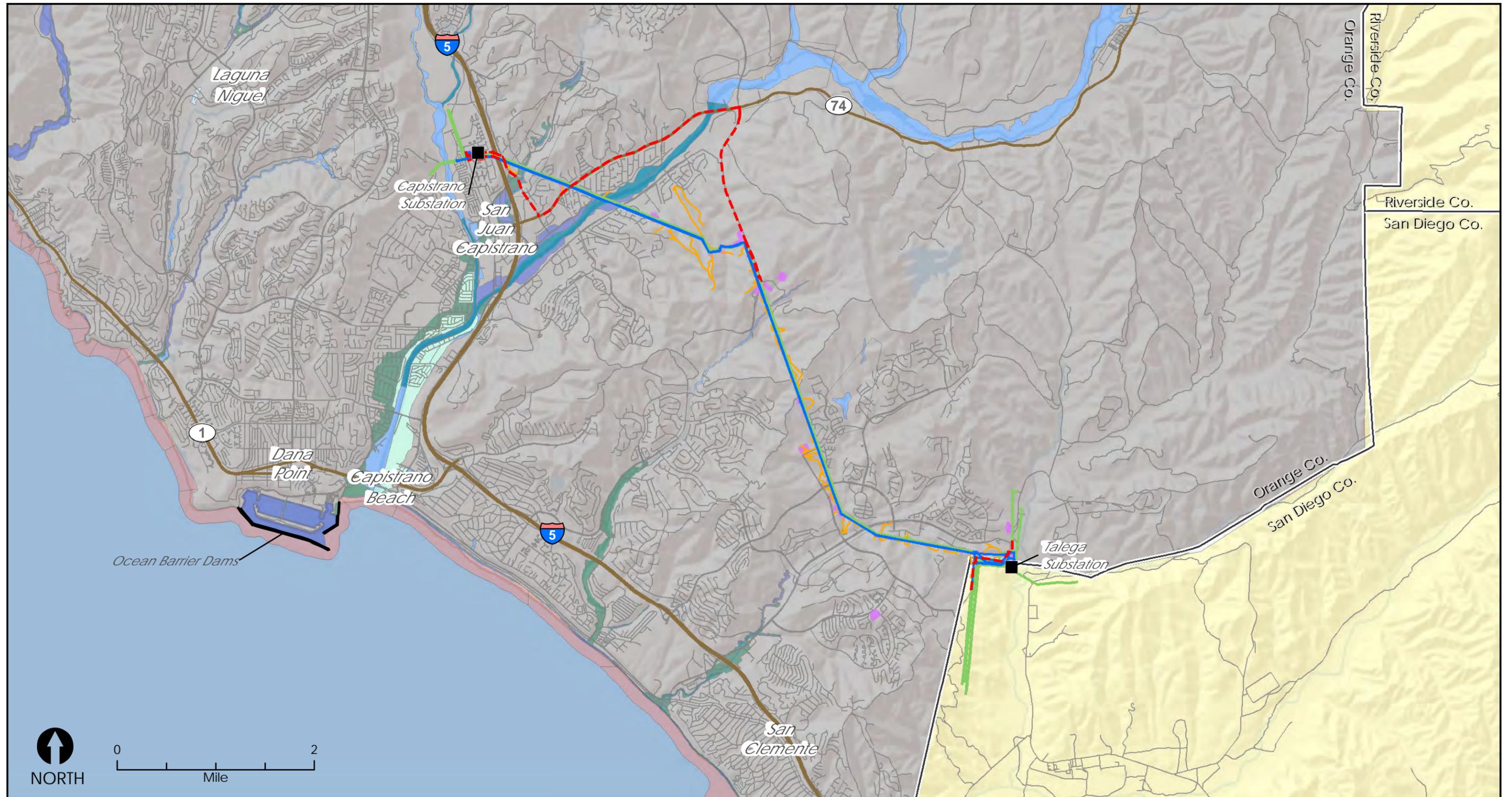
7 Groundwater quality is rated based on the amount of total dissolved solids (TDS) in the water. The
8 recommended secondary drinking water standard³ for TDS ranges between 500 milligrams per liter
9 (mg/L) and 1,000 mg/L (SDRWQCB 2009). TDS concentrations in the San Juan Valley Groundwater
10 Basin range from below 500 mg/L in the upper reaches of the valleys to near 2,000 mg/L near the coast
11 (DWR 2004). TDS concentrations in the San Mateo Valley Groundwater Basin range from 490 to 770
12 mg/L, with an average of 586 mg/L (DWR 2003).
13

14 **4.9.1.5 Flood and Dam Failure Inundation Areas**
15

16 A 100-year flood hazard area is an area of land that has a one percent chance of being inundated by a
17 flood during any year (FEMA 2013). The proposed project crosses the 100-year flood hazard areas of
18 Horno Creek, San Juan Creek, Prima Deshecha Creek, and Segunda Deshecha Creek (FEMA 2014)
19 (Figure 4.9-2). The proposed project would generally span these areas; however, Transmission Line
20 Poles 9 and 10 would be located within the 100-year flood hazard area of San Juan Creek. In addition,
21 existing access roads cross the 100-year flood hazard zones of San Juan Creek, Prima Deshecha Creek,
22 and Segunda Deshecha Creek. The Talega Substation and proposed San Juan Capistrano Substation are
23 not located within a 100-year flood hazard area.
24

25 The proposed project crosses one dam inundation area along San Juan Creek, which would be associated
26 with the failure of the Trampas Canyon Dam (Figure 4.9-2). However, the predicted inundation areas are
27 similar to that of the 100-year flood hazard area of San Juan Creek, albeit slightly greater in spatial extent
28 (City of San Juan Capistrano 1999).
29

³ Secondary drinking water standards are non-mandatory water quality standards that are established as guidelines for public water systems in managing their drinking water for aesthetic considerations such as taste, color, and odor.



- | | | | |
|----------------------------|-------------------|---------------|-----------------------------------|
| Proposed transmission line | Distribution Line | Flood Plain A | D |
| Existing transmission line | Roads | AE | VE |
| Access road | Local road | AE, Floodway | X, 20% Annual Chance Flood Hazard |
| Impact areas | County Boundary | AH | X, Area of Minimal Flood Hazard |
| | Regional Dams | AO | |

Sources: FEMA 2015

Figure 4.9-2 Dam Inundation Areas and Floodplains within the Proposed Project Area

South Orange County Reliability Enhancement Project

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4.9.2 Regulatory Setting

4.9.2.1 Federal

Clean Water Act and Sections 303(d), 401, 402, and 404

The CWA (33 United States Code [U.S.C.] §1251 et seq.) was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and has given the United States Environmental Protection Agency (U.S. EPA) the authority to implement pollution control programs.

The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). In California, NPDES permitting authority is delegated to, and administered by, the nine Regional Water Quality Control Boards (RWQCBs). The proposed project would be located within the jurisdiction of the SDRWQCB.

CWA Section 402 authorizes RWQCBs to issue NPDES Construction General Storm Water Permits (Water Quality Order No. 2009-009-DWQ), referred to as Construction General Permits. The NPDES permitting process requires that a Storm Water Pollution Prevention Plan (SWPPP) be developed and implemented for each construction site covered by the NPDES Construction General Permits. SWPPPs are required for storm water discharges associated with any construction activity, including clearing, grading, excavation, reconstruction, or dredge and fill that results in the disturbance of at least one acre of total land area. Since the proposed project would disturb more than one acre, a SWPPP would be required. For a linear project (e.g., powerline construction), all disturbance is accounted for and totaled along the length of the linear route (SWRCB 2013). The purpose of a SWPPP is to:

- Identify all pollutant sources that may affect the quality of discharges of storm water associated with construction activity from the construction site;
- Identify non-storm water discharges;
- Identify, construct, implement, and maintain best management practices (BMPs) to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges from the construction site during construction;
- Develop a maintenance schedule for BMPs installed during construction that are designed to reduce or eliminate pollutants after construction is completed;
- Identify a sampling and analysis strategy and sampling schedule for discharges from construction activity that discharge directly to a water body listed for impairment due to sedimentation, in accordance with CWA Section 303(d); and
- Identify a sampling and analysis strategy and sampling schedule for discharges that have been discovered through visual monitoring to be potentially contaminated by pollutants not visually detectable in the runoff.

The SWPPP would apply to all components of the proposed project that would result in ground disturbance.

1 The CWA authorizes the USACE to regulate the discharge of dredged or fill material into the waters of
2 the United States and adjacent wetlands. Jurisdictional delineations are fundamental to USACE and U.S.
3 EPA regulatory responsibilities under CWA Section 404. The USACE evaluates permit applications for
4 all construction activities that occur within wetlands or waterways determined by formal delineations to
5 be waters of the United States. Applicants applying for USACE permit coverage under CWA Section 404
6 for actions that could result in any discharge into waters of the United States must also obtain a water
7 quality certification from the state in which the action is proposed. The State of California uses its CWA
8 Section 401 certification authority to ensure Section 404 permits are consistent with state water quality
9 standards. A Water Quality Certification (or waiver thereof) from the SDRWQCB pursuant to Section
10 401 would be required for the proposed project.

11
12 CWA Section 303(d) requires states to identify impaired waterbodies and submit the list to the U.S. EPA
13 for review and approval. The list is known as the Section 303(d) list of impaired waters. The State Water
14 Quality Control Board and RWQCBs are required to monitor and assess water quality, prepare Section
15 303(d) lists, and develop total maximum daily load requirements.

16 17 **NPDES Municipal Separate Storm Sewer Permit**

18 Storm water runoff is often transported through Municipal Separate Storm Sewer Systems (MS4s) and
19 discharged, untreated, in local waterbodies. To prevent water quality degradation, MS4 operators must
20 obtain a NPDES permit and develop a stormwater management program. The SDRWQCB adopted Order
21 No. R9-2013-001, NPDES Permit and Waste Discharge Requirements for Discharges from the Municipal
22 Separate Storm Sewer Systems (MS4s) Draining the Watersheds within the San Diego Region, on May 8,
23 2013 (SDRWQCB 2013). This regional permit regulates MS4 discharges to inland surface waters, bays,
24 estuaries, and coastal waters within the San Diego Region and covers 39 entities (jointly referred to as
25 Copermittees), including Orange County, San Juan Capistrano, and San Clemente (SDRWQCB 2013).

26
27 The NPDES MS4 permit requires the Copermittees to regulate construction project discharges to their
28 storm water conveyance systems using their municipal ordinance authority. As part of complying with
29 the permit, Copermittees must require all development projects to implement structural and low impact
30 development BMPs. Certain projects, such as redevelopment projects that create, add, or replace 5,000 or
31 more square feet of impervious surface on an already developed site, are considered “priority
32 development projects” (SDRWQCB 2013). Priority development projects are required to implement
33 more stringent structural BMPs than other development projects, and post-project runoff conditions must
34 not exceed pre-development runoff conditions by more than 10 percent.

35 36 **Oil Pollution Prevention**

37 40 CFR 112 requires owners and operators of certain facilities to prepare and implement a spill
38 prevention, control, and countermeasures (SPCC) plan to prevent any discharge of oil. Facilities that are
39 subject to SPCC plans are non-transportation-related facilities with an aggregate aboveground storage
40 capacity greater than 1,320 gallons or a completely buried storage capacity greater than 42,000 gallons
41 that could discharge into or upon navigable waters of the United States or adjoining shorelines. These
42 regulations require regulated facilities to establish related procedures, methods, and equipment standards
43 to prevent oil from reaching navigable waters and adjoining shorelines and to contain discharges of oil.
44 Substations with oil-filled electrical equipment above the threshold capacity are subject to these
45 requirements. Additionally, stationary oil-filled equipment with a capacity greater than or equal to 55
46 gallons must have secondary containment to ensure that oil spilled from primary containment systems is
47 prevented from impacting surface waters.

1 **4.9.2.2 State**

2
3 **California Fish and Game Code Section 1600**

4 The CDFW monitors streambed alteration to conserve, protect, and manage California’s fish, wildlife,
5 and native plant resources. California Fish and Game Code Section 1600 requires any person, state, or
6 local governmental agency or public utility to notify the CDFW before beginning any activity that would
7 substantially divert, obstruct, or change the natural flow of the bed, channel, or bank (including
8 associated riparian vegetation) of a river, stream, or lake and/or use material from, or deposit material
9 into, a streambed prior to commencement of the activity. Streams covered under this code include, but
10 are not limited to, intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line
11 streams, and watercourses with subsurface flow. If the CDFW determines that an action could have an
12 adverse effect on existing fish and wildlife resources, a Lake or Streambed Alteration Agreement is
13 required. The proposed project may impact water resources and their associated riparian habitat;
14 therefore, this regulation is applicable to the proposed project.

15
16 **California Porter–Cologne Water Quality Control Act**

17 The State Water Resources Control Board regulates water quality through the Porter–Cologne Water
18 Quality Act of 1969 (California Water Code, Division 7), which contains a complete framework for the
19 regulation of waste discharges to surface water and groundwater of the state. The Act assigns
20 responsibility for implementing CWA Sections 401 (Water Quality Certification), 402 (NPDES), and
21 303(d) (List of Impaired Water Bodies) to the State Water Quality Control Board, which has delegated
22 authority to the nine RWQCBs. The proposed project falls under the jurisdiction of the SDRWQCB,
23 which is responsible for the implementation of federal and state water quality protection statutes,
24 regulations, and guidelines.

25
26 **4.9.2.3 Regional and Local**

27
28 **City of San Juan Capistrano**

29 **Grading Ordinance.** Section 9-2.323 of the City of San Juan Capistrano Municipal Code requires
30 preliminary grading plans to be submitted along with discretionary development applications. Prior to
31 issuance of a grading permit, grading plans must be reviewed by the City of San Juan Capistrano’s water
32 and engineering divisions and by the Orange County Fire Authority (City of San Juan Capistrano 2015a).
33 Grading plans are required to have City Grading Notes (City of San Juan Capistrano 2015b) and City
34 Erosion and Silt Control Notes (City of San Juan Capistrano 2015c), which include, among other things,
35 BMPs to maintain drainage patterns, protect adjacent properties from drainage problems, and protect
36 water quality.

37
38 **General Plan.** The City of San Juan Capistrano General Plan, Floodplain Management Element (City of
39 San Juan Capistrano 2002) establishes policies to support the goals of protecting life and property from
40 floodwaters and to preserve and enhance the natural character of creeks and their floodplains. Policies
41 established to support this goal include the following:

- 42
43
- 44 • **Floodplain Management Element Policy 1.1:** Limit development within the floodplain to
45 minimize risks to life and property and satisfy the flood insurance and other requirements of the
Federal Emergency Management Agency (FEMA).
 - 46 • **Floodplain Management Element Policy 1.2:** Prevent the placement of unauthorized fill
47 material in creeks and floodplains in order to avoid alteration of flow characteristics and bridge
48 scour.

- **Floodplain Management Element Policy 2.1:** Use environmentally sensitive treatments where creek improvements are necessary to preserve wetlands.
- **Floodplain Management Element Policy 2.2:** Enhance and/or restore the creeks and their floodplains as part of private development projects and public works projects.

City of San Clemente

Grading Ordinance. Section 15.36.050 through Section 15.36.420 of the San Clemente Municipal Code detail the requirements of the City of San Clemente Grading Ordinance. The City's grading ordinance requires erosion controls and water quality protection BMPs to be implemented for development projects.

General Plan. The City of San Clemente General Plan, Natural Resources Element (City of San Clemente 2014) establishes policies to support the goal of protecting and restoring significant plant and wildlife species and habitats. Policies to accomplish this goal related to hydrology and water quality include the following:

- **Natural Resources Policy NR-1.02(b):** In natural areas that are undeveloped or essentially so, we require applicants for proposed projects to retain watercourses, riparian habitat, and wetlands in their natural condition.
- **Natural Resources Policy NR-1.03(a):** We prohibit 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 reestablish natural vegetation buffers.

Orange County

Grading and Excavation Code. The Orange County Grading and Excavation Code (County of Orange 1993) requires development projects to obtain a grading permit from the county prior to conducting any grading or activities that are preparatory to grading (e.g., brushing or grubbing). Grading permits are also required prior to altering an existing watercourse or channel. To obtain a grading permit, applicants are required to submit erosion control plans that detail BMPs that will be implemented to protect drainage patterns and water quality.

General Plan. The County of Orange General Plan, Resources Element (County of Orange 2005a) establishes policies to support the goal of ensuring an adequate, dependable supply of water of acceptable quality for all reasonable uses. Policies to accomplish this goal related to hydrology and water quality include the following:

- **Water Resources Component Policy 1, Water Supply:** To ensure the adequacy of water supply necessary to serve existing and future development as defined by the General Plan.

- 1 • **Water Resources Component Policy 5, Water Quality:** Protect and improve water quality
2 through continued management, enforcement, and reporting requirements.
3 Encourage an integrated water resources approach for stormwater management that considers
4 water supply, water quality, flood control, open space, and native habitats.
5 Promote coordination between the County, cities, and other stakeholders in the identification and
6 implementation of watershed protection and Low Impact Development (LID) principles.
7 Consider implementation of LID principles to conserve natural features (trees, wetlands, streams,
8 etc.), hydrology, drainage patterns, topography, and soils.
9 Encourage the creation, restoration, and preservation of riparian corridors, wetlands, and buffer
10 zones.
11 Continue to educate the public about protecting water resources.
12 • **Water Resources Component Policy 6, Intergovernmental Coordination:** To encourage and
13 support a cooperative effort among all agencies toward the resolution of problems and the
14 utilization of opportunities in the planning management and protection of water resources,
15 including water quality.
16

17 The County of Orange General Plan Land Use Element (County of Orange 2005b) establishes policies to
18 support the goal of guiding physical development within the county while protecting water quality
19 through required compliance with urban and stormwater runoff regulations. Policies established to
20 support this goal include the following:

- 21 • **Land Use Element Policy 13:** To guide physical development within the county while
22 protecting water quality through required compliance with urban and stormwater runoff
23 regulations.
24 Encourage, support, and require all new development and redevelopment projects to identify
25 opportunities for implementation of LID principles in the early stages of the development
26 planning process.
27 Promote, support, and require innovative site planning and development techniques that allow for
28 implementation of LID principles while taking into consideration specific hydrology and geology
29 conditions.
30 Encourage, support, and require the use of LID as part of an overall strategy to mitigate
31 stormwater impacts from new development and redevelopment projects consistent with current
32 NPDES permit requirements.
33 Encourage and support, where applicable, the use of buffer zones to protect natural water bodies,
34 including, but not limited to, wetlands and riparian corridors. Where infeasible, require other
35 measures to protect natural water bodies.
36 Identify and evaluate potential changes to land use development regulations to support and
37 promote stormwater management techniques and ensure regulations do not inhibit compliance
38 with current NPDES permit requirements.
39

1 **4.9.3 Impact Analysis**
2

3 **4.9.3.1 Methodology and Significance Criteria**
4

5 Potential impacts on hydrology and water quality were evaluated according to the following significance
6 criteria. The criteria were defined based on the checklist items presented in Appendix G of the CEQA
7 Guidelines. The proposed project would cause a significant impact on hydrology and water quality if it
8 would:
9

- 10 a) Violate any water quality standards or waste discharge requirements;
11 b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge
12 such that there would be a net deficit in aquifer volume or a lowering of the local groundwater
13 table level;
14 c) Substantially alter the existing drainage pattern of the site or area, including through the
15 alteration of the course of a stream or river, in a manner which would result in substantial erosion
16 or siltation on- or off-site;
17 d) Substantially alter the existing drainage pattern of the site or area, including through the
18 alteration of the course of a stream or river, or a substantial increase in the rate or amount of
19 surface runoff in a manner which would result in flooding on- or off-site;
20 e) Create or contribute to runoff water, which would exceed the capacity of existing or planned
21 storm water drainage systems or provide substantial additional sources of polluted runoff;
22 f) Otherwise substantially degrade water quality;
23 g) Place within a 100-year flood hazard area structures that would impede or redirect flood flows;
24 h) Expose people or structures to a significant risk of loss, injury, or death involving flooding,
25 including flooding as a result of the failure of a levee or dam; or
26 i) Expose people or structures to a significant risk of loss, injury, or death involving inundation by
27 seiche, tsunami, or mudflow.
28

29 Appendix G of the CEQA Guidelines also includes the following checklist item:
30

- 31 • Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard
32 Boundary, Flood Insurance Rate Map, or other flood hazard delineation map.
33

34 No housing construction would occur as part of the proposed project. Therefore, this item is not applied
35 as a criterion for the analysis of environmental impacts.
36

1 **4.9.3.2 Applicant Proposed Measures**
2

3 The applicant has not committed to any applicant proposed measures that apply to hydrology and water
4 quality.
5

6 **4.9.3.3 Environmental Impacts**
7

8 **Impact WQ-1: Violate any water quality standards or waste discharge requirements.**
9 *LESS THAN SIGNIFICANT*
10

11 **Construction Impacts**

12 Construction of the proposed project would require ground-disturbing activities, such as grading for new
13 access roads, new transmission structure pads, and at the proposed San Juan Capistrano substation site,
14 and trenching for construction of underground segments of transmission line. Soil disturbance and
15 vegetation clearing could result in increased soil erosion, potentially resulting in sedimentation of
16 adjacent water bodies, violating water quality standards, and/or impacting beneficial uses. Sedimentation
17 of adjacent drainages could occur if precipitation events take place during active ground disturbing
18 activities or if water used for construction purposes (e.g., water for dust suppression or soil compaction)
19 runs off-site. In addition, mechanized equipment that requires fuels and lubricants would be used during
20 construction of the proposed project, and construction would also involve the fabrication of facilities that
21 require hazardous materials such as coatings, adhesives, and solvents. Accidental spills of these materials
22 could adversely affect water quality if these materials are spilled directly into surface water bodies or if
23 they are indirectly transported to surface water bodies in storm water or construction water runoff.
24

25 The proposed project would result in more than one acre of ground disturbance; therefore, the applicant
26 would be required to apply for coverage under the NPDES Construction General Permit to address storm
27 water discharges. The NPDES Construction General Permit requires development and implementation of
28 a SWPPP, which specifies BMPs to reduce or eliminate pollutants in storm water discharges from the site
29 during construction that would otherwise violate water quality standards. The NPDES Construction
30 General Permit would also require inspections, monitoring, and reporting to ensure that BMPs are
31 implemented and effective. If the BMPs are not effective, they must be modified to become more
32 effective. In addition to compliance with the NPDES Construction General Permit, the applicant would
33 implement applicable BMPs from the SDG&E Best Management Practices Manual for Water Quality
34 Construction (BMP Manual), which includes BMPs for sediment controls, waste management and
35 material controls, non-storm water discharge controls, and erosion control and soil stabilization (SDG&E
36 2011). The applicant would also be required to prepare and implement an SPCC plan to prevent oil spills
37 from impacting water quality.
38

39 Dewatering may be required during construction if localized shallow groundwater is encountered in
40 structure footings or other project excavations. Dewatering could result in a violation of water quality
41 standards if the water is discharged to surface water bodies and appropriate dewatering techniques are
42 not applied. The NPDES Construction General Permit would cover dewatering discharges, provided that
43 the discharges are infeasible to eliminate, comply with BMPs as described in the SWPPP, filter or treat
44 all dewatering discharges from sedimentation basins using appropriate technology, meet Numeric Action

1 Levels⁴ for pH and turbidity, and do not cause or contribute to a violation of water quality standards
2 (SWRCB 2009).

3
4 Water quality could also be impacted if fill material is required to be placed in drainages to facilitate
5 construction (e.g., grading or placing fill in drainage to improve an existing, or create a new, access
6 road). Although grading or placing fill material in creeks or drainages is not currently anticipated as part
7 of the proposed project, if it was later determined that doing so would be required to facilitate
8 construction, the applicant would be required to secure permits from all applicable regulatory agencies
9 prior to conducting any work in these areas. For impacts on Waters of the U.S., the proposed project
10 would be required to obtain a Section 404 permit from the USACE and a Section 401 permit from the
11 SDRWQCB certifying that the proposed activity will comply with state water quality standards.
12 Conditions placed on the issuance of the 401 certification become a part of the Section 404 permit, and
13 the Section 404 permit cannot be issued if Section 401 certification is denied. If the proposed project
14 would result in impacts on Waters of the State that are not also considered Waters of the U.S., the
15 proposed project would be required to secure a Waste Discharge Requirements permit from the
16 SDRWQCB.

17
18 By complying with the terms and conditions of any necessary permits, and implementing site-specific
19 BMPs and project design features, the proposed project would not violate any water standards during
20 construction. Therefore, construction of the proposed project would result in less than significant impacts
21 on water quality.

22 **Operations Impacts**

23
24 Operation of the proposed project would be similar to current operations and maintenance activities
25 within the proposed project area. Project operations would include patrol of the proposed project right-
26 of-way (ROW), inspection of transmission lines, and maintenance within proposed project substation
27 sites. Any future potential maintenance-related construction activities would be evaluated under
28 California Public Utilities Commission (CPUC) General Order 131-D and the California Environmental
29 Quality Act (CEQA), and any applicable permit requirements would ensure that water quality standards
30 are met.

31
32 The only expected discharges from the proposed project site during operations would be storm water. To
33 comply with the NPDES MS4 permit, each of the permittees must require the project applicant to submit
34 proof of the mechanism under which ongoing long-term maintenance of all structural BMPs would be
35 conducted (SDRWQCB 2013). The SWPPP would require post-construction BMPs, such as stabilization
36 and revegetation of disturbed areas, and erosion and sediment control devices would be maintained
37 during operations. Insulating mineral oil would be present in sealed electrical equipment, and secondary
38 containment sufficient to contain the entire volume of mineral oil in the event of an unanticipated spill
39 would be present. The applicant would also continue to implement the SPCC plan as well as internal
40 BMPs and standards to control containment of accidental spills. Therefore, potential impacts on water
41 quality during operations would be less than significant.

42
⁴ Numeric Action Levels are benchmark levels for certain parameters that, if exceeded during sampling, trigger the discharger to take action.

1 **Impact WQ-2:** **Substantially deplete groundwater supplies or interfere substantially with**
2 **groundwater recharge such that there would be a net deficit in aquifer**
3 **volume or a lowering of the local groundwater table level**
4 *LESS THAN SIGNIFICANT*
5

6 **Construction Impacts**

7 The applicant estimates that about 82 af of water would be used during construction of the proposed
8 project. Construction water demand is anticipated to be met with water secured through existing
9 municipal sources, such as the Municipal Water District of Orange County (MWDOC). Local water
10 supplies accommodate less than half of Orange County's water demand, and the MWDOC meets the
11 remaining demand by purchasing imported surface water from northern California and the Colorado
12 River (MWDOC 2014b). Groundwater would not be used during construction of the proposed project.
13

14 Dewatering may be required during construction where localized shallow groundwater is encountered.
15 Dewatering may result in temporary declines in groundwater levels, but the effects would be isolated to a
16 small area due to the short duration of pumping. Any wells in the vicinity of dewatering activities are
17 unlikely to be affected because water supply wells typically rely on deeper water-bearing zones than the
18 depth that an area would have to be dewatered.
19

20 Groundwater recharge occurs as surface water or precipitation is absorbed into soil and filters down into
21 a groundwater aquifer (USGS 1999). For the proposed project to interfere with groundwater recharge, it
22 would have to create impervious surfaces over an area with suitable soils for aquifer recharge or redirect
23 surface flows away from areas with suitable soils for aquifer recharge. The proposed project would
24 primarily use existing access roads and involve replacement of transmission structures along an existing
25 route. New access roads and transmission structure pads would not be paved; they would be stabilized to
26 allow infiltration and reduce runoff potential. Most of the work associated with construction of the
27 proposed project would take place in areas that do not overlay a groundwater basin. The only substantial
28 area of new impervious surface that overlays a groundwater basin would be the area associated with the
29 proposed San Juan Capistrano Substation. However, the majority of the existing substation site's storm
30 water drainage currently flows into city storm drains, and groundwater recharge at the site is likely
31 negligible under existing conditions.
32

33 Project construction would not cause substantial depletion of groundwater supplies or substantial
34 interference with groundwater recharge. Therefore, impacts under this criterion during construction of
35 the proposed project would be less than significant.
36

37 **Operations Impacts**

38 The proposed project would not use groundwater during operations, nor would any new areas of
39 impervious surface be introduced during operations. Therefore, there would be no impact on groundwater
40 supplies or groundwater recharge during operation of the proposed project.
41

42 **Impact WQ-3:** **Substantially alter the existing drainage pattern of the site or area,**
43 **including through the alteration of the course of a stream or river, in a**
44 **manner which would result in substantial erosion or siltation on- or off-site.**
45 *LESS THAN SIGNIFICANT*
46

47 Construction of the proposed project would require grading to accommodate construction at
48 approximately 23 transmission structure locations, at new spur road locations, at staging areas, limited
49 grading at some of the new distribution poles sites, and at the San Juan Capistrano substation site.

1 Grading would require vegetation removal and would temporarily increase erosion potential. Grading at
2 transmission structure locations would include up to 1,200 cubic yards of net cut to 800 cubic yards of
3 net fill, but would typically be in the range of less than 300 cubic yards of net cut to less than 200 yards
4 of net fill. The majority of new distribution poles would be placed immediately adjacent to existing
5 distribution structures, and work would occur at locations accessible via existing access roads.
6

7 To minimize the potential for erosion and sedimentation of water bodies, the proposed project would be
8 required to implement a SWPPP to comply with the NPDES Construction General Permit. The SWPPP
9 would require BMPs, including erosion and sedimentation controls. Erosion controls consist of source
10 control measures that are designed to prevent soil particles from detaching and being transported in storm
11 water runoff, such as straw mulch, geotextiles and mats, hydraulic mulch, hydroseeding, and velocity
12 dissipation devices. Sedimentation controls are structural measures intended to complement and enhance
13 the selected erosion control measures and reduce sediment discharges from active construction areas.
14 Examples of sediment control measures include silt fences, sediment traps, check dams, fiber rolls, gravel
15 bag berms, and sandbag barriers. In addition, the project would be required to comply with the
16 requirements of the SDRWQCB and South Orange County MS4 Permit requirements, which include
17 requirements for hydromodification control BMPs and project design features such as bioswales
18 paralleling access roads.
19

20 Alterations to the Talega substation would not change existing ground surface grades or runoff
21 conditions. Construction of the proposed San Juan Capistrano Substation would include changes to the
22 existing on-site grading and drainage, but the changes would not result in substantial erosion or siltation
23 on- or off-site. The grading plans for the proposed San Juan Capistrano Substation include new on-site
24 storm water control facilities including a series of inlets, culverts, and bioswales that would convey water
25 to bioretention facilities at the southwest corner of the substation property. Construction of the proposed
26 substation would also be required to comply with City of San Juan Capistrano grading requirements.
27

28 The proposed project does not include grading, placing fill, or any other activities in creeks or drainages
29 that would alter the flow of water. If final designs of the proposed project would require grading or the
30 placement of fill material within creeks or drainages, the applicant would be required to secure all
31 applicable permits from the USACE, SDRWQCB, and CDFW prior to conducting any work within those
32 drainages. Such permits would require mitigation for the placement of fill in drainages, and other
33 measures would be required to ensure that the drainages are not impacted, including through
34 sedimentation, beyond the permitted use.
35

36 As a result of complying with all applicable laws and permit requirements, the proposed project would
37 not substantially alter the existing drainage pattern of the site in a manner that would result in substantial
38 erosion or siltation on- or off-site. Therefore, impacts under this criterion would be less than significant.
39

40 **Impact WQ-4: Substantially alter the existing drainage pattern of the site or area,**
41 **including through the alteration of the course of a stream or river, or**
42 **substantially increase the rate or amount of surface runoff in a manner**
43 **which would result in flooding on- or off-site.**
44 *LESS THAN SIGNIFICANT*
45

46 Construction of the proposed project would require limited grading to create new spur roads, level
47 construction work areas at some of the transmission structure and distribution pole sites, at some of the
48 staging areas and stringing sites, and at the San Juan Capistrano Substation site. Because construction of
49 the proposed project would take place along existing rights-of-way and primarily use existing access
50 roads, the amount of grading required would be minimal. New permanent access roads and graded pads

1 would not be paved and would be stabilized in a manner that allows infiltration and reduces runoff
2 potential. Although grading would result in minor localized changes in runoff volumes, the proposed
3 project would be designed to return runoff to existing drainages patterns. The proposed project would not
4 alter the course of any creeks or drainages.
5

6 Construction of the proposed San Juan Capistrano Substation would include changes to the existing
7 onsite grading and drainage, but the changes would not result in a substantial increase in the rate or
8 amount of surface runoff. The grading plans for the new substation include new on-site storm water
9 control facilities including a series of inlets, culverts, and bioswales that would convey water to
10 bioretention facilities at the southwest corner of the substation property. The bioretention facilities would
11 have a controlled discharge to the existing 57-inch storm sewer located under Camino Capistrano. There
12 would be no additional sheet flow runoff from the site to the curb and gutters on Camino Capistrano.
13

14 The proposed project would incorporate SWPPP BMPs to minimize erosion that could cause
15 sedimentation and loss of receiving water capacity. Therefore, after compliance with applicable laws and
16 permit conditions, impacts under this criterion would be less than significant.
17

18 **Impact WQ-5: Create or contribute runoff water which would exceed the capacity of**
19 **existing or planned storm water drainage systems or provide substantial**
20 **additional sources of polluted runoff.**
21 *LESS THAN SIGNIFICANT*
22

23 Project construction would generate storm water runoff and runoff from dust control activities. However,
24 the proposed project would not significantly alter the existing drainage patterns of the site as discussed
25 under Impacts WQ-3 and WQ-4. Existing drainage facilities would be used, upgraded, or replaced. New
26 access roads and transmission structure pads would be constructed such that the natural drainage
27 direction is maintained, and runoff velocity dissipation devices such as water bars and gravel bag berms
28 would be employed to control the rate at which runoff enters drainage systems. Construction of the
29 proposed project would not result in a substantial increase in the amount of impervious surfaces, and
30 runoff volumes are anticipated to be roughly the same as current conditions. The only area of substantial
31 (i.e., greater than one acre) new impervious surface would be a location associated with the increased
32 concrete pad area at the proposed San Juan Capistrano Substation site. However, the project would
33 include design features, such as an above ground retention pond, and bioretention facilities, such as open
34 water quality basins and/or subsurface vaults, to provide flow duration control of the site runoff.
35

36 The proposed project would also be required to comply with all applicable county and city grading
37 ordinances, which would require project designs to be reviewed and approved prior to construction. To
38 be approved, the plans would have to demonstrate that the existing and planned storm water drainage
39 systems are capable of receiving the anticipated runoff volumes from the proposed project. In addition,
40 the proposed project would be required to implement BMPs as part of the SWPPP to reduce the potential
41 for polluted runoff leaving the site. Therefore, impacts under this criterion would be less than significant.
42

43 **Impact WQ-6: Substantially degrade water quality.**
44 *LESS THAN SIGNIFICANT WITH MITIGATION*
45

46 During construction of the proposed project, potential contaminants could be released, including oil,
47 gasoline, diesel motor fuel, industrial solvents, and other chemicals necessary for project construction.
48 Water quality could also be affected if by-products associated with paving operations, saw cutting,
49 coring/drilling, or mixing/applying concrete come are transported off-site in runoff. However, as
50 discussed above, the applicant would be required to implement a SWPPP that includes BMPs to reduce

1 or prevent construction-related pollutants from contaminating runoff and degrading water quality on- or
2 off-site. In addition to BMPs related to erosion and sediment control, the SWPPP would also include
3 BMPs to address activities that could indirectly introduce contaminants to surface water runoff from the
4 site. The applicant would also comply with its BMP Manual (SDG&E 2011), which includes BMPs to
5 prevent construction-related contaminants from reaching water bodies, such as drain inlet protection and
6 secondary containment around oil and chemical storage.

7
8 Damage to an inadequately plugged and abandoned well could create a significant hazard to public
9 health, underground and surface waters, or oil or gas reservoirs. Table 4.8-5 (see Section 4.8, “Hazards
10 and Hazardous Materials”) identifies the oil, gas, and geothermal wells within 1,000 feet of the proposed
11 project. The closest well to the proposed project is an abandoned well located approximately 300 feet
12 west of a laydown area on Calle Saluda near Transmission Line Pole 31. Based on the dates of the final
13 abandonment letters filed with the California Department of Conservation, Division of Oil, Gas, and
14 Geothermal Resources (DOGGR) (1978 and 1983), the wells listed in Table 4.8-5 were capped to
15 relatively recent standards. DOGGR considers the potential risk to damage the wells listed in Table 4.8-5
16 to be low based on capping history and proximity of the wells to the proposed project (Andrews 2014).
17 In the event that an unanticipated well is discovered during construction, damage to life, health, and
18 property could be significant. Implementation of MM HAZ-5 would reduce potential impacts to less than
19 significant by requiring construction workers to cease work within 50 feet of an unanticipated well
20 discovery until authorized by DOGGR. The potential for the proposed project to damage a well is less
21 than significant.

22
23 If pesticides are used and applied in excessive amounts or applied improperly, impacts related to
24 degradation of water quality could be significant. Implementation of MM WQ-1 would reduce potential
25 impacts to less than significant by requiring pesticide application to be in accordance with Federal
26 Insecticide, Fungicide, and Rodenticide (FIFRA) labels, personnel applying the pesticides to be properly
27 trained and certified, pesticide application to not occur 24 hours prior to a likely precipitation event, and
28 only approved pesticides to be used.

29
30 Compliance with all applicable laws and permits and implementation of MM WQ-1 and MM HAZ-1
31 would reduce impacts from the proposed project under this criterion to less than significant.

32
33 **Impact WQ-7: Place within a 100-year flood hazard area structures that would impede or**
34 **redirect flood flows.**

35 *LESS THAN SIGNIFICANT*

36
37 Transmission Line Poles 9 and 10 would be installed within the 100-year flood hazard area of San Juan
38 Creek. Transmission Line Pole 9 would be located near the northern edge of the flood hazard zone, and
39 Transmission Line Pole 10 would be located south of San Juan Creek in a developed area within the
40 floodplain. The foundations of these structures would be designed to withstand flood flows, and given
41 the circular shape of the above ground portion of the structures and small diameter (5 to 6 feet), the
42 structures would not impede or redirect flood flows if inundated. No other project components would be
43 located within a 100-year flood hazard area. Therefore, any potential impacts under this criterion would
44 be less than significant.

1 **Impact WQ-8: Expose people or structures to a significant risk of loss, injury, or death**
2 **involving flooding, including flooding as a result of the failure of a levee or**
3 **dam.**
4 *LESS THAN SIGNIFICANT*
5

6 The proposed project crosses the 100-year flood hazard areas of Horno Creek, San Juan Creek, Prima
7 Deshecha Creek, and Segunda Deshecha Creek. The proposed project would generally span these areas;
8 however, Transmission Line Poles 9 and 10 would be installed within the 100-year flood hazard zone of
9 San Juan Creek, and existing access roads would be used for construction and operations that cross the
10 100-year flood hazard zones of San Juan Creek, Prima Deshecha Creek, and Segunda Deshecha Creek.
11 Transmission Line Poles 9 and 10 are also within the predicted dam inundation area in the event that the
12 Trampas Canyon Dam fails. However, the predicted inundation area is similar to that associated with the
13 100-year flood hazard area of San Juan Creek (City of San Juan Capistrano 1999); therefore, the
14 transmission structures being located within the dam inundation area is inconsequential.
15

16 The proposed project does not involve development of facilities that would be occupied regularly.
17 Construction workers would need to be within the 100-year flood hazard zone/dam inundation zone of
18 San Juan Creek during the removal of two existing 138-kV transmission structures and construction of
19 Transmission Line Poles 9 and 10. Additionally, construction and operations personnel would
20 periodically travel through the flood hazard zones of Prima Deshecha Creek and Segunda Deshecha
21 Creek. However, construction and operations personnel would be within these areas for short durations,
22 and relocation out of these areas could be attained very quickly in the event of a flood. Structures located
23 within the 100-year flood hazard zone of San Juan Creek would be designed to withstand potential flood
24 inundation to comply with CPUC General Order 95 (Rules for Overhead Electric Line Construction) and
25 the California Building Standards Code. Therefore, impacts under this criterion would be less than
26 significant.
27

28 **Impact WQ-9: Expose people or structures to a significant risk of loss, injury, or death**
29 **involving inundation by seiche, tsunami, or mudflow.**
30 *LESS THAN SIGNIFICANT*
31

32 A seiche is a standing wave of water on a river, lake, pond, gulf, or bay caused by an earthquake. A
33 tsunami, or tidal wave, is a wave of water on the ocean caused by an undersea earthquake. There are no
34 bodies of water in the vicinity of the proposed project that could generate a seiche in the event of an
35 earthquake. The Pacific Ocean is more than 3 miles from the nearest project component, and the entire
36 project is located well outside of mapped tsunami inundation areas (CDC 2009a, 2009b, 2009c).
37 Therefore, the proposed project would not expose people or structures to a significant risk of loss, injury,
38 or death by seiche or tsunami.
39

40 A mudflow is a downhill movement of soft, wet earth and debris caused by a rapid and heavy
41 accumulation of rain or snowmelt in areas. Mudflows usually begin on steep hillsides as shallow
42 landslides that liquefy. Transmission Line Segments 2 and 3 would be located in hilly terrain that may be
43 susceptible to mudslide. However, prior to the start of construction, the applicant would conduct a
44 geotechnical study to evaluate the physical properties of the soils, geology, and slope stability at the new
45 transmission structure sites near a mapped landslide or other unstable slope condition, consistent with
46 APM GEO-2 (see Section 4.6, "Geology, Soil, and Mineral Resources"). The results of the geotechnical
47 study would be incorporated into final engineering designs for transmission structure foundations. If
48 necessary, retaining walls and other slope stability controls would be implemented to reduce the potential
49 for mudflow. Temporary work areas would be stabilized and revegetated, and the applicant would
50 implement BMPs from its BMP Manual, and as required by the SWPPP, that would further reduce the

1 potential for mudflow. The proposed project would be built in compliance with CPUC General Order 95
2 and the California Building Standards Code to address local conditions. Construction and operations
3 personnel would only be in areas susceptible to mudflow for short durations and would not be on-site
4 during precipitation events substantial enough to initiate a mudflow. Therefore, potential impacts under
5 this criterion would be less than significant.

6 7 **4.9.4 Mitigation Measures**

8
9 **MM WQ-1: Pesticide Application.** If pesticides are used during construction or operations, they shall
10 be applied in accordance with Federal Insecticide, Fungicide, and Rodenticide (FIFRA) labels.
11 Applicators shall be appropriately trained and shall be certified by the California Department of Pesticide
12 Regulation. Prior to any use of pesticides, the type of pesticides proposed for use shall be approved by
13 the CPUC. Prior to each pesticide application the national weather service (forecast.weather.gov) shall be
14 consulted, and no pesticides shall be applied if the chance of rain exceeds 70 percent within 24 hours of
15 the proposed application time and location. Records of type and amount of pesticides used and locations
16 of application shall be kept and submitted to the CPUC on a monthly basis during construction.

17
18 Mitigation measure MM HAZ-5 is detailed in Section 4.8, “Hazards and Hazardous Materials.” No other
19 mitigation measures are associated with impacts on Hydrology and Water Quality.