D. Alternatives

This section describes the alternatives to the proposed Project, the alternatives screening process, and the environmental effects of alternatives retained for analysis. The intent of this section is to document (1) the range of alternatives that have been selected and evaluated; (2) the approach used by the CPUC in screening the feasibility of these alternatives according to guidelines established under CEQA; (3) the results of the alternatives screening; and (4) the environmental impacts of each alternative relative to the proposed Project. A full discussion of the basis and rationale for the selection of the VSSP alternatives is included in Appendix 4 (Alternatives Screening Report).

This section is organized as follows:

- Section D.1 summarizes CEQA requirements related to alternatives;
- Section D.2 describes the methodology used to identify alternatives to the proposed Project;
- Section D.3 describes the alternatives retained for analysis, including the No Project Alternative (CEQA Guidelines §15126.6(e)), and presents impact analysis by discipline for each of these alternatives;
- Section D.4 summarizes the alternatives that were considered, but eliminated from detailed evaluation (see Appendix 4 for more information on these alternatives); and
- Section D.5 presents the comparison of alternatives and identifies the Environmentally Superior Alternative (CEQA Guidelines §15126.6(d)).

D.1 CEQA Requirements

An important aspect of the environmental review process is the identification and assessment of a reasonable range of alternatives that have the potential to avoid or minimize the impacts of a proposed project (CEQA Guidelines §15126.6(a)). The selection of alternatives focuses on those alternatives capable of eliminating or reducing any significant environmental effects of the project, even if these alternatives would impede to some degree the attainment of project objectives, or would be more costly (CEQA Guidelines §15126.6(b)). The CEQA Guidelines also requires consideration of the No Project Alternative, which must evaluate the existing conditions at the time the notice of preparation is published, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services (CEQA Guidelines § 15126.6(e)).

The range of alternatives required within an EIR is governed by the "rule of reason," which indicates that the EIR must evaluate only those alternatives necessary to permit a reasoned choice between the alternatives and the proposed project (CEQA Guidelines §15126.6(f)). An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote or speculative (CEQA Guidelines §15126.6(f)(3)).

In order to comply with CEQA's requirements, each alternative that has been suggested or developed for the VSSP has been evaluated in three ways:

- Does the alternative accomplish all or most of the basic project objectives?
- Is the alternative feasible (from economic, environmental, legal, social, technological standpoints)?
- Does the alternative avoid or substantially lessen any significant effects of the proposed Project (including consideration of whether the alternative itself could create significant effects potentially greater than those of the proposed Project)?

D.1.1 Consistency with Project Objectives

CEQA Guidelines require the consideration of alternatives capable of eliminating or reducing significant environmental effects even though they may "impede to some degree the attainment of project objectives" (CEQA Guidelines §15126.6(b)). Therefore, it is not required that each of the VSSP alternatives meet all of SCE's stated objectives.

The objectives of the proposed Project, which are defined by SCE in Chapter 2 of its PEA, are as follows:

- Provide safe and reliable electrical service;
- Add capacity to serve long-term forecasted electrical demand requirements in the electrical needs area as soon as possible after receipt of applicable permits;
- Maintain and improve system reliability and provide greater operational flexibility within the electrical needs area;
- Meet the Project needs while minimizing environmental impacts; and
- Design and construct the Project in conformance with SCE's approved engineering, design, and construction standards for substation, transmission, subtransmission, and distribution system projects.

D.1.2 Feasibility

CEQA Guidelines Section 15364 defines feasibility as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." When determining the feasibility of alternatives, CEQA Guidelines Section 15126.6(f) states that the Lead Agency (e.g., CPUC) must consider the following factors: site suitability, economic viability, availability of infrastructure, general plan consistency, other regulatory limitations, jurisdictional boundaries, and a proponent's control over alternative sites. In compliance with CEQA, the VSSP alternatives screening analysis evaluated the feasibility of potential alternatives per the following factors:

- **Legal Feasibility:** Do legal protections on lands preclude or substantially limit the feasibility of permitting the project? Do regulatory restrictions substantially limit the feasibility or success of permitting the project?
- **Regulatory Feasibility:** Is the alternative consistent with regulatory standards for subtransmission line design, operation, and maintenance? Does the alternative have the potential to limit the permitting beyond 2020?
- **Technical Feasibility:** Is the alternative feasible from a technological perspective, considering available technology? Are there any construction, operation, or maintenance constraints that cannot be overcome?
- **Environmental Feasibility:** Would implementation of the alternative cause substantially greater environmental damage than the proposed Project, thereby making the alternative clearly inferior from an environmental standpoint?

This screening analysis does not focus on relative economic factors or costs of the alternatives (as long as they are found to be economically feasible) since the CEQA Guidelines require consideration of alternatives capable of eliminating or reducing significant environmental effects even though they may "impede to some degree the attainment of project objectives or would be more costly" (CEQA Guidelines §15126.6(b)). The CPUC's proceedings will separately and specifically consider cost issues.

D.1.3 Potential to Eliminate Significant Environmental Effects

CEQA Guidelines Section 15126.6(a)) require consideration of alternatives that "would avoid or substantially lessen any of the significant effects of the project." If an alternative was identified that clearly does not provide potential environmental advantage as compared to the proposed Project, it was eliminated from further consideration. At the screening stage, it is not possible to evaluate all the impacts of the alternatives in comparison to the proposed Project with absolute certainty, nor is it possible to quantify impacts. However, it is possible to identify elements of an alternative that are likely to be the sources of impact and to relate them, to the extent possible, to general conditions in the subject area. This EIR concludes that for all impact areas, with the exception of aesthetics and cultural resources, the proposed Project's impacts are reduced to less-than-significant levels with incorporation of identified mitigation measures.

D.2 Alternatives Screening Methodology

The alternatives screened for analysis included alternatives identified in SCE's PEA, alternatives suggested during the scoping period, and alternatives developed by the EIR preparers. The evaluation of these alternatives was completed through a screening process consisting of the following three steps:

Step 1: Clarify the description of each alternative to allow comparative evaluation.

Step 2: Evaluate each alternative using CEQA criteria (see D.1.1 through D.1.3, above).

Step 3: Based on the results of Step 2, determine the suitability of each alternative for full analysis in the EIR. If the alternative is unsuitable, eliminate it from further consideration.

Infeasible alternatives and alternatives that clearly offer no potential for overall environmental advantage were removed from further analysis (see Section D.4). The alternatives that have been determined to meet CEQA's criteria (as summarized in Section D.1) have been retained for full analysis in the EIR, and are fully described in Section D.3. Consistent with Section 15126.6(e) of the CEQA Guidelines, the alternatives analysis includes consideration of the No Project Alternative.

D.3 Alternatives Retained for Analysis

D.3.1 Alternative 1: Subtransmission Line Route Alternative Along Menifee Road Description

This alternative would be approximately 19 miles in length and would follow Segment 1 of the proposed Project for the first approximately eight miles. This alternative would then turn west at Scott Road for approximately two miles to Menifee Road; continue south approximately three miles following an existing 115-kV subtransmission line along Menifee Road (0.7 mile), existing SCE ROW (1.4 miles through a generally undeveloped area), and a southern portion of Menifee Road south of Baxter Road (1 mile) to Clinton Keith Road; and then continue east on Clinton Keith Road for approximately one mile to a point near SCE's Auld Substation (14 miles total). Figure D-1 shows the location of this alternative. This map includes the proposed Project route and shows the Alternative 1 route (it is shown as Alternative Project [Alternative 2] on the figure).

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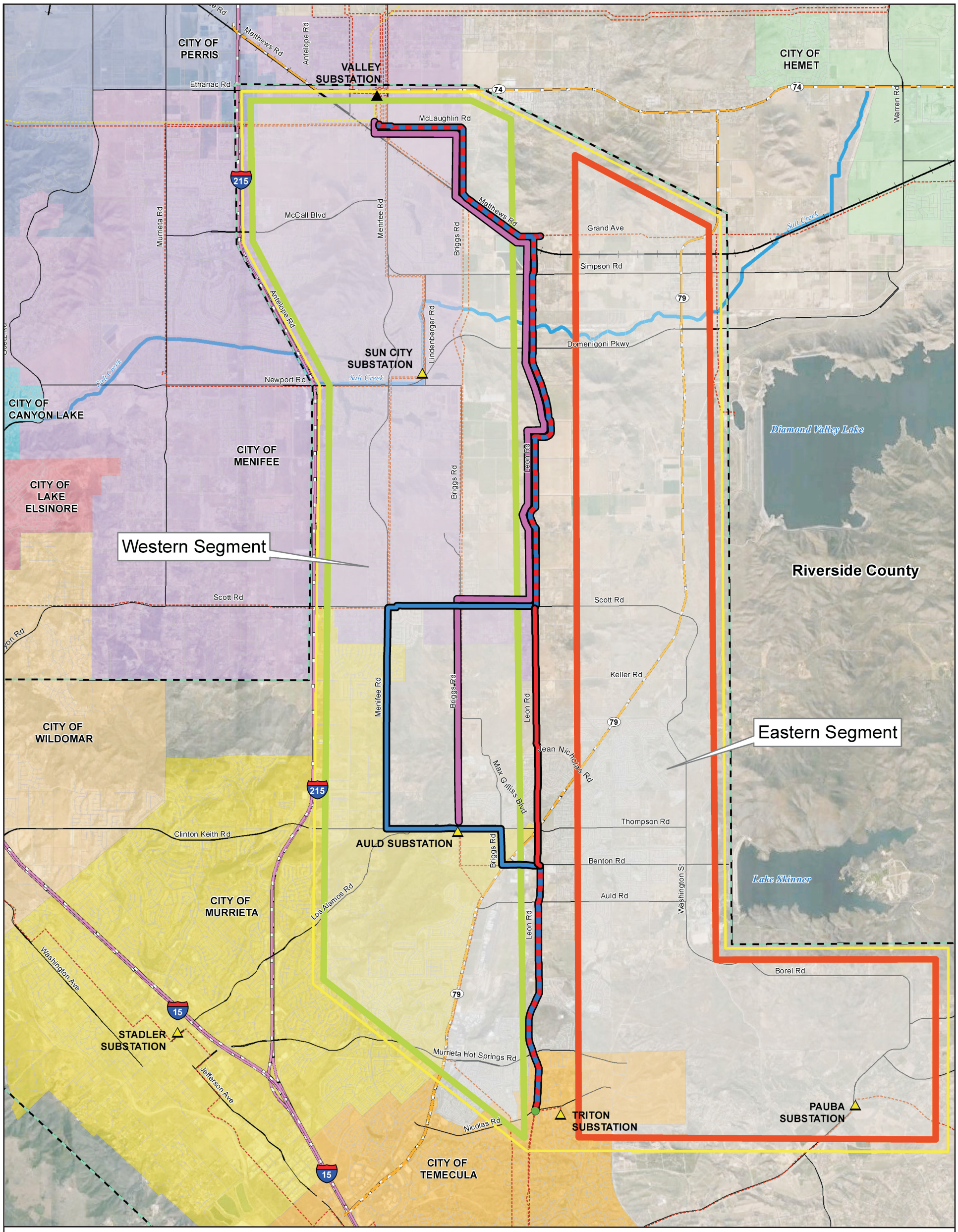

Source: SCE, 2014.

Figure D-1

SCE Subtransmission Line Route Alternatives

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Table D-1 below provides details on the new poles and pole replacements for the portion of the route that deviates from the proposed Project (goes west from Leon Road along Scott, Menifee and Clinton Keith Roads, as described above).SCE has estimated that the alternative would include an average span length of approximately 225 feet for the new poles and pole replacements noted in the table below. Any LWS poles that may be required for this alternative would be within the range of LWS poles identified in the PEA.

Table D-1. New and Replacement Poles – Route Alternative (Menifee Road)

Roadway	Structures	Height	New Poles	
Scott Rd. (2 miles)	4 TSPs	95 to 115 feet	New	
	45 wood poles	75 to 85 feet	New	
Roadway	Existing	Existing Height	Replacement Pole	Replacement Pole Height
Menifee Rd. (3 miles)	1 TSP	80 feet	1 TSP	90 to 115 feet
	1 wood pole	85 feet	1 TSP	90 to 115 feet
	49 wood poles	70 to 80 feet	70 wood poles	80 to 90 feet
Clinton Keith Rd. (1 mile)	4 TSPs	70 to 75 feet	4 TSPs	90 to 115 feet
	17 wood poles	70 to 75 feet	24 wood poles	75 to 85 feet

Source: SCE, 2015.

Segment 2 would begin at an existing TSP east of Auld Substation, and would connect to the existing Valley-Auld-Triton 115-kV subtransmission line paralleling Los Alamos Road for approximately 0.5 mile until it reaches Briggs Road, where it would turn south along Briggs Road for approximately 0.5 mile, span SR-79 in an easterly direction, and then continue east paralleling Benton Road for approximately 0.5 mile to the end point of the proposed Segment 1. The remainder of Segment 2 (approximately 3.5 miles) would be the same as the proposed Project, for a total Segment 2 length of 5 miles.

In Segment 2, the project would require an upgrade from 653.9 ACSR to 954 SAC from the Auld Substation extending east and south on Briggs Road and to Benton Road for approximately 1.6 miles. Pole replacements are not currently anticipated but may be required as part of the final engineering on the project (SCE, 2015).

Objectives

- Serve long-term peak electrical demand requirements in the electrical needs area, which includes portions of unincorporated Riverside County and the cities of Menifee, Wildomar, Murrieta, and Temecula, served by the Valley-Sun City, Valley-Auld, and Valley-Auld-Triton 115-kV subtransmission lines: *Meets objective.*
- Enhance electrical system reliability and operational flexibility: *Meets objective.*
- Meet the proposed Project needs while minimizing environmental impacts: *Partially meets objective (slightly reduced aesthetic impact from the proposed Project; but under this alternative there would also be the potential for a significant impact to cultural resources).*
- Design and construct the proposed Project in conformance with SCE's current engineering, design, and construction standards for substation, transmission, subtransmission, and distribution system projects: *Meets objective.*

Impact Analysis by Discipline

Aesthetics

Environmental Setting. Alternative 1 would pass through landscapes common with, and similar to, the proposed Project including rural residential areas; suburban residential developments; and open, undeveloped landscapes. An in-depth visual analysis of Alternative 1 is provided by KOP 10 (see below),

which is located on eastbound Scott Road. Scott Road is the primary public roadway paralleled by the alternative once Alternative 1 diverges from the route common with the proposed Project. Additional analysis is provided for portions of this alternative farther west along Scott Road as well as the north-south segment along Menifee Road.

Figure D-2a presents a view to the east along Scott Road, just east of El Centro Lane and approximately 0.58 mile west of Leon Road (KOP 10 – Eastbound Scott Road). The image captures a portion of the open, rural residential landscape north of Scott Road in the Paloma Valley. Intermediate ridges border the valley floor and the imposing angular form of Mount San Jacinto and the San Jacinto Mountains provide a backdrop of visual interest. Also visible is an existing wood-pole utility line along the south side of Scott Road.

Visual quality along this portion of Scott Road is moderate to high, owing substantially to the open and unobstructed, panoramic views of surrounding ridges and distant mountains. Viewer concern is rated high as frequent travelers on Scott Road and adjacent residents (south side of Scott Road) anticipate the open, panoramic views and would consider any introduction of view impairment of landscape features an adverse visual change. Given the open and unobstructed sightlines and position of the Alternative 1 route within the primary cone of vision of both eastbound and westbound travel directions, travelers on Scott Road and adjacent residents would be afforded extended viewing durations of Alternative 1, and overall viewer exposure would be rated high. For viewers in the vicinity of KOP 10, combining the equally weighted moderate to high visual quality, high viewer concern, and high viewer exposure results in an overall rating of high for visual sensitivity of the visual setting and viewing characteristics.

Environmental Impacts. Figure D-2b presents a visual simulation of the addition of a new wood-pole subtransmission line along the north side of Scott Road. The new poles would appear somewhat similar, though taller compared to the existing wood-pole distribution line along the south side of Scott Road. Most importantly, the new structures and conductors would substantially impair the open, panoramic views to the north of Scott Road, resulting in substantial visual obstruction (view blockage) of Mount San Jacinto, the San Jacinto Mountains, intermediate ridgelines, valley floor, and sky. Also, substantial skylining would occur that would exacerbate structural prominence. This portion of Alternative 1 would cause moderate to high visual contrast and would appear co-dominant relative to the scale of the existing landscape features. The visually prominent structures would attract the attention of the casual observer, and view blockage of the higher value landscape features described above would be moderate to high. The overall visual change would be moderate to high, and in the context of the existing landscape's high visual sensitivity, the resulting visual impact would be significant but mitigable (Class II).

Farther west on Scott Road, Alternative 1 is proposed to cross to the south side of Scott Road where the landscape transitions to a suburban residential character (see Figure D-3). As shown in Figure D-3, this western portion of Scott Road (between Menifee Road and Lindenberger Road) does not have any noticeable aboveground electric utilities, only the periodic street lights. Immediately to the west along Menifee Road and Scott Road beyond, however, there are numerous subtransmission and distribution poles. Given the nearby presence of similar structural elements and the absence of panoramic view corridors, the resulting visual impact along this portion of the Alternative 1 Scott Road segment would be adverse but less than significant (Class III).

Similarly, once Alternative 1 turns south along Menifee Road it would replace or be collocated with existing subtransmission facilities as it passes through a residential development and continues south through open, undeveloped lands (see Figure D-4). As shown in Figure D-4 (viewed from Mussa Lane to the west of Alternative 1), after exiting the residential subdivision, an existing wood-pole subtransmission line in the center of the image indicates the north-south route of Alternative 1 through

This image presents the **Existing View** to the east and northeast from **KOP 10** on eastbound Scott Road, just east of El Centro Lane. This view captures a portion of the open, rural residential landscape north of Scott Road. This view also includes the existing wood-pole utility line along the south side of Scott Road. Landscape views to the north through east are open and unobstructed, encompassing the flat valley floor, intermediate ridges and hills, and the prominent, angular form Mount San Jacinto.	**KOP 10** **Scott Road - Alternative 1** **Existing View**	**Valley South Subtransmission Project** **Environmental Impact Report** **Aesthetics** **Figure D-2a**

This image presents a **Visual Simulation** of **Alternative 1** from **KOP 10** on eastbound Scott Road, just east of El Centro Lane. This simulation illustrates the introduction of a wood-pole subtransmission line along the north side of Scott Road. The new poles would appear somewhat similar to the existing utility poles on the south side of the road though noticeably taller. The new line would substantially impair the open views to the north and toward Mt. San Jacinto from Scott Road and adjacent residences.	**KOP 10** **Scott Road - Alternative 1** **Visual Simulation**	**Valley South Subtransmission Project** **Environmental Impact Report** **Aesthetics** **Figure D-2b**

This image presents the **Existing View** to the east-southeast from **Scott Road at Menifee Road**. This view captures a portion of the suburban residential character that is becoming more prevalent in the area. As shown in the image, this portion of Scott Road (between Menifee Road and Lindenberger Road) does not have any noticeable aboveground electric utilities, only the periodic street lights. **Alternative 1** would be situated along the south side of Scott Road before turning south along the east side of Menifee Road.

Additional Viewpoint A
Scott Road at Menifee Road

Existing View

Valley South Subtransmission Project
Environmental Impact Report
Aesthetics
Figure D-3

This image presents the **Existing View** to the east from **Mussa Lane**, just east of Whitewood Road. This view captures a portion of the undeveloped lands between Whitewood Road/Menifee Road on the west and Leon Road on the east. Views of the ridges and mountains to the east from Mussa Lane and nearby residences are generally open and panoramic The existing wood-pole line in the center of the image indicates the route of **Alternative 1** though the new poles would appear slightly taller and more numerous.

Additional Viewpoint B
Mussa Lane

Existing View

Valley South Subtransmission Project
Environmental Impact Report
Aesthetics
Figure D-4

the undeveloped lands between Whitewood Road/Menifee Road on the west and Leon Road on the east. Alternative 1 would replace the existing wood poles with slightly taller wood poles (approximately 10 feet taller), though the new poles would be more numerous. Given the existing structural context within which Alternative 1 would be placed, the resulting visual impact of this Alternative 1 segment would be adverse but less than significant (Class III).

The overall visual change from the Alternative 1 route would be moderate to high, and in the context of the existing landscape's High visual sensitivity, the resulting visual impact would be significant but mitigable (Class II) under Impact AES-6. Mitigation Measures AES-6 (*Treat Structure Surfaces)* is recommended for the proposed Project to reduce visual impacts. However, additional mitigation is required to reduce Alternative 1's visual impact to a level that would be less than significant (Class II); as such, Mitigation Measure AES-7 (Relocate Subtransmission Line Along Scott Road) is recommended for Alternative 1.

AES-7 Relocate Subtransmission Line Along Scott Road. SCE shall relocate the Alternative 1 alignment to the south side of Scott Road and incorporate the existing distribution line as an underbuild on the Alternative 1 wood poles.

Agricultural resources

Environmental Setting. The environmental setting for Agricultural Resources under Alternative 1 is similar to that of the proposed Project. This alternative route includes segments along Scott Rd, Menifee Rd, and Clinton Keith Rd that would traverse Farmland of Local Importance, as designated by the DOC, as well as designations of Urban and Built-Up Land, Grazing Land, and Other Land.

Environmental Impacts. With the exception of the re-routed portions of the substransmission line under this alternative, the construction, operation, and maintenance activities for Alternative 1 would be the same as described for the proposed Project. Although the alternative reroute would occur across designated Farmland of Local Importance, this portion of the substransmission line would be located within an existing street ROW. As such, the conversion of Farmland to a non-agricultural use (Impact AG-1) would be adverse, but not significant (Class III). Therefore, the impacts of Alternative 1 on Farmland would be the same as the proposed Project.

Interference with agricultural operations resulting from construction or maintenance activities of Alternative 1 would be similar to the proposed Project (Impact AG-2). The presence and use of heavy equipment, including road graders, dozers, excavators, and trucks, could interfere with agricultural operations by damaging crops or soil, impeding access to certain fields or plots of land, obstructing farm vehicles, or potentially disrupting drainage and irrigation systems. Consequently, implementation of Mitigation Measure AG-1 (*Coordinate with Agricultural Landowners*) is also recommended for Alternative 1 to ensure that the impacts would be mitigated to a less-than-significant level (Class II). Similarly, Mitigation Measure AG-1 is recommended for Alternative 1 to reduce potential disruptions to land under agricultural preserves. With implementation of this measure, impacts to agricultural preserves would be less than significant (Class II).

Air Quality

Environmental Setting. The air quality environmental setting of Alternative 1 is essentially identical to that of the proposed Project. This alternative route traverses through the same air quality jurisdiction, the South Coast Air Quality Management District (SCAQMD), and remains wholly within the South Coast Air Basin. The only difference would be the number of sensitive receptors that would be located adjacent to the construction route.

Environmental Impacts. The operating emissions for all Project alternatives are similar to those of the proposed Project and would consist of annual inspection activities that would not have the potential for significant air quality impacts, and are not discussed further. The following discussion identifies the construction impacts for each of the alternatives, which are based on factors such as tower/pole number, transmission route length, whether underground construction is required, and the unpaved road travel distance to the tower/pole and other construction sites for each alternative.

Alternative 1 would not change the Project's conformance with applicable air quality plans (Impact AQ-1 – Class III), nor would it substantially change the maximum daily or total project construction emissions. Emissions would remain under a magnitude that could cause or substantially contribute to air quality standard violations, and impacts would be less than significant (Impact AQ-2 – Class III). Alternative 1 would have similar construction activity intensity as the proposed Project, and therefore would have a similar potential for significant unmitigated PM10 emissions (Impact A-3 - Class II) as well as the same worst-case distances to sensitive receptors (Impact AQ-4 - Class II). As described for the proposed Project, those impacts can be mitigated to a less than significant level using Mitigation Measure AQ-1 (*Fugitive Dust Control*).

Alternative 1 would not substantially increase the total Project diesel particulate matter (DPM) emissions that are the main concern for air toxic contaminant health risk (Impact AQ-5 – Class III), nor would it substantially increase the fugitive dust emissions during construction after implementation of Mitigation Measure AQ-1 (Impact AQ-6 – Class II). The mitigated potential for Valley Fever exposure would be low and the Valley Fever incidence impacts of the Project would be less than significant after mitigation (i.e., Mitigation Measure AQ-1). Further, Alternative 1 would not significantly change the type or strength of odors produced during construction, or significantly increase the number of persons that would be exposed to these odors; therefore, the odor impacts would be less than significant, which is the same as the proposed Project (Impact AQ-7 – Class III).

Biological Resources

Environmental Setting. The environmental setting for biological resources for Alternative 1 is similar to that of the proposed Project. This alternative however would traverse a larger amount of natural and less-developed lands as well as a large vernal pool complex at the corner of Scott and Menifee Roads. A large freshwater marsh and associated riparian habitat, with known occurrences of listed bird species (i.e., least Bell's vireo), is present within the southern portion of this alternative near the intersection of Los Alamos and Briggs Roads. Alternative 1 could also impact larger amounts of coastal sage scrub habitat which supports known populations of the listed coastal California gnatcatcher. The potential for some listed and rare plant species would be greater along the alternative alignment when compared to the proposed Project. The impact discussion below covers all the impacts addressed for the proposed Project (Impacts BIO-1 to BIO-20).

Environmental Impacts. Impacts from construction and operation of Alternative 1 would occur to a similar degree as for the proposed Project. Direct and indirect impacts to riparian habitats and sensitive communities would occur as described for the proposed Project and would take place primarily during VSSP construction. These effects may be temporary or permanent. Permanent impacts would preclude most natural vegetation and habitat function throughout the life of the VSSP, or longer. Examples of permanent impacts are removal of vegetation for permanent roads and access areas at each structure.

Temporary impacts to vegetation and habitat would occur during construction, where vegetation is removed for temporary work areas, without long-term land use conversion, so that vegetation may

return to a more natural condition or may be actively revegetated or enhanced. Temporary impacts include vegetation removal for staging areas or temporary access roads. However, depending on the nature of disturbance and local climate, characterization of permanent and temporary impacts must reflect slow vegetation recovery rates. Operational and maintenance impacts would be similar to those currently underway for the existing poles and subtransmission line and occur during routine inspection and maintenance of the line. These impacts could include trampling or crushing of vegetation by vehicular or foot traffic, alterations in topography and hydrology, increased erosion and sedimentation, and the introduction of non-native, invasive plants due to increased human presence on foot or equipment.

Impacts from construction and operation of Alternative 1 to listed and common wildlife would be the same as for the proposed Project, and would require mitigation (see below) to reduce adverse effects to a less-than-significant level (Class II). Direct impacts to wildlife, if present, would include mortality from trampling or crushing, ground-disturbing activities associated with removal/installation of structures, creation of access/spur roads, preparation of staging areas, and increased human presence.

Indirect impacts would include increased noise levels from heavy equipment, human disturbance, and exposure to fugitive dust, the spread of noxious weeds, and disruption of breeding or foraging activity due to routine inspection and maintenance activities. Weed abatement through herbicide application or mechanized tools could also affect nesting. Operational impacts include the risk of mortality by vehicles disturbance related to routine maintenance activities, and vegetation management activities.

Implementation of mitigation measures such as: Mitigation Measures BIO-1 (*Implement a Worker Environmental Education Program*), BIO-2 (*Implement Best Management Practices*), BIO-3 (*Compensation for Permanent Impacts to Sensitive Vegetation Communities*), BIO-4 (*Develop a Habitat Restoration and Monitoring Plan*), and BIO-5 (*Implement Biological Construction Monitoring*) would minimize impacts to sensitive vegetation communities and wildlife to the extent possible. These measures include worker education describing the sensitive biological resources that occur on the VSSP site, implementation of BMPs to minimize and avoid impacts, development of a Habitat Restoration and Monitoring Plan, and conducting biological monitoring during ground disturbing and other construction related activities.

Specific mitigation measures have been developed to address impacts to specific species such as least Bell's vireo (Mitigation Measure BIO-8 [*Conduct Protocol Surveys for Least Bell's Vireo and Southwestern Willow Flycatcher and Avoid Occupied Habitat*]), Stephen's kangaroo rat (Mitigation Measure BIO-15 [*Complete Focused Pre-construction Stephens' Kangaroo Rat (SLR) Burrow/Precinct Surveys and Implement Avoidance Measures*] and Mitigation Measure BIO-16 [*Compensate for Permanent Impacts to Stephens' Kangaroo Rat*]), and coastal California gnatcatcher (Mitigation Measure BIO-9 [*Conduct Protocol Surveys for Coastal California Gnatcatcher and Avoid Occupied Habitat*]) that require focused pre-construction surveys and compensation for impacts to suitable habitat.

Construction activities under Alternative 1 would be identical to the proposed Project, with only a variation in the acreage of specific vegetation communities that would be affected by the altered construction route.

Cultural and Paleontological Resources

Environmental Setting. Alternative 1 (Subtransmission Line Route Alternative Along Menifee Road) follows the same route as the proposed Project for the first eight miles, then travels west along Scott

Road for approximately two miles to Menifee Road. The Alternative continues south along Menifee Road, then travels east on Clinton Keith Road to Briggs Road. The Alternative continues north on Briggs Road, then west on Benton Road to where it meets up with the proposed Project alignment at Leon Road. The cultural background is the same as for the proposed Project.

According to records search information obtained from the Eastern Information Center and preliminary pedestrian surveys of Alternative 1, there are 39 known cultural resources within the Alternative 1 alignment. Of these known resources, 24 are eligible or assumed eligible for listing on the CRHR (Table D-2). In addition, Native American consultation efforts have identified two tribally sensitive resources within Alternative 1 that are important to the Pechanga tribe (Double Buttes and Golden City).

Table D-2. Cultural Resources within or Adjacent to Alternative 1

Resource	Description	CRHR Eligibility
CA-RIV-1074	Prehistoric habitation site that contains numerous bedrock milling features, fire-affected rock, midden, rock shelters, and artifacts	Eligible
CA-RIV 1175	Multi-component prehistoric bedrock milling & associated artifacts and historic-era refuse scatter	Ineligible
CA-RIV 3839	Prehistoric bedrock milling station	Eligible
CA-RIV 4012[1] /CA-RIV-5202	Historical San Jacinto and Pleasant Valley Company Canal	Eligible
CA-RIV 7064[1]	Prehistoric bedrock milling station	Contributing District Resource
CA-RIV 7065[1]	Prehistoric bedrock milling station	Contributing District Resource
CA-RIV-7400	Prehistoric bedrock milling station	Eligible
CA-RIV-8082	Historic-era refuse scatter	Ineligible
CA-RIV-8083	Prehistoric bedrock milling station	Eligible
CA-RIV 8196	San Jacinto Valley Railroad	Eligible
CA-RIV-8749	Prehistoric bedrock milling station & lithic scatter	Eligible
CA-RIV 10889	Prehistoric bedrock milling station	Eligible as part of a larger archaeological complex
CA-RIV-10890	Historic-era refuse scatter	Ineligible
CA-RIV 10891	Prehistoric bedrock milling station	Eligible as part of a larger archaeological complex
CA-RIV-10892	Prehistoric lithic scatter	Ineligible
CA-RIV-10893	Prehistoric lithic scatter	Ineligible
CA-RIV 10894	Prehistoric bedrock milling station	Eligible as part of a larger archaeological complex
CA-RIV-11574	Multi-component prehistoric bedrock station and historic-era refuse scatter	Ineligible
CA-RIV-11576	Prehistoric bedrock milling station	Ineligible
CA-RIV 11743	Prehistoric bedrock milling station & lithic scatter	Eligible
CA-RIV 11744	Prehistoric lithic scatter	Eligible
P 33 11250[1]	Prehistoric bedrock milling station	Contributing District Resource
P 33 11254[1]	Prehistoric bedrock milling station	Contributing District Resource
P-33-14370	Informally defined prehistoric archaeological district	Eligible
P 33 13871	Winchester Road	Ineligible
P 33 16975[1]	Prehistoric bedrock milling station	Contributing District

Table D-2. Cultural Resources within or Adjacent to Alternative 1		
Resource	**Description**	**CRHR Eligibility**
		Resource
P-33-16989	Prehistoric groundstone and ltihic scatter	Eligible
P-33-16990	Prehistoric bedrock milling station	Eligible
P 33 21021[1]	Multi-component prehistoric bedrock station, foundations, and historic-era refuse scatter	Contributing District Resource
P 33 21023	Single family residence	Ineligible
P 33 21030	Isolated artifact – quartz debitage	Ineligible
P 33 21031	Isolated artifact – metal gas can	Ineligible
P 33 21032	Isolated artifact – glass fragment	Ineligible
P-33-23913	Isolated artifact – granitic metate fragment	Ineligible
P 33 23914	Isolated artifact – granitic metate fragment	Ineligible
P-33-23953	Los Alamos Road	Ineligible
VSSP-P-001[1]	Prehistoric bedrock milling station	Potentially Contributing District Resource
VSSP-P-002	Prehistoric bedrock milling station	Eligible

Note:
[1]Within boundary of proposed archaeological district P-33-14370

Environmental Impacts. Alternative 1 is approximately four miles longer than the proposed Project and contains more resources than the proposed Project; however, impacts to cultural resources are expected to be similar. Twenty-four CRHR-eligible cultural resources and two known tribally sensitive resources important to the Pechanga tribe are located within Alternative 1. While these resources are located within the direct area of impact of Alternative 1 (Impact CR-1), all but one resource can be avoided entirely and will not experience any direct impacts with the implementation of Mitigation Measures CR-1 (*Avoid Environmentally Sensitive Areas*), CR-2 (*Develop Cultural Resource Management Plan [CRMP]*), and CR-3 (*Train Construction Personnel*). For this resource, procedures would be identified in a CRMP (Mitigation Measure CR-2 [*Develop Cultural Resource Management Plan]*) that would require preparation of a research design and data recovery treatment plan to reduce potentially significant impacts. Data recovery would likely consist of excavation and/or surface artifact collection, and site documentation. With the implementation of these mitigation measures, this impact would be reduced to a less-than-significant level (Class II).

Similar to the proposed Project, unknown buried resources (prehistoric and historical archaeological sites) could be inadvertently unearthed during ground-disturbing activities associated with construction of Alternative 1 (Impact CR-2). Direct impacts to potentially significant cultural resources without mitigation would be a significant impact. The procedures and provisions in Mitigation Measures CR-4 (*Conduct Construction Monitoring*) and CR-7 (*Treat Previously Unidentified Cultural Resources*) address inadvertent discoveries and provide detail on how these activities would be implemented to reduce impacts. However, similar to the proposed Project, human remains have been discovered near the Project area and under this alternative there would be the same potential to inadvertently unearth human remains. Therefore, this alternative would also result in the potential for significant and unavoidable impacts to human remains (Class I).

Alternative 1 is immediately underlain by Triassic metamorphic rock, Cretaceous plutonic igneous units, the Pleistocene Pauba Formation, Very Old and Older Quaternary alluvial fan and channel deposits, and younger surficial deposits of Late Pleistocene to Holocene age. On the basis of a museum records search, literature review, and field survey, a sensitivity ranking was assigned to each of the geologic units underlying the proposed Project, as shown in Table C.6-3 (see Section C.6). In total, Alternative 1 is

underlain by 211 acres determined to have no paleontological sensitivity; 10 acres of no to low paleontological sensitivity; 35 acres determined to have a low to high paleontological sensitivity, dependent on depth; and 441 acres of high (High A and High B) paleontological sensitivity. Portions of Alternative 1 would be subject to construction-related ground disturbances, including grading and excavation activities, and the potential to discover paleontological resources during Project development ranges from very low to high based on the location of ground-disturbing activities. As described in Section C.6.4.2, construction-related ground disturbances could result in adverse impacts to paleontological resources, including disturbance, damage, or destruction of a significant fossil or unique geologic feature associated with a paleontological site, which results in the loss of scientific context of fossil remains.

Given the general conclusions described above, development of portions of Alternative 1 would have a high potential to result in adverse impacts to paleontological resources (Impact CR-3). These direct and indirect adverse impacts would be reduced with implementation of Mitigation Measures CR-9 (*Inventory and Evaluate Paleontological Resources*), CR-10 (*Develop Paleontological Resource Mitigation and Monitoring Plan*), CR-11 (*Train Construction Personnel*), CR-12 (*Monitor Construction for Paleontological Resources*), and CR-13 (*Final Reporting and Curation*). In combination, these measures, which are presented in Section C.6.4.2, would effectively mitigate adverse impacts to these areas to less-than-significant levels (Class II) through the recovery, identification, and curation of previously unrecovered fossils.

Operation and maintenance of Alternative 1 would not involve extensive ground disturbance and would not substantially increase erosion. Indirect impacts related to the operation and maintenance of Alternative 1 include inadvertent or malicious vandalism, unauthorized collection of cultural resources on the surface of sites, and the introduction of new intrusive visual elements. The CPUC, as the lead agency, has initiated consultation with appropriate Native American groups regarding Project impacts to Double Buttes and Golden City. The ongoing consultation will determine whether the long-term presence of transmission lines and towers during the operation of the Project would result in indirect visual impacts to these tribally sensitive resources. Any impacts to these areas shall be reduced to a less-than-significant level (Class II) through the implementation of Mitigation Measures CR-5 (*Native American Consultation*) and CR-6 (*Reduce Adverse Visual Impacts*).

Impacts to paleontological resources related to the operation and maintenance of this alternative's subtransmission lines would not involve extensive ground disturbance and would not substantially increase erosion. Indirect impacts related to the operation and maintenance of Alternative 1 would be similar to the proposed Project, and would include increased exposure of paleontological resources and unlawful collecting of fossils by Project personnel as a result of increased access to the area. These indirect impacts are assumed to be low to negligible and can be reduced through the implementation of Mitigation Measure CR-3 (*Train Construction Personnel*). Therefore, the potential to disturb paleontological resources as the result of operation and maintenance would be less than significant with mitigation (Class II). There would be no adverse impact on significant non-renewable fossil resources as a result of operation or maintenance under Alternative 1.

Geology and Soils

Environmental Setting. Alternative 1 diverges to the west of the proposed Project between Scott Road and Benton Road. The portions of Segments 1 and 2 for Alternative 1 that are coincident with the proposed Project have identical setting as the proposed Project (as presented in Section C.7); therefore

the remainder of the environmental setting discussion only describes Alternative 1 where it diverges from the proposed Project. The geologic and seismic setting along the rerouted portion of Alternative 1 is nearly the same as the coincident portion of the proposed Project.

Alternative 1 crosses similar geologic units as the proposed Project; however, it crosses a larger amount of granitic and metamorphic rock as shown in Figure C.7-1 (see Section C.7, Geology and Soils). Alternative 1 crosses flat to gently sloping alluvial fans and valley floors and adjacent to and through gently sloping hills. There are no known mapped landslides along the gently sloping hills crossed by Alternative 1 (CGS, 2011). The soil units underlying the rerouted portions of Alternative 1 are primarily the same as for the proposed Project, with an additional 12 soil associations being present under this alignment with similar potential for expansion, corrosion, and erosion. A summary of the significant characteristics of these 12 additional soils associations, listed in alphabetical not geographic order, are presented in Table D-3.

The seismic setting of Alternative 1 is the same as the proposed Project with the following exception: the westernmost portions of Alternative 1 are located approximately 2 miles closer to the Elsinore fault zone than the corresponding portions of the proposed Project which leads to slightly higher peak ground accelerations along this section (i.e., 0.5 to 0.6g versus 0.5g along the corresponding portion of the proposed Project).

Environmental Impacts. Impacts from construction and operation of Alternative 1 would be the same as for the proposed Project. As with the proposed Project, Alternative 1 is located on flat to gently sloping alluvial fans and valley floor and along and across gently sloping hills, and thus has no potential for construction triggered landslides, earthquake induced landslides, or future slope failures (No Impact). Alternative 1 crosses soils with potential of erosion from both wind and water (sheet and rill erosion) ranging from low to high. The longer length of Alternative 1 results in a slightly increased potential for construction activities to loosen soil and trigger or accelerate erosion (Impact GEO-1); however compliance with NPDES regulations and SWPPP plans would reduce the potential for construction triggered erosion to less than significant with no mitigation (Class III).

Alternative 1 does not cross any known active or Alquist-Priolo zoned faults; however, where Segment 2 of Alterative 1 is coincident with the proposed Project it does cross the potentially active Murrieta Hot Springs fault. Reconductoring of the existing poles along Segment 2 would not alter the existing baseline conditions or add instability to these poles; therefore there would be no impact related to fault rupture along Alternative 1 (No Impact).

In the event of a moderate to large earthquake in the proposed Project area, Alternative 1 would be subject to strong ground shaking (Impact GEO-2) and seismically-induced ground failures such as liquefaction (Impact GEO-3) that could damage project structures. New Project components (poles, vaults, and underground conduit) would be designed to comply with CPUC GO95 and GO128; the above-ground poles would be designed to meet wind loading requirements which exceed seismic loading criteria, reducing or eliminating the risk that poles would fail during ground shaking. Design of proposed Project components based on these regulations would reduce the potential for damage to project components from strong seismic ground shaking (Impact GEO-2) to less than significant with no mitigation (Class III).

Table D-3. Additional Soil Units Along the Alternative 1 Alignment

Map Unit/ID	Soil Name	Location	Expansion Potential (Shrink-Swell)	Risk of Corrosion		Erosion Class	
				Uncoated Steel	Concrete	Wind	Water
AyF	Auld cobbly clay, 8 to 50% slopes	Segment 1	Moderate to High	High	Low	Moderate	Low to Moderate
CbD2	Cajalco rocky fine sandy loam, 5 to 15% slopes	Segments1 and 2	Low to Moderate	Low	Low	Moderate to High	Moderate to High
ChF2	Cieneba sandy loam, 15 to 50% slopes, eroded	Segment 1	Low	Low	Moderate	Moderate to High	Moderate
EcD2	Escondido fine sandy loam, 8 to 15% slopes, eroded	Segment 1	Low	Low	Low	Moderate to High	Moderate to High
HnC	Honcut sandy loam, 2 to 8% slopes	Segment 1	Low	Moderate	Moderate	Moderate to High	Moderate
HuC2	Honcut loam, 2 to 8% slopes, eroded	Segment 1	Low	Moderate	Low	Moderate	High
LoF2	Lodo gravelly loam, 15 to 50% slopes, eroded	Segment 2	Moderate	Low	Low	Low	Low
LpE2	Lodo rocky loam, 8 to 25% slopes, eroded	Segment 1	Moderate	Low	Low	Low	Low
RtF	Rockland	Segment 1	-	-	-	-	-
VeC2	Vallecitos loam, thick solum variant, 2 to 8% slopes, eroded	Segment 2	Low to High	Moderate	Low	Low to Moderate	Moderate to High
WyC2	Wyman loam, 2 to 8% slopes, eroded	Segments 1 and 2	Low to Moderate	High	Low	Moderate	Moderate
YbC	Yokohl loam, 2 to 8% slopes	Segment 1	Low to High	High	Low	Low to Moderate	Moderate to High

Sources: NRCS SSURGO Soil Survey GIS and Tabular Data Western Riverside Area, California, (NRCS,2014).

Alternative 1 crosses alluvial valley and creek sediments that have been mapped as having moderate to very high liquefaction susceptibility by Riverside County. New Project structures with foundations, such as tubular steel poles (TSPs), could potentially suffer damage in the event of earthquake triggered liquefaction (Impact GEO-3). Compliance with CPUC GO95 and GO128 and implementation of Mitigation Measure GEO-1 (*Investigations for Liquefaction*) would reduce the potential for damage to Project structures from liquefaction to less than significant (Class II).

As with the proposed Project, Alternative 1 is underlain by soil associations with shrink-swell (expansion) potential ranging from low to high and with corrosion potential ranging from low to high for both uncoated steel and concrete. Soils with moderate to high shrink-swell (expansion) potential are located intermittently along the Alternative 1 alignment and could cause damage or distress to new structures with foundations and other new buried structures (Impact GEO-4). Soil associations with moderate to high potential of corrosion to steel or concrete are also located intermittently along the alignment and could, respectively, cause damage to direct buried light weight steel poles and structures with concrete foundations (Impact GEO-4). This impact would be reduced to a less-than-significant level with implementation of Mitigation Measure GEO-2 (*Assess Soils Characteristics*) (Class II).

Greenhouse Gas Emissions

Environmental Setting. The GHG environmental setting of Alternative 1 is identical to that of the proposed Project. GHG emissions for VSSP would include both direct and indirect emissions that occur as a result of the following Project actions:

- Direct construction-related GHG emissions would be generated from construction equipment and vehicles, while direct operational GHG emissions would include a small amount of GHG emissions generated from O&M activities and from leaks of SF6 from the new substation electrical equipment.
- Indirect GHG emissions would be minor, as there is no anticipated electricity use for the Project and water use would primarily be in the form of the temporary use of water for fugitive dust control during construction. This Project would also reduce GHG emissions through the recycling of excavated asphalt and concrete. Given that the purpose of the Project is to improve local grid reliability and efficiency, the Project should reduce electricity generation needs.

Environmental Impacts. The GHG emissions for all Project alternatives are similar to those of the proposed Project in magnitude after the construction emissions are amortized over the Project life. The construction GHG emissions would change somewhat for each of the alternatives based on factors such as tower/pole number, transmission route length, and whether underground construction is required.

The GHG emissions from Alternative 1, although somewhat higher than the proposed Project, would remain well below GHG emissions significance criteria; therefore, the impacts would be less than significant (Impact GHG-1 – Class III). Further, Alternative 1 would have similar characteristics as the proposed Project and would meet the objectives of the Project; as such, this alternative would conform to all GHG emissions reduction policies, plans, goals, and regulations (Impact GHG-2 – Class III).

Hazards and Hazardous Materials

Environmental Setting. Alternative 1 diverges to the west of the proposed Project between Scott Road and Benton Road. The portions of Segments 1 and 2 for Alternative 1 that are coincident with the proposed Project have identical setting as the proposed Project (as presented in Section C.9); therefore the remainder of the environmental setting discussion only describes Alternative 1 where it diverges from the proposed Project. The hazards and hazardous materials setting along the rerouted portion of

Alternative 1 is nearly the same as the coincident portion of the proposed Project. The rerouted portion of Alternative 1 passes through and is adjacent to farm land, rural residential, medium density residential, and undeveloped grassland. Hazardous material use, storage, and disposal during construction and operation for Alternative 1 would be the same as for the proposed Project.

The EDR database obtained by SCE in 2014 included the Alternative 1 alignment (SCE, 2014) and mapped an additional 9 sites within the rerouted portion of Alternative 1. SCE's review of the EDR database revealed no active sites with known environmental contamination within the 1 mile corridor along the rerouted portions of Alternative 1 Segments 1 or 2 (SCE, 2014). Further review of the database indicated that there are two sites that use, store, and dispose of large quantities of hazardous materials located within a half mile of Segment 2 of Alternative 1. These two sites are also listed as within 0.5 mile of the proposed Project. Although potential for contamination at these sites is low and pole replacements are not currently anticipated along Alternative 1 Segment 2, these sites are still listed as pole replacements and may be required as part of the final engineering design; there is a potential that unknown contamination may have occurred at these sites, which are listed below:

- EDR ID #26, Abbott Cardiovascular Systems Inc. – 30590 Cochise Cir, Murrieta, CA. This site is listed as a Resources Conservation and Recovery Act – Large Quantity Generator (RCRA-LQG) disposing of waste such as spent non-halogenated and halogenated solvents, corrosive waste, chloroform, chromium, and ignitable waste. Located approximately 1000 feet south of Segment 2 of Alternative 1.
- EDR ID #26, Exotic Electro-Optics/Exotic Materials – 36570 Briggs Drive, Murrieta, CA. This site is listed as a RCRA-LQG disposing of waste such as spent non-halogenated and halogenated solvents, corrosive waste, arsenic, selenium, chromium, and ignitable waste. Located approximately 140 feet south of Segment 2 for Alternative 1.

No GeoTracker site listings of concern were identified within 1,000 feet of ground disturbance locations along Alternative 1. Groundwater in the alluvial and creek sediments along the alignment range in depth from 5 feet to approximately 40 feet below ground surface.

No new airports or helipads are located along the rerouted portion of Alternative 1. No new schools or other sensitive receptors were identified along the rerouted portion of Alternative 1. The rerouted portion of Alternative 1 would be within the County of Riverside and City of Murrieta for emergency services, as described for the proposed Project. Alternative 1 traverses areas mapped as Very High, High, and Moderate Fire Hazard Severity Zones by CAL FIRE (CAL FIRE, 2007a and 2007b) and would be under the State (CAL FIRE) and local (Riverside County Fire Department and Murrieta Fire Department) fire protection jurisdictions.

Environmental Impacts. Impacts from construction and operation of Alternative 1 would be the same as for the proposed Project. As with the proposed Project, during construction activities hazardous materials vehicle fuels, oils, and other vehicle maintenance fluids would be used and stored in construction staging areas. During operations gasoline, lubricants, and solvents associated with maintenance vehicles would be used, and additional on-site mineral-oil would be used at the substations. Treated wood waste could also be generated during removal of chemically treated wooden poles. This hazardous materials use and storage results in a potential for soil or groundwater contamination from spills or leaks (Impact HAZ-1). Impacts related to adverse effects from hazardous material use, storage, and disposal would be reduced to a less-than-significant level (Class III) with compliance with applicable laws, regulations, SCE guidelines, and the required Project-specific SWPPP and WEAP.

As with the proposed Project, no known contaminated sites are located along the Alternative 1 alignment, resulting in no potential to encounter known contamination. Although no known

contaminated sites are located along Alternative 1, it does pass through a light industrial area in the vicinity of Benton Road where unknown soil or groundwater contamination may have occurred and through and adjacent to active and historic agricultural land where there is a potential for residual pesticide and herbicide soil contamination (Impact HAZ-2). Compliance with the Project-specific WEAP, implementation of SCE commitments regarding handling, treatment, and disposal of any identified contaminated soil or groundwater, and implementation of Mitigation Measure HAZ-1 (*Identify Pesticide/Herbicide Contamination*) would reduce potential impacts from unknown soil or groundwater contamination and residual pesticide or herbicide contamination to less than significant (Class II).

The potential to expose students to hazardous materials (Impact HAZ-3) would be identical to the proposed Project and would be reduced to less than significant by use of only low toxicity materials and compliance with all rules, regulations, and SCE protocols (Class III). Aviation hazards related to Alternative 1 at public airports (Impact HAZ-4) or at private airstrips or heliports (Impact HAZ-5) would be reduced to less than significant by compliance with FAA regulations and any FAA requested project redesign (Class III).

As with the proposed Project, potential impacts related to impairment or interference with emergency response or evacuation plans (Impact HAZ-6) would be less than significant (Class III) with implementation of APM TRA-1 and Mitigation Measure TRA-1 (*Construction Traffic Control Plan*). Portions of Alternative 1 are located in areas classified as Moderate to Very High Fire Hazard Severity Zones by CALFIRE and Project construction or operation could potentially trigger wildfires (Impact HAZ-8). However compliance with SCE standard fire prevention protocols, CPUC GO95 and GO166, CPRC Sections 4292 and 4293, and other applicable State and federal laws relevant to fire prevention would reduce the potential for construction or operation of Alternative 1 to trigger wildland fires to less than significant (Class III).

Hydrology and Water Quality

Environmental Setting. The environmental setting for the hydrology and water quality of Alternative 1 is essentially identical to that of the proposed Project. The alternative route crosses both undeveloped land with natural drainage features and urban developments with highly altered drainage systems, such as underground stormwater systems (TRC, 2012). The two Hydrologic Units that contain the Project, including Alternative 1, are subject to the jurisdiction of the Santa Ana Regional Water Quality Control Board (SARWQCB) and the San Diego Regional Water Quality Control Board (SDRWQCB), respectively (SARWQCB, 2008; SDRWQCB, 2011).

As described in Section C.10.1.1, the Project area, including Alternative 1, is governed by two basin plans: (1) the SARWQCB Basin Plan governs water quality for the northern portion of the Project area and identifies beneficial uses for Salt Creek, the San Jacinto River, and Canyon Lake; and (2) the SDRWQCB Basin Plan governs water quality for the southern portion of the Project area and identifies beneficial uses for Lake Skinner, Diamond Valley Lake, Tucalota Creek, and Santa Gertrudis Creek (SARWQCB, 2008; SDRWQCB, 2011). As described for the proposed Project, Alternative 1 is also underlain by the following two groundwater basins: the San Jacinto Groundwater Basin and the Temecula Valley Groundwater Basin (DWR, 2004, 2006). See Section C.10.1 for a detailed discussion of the Project's existing conditions.

Environmental Impacts. Impacts from construction and operation of Alternative 1 would be the same as for the proposed Project. As with the proposed Project, Alternative 1 would comply with applicable laws, regulations, and implementation of BMPs in order to protect water quality. Construction and operation of Alternative 1 would not substantially degrade water quality or violate water quality standards or waste discharge requirements (Impact HYD-1); impacts during construction and operation would be less than significant (Class III).

SCE would not extract any groundwater during construction, but the water required during Project construction (e.g., dust control, soil conditioning, and hydro-seeding) and operation (e.g., washing of insulators and dust suppression) would be met through an agreement with an appropriate water supply agency or district. These water supply districts source water from imported water, groundwater, recycled water, and local surface water, and therefore construction and operation of the Project could indirectly lead to the extraction of groundwater by a water agency or district (Impact HYD-2). Due to the availability of imported water, the relatively short-term period of construction water demand (16 months), and the relatively small amount of water that would be required (up to approximately 110 acre-feet), construction of Alternative 1 is not anticipated to result in a net deficit in aquifer volume or a lowering of the local groundwater table level. Implementation of Mitigation Measure HYD-1 (*Use Non-Potable Water*) is recommended to reduce impacts to groundwater to a less-than-significant level (Class II).

Construction of Alternative 1 would require similar excavation and grading activities as the proposed Project, which may alter the existing drainage pattern in the Project area (Impact HYD-3). However, these alterations would be local (on or near the footprint of the Project components) and dispersed throughout the Project area, and areas of temporary disturbance would be restored as close to pre-construction conditions as feasible or to the conditions agreed upon between SCE and the landowner. Project components, including Alternative 1, may be placed within the 100-year flood hazard zones and could impede or redirect flood flows. However, any detention of flood water would be temporary, and flood water would not be blocked or redirected in a manner that would cause the flood flows to exit the existing floodplain. This impact would be less than significant and no mitigation is required (Class III).

Construction and operation of Alternative 1 could increase the rate or amount of surface runoff through the creation of new impermeable surfaces, the removal of vegetation, or the compaction of soil (Impact HYD-4). However, as described for the proposed Project, this effect would be minor and would not change the overall flood regime of the area or result in a new flood risk for nearby structures or people; impacts would be less than significant and no mitigation is required (Class III). Further, neither the Project nor Alternative 1 includes any housing or habitable structures, and would not expose people or structures to a significant risk of loss, injury, or death involving flooding as a result of the failure of a levee or dam (Impact HYD-5); therefore impacts would be less than significant (Class III).

Land Use and Planning

Environmental Setting. Alternative 1 would avoid land uses identified in Table C.11-1 that are located along the proposed Project route south of Scott Road and north of Benton Road, which include adjacent residences in the City of Menifee and unincorporated Riverside County and nearby schools (i.e., Dorothy McElhinney Middle School, Lisa J. Mails Elementary School, and Susan La Vorgna Elementary School). However, the Alternative 1 route passes through portions of the City of Menifee and the City of Murrieta that would not be traversed by the proposed Project, and would be adjacent to the following land uses:

- Residences north and south of Scott Road;
- Residences east and west of Menifee Road;
- Revival Christian Fellowship Church (29220 Scott Road, Menifee);
- Oak Meadows Elementary School (28600 Poinsettia Street, Murrieta);
- Loma Linda University Medical Center (28062 Baxter Road, Murrieta);
- Murrieta Fire Station No. 4 (28155 Baxter Road, Murrieta); and
- Vista Murrieta High School (28251 Clinton Keith Road, Murrieta).

Environmental Impacts. Impacts to land uses under Alternative 1 would occur to a similar degree as the impacts from the proposed Project. Construction of the Alternative 1 route would cause temporary disturbances to adjacent residences resulting from site-specific access limitations, increased traffic and congestion along construction routes and detour routes, increased dust generation and noise, and changes in the overall visual character of an area due to the presence of construction-related equipment, personnel, and associated activities (Impact LU-1). These temporary construction impacts to residential land uses would be less than significant with implementation of mitigation to control fugitive dust, to ensure access to property, and to provide a Project hotline for addressing other nuisance concerns (Class II). Alternative 1 would also disrupt non-residential land uses by: (1) affecting ingress and egress through temporarily blocked driveways or detours, and (2) creating nuisance impacts from construction noise and dust (Impact LU-2). Temporary construction impacts to non-residential land uses would be less than significant with the implementation of mitigation to minimize nuisance effects (e.g., noise and dust) and to ensure continued property access. Recommended mitigation measures for Impacts LU-1 and LU-2 include: Mitigation Measures LU-1 (*Property Access and Restoration*), LU-2 (*Coordination with School District*), AQ-1 (*Fugitive Dust Control*), NOI-1 (*Construction Work Hours*), and NOI-2 (*Implement Best Management Practices for Construction Noise*). All construction activities under Alternative 1 would be identical to the proposed Project, with only a variation in the specific land uses that would be affected by the altered construction route.

Noise

Environmental Setting. The noise environmental setting for Alternative 1 is similar to the proposed Project, given that the alternative follows much of the proposed Project's route. The Project area is typically rural in nature, with rural residential and commercial land uses, as well as notable transportation corridors (i.e., I-215, SR-74 and SR-79/Winchester Road) and other arterial roadways which contribute to transportation-related noise. The Project area is further characterized by occasional aircraft noise associated with French Valley Airport, Pine Airpark, Perris Valley Airport, and SCE's Menifee Service Center Helipad. Intermittent noise from general residential outdoor activities, such as people talking, landscaping/gardening, domestic animals, etc. also contribute to the ambient noise environment.

Environmental Impacts. Although Alternative 1 would reroute of a portion of the proposed Project, the construction activities, equipment, and construction schedule for this alternative would be similar, if not identical, to the proposed Project. Alternative 1 would be subject to the same local noise standards as the proposed Project (Impact NOI-1), and Mitigation Measure NOI-1 (*Construction Work Hours*) would be recommended to ensure that construction activities occur within each jurisdiction's allowed construction hours, thereby reducing construction impacts to local noise standards to less than significant (Class II). Operational noise from routine maintenance, emergency repairs, or corona discharge would not be anticipated to violate local standards (Impact NOI-2) or disturb sensitive receptors (Impacts NOI-4 and NOI-5), and impacts would be less than significant without mitigation (Class III). Given the proximity of residences and other noise sensitive receptors to the proposed Project and Alternative 1 (Impact NOI-3), construction noise would create a substantial disturbance to sensitive receptors. Mitigation Measure NOI-1 (*Construction Work Hours*) would be implemented to limit the hours in which construction would occur to be consistent with the local noise regulations. Mitigation Measure NOI-2 (*Implement Best Management Practices for Construction Noise*) would be implemented to reduce construction noise levels ensuring that temporary or periodic noise would not substantially disturb sensitive receptors. With incorporation of these measures, this impact would be reduced to a less-than-significant level (Class II).

Similar to the proposed Project, Alternative 1 would not expose construction and O&M personnel to excessive airport-related noise (Impact NOI-6), nor would the alternative cause excessive ground-borne vibration or noise (Impact NOI-7). Under Alternative 1, these impacts would be less than significant without mitigation (Class III).

Recreation

Environmental Setting. The recreational setting for Alternative 1 is similar to the proposed Project, given that the alternative follows much of the proposed Project's route. Any affected recreational resources that are specific to Alternative 1 would be located along the alternative reroute through portions of the City of Menifee and the City of Murrieta. Both the proposed Project and Alternative 1 cross portions of unincorporated Riverside County, which maintains 35 regional parks and four park and recreation districts. No federal parks or State recreation areas are located within a one-mile vicinity of the Project area.

Environmental Impacts. The Alternative 1 route passes through portions of the City of Menifee and the City of Murrieta that would not be traversed by the proposed Project. As with the proposed Project, construction personnel may occasionally utilize parks for lunch, but this would be a short-term temporary occurrence. The existing parks and recreation facilities within the proposed Project area would also serve the Alternative 1 route, and have sufficient capacity to accommodate this potential minor increase in use. Therefore, construction personnel would not cause physical deterioration to existing recreational facilities (Impact REC-1) and the impact would be less than significant (Class III). O&M of Alternative 1 would not introduce new population in the area that would increase the use of any existing neighborhood or regional parks. As with the proposed Project, maintenance personnel who might visit the route from time-to-time may want to occasionally utilize a park for lunch, but this is likely to be infrequent and would not represent a notable increase in user population. Therefore, operation personnel would not cause physical deterioration to existing neighborhood or regional parks (Impact REC-1) and the impact would be less than significant (Class III).

As with the proposed Project, the Alternative 1 route would run parallel to or cross existing trails, Class I Bike Paths and Class II Bike Lanes, and pedestrian sidewalks. In areas where the Alternative 1 route would run parallel to existing trails, Class I Bike Paths and Class II Bike Lanes, and pedestrian sidewalks, it would not block or hinder the flow of bike or trail traffic during construction. However, Alternative 1 could result in temporary interruption in the flow of traffic where the alignment would cross over existing trails, Class I Bike Paths and Class II Bike Lanes, and pedestrian sidewalks during construction installation. Construction activity would have short-term and temporary effects on the flow of bike or trail traffic (Impact REC-2). SCE would implement APM TRA-1 to reduce potential impacts related to Class I Bike Paths, Class II Bike Lanes, pedestrian sidewalks, and trails. With the implementation of APM TRA-1, construction personnel would not cause physical deterioration to existing trails, bike paths, or pedestrian sidewalks, and impacts would be less than significant (Class III). O&M of Alternative 1 would not block or hinder the flow of traffic along existing trails. Subtransmission lines are generally compatible with trails because the components would be located at an elevated height that does not interfere with ground activities such as trail use. Where Alternative 1 would cross over the top of trails, bike paths and lanes, pedestrians and bicyclists would be able to pass between the poles and underneath the circuits. No physical barriers would prevent access and movement along trails, bike paths, and lanes. Thus, O&M would not cause physical deterioration to existing trails, bike paths, or pedestrian sidewalks (Impact REC-2), and impacts would be less than significant (Class III).

As with the proposed Project, construction of the Alternative 1 route would not include recreational facilities or require the construction or expansion of recreational facilities. Construction activities would not induce population growth that would lead to substantial increases in the use of or demand for recreational facilities. No impact would occur. The Alternative 1 route would not introduce a new population of employees into the area that would require the construction of new, or the expansion of existing recreational facilities, and no impact would occur.

Transportation and Traffic

Environmental Setting. The transportation and traffic setting for Alternative 1 is similar to the proposed Project, given that the alternative follows much of the proposed Project's route. Regional roadways in the Project area include Interstate 15 (I-15), Interstate 215 (I-215), State Route (SR) 74, and SR-79. A number of public roadways (see Table C.14-3) would provide local access to, or would be crossed by, the Project (including Alternative 1). Two public airports, one private airstrip, and one private helipad are located within 2 miles of the Project, and portions of Alternative 1 that follow the proposed Project route would be adjacent to designated bikeways. Any affected roadways, rail lines, and other transportation facilities that are specific to Alternative 1 would be located along the alternative reroute through portions of the City of Menifee and the City of Murrieta.

Environmental Impacts. Construction of Alternative 1 would result in temporary lane closures or lane width reductions at locations where the construction activities would occur adjacent to or cross the ROW of public roads and highways (Impact TRA-1). As shown in Figure D-1, many of the potentially affected roadways are identical to those that would cross or run adjacent to the proposed Project alignment, which are listed in Section C.14, Table C.14-2. However, while Alternative 1 would eliminate some roadway disruptions associated with the proposed Project along Leon Road between Scott Road and Benton Road, it would result in new disruptions along roadways associated with the reroute to Menifee Road and connection to Auld Substation (see Figure D-1). Alternative 1 would generate similar temporary trips during construction as that occurring under the proposed Project, resulting in similar impacts to emergency access, public transit, bike paths, and road damage (Impacts TRA-2, TRA-3, TRA-5, TRA-6, and TRA-7). Mitigation identical to Mitigation Measure TRA-1 (*Construction Traffic Control Plan*) and Mitigation Measure TRA-3 (*Repair Roadways and Transportation Facilities Damaged by Construction Activities*), as described in Section C.14, are recommended for Alternative 1 to provide specificity of a Construction Traffic Control Plan and to repair roadways. Further, potential impacts to aviation from Alternative 1 (Impact TRA-4) would be minimized with the implementation of Mitigation Measure TRA-2 (*Comply with FAA 7460-1 Determination Recommendations*), as described in Section C.14, which would require the Project to comply with FAA recommendations. The incorporation of these mitigation measures under Alternative 1 would reduce all temporary transportation and traffic impacts within a public ROW to a less-than-significant level (Class II).

Conclusion – Subtransmission Line Route Alternative Along Menifee Road

Alternative 1 would avoid the area of new subtransmission line along Leon Road near Lantana Way that involves placing new wood poles in an area where no above ground electrical poles currently exist and which could substantially degrade the existing views, visual character, and views from a neighborhood trail as well as for residences along Leon Road. The selection of Alternative 1 would reduce an otherwise significant and unavoidable aesthetic impact to a less-than-significant level with mitigation (Class II).

Alternative 1 would re-route the 115-kV subtransmission line into an area of culturally important resources; however, impacts to cultural resources are expected to be similar to the proposed Project. Of the twenty-four CRHR-eligible cultural resources and two known tribally sensitive resources important to the Pechanga tribe that are located within the direct area of impact of Alternative 1, all but one

resource can be avoided entirely and will not experience any direct impacts with the implementation of mitigation measures such as: Mitigation Measures CR-1 (*Avoid Environmentally Sensitive Areas*), CR-2 (*Develop Cultural Resource Management Plan [CRMP]*), and CR-3 (*Train Construction Personnel*). However, because Alternative 1 is in close proximity to the proposed Project alignment, this alternative has the same potential to uncover human remains as the proposed Project (Class I).

Alternative 1 continues to be a feasible alternative because it would reduce the aesthetic impacts of the Project, and would not change the magnitude of impacts for most of the remaining issue areas. However, this alternative would not reduce the Class I impact associated with the potential of finding human remains in the Project area (Impact CR-2).

D.3.2 Alternative 2: Partial Underground Alternative

Description

Significant and unavoidable visual resources impacts are anticipated along a portion of Leon Road, where the proposed Project would be constructed in a new franchise ROW. To reduce potentially significant visual resources impacts, a portion of the proposed 115-kV subtransmission line could be placed underground in this new ROW. Figure D-5 (next page) provides the location of the Partial Underground Alternative along the proposed Project alignment.

The proposed 115-kV subtransmission line would pass in close proximity to residential development and a recreational trail. The underground segment would extend approximately 3,300 feet (0.6 miles) from approximately Branding Iron Court south to Bonsai Circle following the proposed Project route. Road crossings associated with this underground portion (from north to south) include Baxter Road, Pintail Way, and Lantana Way. Once back in SCE's existing ROW, the new 115-kV subtransmission line would transition back to overhead construction as described for the proposed Project. This alternative would require approximately 16 fewer poles, as the subtransmission line would be placed underground rather than on overhead infrastructure.

The technology that would be used for the underground portions of this alternative would consist of single-circuit, cross-linked polyethylene, stranded-dielectric copper cables installed in a concrete-encased duct bank. The specific components of undergrounding, as well as the construction equipment necessary for underground construction, are described below. This information is based on the proposed underground portion of the proposed Project and from a previously-reviewed CPUC project with an underground component (CPUC, 2007).

Construction of Underground Subtransmission Line

Riser Pole. The riser pole is the point at which overhead lines transition to underground lines. For the Partial Underground Alternative, the riser poles would be approximately 100 feet tall. One riser pole (TSP) would be required at each transition point for the single-circuit 115-kV subtransmission line. The underground cables would be routed down from the pole cross arms through rigid conduits. One riser pole would be constructed within the franchise ROW just after the proposed 115-kV subtransmission line crosses from the west side to the east side of Leon Road near Branding Iron Court, and another one would be constructed in SCE's ROW near Bonsai Circle.

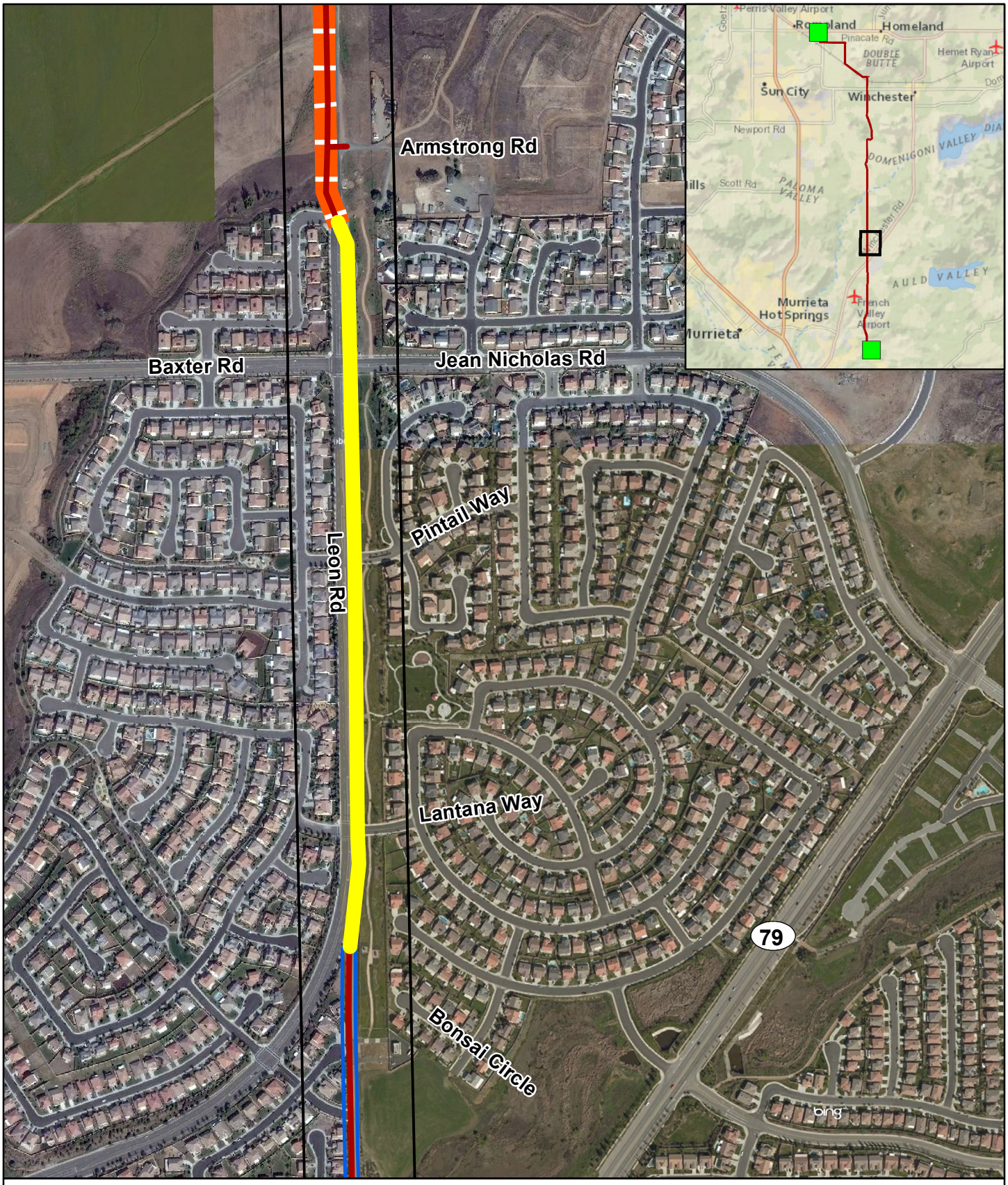

Figure D-5

Partial Underground Alternative

Trenching/Duct Bank Installation. To match the current carrying capacity of the proposed Project's overhead single-circuit 115-kV subtransmission line, the underground system would require the installation of a single cable for each phase of the 115-kV lines. Each underground cable would utilize cross-linked polyethylene, stranded-dielectric copper with 3,000 kcmil. Cables would be installed in a buried concrete-encased duct bank system. Each duct bank would be designed to hold six conduits (two conduits wide by three conduits deep), where three would be filled and three would be spares. The duct banks would be approximately two feet wide and five feet deep. The total excavation footprint for the duct bank would be approximately 4 feet wide by 5.5 feet deep over the length of the 0.6-mile segment (minus those areas where vaults would be located). Total excavated material for the 0.6-mile segment associated with duct bank construction would amount to approximately 2,500 cubic yards. Conduit installation would proceed at a rate of approximately 200 to 225 feet per day. Figure D-6 provides an illustration of a typical subtransmission duct bank.

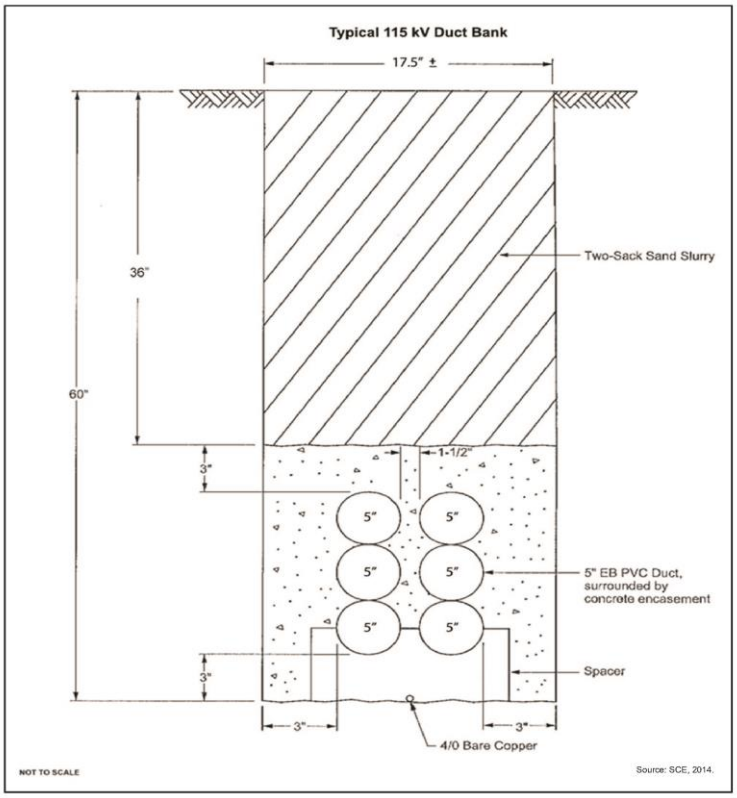

Figure D-6. Typical Subtransmission Duct Bank

During construction, road closures and detours would be required as trenching crosses existing roadways, including Baxter Road, Pintail Way, and Lantana Way. During non-work hours, any open trench would be covered by either heavy-duty plywood (in non-traffic areas) or steel plates (in roadways).

A permanent access road along the underground segment would not be required; however, unencumbered access to the underground structures and the duct bank route must be readily available to SCE crews at all times. Therefore, restrictions would be in place limiting the placement of any structures or permanent or deep-rooted vegetation along the ROW to ensure that future access for regular maintenance and emergency repairs is not impeded. If necessary, SCE would implement methods, such as the installation of turfblock or other permeable pavers, in certain areas to allow SCE crews to drive along the ROW without causing substantial damage to the grass. Use of the recreational trail and greenbelt area in the vicinity of construction activities may also be restricted to ensure public safety.

Vault Installation. Cable splice vaults would be installed at regular intervals below grade (i.e., below the ground surface) along the 0.6-mile underground alignment for this alternative. These vaults would house equipment and splices for the underground circuits. Because there is a practical limit to the length of cable that can be pulled in one section, vaults generally would be located a maximum of every 750 feet to allow splicing of the cable ends. In addition, due to the requirements for cable pulling to the steel riser poles,

the first set of splicing vaults must be placed within 150 feet of the riser poles. Figure D-7 provides an illustration of a typical subtransmission vault.

A total of five vaults are anticipated to be required along the 0.6-mile underground segment. Vaults would pre-fabricated and would be constructed of steel-reinforced concrete, with dimensions of approximately 20 feet long by 10 feet wide by 9.5 feet deep. The vaults would be designed to withstand the maximum credible earthquake in the Project area. During operations, manholes located at finished grade level would provide for access to the vaults so that operations personnel could access the underground cables for maintenance, inspections, and repairs.

The total excavation footprint for a vault would be approximately 26 feet long by 12 feet wide and 12 feet deep. Total excavated material for the five vaults along the 0.6 mile segment would amount to approximately 700 cubic yards. Installation of each vault would take place over an approximately one-week period, and would include the following:

- Excavation and shoring of the vault pit
- Delivery and installation of the vault
- Backfill and compaction followed by restoration of the excavated area.

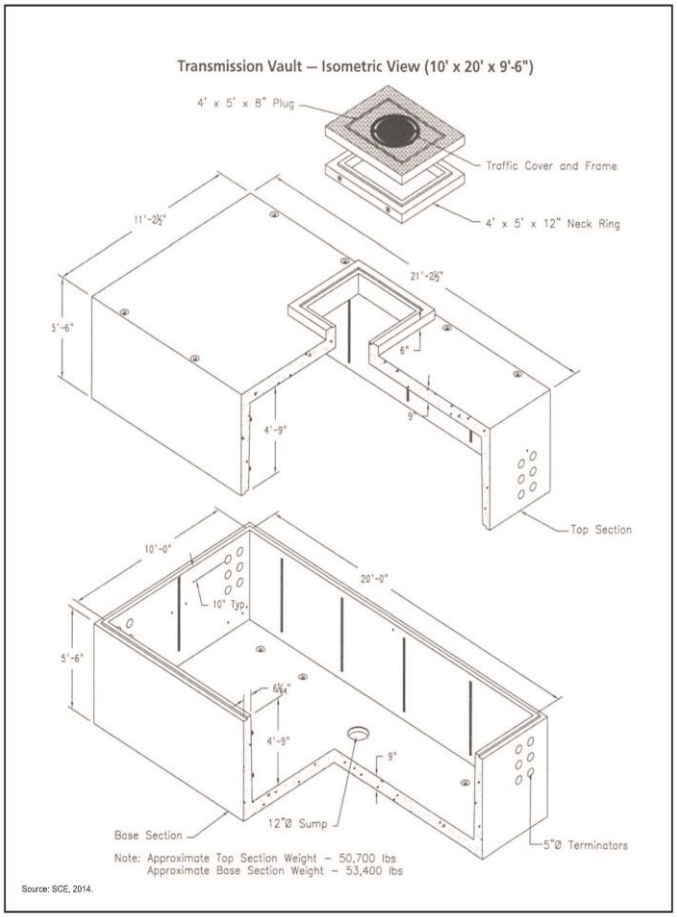

Figure D-7 Typical Subtransmission Vault

Cable Pulling. After the conduit system and the riser poles have been constructed, the cable would be installed. Starting at one end, cable is pulled from the first vault up through the riser pole. Cable is then pulled through to the next vault, and so on, until the last length of cable has been pulled through the last riser pole. Once installed, the cable is ready to be spliced, terminated, tested, and energized. This would require the installation of one cable per phase, resulting in the use of three of the available conduits in the duct bank leaving three additional spare conduits in the duct bank.

Cable Splicing and Termination. After cable installation is completed, the cables would be spliced at all vaults. A splice trailer would be located directly above the vaults' manhole openings for easy access by workers. A mobile power generator would be located directly behind the trailer.

The dryness of the vault must be maintained 24 hours per day to ensure that unfinished splices are not contaminated with water or impurities. Normal splicing hours would be 8 to 10 hours per day with some workers remaining after hours to maintain splicing conditions and guard against vandalism and theft. These conditions are essential to maintaining quality control through completion of splicing. As splicing is completed at a vault, the splicing apparatus setup is moved to the next vault location and the splicing is resumed.

Construction Labor and Equipment

Anticipated construction personnel and equipment for overhead construction are summarized in Table B-11, Subtransmission Construction Equipment and Workforce Estimates in Section B (Project Description). However, the underground segment of the Partial Underground Alternative would require specialized construction equipment for installation of underground facilities. Additional crews for underground construction would also be required for activities associated with underground trench and duct bank, underground vaults, and cable pulling and splicing. Estimates of the additional construction labor and equipment associated with underground construction activities are provided in Table D-4.

Construction Schedule

The completion of the Partial Underground Alternative between Branding Iron Court to Bonsai Circle, paralleling Leon Road, would add approximately two months to the project schedule, which would result in an approximately 18-month schedule versus a 16-month schedule for the proposed Project.[1]

However, some of the work could occur simultaneously reducing the overall length of calendar time to complete installation of this alternative, and resulting in a similar construction timeframe as the proposed Project.

Table D-4 presents the estimated workforce and construction equipment that would be needed for the underground portion added under this alternative. These amounts are only for the added underground portion and only address vault and duct installation under this alternative.

Table D-4. Equipment and Workforce Estimates – Underground Construction[1]

Work Activity				Activity Production			
Primary Equipment Description	**Estimated Horsepower (HP)**	**Probable Fuel Type**	**Primary Equipment Quantity**	**Estimated Workforce**	**Estimated Schedule (Days)**	**Duration of Use (Hrs/Day)**	**Estimated Production**
Vault Installation				**6**	**18**		**5 Vaults**
1-Ton Truck, 4x4	300	Gas	2		9	4	
Backhoe/Front Loader	125	Diesel	1		9	8	
Excavator	250	Diesel	1		9	6	
Dump Truck	350	Diesel	2		9	8	
Water Truck	300	Diesel	1		9	8	
Crane (L)	500	Diesel	1		9	6	
Concrete Mixer Truck	350	Diesel	3		9	2	
Lowboy Truck/Trailer	450	Diesel	1		9	4	

[1] Two months were added to the proposed Project schedule. One month was added to account for the vault construction: based on information in the PEA, each vault installation would take one week to complete (one week X 5 vaults = 5 weeks). This alternative would also require trenching for the duct banks; an additional month was added to account for this additional work.

Table D-4. Equipment and Workforce Estimates – Underground Construction[1]							
Work Activity				**Activity Production**			
Primary Equipment Description	**Estimated Horsepower (HP)**	**Probable Fuel Type**	**Primary Equipment Quantity**	**Estimated Workforce**	**Estimated Schedule (Days)**	**Duration of Use (Hrs/Day)**	**Estimated Production**
Material Handling Truck	315	Diesel	1		9	8	
Flat Bed Truck/Trailer	400	Diesel	3		9	4	
Duct Bank Installation				**6**	**14**		**3,300 Feet Trench**
1-Ton Truck, 4x4	300	Gas	2		7	4	
Compressor Trailer	60	Diesel	1		7	4	
Backhoe/Front Loader	125	Diesel	1		7	6	
Dump Truck	350	Diesel	2		7	6	
Pipe Truck/Trailer	275	Diesel	1		7	6	
Water Truck	300	Diesel	1		7	8	
Concrete Mixer Truck	350	Diesel	3		7	2	
Lowboy Truck/Trailer	450	Diesel	1		7	4	

Source: SCE, 2014 (PEA Table 3.10-A)

Notes:

1. This information is based on data taken from the PEA for the underground portion of the proposed Project. The amounts for duration and size of the trench and cable were doubled to reflect more vaults and a greater length of the undergrounding in this alternative.
2. Similar to the proposed Project, this estimate includes 200 feet of cable to transition from an underground to overhead configuration. (SCE, 2014)

Operations and Maintenance

Regular maintenance would be required for the underground system on an annual basis. This would be accomplished through visual inspections of the cable and splices installed in each vault. Inspections would require approximately two full days of work with a two-person crew in a pick-up truck.

In the event of an underground cable failure, it is likely that the failure would cause collateral damage to other cables and/or splices nearby. Such failures typically result in extensive repair efforts, which could include replacing sections of conduit banks. Typically, these repairs require multiple days of construction, as well as the complete replacement of cable sections. During restoration work, restrictions similar to those imposed during construction may be necessary, which would include limited use of the recreational trail and greenbelt area in the vicinity of construction/repair activities.

Objectives

- Serve long-term peak electrical demand requirements in the electrical needs area, which includes portions of unincorporated Riverside County and the cities of Menifee, Wildomar, Murrieta, and Temecula, served by the Valley-Sun City, Valley-Auld, and Valley-Auld-Triton 115-kV subtransmission lines: *Meets objective, but would be less cost-effective than the proposed Project.*
- Enhance electrical system reliability and operational flexibility: *Meets objective.*

- Meet the proposed Project needs while minimizing environmental impacts: *Does not meet this objective as it would create greater impacts to air quality, noise, recreation, and traffic over a longer period of time compared to the proposed Project.*
- Design and construct the proposed Project in conformance with SCE's current engineering, design, and construction standards for substation, transmission, subtransmission, and distribution system projects: *Meets objective.*

Impact Analysis by Discipline

Aesthetics

Environmental Setting. The underground segment of this alternative would pass through the same suburban residential landscape described above for the proposed Project segment addressed by KOP 5. Given that the most notable visible features of the Partial Underground Alternative would be the riser poles at each end of the underground segment, an in-depth visual analysis of the north riser pole (operational effect) was conducted at KOP 11 on northbound Leon Road.

- **KOP 11 – Northbound Leon Road.** Figure D-8a presents the existing view to the north along Leon Road, just north of Baxter Road / Jean Nicholas Road. This image captures the northern-most portion of the residential subdivision roughly bounded by Max Gillis Boulevard on the west, Baxter Road/Jean Nicholas Road on the north, and SR 79 on the east and south. The open and relatively unobstructed views from KOP 11 encompass a suburban residential landscape along this portion of Leon Road. Existing utility lines visible north of the subdivision along the west side of Leon Road transition underground at the riser pole north of the subdivision (and visible in the center of Figure D-8a) before passing through the subdivision and surfacing near the southern end of the recreational trail that parallels the east side of Leon Road.

Visual quality in the vicinity of the north riser pole is moderate, and viewer concern is rated high as frequent travelers on Leon Road and adjacent residents anticipate the relatively open, unobstructed landscape views. Any introduction of view impairment of landscape features would be considered an adverse visual change. Given the open and unobstructed sightlines and position of the Alternative 2 route within the primary cone of vision of both northbound and southbound travel directions, travelers on Leon Road and adjacent residents would be afforded extended viewing durations of the Alternative 2 riser locations, and overall viewer exposure would be rated high. For viewers in the vicinity of KOP 11, combining the equally weighted moderate visual quality, high viewer concern, and high viewer exposure results in an overall rating of moderate to high for visual sensitivity of the visual setting and viewing characteristics.

Environmental Impacts. Construction impacts associated with Alternative 2, while slightly more extensive at the riser pole locations and along the cable trench, would be similar to those of the proposed Project (in terms of presence of equipment, materials, and workers). Figure D-8b presents a visual simulation of the addition of a new wood-pole subtransmission line along the west side of Leon Road (common to both Alternative 1 and the proposed Project) and the span to the new TSP riser pole (under Alternative 2) on the east side of Leon Road where the proposed subtransmission line would transition underground through the residential development. The riser pole would be approximately 100 feet tall (15 feet taller than the typical wood poles) and would be more structurally complex and exhibit greater industrial character compared to the typical wood poles. The resulting visual contrast associated with the riser pole would be moderate to high, and the noticeable structure skylining would contribute to the co-dominant structural presence. The resulting view blockage of the background sky would be moderate.

This image presents the **Existing View** to the north from **KOP 11** on northbound Leon Road, just north of Baxter Rd./Jean Nicholas Rd. This view captures the northern-most portion of the residential subdivision roughly bounded by Max Gillis Blvd. on the west, Baxter Rd./Jean Nicholas Rd. on the north, and SR 79 on the east and south. Existing utility lines along Leon Road transition underground through the subdivision as shown in the image above (transition structure visible on west side of Leon Road).	**KOP 11** **Leon Road - Alternative 2** **Existing View**	**Valley South Subtransmission Project** **Environmental Impact Report** **Aesthetics** **Figure D-8a**

This image presents a **Visual Simulation** of **Alternative 2** from **KOP 11** on northbound Leon Road, just north of Baxter Rd./Jean Nicholas Rd. This simulation illustrates the transition of a portion of the proposed subtransmission line underground before passing through an adjacent residential subdivision. The taller, replacement wood poles would terminate at a new TSP transition structure just north of the subdivision as illustrated above.	**KOP 11** **Leon Road - Alternative 2** **Visual Simulation**	**Valley South Subtransmission Project** **Environmental Impact Report** **Aesthetics** **Figure D-8b**

The overall visual change would be moderate, and in the context of the existing landscape's moderate to high visual sensitivity, the resulting visual impact would be adverse but mitigable (Class II) under Impact AES-7. This conclusion takes into consideration the partial attenuation of the visual impact achieved by the presence of existing utility structures near both riser pole locations (north end and south end). Additionally, it should be noted that the presence of the two riser poles would be far less visually intrusive compared to the installation of the numerous aboveground wood poles along this segment that would occur under the proposed Project. Mitigation Measure AES-6 (*Treat Structure Surfaces*) is recommended to reduce the visual impact at Alternative 2's riser pole locations to a less-than-significant level.

Agricultural resources

Environmental Setting. The environmental setting for Agricultural Resources under Alternative 2 is identical to that of the proposed Project, as the underground segment would follow the same route as the proposed Project. Both the proposed Project and Alternative 2 would traverse Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance, as designated by the DOC.

Environmental Impacts. With the exception of the 3,300-foot underground segment, construction, operation, and maintenance of this alternative would be the same as described for the proposed Project. The underground segment would occur in areas designated as Farmland of Local Importance by the DOC. However, this portion of the substransmission line would be located with an existing ROW, so the conversion of Farmland to a non-agricultural use (Impact AG-1) would be adverse, but not significant (Class III). Therefore, the impacts of Alternative 2 on Farmland would be the same as the proposed Project.

Interference with agricultural operations resulting from construction and maintenance activities under Alternative 2 would be similar to proposed Project (Impact AG-2). The presence and use of heavy equipment, including road graders, dozers, excavators, and trucks, could interfere with agricultural operations by damaging crops or soil, impeding access to certain fields or plots of land, obstructing farm vehicles, or potentially disrupting drainage and irrigation systems. Interference of agricultural operations associated with construction could result in a temporary disruption, which could result in reductions of agricultural productivity in the area. Consequently, implementation of Mitigation Measure AG-1 (*Coordinate with Agricultural Landowners*) is also recommended for Alternative 2 to ensure that the impacts would be mitigated to a less-than-significant level (Class II). Similarly, Mitigation Measure AG-1 is recommended for Alternative 2 if there are any disruptions to land under agricultural preserves. With implementation of this measure, impacts to agricultural preserves would be less than significant (Class II).

Air Quality

Environmental Setting. The air quality environmental setting of Alternative 2 is identical to that of the proposed Project. This alternative route traverses through the same air quality jurisdiction (i.e., SCAQMD), and remains wholly within the South Coast Air Basin.

Environmental Impacts. The operating emissions for all Project alternatives are similar to those of the proposed Project and would consist of annual inspection activities that would not have the potential for significant air quality impacts, and are not discussed further. The following discussion identifies the construction impacts for each of the alternatives, which are based on factors such as tower/pole number, transmission route length, whether underground construction is required, and the unpaved road travel distance to the tower/pole and other construction sites for each alternative.

Alternative 2 would not change the Project's conformance with applicable air quality plans (Impact AQ-1 – Class III). While this alternative would increase the maximum daily and total Project construction emissions, the overall magnitude of emissions would still be below that which could cause or substantially contribute to air quality standard violation and impacts would be less than significant (Impact AQ-2 – Class III).

Alternative 2 could substantially increase the maximum daily construction emissions, and emissions of NOx and PM10 could require additional mitigation measures, such as the use of newer off-road equipment with engines meeting USEPA/CARB Tier 3 or Tier 4 standards to reduce emissions, so that emissions would be below SCAQMD regional emissions significance thresholds. It is unclear if the emissions after incorporation of feasible mitigation would or would not exceed regional emission thresholds. Therefore, this alternative could have less than significant regional emissions impacts after mitigation or may have impacts that are significant and unavoidable (Impact AQ-3 – Class I or Class II).

Alternative 2 could substantially increase the maximum daily localized construction emissions along the underground construction route, and emissions of NOx and PM10 could require additional mitigation measures, such as the use of newer off-road equipment with engines meeting USEPA/CARB Tier 3 or Tier 4 standards to reduce these localized emissions, so that emissions would be below SCAQMD localized emissions significance thresholds. It is unclear if the localized emissions after incorporation of feasible mitigation would or would not exceed localized emission thresholds. Therefore, this alternative could have less than significant localized emissions impacts after mitigation or may have impacts that are significant and unavoidable (Impact AQ-4 – Class I or Class II).

Alternative 2, with or without additional mitigation that may be required to address regional and localized emissions impacts, would not substantially increase the total Project diesel particulate matter (DPM) emissions that are the main concern for air toxic contaminant health risk, and therefore would have less than significant health risk impacts (Impact AQ-5 – Class III).

Alternative 2 would increase fugitive dust emissions, including emissions from soils at the depths where Valley Fever spores may be found; however, the impact would not substantially increase assuming appropriate mitigation is implemented during the excavation required for the underground construction. This could require Mitigation Measure AQ-1 (Fugitive Dust Control) to be revised to address the underground construction aspect of this alternative. However, the mitigated potential for Valley Fever exposure would remain low and the Valley Fever incidence impacts of the Project would be less than significant after mitigation (Impact AQ-6 – Class II)

Alternative 2 would not significantly change the type or strength of odors produced during construction, or significantly increase the number of persons that would be exposed to these odors; therefore, the odor impacts would be less than significant, which is the same as the proposed Project (Impact AQ-7 – Class III).

Biological Resources

Environmental Setting. The environmental setting for Biological Resources under Alternative 2 is identical to that of the proposed Project, as the underground segment would follow the same route as the proposed Project. Both the proposed Project and Alternative 2 would traverse a residential area comprised of non-native woodlands/ornamental vegetation, urban/developed lands, and disturbed/ruderal habitat. The impact discussion below covers all the impacts addressed for the proposed Project (Impacts BIO-1 to BIO-20).

Environmental Impacts. Impacts from construction and operation of Alternative 2 would occur to a similar degree as for the proposed Project. Direct and indirect impacts to vegetation communities and other land uses would occur as described for the proposed Project and would take place primarily during VSSP construction. These effects may be temporary or permanent. Examples of permanent impacts are removal of vegetation and placement of vault structures.

Temporary impacts to vegetation and habitat would occur during construction, where vegetation is removed for temporary work areas, without long-term land use conversion, so that vegetation may return to a more natural condition or may be actively revegetated or enhanced. Operational and maintenance impacts would occur during routine inspection and maintenance of the underground line. These impacts could include trampling or crushing of vegetation by vehicular or foot traffic, alterations in topography and hydrology, increased erosion and sedimentation, and the introduction of non-native, invasive plants due to increased human presence on foot or equipment.

Impacts from construction and operation of Alternative 2 to listed and common wildlife would be the same as for the proposed Project, and would require mitigation (see below) to reduce adverse effects to a less-than-significant level (Class II). Direct impacts to wildlife, if present, would include mortality from trampling or crushing, ground-disturbing activities associated with removal/installation of structures, creation of access/spur roads, preparation of staging areas, and increased human presence.

Indirect impacts would include increased noise levels from heavy equipment, human disturbance, and exposure to fugitive dust, the spread of noxious weeds, and disruption of breeding or foraging activity due to routine inspection and maintenance activities. Weed abatement through herbicide application or mechanized tools could also affect nesting. Operational impacts include the risk of mortality by vehicles disturbance related to routine maintenance activities, and vegetation management activities.

Implementation of Mitigation Measures BIO-1 (*Implement a Worker Environmental Education Program*), BIO-2 (*Implement Best Management Practices*), BIO-3 (*Compensation for Permanent Impacts to Sensitive Vegetation Communities*), BIO-4 (*Develop a Habitat Restoration and Monitoring Plan*), and BIO-5 (*Implement Biological Construction Monitoring*) would minimize impacts to sensitive vegetation communities and wildlife to the extent possible. These measures include worker education describing the sensitive biological resources that occur on the VSSP site, implementation of BMPs to minimize and avoid impacts, development of a Habitat Restoration and Monitoring Plan, and conducting biological monitoring during ground disturbing and other construction related activities.

Specific mitigation measures have been developed to address impacts to specific species such as least Bell's vireo (Mitigation Measure BIO-8 [*Conduct Protocol Surveys for Least Bell's Vireo and Southwestern Willow Flycatcher and Avoid Occupied Habitat*]), Stephen's kangaroo rat (Mitigation Measures BIO-15 [*Complete Focused Pre-construction Stephens' Kangaroo Rat Burrow/Precinct Surveys and Implement Avoidance Measures*] and BIO-16 [*Compensate for Permanent Impacts to Stephens' Kangaroo Rat*]), and coastal California gnatcatcher (Mitigation Measure BIO-9 [*Conduct Protocol Surveys for Coastal California Gnatcatcher and Avoid Occupied Habitat*]) that require focused pre-construction surveys and compensation for impacts to suitable habitat.

Construction activities under Alternative 2 would be identical to the proposed Project, with the only exception being the extension of approximately 3,300 feet (0.6 miles) of underground line from approximately Branding Iron Court south to Bonsai Circle.

Cultural and Paleontological Resources

Environmental Setting. The cultural background for Alternative 2 is the same as for the proposed Project. Alternative 2 follows the same route as the proposed Project, although a portion of the subtransmission line would be placed underground rather than on overhead infrastructure for approximately 3,300 feet (0.6 miles) from Branding Iron Court south to Bonsai Circle.

Alternative 2 is immediately underlain by Triassic metamorphic rock, Cretaceous plutonic igneous units, the Pleistocene Pauba Formation, Very Old and Older Quaternary alluvial fan and channel deposits, and younger surficial deposits of Late Pleistocene to Holocene age. Construction of the underground segment would only disturb crystalline geologic units with low to no paleontological sensitivity. In total, Alternative 2 is underlain by 99 acres determined to have no paleontological sensitivity; 8 acres of no to low paleontological sensitivity; 34 acres determined to have a low to high paleontological sensitivity, dependent on depth; and 355 acres of high (High A and High B) paleontological sensitivity.

Environmental Impacts. While Alternative 2 would involve fewer poles, impacts to cultural resources would be the same. Seventeen CRHR-eligible cultural resources and one known tribally sensitive resource important to the Pechanga tribe (Double Buttes) are located within Alternative 2 (see Section C.6.4.2, Table C.6.-6). While these resources are located within the direct area of impact of the Project (Impact CR-1), they can be avoided entirely and will not experience any direct impacts with the implementation of Mitigation Measures CR-1 (*Avoid Environmentally Sensitive Areas*), CR-2 (*Develop Cultural Resource Management Plan [CRMP]*), CR-3 (*Train Construction Personnel*), and CR-4 (*Conduct Construction Monitoring*). Similar to the proposed Project, unknown buried resources (prehistoric and historical archaeological sites) could be inadvertently unearthed during ground-disturbing activities associated with construction of Alternative 2 (Impact CR-2). Direct impacts to potentially significant cultural resources without mitigation would be a significant impact. The procedures and provisions in Mitigation Measures CR-4 (*Conduct Construction Monitoring*) and CR-7 (*Treat Previously Unidentified Cultural Resources*) address inadvertent discoveries and provide detail on how these activities would be implemented to reduce impacts. Mitigation Measure CR-8 *(Properly Treat Human Remains)* was identified to reduce impacts to human remains. However, human remains have been identified within close proximity to the project site and there is potential to uncover additional remains. Impacts to human remains would remain significant and unavoidable similar to the proposed Project (Class I).

Portions of Alternative 2 would be subject to construction-related ground disturbances, including grading and excavation activities, and the potential to discover paleontological resources during construction ranges from very low to high based on the location of ground-disturbing activities. As described in Section C.6.4.2, ground disturbances could result in adverse impacts to paleontological resources, including disturbance, damage, or destruction of a significant fossil or unique geologic feature associated with a paleontological site, which results in the loss of scientific context of fossil remains. Development of portions of Alternative 2 would have a high potential to result in adverse impacts to paleontological resources (Impact CR-3). These direct and indirect adverse impacts would be reduced to less than significant (Class II) with implementation of Mitigation Measures CR-9 (*Inventory and Evaluate Paleontological Resources*), CR-10 (*Develop Paleontological Resource Mitigation and Monitoring Plan*), CR-11 (*Train Construction Personnel*), CR-12 (*Monitor Construction for Paleontological Resources*), and CR-13 (*Final Reporting and Curation*). In combination, these measures, which are presented in Section C.6.4.2, would effectively mitigate adverse impacts to these areas through the recovery, identification, and curation of previously unrecovered fossils.

Operation and maintenance of Alternative 2 would not involve extensive ground disturbance and would not substantially increase erosion. Indirect impacts related to the operation and maintenance of Alternative 2 include inadvertent or malicious vandalism, unauthorized collection of cultural resources on the surface of sites, and the introduction of new intrusive visual elements. The CPUC, as the lead agency, has initiated consultation with appropriate Native American groups regarding Project impacts to Double Buttes. The ongoing consultation will determine whether the long-term presence of transmission lines and towers during the operation of the Project would result in indirect visual impacts to this area. Any impacts to this tribally sensitive resource shall be reduced to a less-than-significant level (Class II) through the implementation of Mitigation Measures CR-5 (*Native American Consultation*) and CR-6 (*Reduce Adverse Visual Impacts*).

Project-related operational impacts to significant non-renewable fossil resources related to the operation and maintenance of subtransmission lines under Alternative 2 are assumed to be low to negligible and can be reduced or eliminated through the implementation of Mitigation Measure CR-11 (*Train Construction Personnel*).

Geology and Soils

Environmental Setting. Alternative 2 is coincident with the proposed Project along its entire length and would have identical geology, soils, and seismic setting as the proposed Project, as described in Section C.7.

Environmental Impacts. As Alternative 2 is coincident with the proposed Project along its entire length the impacts for it would be identical to the proposed Project, except as related to construction triggered erosion. Due to the increased amount of ground disturbance required for the additional 0.6 miles of underground conduit under Alternative 2, impacts related to triggering or accelerating erosion would be slightly increased (Impact GEO-1). However, as with the proposed Project implementation of the required NPDES permit and SWPPP plan would reduce the potential for construction triggered erosion to less than significant (Class III).

As with the proposed Project, there would no impact to or from Alternative 2 related to construction triggered slope instability, seismically triggered landslides, future slope instability, or fault rupture (No Impact). Alternative 2 would result in a less-than-significant impact (Class III) that is identical to the proposed Project with respect to seismically induced ground shaking (Impact GEO-2), assuming compliance with CPUC GO 95 and GO 128, and the design of Project poles to wind loading standards that exceed seismic loading criteria. Alternative 2 would also result in identical less-than-significant impacts with mitigation (Class II) with respect to damage to Project structures by seismically-induced liquefaction (Impact GEO-3) and damage to Project structures from unsuitable soils such as expansive and corrosive soils (Impact GEO-4). Impact GEO-3 would be reduced to less than significant by compliance with CPUC GO 95 and GO 128 and implementation of Mitigation Measure GEO-1 (*Investigations for Liquefaction*), and Impact GEO-4 would be reduced to less than significant by implementation of Mitigation Measure GEO-2 (*Assess Soil Characteristics*).

Greenhouse Gas Emissions

Environmental Setting. The GHG environmental setting of Alternative 2 is identical to that of the proposed Project. GHG emissions for VSSP would include both direct and indirect emissions that occur as a result of the following Project actions:

- Direct construction-related GHG emissions would be generated from construction equipment and vehicles, while direct operational GHG emissions would include a small amount of GHG emissions generated from O&M activities and from leaks of SF6 from the new substation electrical equipment.
- Indirect GHG emissions would be minor, as there is no anticipated electricity use for the Project and water use would primarily be in the form of the temporary use of water for fugitive dust control during construction. This Project would also reduce GHG emissions through the recycling of excavated asphalt and concrete. Given that the purpose of the Project is to improve local grid reliability and efficiency, the Project should reduce electricity generation needs.

Environmental Impacts. The GHG emissions for all Project alternatives are similar to those of the proposed Project in magnitude after the construction emissions are amortized over the project life. The construction GHG emissions would change somewhat for each of the alternatives based on factors such as tower/pole number, transmission route length, and whether underground construction is required.

The GHG emissions from Alternative 2, although higher than the proposed Project, would remain well below GHG emissions significance criteria; therefore, the impacts would be less than significant (Impact GHG-1 – Class III). Further, Alternative 2 would have similar characteristics as the proposed Project and would meet the objectives of the Project; as such, this alternative would conform to all GHG emissions reduction policies, plans, goals, and regulations (Impact GHG-2 – Class III).

Hazards and Hazardous Materials

Environmental Setting. Alternative 2 is coincident with the proposed Project along its entire length and would have identical hazards and hazardous materials setting as the proposed Project.

Environmental Impacts. As Alternative 2 is coincident with the proposed Project along its entire length, impacts from construction and operation of this alternative would be the same as for the proposed Project. As with the proposed Project, hazardous material use and storage results in a potential for soil or groundwater contamination from spills or leaks (Impact HAZ-1). In addition, treated wood waste that requires special disposal could be generated during removal of chemically treated wooden poles. Impacts related to adverse effects from hazardous material use, storage, and disposal would be reduced to a less-than-significant level (Class III) with compliance with applicable laws, regulations, SCE guidelines, and the required Project-specific SWPPP and WEAP. No known contaminated sites are located along the Alternative 2 alignment, resulting in no potential to encounter known contamination. As with the proposed Project, Alternative 2 passes through a light industrial area in the vicinity of Benton Road where unknown soil or groundwater contamination may have occurred and through and adjacent to active and historic agricultural land where there is a potential for residual pesticide and herbicide soil contamination (Impact HAZ-3). Although there is more ground disturbance along Alternative 2 than the proposed Project, the potential to encounter unknown soil or groundwater contamination is not changed due to the residential character of the proposed additional underground section along Alternative 2. Compliance with the Project-specific WEAP, implementation of SCE commitments regarding handling, treatment, and disposal of any identified contaminated soil or groundwater, and implementation of Mitigation Measure HAZ-1 (*Identify Pesticide/Herbicide Contamination*) would reduce potential impacts from unknown soil or groundwater contamination and residual pesticide or herbicide contamination to less than significant (Class II).

The potential to expose students to hazardous materials (Impact HAZ-4) would be identical to the proposed Project and would be reduced to less than significant by use of only low toxicity materials and compliance with all rules, regulations, and SCE protocols (Class III). Aviation hazards related to

Alternative 2 at public airports (Impact HAZ-5) or at private airstrips or heliports (Impact HAZ-6) would be reduced to less than significant by compliance with FAA regulations and any FAA requested project redesign (Class III). As with the proposed Project, potential impacts related to impairment or interference with emergency response or evacuation plans (Impact HAZ-7) would be less than significant (Class III) with implementation of APM TRA-1 and Mitigation Measure TRA-1 (*Construction traffic Control Plan*). Portions of Alternative 2 are located in areas classified as Moderate to Very High Fire Hazard Severity Zones by CALFIRE and Project construction or operation could potentially trigger wildfires (Impact HAZ-8). However compliance with SCE standard fire prevention protocols, CPUC GO 95 and GO 166, CPRC Sections 4292 and 4293, and other applicable State and federal laws relevant to fire prevention would reduce the potential for construction or operation of Alternative 2 to trigger wildland fires to less than significant (Class III).

Hydrology and Water Quality

Environmental Setting. The environmental setting for the hydrology and water quality of Alternative 2 is identical to that of the proposed Project. The alternative crosses both undeveloped land with natural drainage features and urban developments with highly altered drainage systems, such as underground stormwater systems. The two Hydrologic Units that contain the Project are subject to the jurisdiction of the SARWQCB and the SDRWQCB.

As described in Section C.10.1.1, the Project area is governed by two basin plans: (1) the SARWQCB Basin Plan governs water quality for the northern portion of the Project area and identifies beneficial uses for Salt Creek, the San Jacinto River, and Canyon Lake; and (2) the SDRWQCB Basin Plan governs water quality for the southern portion of the Project area and identifies beneficial uses for Lake Skinner, Diamond Valley Lake, Tucalota Creek, and Santa Gertrudis Creek (SARWQCB, 2008; SDRWQCB, 2011). The Project is also underlain by the following two groundwater basins: the San Jacinto Groundwater Basin and the Temecula Valley Groundwater Basin (DWR, 2004, 2006). See Section C.10.1 for a detailed discussion of the Project's existing conditions.

Environmental Impacts. Hydrology-related impacts from construction and operation of Alternative 2 may be slightly greater than for the proposed Project. As with the proposed Project, Alternative 2 would comply with applicable laws, regulations, and implementation of BMPs in order to protect water quality. Construction and operation of Alternative 2 would not substantially degrade water quality or violate water quality standards or waste discharge requirements (Impact HYD-1); impacts during construction and operation would be less than significant (Class III).

SCE would not extract any groundwater during construction, but the water required during Project construction (e.g., dust control, soil conditioning, and hydro-seeding) and operation (e.g., washing of insulators and dust suppression) would be met through an agreement with an appropriate water supply agency or district. These water supply districts source water from imported water, groundwater, recycled water, and local surface water, and therefore construction and operation of the Project could indirectly lead to the extraction of groundwater by a water agency or district (Impact HYD-2). Due to the availability of imported water, the relatively short-term period of construction water demand (16 months), and the relatively small amount of water that would be required (up to approximately 110 acre-feet), construction of Alternative 2 is not anticipated to result in a net deficit in aquifer volume or a lowering of the local groundwater table level. Implementation of Mitigation Measure HYD-1 (*Use Non-Potable Water*) is recommended to reduce impacts to groundwater to a less-than-significant level (Class II).

Construction of Alternative 2 would require the excavation of approximately 2,500 cubic yards of material. Excavation, backfill, and restoration activities along this 0.6-mile underground segment may alter the existing drainage pattern in the Project area (Impact HYD-3). However, similar activities would occur during construction of the proposed Project's underground duct bank and underground 115-kV subtransmission line at Valley Substation. In order to restore areas of temporary disturbance to pre-construction conditions, SCE would implement the BMPs specified in the Project SWPPP to prevent and control erosion and to ensure worker safety. With the incorporation of BMPs, impacts would be less than significant (Class III).

Construction of the underground segment could increase the rate or amount of surface runoff through the creation of new impermeable surfaces, the removal of vegetation, or the compaction of soil (Impact HYD-4). However, as described for the proposed Project, this effect would be minor and would not change the overall flood regime of the area or result in a new flood risk for nearby structures or people; impacts would be less than significant and no mitigation is required (Class III). Further, neither the Project nor Alternative 2 includes any housing or habitable structures, and would not expose people or structures to a significant risk of loss, injury, or death involving flooding as a result of the failure of a levee or dam (Impact HYD-5); therefore impacts would be less than significant (Class III).

Land Use and Planning

Environmental Setting. The environmental setting for Alternative 2 is identical to the proposed Project. This alternative would be constructed along the same route as the proposed Project, and thus would affect the same land uses identified in Table C.11-1.

Environmental Impacts. While this alternative would require 16 fewer poles than the proposed Project, a greater construction effort would be required to underground the Alternative 2 segment between Branding Iron Court and Bonsai Circle, which is primarily characterized by adjacent residential land uses. Road closure and detours would be necessary when trenching across existing roadways (e.g., Baxter Road, Pintail Way, and Lantana Way). The construction schedule would also be extended for two months, which would extend the period during which nuisance impacts (e.g., noise, dust, construction traffic, disruption to property access) would occur to nearby residences. Under Alternative 2, impacts to existing residential land uses (Impact LU-1) would be slightly greater in magnitude than under the proposed Project. However, despite this increased construction effort along the underground segment, impacts to residential land uses could be reduced to a less-than-significant level with implementation of mitigation to ensure property access, to minimize noise and fugitive dust, and to provide a Project hotline for addressing residents' concerns (Class II). Recommended mitigation measures for Impact LU-1 include Mitigation Measures LU-1 (*Property Access and Restoration*), AQ-1 (*Fugitive Dust Control*), NOI-1 (*Construction Work Hours*), and NOI-2 (*Implement Best Management Practices for Construction Noise*).

The overall effects to non-residential land uses under Alternative 2 would be identical to the proposed Project (Impact LU-2) given that non-residential land uses are not located along this alternative underground segment. All construction activities north and south of the 3,300-foot Alternative 2 underground segment would be identical to the proposed Project, and impacts that would occur to non-residential land uses (i.e., blocked driveways, detours, nuisance effects from noise and dust) would be reduced to a less-than-significant level with implementation of Mitigation Measures LU-1 (*Property Access and Restoration*), LU-2 (*Property Access and Restoration*), AQ-1 (*Fugitive Dust Control*), NOI-1 (*Construction Work Hours*), and NOI-2 (*Implement Best Management Practices for Construction Noise*) (Class II).

Noise

Environmental Setting. The noise environmental setting for Alternative 2 is identical to the proposed Project, given that the alternative follows the proposed Project's route. The Project area is typically rural in nature, with rural residential and commercial land uses, as well as notable transportation corridors (i.e., I-215, SR-74 and SR-79/Winchester Road) and other arterial roadways which contribute to transportation-related noise. The Project area is further characterized by occasional aircraft noise associated with French Valley Airport, Pine Airpark, Perris Valley Airport, and SCE's Menifee Service Center Helipad. Intermittent noise from general residential outdoor activities, such as people talking, landscaping/gardening, domestic animals, etc. also contribute to the ambient noise environment.

Environmental Impacts. The underground segment of Alternative 2 would require specialized construction equipment for installation of underground facilities, which are listed in Table D-4. As this alternative would follow the same route as the proposed Project, it would be subject to the same local noise standards (Impact NOI-1). Mitigation Measure NOI-1 (*Construction Work Hours*) would be recommended to ensure that construction activities occur within each jurisdiction's allowed construction hours, thereby reducing impacts to local noise standards to less than significant (Class II). Operational noise from routine maintenance, emergency repairs, or corona discharge would not be anticipated to violate local standards (Impact NOI-2) or disturb sensitive receptors (Impacts NOI-4 and NOI-5), and impacts would be less than significant without mitigation (Class III). However, given the proximity of residences and other noise sensitive receptors to Alternative 2 (Impact NOI-3), construction noise would create a substantial disturbance to sensitive receptors. Given the greater construction effort required for trenching, vault installation, and the extended construction schedule, the magnitude of Alternative 2's disturbance to sensitive receptors would be greater than the proposed Project. Mitigation Measure NOI-1 (*Construction Work Hours*) would be implemented to limit the hours in which construction would occur to be consistent with the local noise regulations. Mitigation Measure NOI-2 (*Implement Best Management Practices for Construction Noise*) would be implemented to reduce construction noise levels ensuring that temporary or periodic noise would not substantially disturb sensitive receptors. With incorporation of these measures, this impact would be reduced to a less-than-significant level (Class II).

Similar to the proposed Project, Alternative 2 would not expose construction and O&M personnel to excessive airport-related noise (Impact NOI-6), and therefore impacts would remain less than significant (Class III). While the equipment required for the underground trenching (e.g., backhoe/front loader, excavator) may slightly increase ground-borne vibration along the segment (Impact NOI-7), the severity of the impact would not be anticipated to change from the proposed Project and would remain less than significant (Class III).

Recreation

Environmental Setting. As Alternative 2 follows the proposed Project's route, the recreational setting for this alternative is identical to the proposed Project. Both the proposed Project and Alternative 2 cross portions of unincorporated Riverside County, which maintains 35 regional parks and four park and recreation districts. No federal parks or State recreation areas are located within a one-mile vicinity of the Project area.

Environmental Impacts. The Alternative 2 route would be constructed along the same route as the proposed Project. As with the proposed Project, construction personnel may occasionally utilize parks for lunch, but this would be a short-term temporary occurrence. The existing parks and recreation facilities within the Project area would have sufficient capacity to accommodate this potential minor increase in use. Therefore, construction personnel would not cause physical deterioration to existing recreational facilities (Impact REC-1) and the impact would be less than significant (Class III). O&M of

Alternative 2 would not introduce new population in the area that would increase the use of any existing neighborhood or regional parks. As with the proposed Project, maintenance personnel who might visit the route from time-to-time may want to occasionally utilize a park for lunch, but this is likely to be infrequent and would not represent a notable increase in user population. Therefore, operation personnel would not cause physical deterioration to existing neighborhood or regional parks (Impact REC-1) and the impact would be less than significant (Class III).

As with the proposed Project, the Alternative 2 route would run parallel to or cross existing trails, Class I Bike Paths and Class II Bike Lanes, and pedestrian sidewalks. In areas where the Alternative 2 route would run parallel to existing trails, Class I Bike Paths and Class II Bike Lanes, and pedestrian sidewalks, it would not block or hinder the flow of bike or trail traffic during construction. However, Alternative 2 could result in temporary interruption of existing trails, Class I Bike Paths and Class II Bike Lanes, and pedestrian sidewalks during construction. Construction activity would have short-term and temporary effects on the use of bike paths or trails (Impact REC-2). However, this partial underground alternative would be placed within or along the route of an existing recreational trail in an established residential community along Leon Road between Branding Iron Court south to Bonsai Circle, which would limit or block the use of this recreational trail during construction. To reduce impacts to the recreational trail and other trails or areas that might be affected, Mitigation Measure REC-1 *(Identify and Provide Noticing of Alternative Recreation Areas)* would be implemented to provide alternative routes or trails and to notify residents of the construction schedule. Mitigation Measure AES-2 *(Minimize Vegetation Removal and Ground Disturbance)* would reduce the amount of vegetation removed during construction. The implementation of these measures would reduce physical deterioration to existing trails, bike paths, or pedestrian sidewalks, and impacts would be less than significant (Class II). Even though impacts would be reduced, this alternative would result in greater impacts to recreational uses than the proposed Project.

O&M of Alternative 2 would not block or hinder the flow of traffic along existing trails. The Alternative 2 route would be located underground and would not interfere with ground activities such as trail use. No physical barriers would prevent access and movement along trails, bike paths, and lanes. Thus, O&M would not cause physical deterioration to existing trails, bike paths, or pedestrian sidewalks (Impact REC-2), and impacts would be less than significant (Class III).

As with the proposed Project, construction of the Alternative 2 route would not include recreational facilities or require the construction or expansion of recreational facilities. Construction activities would not induce population growth that would lead to substantial increases in the use of or demand for recreational facilities. No impact would occur. The Alternative 2 route would not introduce a new population of employees into the area that would require the construction of new, or the expansion of existing recreational facilities, and no impact would occur.

Transportation and Traffic

Environmental Setting. Given that Alternative 2 follows the same route as the proposed Project, the transportation and traffic setting for this alternative is identical to the proposed Project. Regional roadways in the Project area include Interstate 15 (I-15), Interstate 215 (I-215), State Route (SR) 74, and SR-79. A number of public roadways (see Table C.14-3) would provide local access to, or would be crossed by, the Project. Two public airports, one private airstrip, and one private helipad are located within 2 miles of the Project, and designated bikeways are adjacent to the Project route.

Environmental Impacts. Construction of Alternative 2 would result in temporary lane closures or lane width reductions at locations where the construction activities would occur within, adjacent to, or cross

the ROW of public roads and highways (Impact TRA-1). As shown in Figure D-5, the potentially affected roadways are identical to those of the proposed Project (listed in Section C.14, Table C.14-3) as the subtransmission alignment is the same. However, Alternative 2 would result in increased roadway disruption impacts compared with the proposed Project along the segment of Leon Road where the proposed 115 kV subtransmission line would be placed underground. Along this segment of Leon Road, extended travel lane disruptions would be required if trenching occurs within Leon Road and crosses Baxter Road, Pintail Way, and Lantana Way. During non-work hours, steel plates would cover open trenches to allow traffic movements within public roadways. Alternative 2 is also expected to result in slightly increased temporary daily trip generation during construction when compared to the proposed Project, as a result of the added workforce and activities required for underground construction. Construction-related truck trips would impact emergency access, public transit, bike paths, and create road damage (Impacts TRA-2, TRA-3, TRA-5, TRA-6, and TRA-7). Mitigation Measure TRA-1 (*Construction Traffic Control Plan*) and Mitigation Measure TRA-3 (*Repair Roadways and Transportation Facilities Damaged by Construction Activities*), as described in Section C.14, are recommended for Alternative 2 to provide specificity of a Construction Traffic Control Plan and to repair roadways. Further, potential impacts to aviation from Alternative 2 (Impact TRA-4) would be minimized with the implementation of Mitigation Measure TRA-2 (*Comply with FAA 7460-1 Determination Recommendations*), as described in Section C.14, which would require the Project to comply with FAA recommendations. The incorporation of these mitigation measures under Alternative 2 would reduce all temporary transportation and traffic impacts within a public ROW to a less-than-significant level (Class II).

Conclusion – Partial Underground Alternative

Alternative 2 would eliminate the aboveground 115-kV subtransmission line that the proposed Project would construct through a residential area, thereby maintaining the existing visual character within this portion of the ROW. The selection of Alternative 2 would reduce an otherwise significant and unavoidable aesthetic impact to a less-than-significant level with mitigation (Class II).

Construction of Alternative 2 would require substantially more construction activity and ground disturbance due to approximately 0.6 miles of trenching, which would result in greater air quality, hydrology, land use, noise, and traffic impacts over a longer period of time compared to the proposed Project. However, the new adverse environmental impacts that would be created by this alternative predominately would be short-term construction-related impacts associated with underground trenching and vault installation activities. These impacts are both temporary (once construction ends the impacts go away), and are mitigable with the exception of possible exceedances of regional or local emission thresholds. This alternative would have similar unavoidable impacts to cultural resources. Because this alternative has the overall potential to reduce permanent aesthetic impacts to the residential community, and the adverse environmental impacts associated with this alternative are temporary and generally mitigable, Alternative 2 continues to be a feasible alternative.

D.3.3 Alternative 3: No Project Alternative

Description

CEQA requires an evaluation of the No Project Alternative to compare impacts of the proposed Project with the impacts of not implementing the Project (CEQA Guidelines Section 15126(e)(1)). According to CEQA Section 15126 (e)(2), the assessment of the No Project Alternative should discuss existing

conditions at the time the Notice of Preparation is released and consider what would reasonably occur in the foreseeable future if the project is not implemented.

Under the No Project Alternative, the proposed Project would not construct and modify the existing electrical system in the Electrical Need Area (ENA). This alternative would not provide new electrical capacity to meet the needs of end users by 2020 and no operational flexibility would be added to the ENA. Under peak electrical demand conditions and abnormal system conditions (e.g., an outage on existing subtransmission lines), the existing Valley-Auld or Valley-Sun City subtransmission lines are projected to exceed their maximum operating limit in 2016 (SCE, 2014). The No Project Alternative would not add capacity to serve the long-term electrical demand in the ENA. Therefore, electrical upgrades may be needed in the future to address this demand. The timing and nature of these upgrades to the electrical system are not known at this time.

Objectives

- Serve long-term peak electrical demand requirements in the electrical needs area, which includes portions of unincorporated Riverside County and the cities of Menifee, Wildomar, Murrieta, and Temecula, served by the Valley-Sun City, Valley-Auld, and Valley-Auld-Triton 115-kV subtransmission lines: *Does not meet objective given that no new electrical capacity would be created*.
- Enhance electrical system reliability and operational flexibility: *Does not meet objective given that no modifications to the existing electrical system would occur*.
- Meet the proposed Project needs while minimizing environmental impacts: *Does not meet objective given that no new electrical capacity would be created*.
- Design and construct the proposed Project in conformance with SCE's current engineering, design, and construction standards for substation, transmission, subtransmission, and distribution system projects: *Does not meet objective given that no modifications to the existing electrical system would occur*.

Impact Analysis by Discipline

Aesthetics

Environmental Setting. The environmental setting for aesthetics under Alternative 3 is the same as the proposed Project. The Project area is located within unincorporated Riverside County and the surrounding incorporated cities of Menifee, Murrieta, Temecula, and Perris. The Project area includes rural communities and urban development, as well as existing SCE facilities.

Environmental Impacts. Under the No Project Alternative (Alternative 3), no new or upgraded transmission facilities or substation components would be constructed. As a result, impacts to visual resources would not occur. However, in the absence of the proposed Project, SCE may pursue other actions to achieve the objectives of the proposed Project at a later date. While the visual impacts of those potential actions cannot be known at this time, it is reasonable to conclude that the visual impacts identified for the Valley South Project would most likely be similar to those of any similar replacement project. In any case, any future project would be subject to a project-specific environmental review.

Agricultural resources

Environmental Setting. The environmental setting for Agricultural Resources under Alternative 3 is identical to that of the proposed Project. The Project area includes the following Farmland designations, as determined by the DOC: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance.

Environmental Impacts. Under Alternative 3, the proposed Project would not be constructed and modifications to the existing system would not occur. This alternative would eliminate the potential impacts associated with the conversion of agricultural lands or preserve lands. In addition, this alternative would eliminate impacts associated with the temporary disturbances to agricultural operations. There would be no impacts to agricultural lands under this alternative.

Air Quality

Environmental Setting. The air quality environmental setting of Alternative 3 is identical to that of the proposed Project. The Project area is located within the SCAQMD's jurisdiction, which is wholly within the South Coast Air Basin.

Environmental Impacts. This alternative would have no direct construction or operation air pollutant emissions or impacts. However, any system efficiencies that would be gained by the Project would not occur, so there is the potential for a small amount of indirect air pollutant emissions being caused due to not increasing the efficiency and reliability of the subtransmission system.

Biological Resources

Environmental Setting. The environmental setting for Alternative 3 is identical to the proposed Project.

Environmental Impacts. Under the No Project Alternative, the proposed Project would not be implemented and, therefore, the impacts associated with the proposed Project and alternatives described in Section C.5 would not occur.

Under the No Project Alternative, permanent and temporary impacts to biological resources associated with construction of the proposed Project would not occur. However, it is reasonably foreseeable that SCE would need to accommodate the power needs upgrading existing transmission infrastructure or building other new transmission facilities in the absence of the proposed Project or one of the alternatives. Depending on the location of other potential projects, these projects may impact sensitive biological resources. However, the locations and development schedules for construction and operation of other new transmission infrastructure cannot be predicted and, as such, it is not possible to identify impacts to biological resources that would occur under the No Project Alternative.

Cultural and Paleontological Resources

Environmental Setting. The cultural background for Alternative 3 is the same as for the proposed Project. As described in Section C.6, the VSSP contains 23 known cultural resources that include the following: two multi-component archaeological sites, 13 prehistoric archaeological sites, one historical archaeological site, four historical built environment resources, two prehistoric isolated artifacts, and portions of an informally defined prehistoric archaeological district.

Environmental Impacts. Under Alternative 3, the Project would not be implemented. The impacts associated with the proposed Project and Alternatives 1 and 2 would not occur and the Project would have no impacts to cultural resources. As Alternative 3 would result in no new ground-disturbing activities, no direct impacts to paleontological resources in the Project area are expected to occur.

Existing, approved, and future projects and programs would continue to occur in the vicinity of the Project area as a consequence of the region's need for increased transmission capacity for renewable energy resources. These projects may result in ground-disturbing work within the Project area and surrounding region. Should new generation facilities be constructed in areas underlain by geologic units with a paleontological resource potential, then adverse impacts to paleontological resources in the Project area could result.

Geology and Soils

Environmental Setting. Alternative 3 would have identical geology, soils, and seismic setting as the proposed Project, as described in Section C.7. The Project area is characterized by flat to gently sloping alluvial fans and valleys, as well as gently sloping hills. No landslides are mapped along or near to the Project, although the Project area is subject to ground shaking associated with earthquakes on faults of the San Andreas, Garlock, and Transverse Ranges fault systems.

Environmental Impacts. Under the No Project Alternative, the proposed Project would not be implemented and, therefore, the impacts associated with the proposed Project and alternatives described in Section C.7 and above would not occur. However, it is reasonably foreseeable that SCE would need to accommodate the power load in the ENA by upgrading existing transmission infrastructure or building other new transmission facilities in the absence of the proposed Project or one of the alternatives. Depending on the location of new energy projects, these projects may affect and be affected by geology and soils conditions. However, the locations and development schedules for construction and operation of other new transmission infrastructure cannot be predicted and, as such, it is not possible to identify new geology and soils impacts that would occur under the No Project Alternative.

Greenhouse Gas Emissions

Environmental Setting. The GHG environmental setting of Alternative 3 is identical to that of the proposed Project. As described in Section C.8, GHG emissions in the United States and the State of California come mostly from energy use. Energy related CO2 emissions, resulting from fossil fuel exploration and use, account for approximately three-quarters of the human-generated GHG emissions in the United States, primarily in the form of CO2 emissions from burning fossil fuels.

Environmental Impacts. This alternative would have no direct construction or operation GHG emissions or impacts. However, any system efficiencies that would be gained by the Project would not occur, so there is the potential for a small amount of indirect greenhouse gas emissions to be caused as a result of not increasing the efficiency and reliability of the subtransmission system.

Improving the efficiency of the transmission system is part of the State's GHG emissions reduction plan for the electricity generation sector; as such the No Project Alternative would not conform to the State's GHG emissions reduction plans.

Hazards and Hazardous Materials

Environmental Setting. Alternative 3 would have identical hazards and hazardous materials setting as the proposed Project. Groundwater depths in the Project area are variable and range in depth from about 7 to 20 feet near creeks, channels, and ponds to greater than 50 to 150 feet in the deeper alluviated valleys. While no active sites with known environmental contamination were identified within one mile of the Project area, several sites that use, store, and dispose of large quantities of hazardous materials are located within a half mile of the Project.

Environmental Impacts. Under the No Project Alternative, the proposed Project would not be implemented and, therefore, the impacts associated with the proposed Project and alternatives described in Section C.9 and above would not occur. However, it is reasonably foreseeable that SCE would need to accommodate the power load in the ENA by upgrading existing transmission infrastructure or building other new transmission facilities in the absence of the proposed Project or one of the alternatives. Depending on the location of new energy projects, these projects may affect and be affected by hazards and hazardous materials conditions. However, the locations and development

schedules for construction and operation of other new transmission infrastructure cannot be predicted and, as such, it is not possible to identify new hazards and hazardous materials impacts that would occur under the No Project Alternative.

Hydrology and Water Quality

Environmental Setting. The environmental setting for the hydrology and water quality of Alternative 3 is identical to that of the proposed Project. The Project area is located across both undeveloped land with natural drainage features and urban developments with highly altered drainage systems, such as underground stormwater systems. The two Hydrologic Units that contain the Project are subject to the jurisdiction of the SARWQCB and the SDRWQCB.

Environmental Impacts. Under the No Project Alternative, the proposed Project would not be implemented and, therefore, the impacts associated with the proposed Project and alternatives described in Section C.10 and above would not occur. However, it is reasonably foreseeable that SCE would need to accommodate the power load in the ENA by upgrading existing transmission infrastructure or building other new transmission facilities in the absence of the proposed Project or one of the alternatives. Depending on the location of new energy projects, these projects may affect hydrology and water quality. However, the locations and development schedules for construction and operation of other new transmission infrastructure cannot be predicted and, as such, it is not possible to identify new hydrology and water quality impacts that would occur under the No Project Alternative.

Land Use and Planning

Environmental Setting. The environmental setting for Alternative 3 is identical to the proposed Project. Under the No Project Alternative, no staging or construction activities would occur in the cities of Menifee, Murrieta, Temecula, and Perris, or in unincorporated communities in Riverside County.

Environmental Impacts. Under the No Project Alternative, temporary disturbance to residential and non-residential land uses and other nuisance impacts associated with construction of the proposed Project would not occur. However, as electrical upgrades may be needed in the future to address the long-term electrical demand in the Project Study Area, land use impacts would likely occur from a future project. While the exact location of a future project is speculative, the degree to which land uses would be affected may be similar to the proposed Project.

Noise

Environmental Setting. The noise environmental setting for Alternative 3 is identical to the proposed Project. The Project area is typically rural in nature, with rural residential and commercial land uses, as well as notable transportation corridors (i.e., I-215, SR-74 and SR-79/Winchester Road) and other arterial roadways that contribute to transportation-related noise. The Project area is further characterized by occasional aircraft noise associated with French Valley Airport, Pine Airpark, Perris Valley Airport, and SCE's Menifee Service Center Helipad. Intermittent noise from general residential outdoor activities, such as people talking, landscaping/gardening, domestic animals, etc. also contribute to the ambient noise environment.

Environmental Impacts. Under the No Project Alternative, temporary noise disturbances to sensitive receptors during construction and operation of the proposed Project would not occur. However, as electrical upgrades may be needed in the future to address the long-term electrical demand in the Project Study Area, noise impacts would likely occur from a future project. While the exact location of a future project is speculative, the degree to which sensitive receptors would be affected may be similar to the proposed Project.

Recreation

Environmental Setting. The recreational setting for Alternative 3 is identical to the proposed Project. The Project area includes 35 regional parks and four park and recreation districts. No federal parks or State recreation areas are located within a one-mile vicinity of the Project area.

Environmental Impacts. The recreation impacts associated with the proposed Project, as presented in Chapter C.13, would not occur for the No Project Alternative. There would be no direct or indirect impacts associated with the physical deterioration to existing neighborhood and regional parks, existing trails, bike paths, or pedestrian sidewalks. Additionally, there would be no impacts associated with the construction or expansion of recreational facilities. It is probable that other transmission upgrade projects would be implemented in lieu of the proposed Project under the No Project Alternative because the demand for energy in the area is expected to continue to increase and the existing Valley-Auld or Valley-Sun City subtransmission lines are projected to exceed their maximum operating limit in 2016. The recreation impacts for these other projects could be similar to those identified for the proposed Project, but may occur at other facilities in different locations.

Transportation and Traffic

Environmental Setting. The transportation and traffic setting for Alternative 3 is identical to the proposed Project. Regional roadways in the Project area include Interstate 15 (I-15), Interstate 215 (I-215), State Route (SR) 74, and SR-79. A number of public roadways (see Table C.14-3) provide local access in the Project area. Two public airports, one private airstrip, and one private helipad are located within 2 miles of the Project, and designated bikeways have been identified within the Project area.

Environmental Impacts. The transportation and traffic impacts associated with the proposed Project, as presented in Chapter C.14, would not occur for the No Project Alternative. There would be no direct or indirect impacts associated with temporary travel lane disruptions or vehicle trip generation. It is probable that other transmission upgrade projects would be implemented in lieu of the proposed Project under the No Project Alternative because the demand for energy in the area is expected to continue to increase and the existing Valley-Auld or Valley-Sun City subtransmission lines are projected to exceed their maximum operating limit in 2016. The transportation and traffic impacts for these other projects would likely be similar to those identified for the proposed Project, but would occur at other facilities in different locations.

Conclusion – No Project Alternative

The No Project Alternative (Alternative 3) would avoid impacts for all issue areas. This alternative would not include construction and operation of a new 115-kV subtransmission line, nor reconductoring of the existing double-circuit 115 KV subtransmission line. In comparison to the proposed Project, this alternative would avoid the Project's impacts to aesthetics; agriculture, biological resources, cultural and paleontological resources; air quality, geology and soils; hazards and hazardous materials; hydrology and water quality; land use and planning; noise; and transportation and traffic. However, the No Project Alternative would not accommodate the forecasted electrical demand requirements in the ENA. It is reasonably foreseeable that SCE would need to accommodate future power load in the ENA by upgrading existing transmission infrastructure or building other new transmission facilities. Future projects that would be developed to provide electrical service in the ENA would create environmental impacts associated with construction, operation, and maintenance that may be similar to the proposed Project. The degree of impact from future projects would depend on the exact location of proposed facilities.

D.4 Alternatives Eliminated from Full EIR Evaluation

Table D-5 presents a summary of the alternatives that were eliminated in the detailed screening analysis conducted for the proposed Project. For more detail on these alternatives, refer to Appendix 4.

Table D-5. Alternatives Eliminated from EIR Consideration After Detailed Screening

Alternative	Project Objectives, Purpose, and Need	Potential Feasibility	Avoid/Reduce Environmental Effects?	Conclusions
System Alternative 1 (facility upgrades)	Would not meet Project objectives as no further upgrades can occur.	Further upgrades are not feasible given that all 115-kV lines have been upgraded and are operating at full-rated capacity.	May reduce visual impacts due to the use of existing ROW, but other impacts may be greater as construction would occur along 10 more miles of subtransmission lines.	Alternative is infeasible. Lines constructed to maximum operating capacity such that upgrades with standard conductors would not be possible.
Subtransmission Line Route Alternative Along Briggs Road	Meets some Project objectives, but would not improve system reliability.	May not be feasible as it would not conform to SCE's current engineering, design, and construction standards. The larger TSPs needed for this alternative may require additional ROW.	Anticipated changes to the subtransmission line infrastructure would result in a greater area where environmental impacts could occur.	Alternative would not enhance electrical system reliability and operational flexibility; would not conform to SCE's current engineering, design, and construction standards; and would not avoid or substantially lessen the impacts of the Project.
Western Segment-Menifee Road and Briggs Road	Meets some Project objectives, but would not improve system reliability.	May not be feasible as it would not conform to SCE's current engineering, design, and construction standards. The larger TSPs needed for this alternative may require additional ROW.	Anticipated changes to the subtransmission line infrastructure would result in a greater area where environmental impacts could occur. Within the Western Segment, 0.6 mile of new construction may have greater impacts to archaeological, biological, and visual resources.	Alternative would not enhance electrical system reliability and operational flexibility; would not conform to SCE's current engineering, design, and construction standards; and would not avoid or substantially lessen the impacts of the Project.
Eastern Segment-SR 79	Meets the Project objectives.	Would be feasible.	Due to the topography that would require a greater amount of civil work, impacts may be more severe for agricultural, archaeological, and biological resources.	Would result in greater environmental impacts than the Project due to the greater amount of civil work required in hilly terrain.
Lower Eastern Segment- Borel Road	Meets the Project objectives.	Would be feasible.	Would result in greater biological resources impacts than the Project due to being located near/on lands managed in accordance with an adopted MSHCP (Lake Skinner area).	Would have greater biological and recreational impacts than the Project.
High-Temperature Low-Sag Conductor Alternative	Meets some Project objectives, but would not improve system reliability or provide operational flexibility.	Would be feasible	Would avoid the proposed Project's visual impacts, but would create new impacts from greater construction activity, ground disturbance, air quality, and noise.	Would not enhance electrical system reliability and operational flexibility. Would have substantially more construction-related impacts because of the length of the needed improvements (37.5 miles versus 15.4 miles).

D.5 Comparison of Alternatives

Section D.5 describes and evaluates the three alternatives to the proposed project. Table D-6 presents a comparison of the potential significant impacts of the proposed Project in comparison with the alternatives.

CEQA Guidelines Section 15126.6(d) requires the following for alternatives analysis and comparison:

> *The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed. (CEQA Guidelines Section 15126.6[d])*

If the environmentally superior alternative is the No Project Alternative, CEQA requires the identification of an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6[e][2]).

Based on the analysis presented in this section and on the impact analysis for the proposed Project presented in Section C of this EIR, Alternative 3 (No Project Alternative) is the environmentally superior alternative from an environmental standpoint. As noted above, CEQA requires that if the No Project Alternative is selected then another alternative must be identified from among the other alternatives.

Both Alternative 1 (Subtransmission Line Route Alternative along Menifee Road) and Alternative 2 (Partial Underground Alternative) would result in similar impacts to the proposed Project as they are in the same Project area and would impact similar resources. In addition, both Alternative 1 and 2 have the potential to reduce visual impacts, but neither alternative reduces impacts to cultural resources (i.e. possible human remains). Both Alternative 1 and Alternative 2 would have more temporary construction impacts than the proposed Project; under Alternative 1 the route is longer impacting more surface area and under Alternative 2 the trenching or undergrounding of the lines would extend the construction period and cause more construction impacts in an established residential area. Given these constraints, Alternative 2: Partial Underground Alternative was identified as the environmentally superior alternative because this alternative would best address the possible long-term visual resources impacts between the two alternatives (Alternative 1 and Alternative 2).

Table D-6. Comparison of Alternatives

Environmental Resource	Impact Severity Compared to Proposed Project			
	Proposed Project	**Alternative 1 Subtransmission Line Route Alternative Along Menifee Road**	**Alternative 2 Partial Underground Alternative**	**Alternative 3 No Project Alternative**
Aesthetics	With the implementation of recommended mitigation (MM AES-1 through MM AES-7), the Project's short-term construction impacts to visual resources would be less than significant (Class II). Long-term visual changes along Leon Road near Lantana Way (KOP 5) would be significant and unavoidable (Class I).	Impacts from the overall visual change along Alternative 1 would be **less severe** than the proposed Project (Class II), as the rerouted segment would avoid long-term impacts in a landscape of Moderate to High visual sensitivity. Impacts would be reduced to less than significant with implementation of MM AES-1 through MM AES-6, and MM AES-7 (Alternative 1 only).	Impacts from the overall visual change along Alternative 2 would be **less severe** than the proposed Project (Class II), as the underground segment would avoid long-term impacts in a landscape of Moderate to High visual sensitivity.	Alternative 3 would avoid the proposed Project's direct visual resource impacts as no construction activities would occur. Future impacts may result from new transmission projects constructed in lieu of this Project, but the location and severity of these impacts cannot be determined at this time.
Agricultural Resources	Construction activities could result in the temporary disruptions to agricultural activities and could result in reductions of agricultural productivity in the area. Implementation of MM AG-1 would reduce impacts to less than significant (Class II).	Alternative 1 would involve **similar** construction, operation, and maintenance activities as the proposed Project, which would create similar short-term impacts to agricultural operations. MM AG-1 is recommended to reduce impacts to less than significant (Class II)	The location of the Alternative 2 route would be **similar** to the proposed Project, and therefore would affect the same areas of designated Farmland. Impacts would be the same as the proposed Project.	Alternative 3 would avoid the proposed Project's direct agricultural resource impacts as no construction activities would occur. Future impacts may result from new transmission projects constructed in lieu of this Project, but the location and severity of these impacts cannot be determined at this time.
Air Quality	With the implementation of recommended mitigation (MM AQ-1), the Project's regional, localized, and Valley Fever related air quality emissions impacts are less than significant (Class II).	Alternative 1 would have **similar** regional and localized daily emissions impacts as the proposed Project, given that it would have similar construction activity intensity. MM AQ-1 is recommended to reduce fugitive dust emissions and exposure to Valley Fever (Class II).	Alternative 2 would likely **increase** regional and localized emissions and related impacts due to the underground construction activities. It is possible that PM10 or NOx emissions would be significant and unavoidable (Class I) and that NOx emissions may require additional mitigation.	Alternative 3 would not generate construction emissions, and thus would have lower direct impacts. This alternative may have greater indirect impacts from not improving the subtransmission area efficiency and reliability.

Table D-6. Comparison of Alternatives				
Environmental Resource	**Impact Severity Compared to Proposed Project**			
	Proposed Project	**Alternative 1 Subtransmission Line Route Alternative Along Menifee Road**	**Alternative 2 Partial Underground Alternative**	**Alternative 3 No Project Alternative**
Biological Resources	Construction and operation of the proposed Project would result in permanent and temporary impacts to sensitive vegetation communities as well as sensitive and special-status plants and wildlife. Implementation of MM BIO-1 through MM BIO-26 will reduce impacts to less-than-significant levels (Class II).	Impacts from construction and operation of Alternative 1 would be the **same** as the proposed Project. Implementation of MM BIO-1 through MM BIO-26 will reduce impacts to less-than-significant levels (Class II).	The location of the Alternative 2 route would be **identical** to the proposed Project, and therefore would affect the same types of biological resources. Construction impacts are expected to be the same as the proposed Project. Implementation of MM BIO-1 through MM BIO-26 will reduce impacts to less-than-significant levels (Class II).	Alternative 3 would avoid impacts related to the proposed Project as no construction activities would occur. Future impacts may result from new transmission projects constructed in lieu of the proposed Project, but the location and severity of these impacts cannot be determined at this time.
Cultural and Paleontological Resources	Implementation of the Proposed Project could uncover, expose, and/or damage human remains, based on previously identified remains in the project area, which would create a significant and unavoidable impact (Class I). MM CR-1 through MM CR-13 are recommended to reduce potential construction impacts to cultural and paleontological resources to less than significant (Class II).	Although more cultural resources are present on Alternative 1 route, impacts are expected to be **similar** as most resources can be avoided by implementing MM CR-1 through MM CR-13 (Class II). Alternative 1 impacts to paleontological resources are comparable to the proposed Project because both routes have similar geology (Class II). Significant impacts to human remains would be similar for this alternative (Class I).	While Alternative 2 would involve fewer poles, impacts to cultural resources would be the **same** as the proposed Project given that cultural resources can be avoided with implementation MM CR-1 through MM CR-13. Significant impacts to human remains would be similar for this alternative (Class I).	Alternative 3 would avoid the proposed Project's direct cultural and paleontological resource impacts as no construction activities would occur. Future impacts may result from new transmission projects constructed in lieu of this Project, but the location and severity of these impacts cannot be determined at this time.

Table D-6. Comparison of Alternatives

Environmental Resource	Impact Severity Compared to Proposed Project			
	Proposed Project	**Alternative 1 Subtransmission Line Route Alternative Along Menifee Road**	**Alternative 2 Partial Underground Alternative**	**Alternative 3 No Project Alternative**
Geology and Soils	Potential impacts to Project components from liquefaction or from unsuitable soils would be reduced to less than significant with implementation of MM GEO-1 and MM GEO-2, as well as compliance with CPUC GO 95 and GO 128 (Class II).	Impacts from construction and operation of Alternative 1 would be the same as the proposed Project. While the longer length of Alternative 1 results in a **slightly increased** potential for construction activities to loosen soil and trigger or accelerate erosion, compliance with NPDES regulations and SWPPP plans would avoid a new significant impact.	Impacts from construction and operation of Alternative 2 would be similar to the proposed Project. Due to the increased amount of ground disturbance required for the 0.6-mile underground conduit under Alternative 2, impacts related to triggering or accelerating erosion would be **slightly increased**. However, compliance with NPDES regulations and SWPPP plans would avoid a new significant impact.	Alternative 3 would avoid the proposed Project's direct impacts to geology and soils as no construction activities would occur. Future impacts may result from new transmission projects constructed in lieu of this Project, but the location and severity of these impacts cannot be determined at this time.
Greenhouse Gas Emissions	GHG emissions are well below significance thresholds and are less than significant (Class III). The Project would conform to GHG emissions reductions plans, policies, goals, and regulations.	Alternative 1 GHG emissions would be **slightly higher** than the proposed Project, but would remain well below GHG emissions significance criteria.	Alternative 2 GHG emissions would be **slightly higher** than the proposed Project, but would remain well below GHG emissions significance criteria.	Alternative 3 would not create direct GHG emissions, but could contribute to greater indirect GHG emissions impacts from not improving the subtransmission area efficiency and reliability, which is part of the State's plan to reduce GHG emissions from the electricity sector.
Hazards and Hazardous Materials	If unknown soil or groundwater were encountered during Project construction, implementation of SCE commitments regarding contaminated soil and groundwater handling (listed under Impact HAZ-3) and MM HAZ-1 would reduce adverse effects to less than significant (Class II).	Alternative 1 impacts would be same as the proposed Project, except there is a **slightly increased** potential to encounter unknown contamination due to increased length and proximity to industrial sites near Benton Road. Compliance with the Project WEAP, and implementation of MM HAZ-1 and SCE commitments for contaminated soil, would avoid a new significant impact.	The location of the Alternative 2 route would be **identical** to the proposed Project, and therefore would affect the same areas of potential soil contamination. Although there is more ground disturbance along Alternative 2, the potential to encounter unknown soil or groundwater contamination is not changed due to the residential character of the alternative's underground section.	Alternative 3 would avoid the proposed Project's direct impacts to hazards and hazardous materials as no construction activities would occur. Future impacts may result from new transmission projects constructed in lieu of this Project, but the location and severity of these impacts cannot be determined at this time.

Table D-6. Comparison of Alternatives				
Environmental Resource	Impact Severity Compared to Proposed Project			
	Proposed Project	Alternative 1 Subtransmission Line Route Alternative Along Menifee Road	Alternative 2 Partial Underground Alternative	Alternative 3 No Project Alternative
Hydrology and Water Quality	The Project would not result in a net deficit of the underlying aquifer volume or a lowering of the local groundwater table with implementation of MM HYD-1 (Class II).	Alternative 1 impacts to hydrology/water quality would be the **same** as the proposed Project given that they are located within the same Hydrologic Units and groundwater basins, and that construction of both routes would require similar excavation and grading activities.	Excavation, backfill, and restoration activities for Alternative 2 **may alter** the existing drainage pattern in the Project area, but the implementation of BMPs similar to the proposed Project would prevent and control soil erosion and ensure worker safety.	Alternative 3 would avoid the proposed Project's direct hydrology and water quality impacts as no construction activities would occur. Future impacts may result from new transmission projects constructed in lieu of this Project, but the location and severity of these impacts cannot be determined at this time.
Land Use and Planning	Temporary disturbances to nearby residences from construction noise, dust, and nighttime lighting, as well as short-term impacts to ingress/egress of non-residential land uses, would be less than significant with implementation of MM LU-1, MM LU-2, MM AQ-1, MM NOI-1, and MM NOI-2 (Class II).	While specific land uses affected by construction of Alternative 1 would vary from the proposed Project, the type and magnitude of land use impacts would be **similar**.	The underground portion of Alternative 2 would require a greater construction effort than the proposed Project, resulting in impacts to adjacent residences that are **slightly greater** in magnitude. However, the severity of the impact would remain the same as the proposed Project, which would be less than significant with MMs LU-1, MM AQ-1, MM NOI-1, and MM NOI-2.	No immediate land use impacts would occur under this alternative. However, construction of a future project to address long-term electrical need in the Project Area may create similar adverse effects on surrounding land uses.
Noise	Project construction would temporarily increase ambient noise levels in the vicinity of the Project alignment, and would disturb sensitive receptors. MM NOI-2 would reduce noise impacts (Class II).	Although some locations of sensitive receptors affected by construction of Alternative 1 would vary from the proposed Project, the type and magnitude of noise impacts would be **similar**.	The underground portion of Alternative 2 would require a greater construction effort than the proposed Project, resulting in noise impacts that are **greater** in magnitude. However, the severity of the impact would be reduced with MM NOI-2 (Class II).	Alternative 3 would avoid the proposed Project's direct noise impacts as no construction activities would occur. Future impacts may result from new transmission projects constructed in lieu of this Project, but the location and severity of these impacts cannot be determined at this time.

Table D-6. Comparison of Alternatives				
Environmental Resource	**Impact Severity Compared to Proposed Project**			
	Proposed Project	**Alternative 1 Subtransmission Line Route Alternative Along Menifee Road**	**Alternative 2 Partial Underground Alternative**	**Alternative 3 No Project Alternative**
Recreation	Project operation would not noticeably affect neighborhood and regional parks or other recreational resources (e.g., trails, bike paths, pedestrian sidewalks). However, construction could disturb use and affect recreational uses. MM REC-1 would reduce impacts to less than significant (Class II).	The specific recreational resources affected by Alternative 1 would be **similar** if not identical to the proposed Project. Given that both routes would involve similar construction, operation, and maintenance activities, impacts are expected to be the same.	The location of the Alternative 2 route would be **identical** to the proposed Project, and therefore would affect the same recreation areas. Construction impacts are expected to be the same as the proposed Project.	Alternative 3 would avoid the proposed Project's direct recreation impacts as no construction activities would occur. Future impacts may result from new transmission projects constructed in lieu of this Project, but the location and severity of these impacts cannot be determined at this time.
Transportation and Traffic	Construction would require the temporary closure of a road or travel lanes on affected roadway segments and would add a maximum of 402 total daily trips to Project area roadways. MM TRA-1 is proposed to provide specificity regarding the requirements of a Construction Traffic Control Plan, which would reduce traffic impacts to less than significant (Class II).	Temporary impacts during Alternative 1 construction would be **similar** to the proposed Project. While the alternative would eliminate some roadway disruptions, it would create new disruptions along the reroute to Menifee Road and connection to Auld Substation. Given that the alternative would have similar temporary trip generation during construction as the proposed Project, impacts would also be similar.	Temporary impacts during Alternative 2 construction would be **slightly increased** from the proposed Project due to extended roadway disruptions within Leon Road and crossings at Baxter Road, Pintail Way, and Lantana Way. Temporary daily trip volumes would also be slightly increased during construction. However, the severity of impacts would remain the same as the proposed Project (Class II) with implementation of MM TRA-1.	The transportation and traffic impacts associated with the proposed Project would not occur. There would be no direct or indirect impacts associated with temporary travel lane disruptions or vehicle trip generation. Future impacts may result from new transmission projects constructed in lieu of this Project, but the location and severity of these impacts cannot be determined at this time.