

H. Comparison of Alternatives – Contents

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H. Comparison of Alternatives

This section summarizes and compares the environmental advantages and disadvantages of the proposed Sunrise Powerlink Project and the alternatives evaluated in this EIR/EIS. This comparison is based on the assessment of environmental impacts of the Proposed Project and each alternative, as identified in Sections D, E, and G. Section C introduces and describes the alternatives considered in this EIR/EIS; Appendix 1 includes the Alternatives Screening Report, which documents all alternatives considered in the screening process. Section C and Appendix 1 include figures of all alternatives that have been retained for analysis and are compared within this section.

Section H.1 describes the regulatory requirements for alternatives comparison and Section H.2 describes the methodology used for comparing alternatives. There are essentially four different categories of alternatives: (1) route segment alternatives for the Proposed Project; (2) Southwest Powerlink (SWPL) alternatives; (3) Lake Elsinore Advanced Pumped Storage (LEAPS) alternatives; and (4) Non-Wires alternatives. Section H.3 presents a comparison of the alternative route segments along the Proposed Project route links (northern routes) with the Proposed Project to determine the Environmentally Superior Route Segment Alternative for the Proposed Project. Section H.4 compares the SWPL route alternatives (southern routes) to one another to determine the Environmentally Superior SWPL Alternative. Section H.5 summarizes the comparison of the two system alternatives: the LEAPS Transmission-Only Alternative and the LEAPS Transmission Plus Generation Alternative, and then compares the superior northern and southern routes (from Sections H.2 and H.3) against the LEAPS Transmission-Only Alternative to determine the Environmentally Superior Transmission Line Route Alternative. Section H.6 compares this superior transmission alternative to two Non-Wires Alternatives to determine the Overall Environmentally Superior Alternative. Finally, Section H.7 compares the No Project/Action Alternative with the alternative that is determined to be overall environmentally superior.

Conclusion Regarding Environmentally Superior Alternative. In this section, the CPUC has identified the Environmentally Superior Alternative, as required by CEQA Guidelines Section 15126.6(d) and (e)(2). In accordance with BLM planning regulations BLM's Agency Preferred alternative will be identified in the Final EIS (BLM Manual 1790-1, Ch. V(B)(4)(c)). The BLM will select a preferred alternative following analysis of public comments on the Draft EIS/EIR and further internal review of the Draft EIS/EIR.

The results of the comparisons of transmission and generation alternatives are presented below, with the Environmentally Superior Alternative shown first and the least preferable alternative shown seventh. The rationale for these conclusions is presented in Sections H.5 through H.7.

1. New In-Area All-Source Generation Alternative
2. New In-Area Renewable Generation Alternative
3. LEAPS Transmission-Only Alternative
4. Environmentally Superior Southern Route (SWPL) Alternative
5. Environmentally Superior Northern Route Alternative Along the Proposed Project
6. LEAPS Generation and Transmission Alternative

No Project/No Action Alternative. The No Project/No Action Alternative includes a range of likely development actions, including both generation and transmission components, that are considered to be more likely to occur in the absence of the Proposed Project. Most of these actions are also included in

the alternatives ranked first, second, and third in the list above. Therefore, the No Project/No Action Alternative would have fewer impacts than those of the Proposed Project, the Southern Route Alternative, and the LEAPS Generation and Transmission Alternative. Only about 1,000 MW of in-basin generation or transmission import capacity would be required to replace the Proposed Project, so any one of the three top ranked alternatives would provide adequate resources. However, they may or may not all meet all three major project objectives, including provision of direct access to the transmission grid for new renewable resources in the Imperial Valley.

H.1 Regulatory Requirements for Alternatives Comparison

H.1.1 California Environmental Quality Act (CEQA)

CEQA 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. Guidelines Section 15126.6(d)

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

H.1.2 National Environmental Policy Act (NEPA)

Under NEPA the Draft EIR/EIS should identify the environmentally preferable or superior alternative from a range of alternatives considered if one exists at the draft stage. Commenters from other agencies and the public are also encouraged to address this question. However, in all situations, the environmentally preferable alternative must be identified in the Record of Decision on the Final EIR/EIS [Forty Questions No. 6(a) and 6(b)]. The answer to Forty Questions No. 6(a) states

A. Section 1505.2(b) requires that, in cases where an EIS has been prepared, the Record of Decision (ROD) must identify all alternatives that were considered, “. . . specifying the alternative or alternatives which were considered to be environmentally preferable.” The environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA’s Section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources.

The Council recognizes that the identification of the environmentally preferable alternative may involve difficult judgments, particularly when one environmental value must be balanced against another. The public and other agencies reviewing a Draft EIS can assist the lead agency to develop and determine environmentally preferable alternatives by providing their views in comments on the Draft EIS. Through the identification of the envi-

ronmentally preferable alternative, the decisionmaker is clearly faced with a choice between that alternative and others, and must consider whether the decision accords with the Congressionally declared policies of the Act.

In addition, the BLM NEPA Handbook (H-1790-1, Chapter 5.B.2.b) requires identification of an agency preferred alternative. Therefore, BLM has decided to select a preferred alternative following analysis of public comments on the Draft EIS and further internal review of the Draft EIS. In accordance with BLM planning regulations BLM's preferred alternative will be identified in the Final EIS (BLM Manual 1790-1, Ch. V(B)(4)(c)).

H.2 Alternatives Comparison Methodology

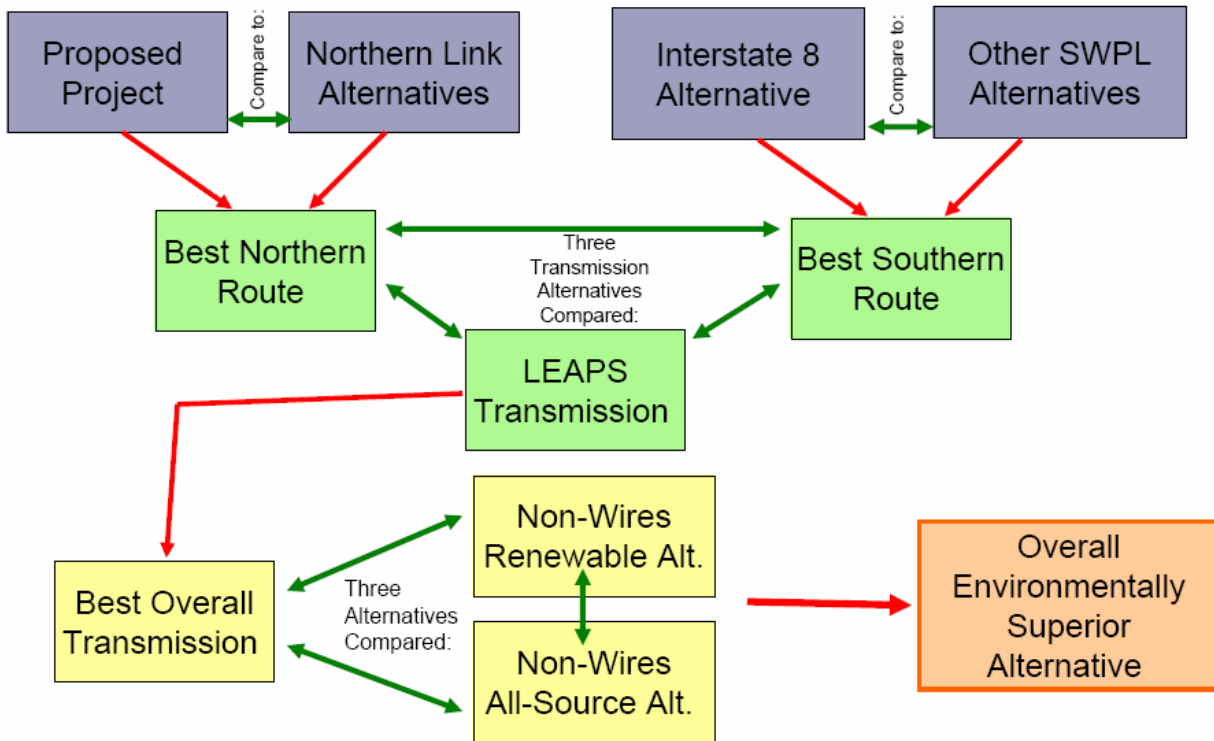
The following methodology was used to compare alternatives in this EIR/EIS:

- **Step 1: Identification of Alternatives.** A screening process (described in Section C) was used to identify over 100 alternatives to the Proposed Project. That screening process identified 18 route segment alternatives to the Proposed Project, four route alternatives that would parallel portions of the existing Southwest Powerlink (SWPL) #1 500 kV line, four full project route and system alternatives, and two Non-Wires alternatives. A No Project Alternative was also identified. No other feasible alternatives meeting most of the project objectives were identified that would lessen or alleviate significant impacts.
- **Step 2: Determination of Environmental Impacts.** The environmental impacts of the proposed and the alternative route segments were identified in Sections D, E, F, and G, including the potential impacts of transmission line and substation construction and operation. The significant and unmitigable (Class I) impacts that could occur with the Proposed Project, as well as those that are created and/or eliminated by each alternative, are summarized in tables at the beginning of each comparison section in Sections H.3 through H.6 below. It should be noted that alternatives shorter than the overall link or segment may not affect areas where many impacts occur. As a result, an “area of comparison” was developed for each comparison in order to determine the project impacts for only the portion of the route that would be replaced by the alternative.
- **Step 3: Comparison of Proposed Project and Alternatives.** The environmental impacts of the Proposed Project were compared to those of each alternative to determine the environmentally superior alternative. To evaluate the various route alternatives along the Proposed Project route, an “area of comparison” was identified. The “area of comparison” is the relevant portion of the Proposed Project (by milepost) to which a particular route alternative is compared and it may extend into more than one link. The impacts of the Proposed Project within the “area of comparison” were then compared to the impacts of the alternative, as identified in the impact analysis set forth in Section D. For alternatives that are shorter than the overall “area of comparison,” it is assumed that the Proposed Project route would make up the remainder of the route within the area of comparison. The preferred proposed route was also compared with SWPL alternatives, system alternatives, and Non-Wires alternatives. The overall environmentally superior alternative was then compared to the No Project Alternative (Section H.7).

Determining an environmentally superior alternative requires balancing many environmental factors. In order to identify the environmentally superior alternative, the most important impacts in each issue area were identified and compared in detailed comparison tables in Sections H.2 through H.6. Each of these tables present a preference ranking and a brief explanation of the ranking for each environmental issue area. If an alternative is not considered preferred for an issue area and there are no significant unmitigable

(Class I) impacts, a ranking has not been established and it is stated that there is no preference for the alternative in terms of that issue area. Although this EIR/EIS identifies an environmentally superior alternative, it is possible that the decisionmakers could balance the importance of each impact area differently and reach different conclusions. The comparisons presented in this section highlight situations where a route or alternative would create impacts in one area as a consequence of avoiding impacts to another area.

The flowchart below illustrates the process followed in this section compare alternatives.



H.3 Comparison of Alternatives along Proposed Project Route Links

For each area of the Proposed Project where an alternative is considered, the comparison begins with a summary of the significant impacts that cannot be mitigated (Class I impacts). Significant and unmitigable (Class I) impacts of the Proposed Project and any Class I impacts either created or eliminated by each alternative are listed in the following sections in tables under each link. Highlighting these areas of significant impacts identifies which alternatives would be capable of eliminating significant unavoidable environmental effects of the Proposed Project, and which alternatives would create new significant impacts. This comparison helps identify the environmentally superior alternative(s) while considering all environmental issue areas equally. The connected actions associated with construction of the Proposed Project (see Section B for a description of these projects) would occur with all of the route segment alternatives along the proposed route.

The following sections also summarize the advantages and disadvantages of each alternative and present a determination of whether those portions of the Proposed Project avoided by implementation of the alternative or the alternative is considered to be environmentally superior within each resource area. The preferred alternative is identified for each resource area. An alternative identified as “preferred” in

one resource area may still have significant environmental effects, but when compared with the other alternatives, its environmental effects would be reduced.

The Proposed Project as a whole would have 50 significant (Class I) impacts in one or more links in the following issue areas: biological resources, visual resources, wilderness and recreation, agricultural resources, cultural and paleontological resources noise, air quality, socioeconomics, public services and utilities, and fire and fuels management (see Table H-1). Additionally, as addressed under the individual sections below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining six issue areas, which have been found to be less than significant following implementation of required mitigation

Table H-1. Summary of All Significant Unmitigable (Class I) Impacts for the Proposed Project

Significant Impacts (Class I) by Issue Area

Biological Resources

- B-1: Temporary and permanent losses of native vegetation.
 - B-5: Direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants.
 - B-7: Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for [the following species]:
 - B-7A: Direct or indirect loss of Flat-Tailed horned lizard or direct loss of habitat.
 - B-7B: Direct or indirect loss of Peninsular bighorn sheep or direct loss of habitat.
 - B-7H: Direct or indirect loss of golden eagle or direct loss of habitat.
 - B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat.
 - B-7L: Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat.
 - B-7O: Direct or indirect loss of barefoot banded gecko or direct loss of habitat.
 - B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species.
 - B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality (Class I for Peninsular bighorn sheep).
-

Visual Resources

- V-5: Inconsistency with Interim BLM VRM Class III management objective due to increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 3 on BLM Road 326 north of Superstition Hills.
 - V-6: Inconsistency with Interim BLM VRM Class III management objective due to the introduction of structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 4 on SR78/86, north of Superstition Hills.
 - V-8: Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 5 on eastbound Old Kane Springs Road.
 - V-9: Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 6 on westbound SR78 at The Narrows.
 - V-10: Increased structure contrast, industrial character, and view blockage when viewed from Key Viewpoint 7 on northbound Mine Wash Road.
 - V-11: Increased structure contrast, industrial character, and view blockage when viewed from Key Viewpoint 8 at Kenyon Overlook.
 - V-12: Increased structure contrast, industrial character, and view blockage when viewed from Key Viewpoint 9 at Station 6 on the Cactus Loop Trail out of Tamarisk Grove Campground.
 - V-13: Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 10 in the Yaqui Well Primitive Camping Area.
 - V-14: Increased structure contrast, industrial character, and view blockage when viewed from Key Viewpoint 11 on westbound SR78.
 - V-15: Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 12 on Grapevine Canyon Road within Anza-Borrego Desert State Park.
 - V-16: Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 13 on Grapevine Canyon Road, just west of Anza-Borrego Desert State Park.
 - V-17: Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 14 on southbound SR79.
 - V-18: Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 15 on westbound Mesa Grande Road.
 - V-19: Increased structure contrast, industrial character, and view blockage when viewed from Key Viewpoint 16 at the Inaja Monument Park Overlook.
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Table H-1. Summary of All Significant Unmitigable (Class I) Impacts for the Proposed Project

Significant Impacts (Class I) by Issue Area

V-20: Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 17 on westbound SR78.

V-21: Increased structure contrast, industrial character, view blockage, and skylining when viewing the Central East Substation site from Key Viewpoint 18 on BIA Road 51.

V-22: Increased structure contrast, industrial character, and view blockage when viewing the Central East Substation site from Key Viewpoint 19 on northbound San Felipe Road.

V-23: Increased structure contrast, industrial character, view blockage, and skylining when viewing Cable Poles I124 from Key Viewpoint 20 on westbound San Vicente Road.

V-24: Increased structure contrast, industrial character, view blockage, and skylining when viewing the span of SR67 from Key Viewpoint 21 on southbound SR67.

Wilderness and Recreation

WR-1: Construction activities would temporarily reduce access and visitation to recreation or wilderness areas.

WR-2: Presence of a transmission line or substation would permanently change the character of a recreation area, diminishing its recreational value.

WR-4: Presence of a transmission line in a designated wilderness or wilderness study area would result in the loss of wilderness land.

Agricultural Resources

AG-2: Operation would permanently convert DOC Farmland to non-agricultural use.

AG-3: Operation would permanently interfere with Active Agricultural Operations.

AG-4: Operation would permanently convert Williamson Act lands to non-agricultural use.

Cultural and Paleontological Resources

C-1: Construction would cause an adverse change to known historic properties.

C-2: Construction would cause an adverse change to sites known to contain Native American human remains.

C-3: Construction would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains.

C-4: Construction would cause an adverse change to Traditional Cultural Properties.

C-6: Long-term presence of the project would cause an adverse change to known historic architectural (built environment) resources.

Noise

N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.

N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components.

N-4: Routine inspection and maintenance activities would increase ambient noise levels.

Air Quality

AQ-1: Construction would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants.

AQ-4: Project activities would cause a net increase of greenhouse gas emissions.

Socioeconomics, Public Services, and Utilities

S-1: Project construction and/or transmission line presence would cause a substantial change in revenue for businesses, tribes, or governments.

Fire and Fuels Management

F-1: Construction and/or maintenance activities would significantly increase the probability of a wildfire.

F-2: Presence of the overhead transmission line would significantly increase the probability of a wildfire.

F-3: Presence of the overhead transmission line would reduce the effectiveness of firefighting.

Note: No Class I impacts would occur in any of the following issue areas for Proposed Project: Land Use, Transportation and Traffic, Public Health and Safety, Water Resources, Geology, Mineral Resources, and Soils.

H.3.1 Transmission Line Route Segment Alternatives: Imperial Valley Link

The EIR/EIS identified three route alternatives within the Imperial Valley Link of the Proposed Project (MP 0 to MP 60.9): the FTHL Eastern Alternative, SDG&E West of Dunaway Alternative, and SDG&E West Main Canal–Huff Road Modification Alternative. These alternatives were developed to reduce impacts to the Flat-Tailed horned lizard, proposed land use developments, and agricultural and dairy operations. This section compares the relevant portion of the Proposed Project to each of these alternatives.

Significant and unmitigable (Class I) impacts of the Proposed Project in the Imperial Valley Link and Class I impacts either created or eliminated by each alternative in the Imperial Valley Link are listed in Table H-2.

H.3.1.1 Proposed Project vs. FTHL Eastern Alternative and SDG&E West of Dunaway Alternative

This section compares the Proposed Project to the FTHL Eastern Alternative and SDG&E West of Dunaway Alternative. The relevant area of comparison is between MP 3 and MP 8.8. The FTHL Eastern Alternative would bypass the Proposed Project route between these mileposts. The SDG&E West of Dunaway Alternative would bypass the Proposed Project route between MP 4 and MP 7.9. With respect to the SDG&E West of Dunaway Alternative, it is assumed that the Proposed Project route would make up the remainder of the route within the area of comparison (i.e., MP 3 to MP 4 and MP 7.9 to MP 8.8).

Table H-2 compares the FTHL Eastern Alternative and SDG&E West of Dunaway Alternative with the Proposed Project area of comparison (MP 3 to MP 8.8) for each environmental issue area.

Summary of Impacts

The **Proposed Project** from MP 3 to MP 8.8 in the Imperial Valley Link, which is the area of comparison, would have 14 significant (Class I) impacts in biological resources, visual resources, agricultural resources, cultural resources, noise, and air quality (see Table H-2). Additionally, as addressed in Table H-3 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining nine issue areas, which have been found to be less than significant following implementation of required mitigation.

The **FTHL Eastern Alternative** would have 14 significant (Class I) impacts in biological resources, visual resources, agricultural resources, cultural resources, noise, and air quality (see Table H-2). Additionally, as addressed in Table H-3 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining nine issue areas, which have been found to be less than significant following implementation of required mitigation. The FTHL Eastern Alternative would *reduce or eliminate* the following environmental impacts of greatest concern for the Proposed Project:

- Eliminates the need for construction of 1.5 miles of the Proposed Project, which would reduce ground disturbance and its associated impacts.
- Diverges from the existing SWPL #1 route at MP 3, which is sooner than with the Proposed Project (MP 4), thus reducing the linear extent of the adverse visual impact on the Yuha Basin ACEC.

- Crosses mostly agricultural fields, developed land, and disturbed habitat. Compared to the portion of the Proposed Project it would replace, it reduces Class I impacts to native habitats (Impact B-1), and Class I impacts to Flat-Tailed horned lizard habitat (Impact B-7A).
- Converts a greater number of acres of DOC Farmland to non-agricultural use (Impact AG-1: Operation would permanently convert DOC Farmland to non-agricultural use), which is a Class I impact.
- Reduces the potential to impact prehistoric sites, and the historic period resources within this portion of the Imperial Valley Link could easily be spanned, avoiding direct impacts.

The **FTHL Eastern Alternative** would *increase* the following environmental impacts of greatest concern for the Proposed Project:

- Interferes with more acres of Active Agricultural Operations (Impact AG-3: Operation would permanently interfere with Active Agricultural Operations) than the Proposed Project.
- Introduces a new Class I operational impacts to aerial spraying applications (Impact AG-3), which would create actual impacts to existing activities, whereas the Proposed Project would significantly impact mapped land only within this segment.
- Three additional residences would be exposed to Class I noise impacts from corona noise (Impact N-3).

The **SDG&E West of Dunaway Alternative** would have 10 significant (Class I) impacts in biological resources, visual resources, agricultural resources, cultural resources, noise, and air quality (see Table H-2). Additionally, as addressed in Table H-3 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining nine issue areas, which have been found to be less than significant following implementation of required mitigation. The SDG&E West of Dunaway Alternative would *reduce or eliminate* the following environmental impacts of the Proposed Project:

- Reduces impacts to agricultural resources by impacting less DOC Farmland than the proposed route (Impact AG-1).
- Due to increased distance from residences, the alternative would decrease the likelihood of corona noise affecting noise-sensitive receptors (Impact N-1), which is a Class I impact with the Proposed Project and the FTHL Eastern Alternative.

The **SDG&E West of Dunaway Alternative** would *increase* the following environmental impacts of greatest concern for the Proposed Project:

- Alternative route would be 2.2 miles longer than the proposed route
- Impacts more native habitat (Impact B-1, Class I), jurisdictional drainages (Impact B-2, Class II), and Flat-Tailed horned lizard habitat (Impact B-7A, Class I).
- Impacts cultural resources including an estimated three of moderate sensitivity, 49 of low sensitivity, and 10 of no sensitivity (Impact C-1). The Proposed Project between MP 3 and MP 8.8 would impact an estimated 40 low sensitivity cultural resources, and 15 of no sensitivity.
- Causes Class I visual impacts on views from the Dunaway OHV Staging Area, south of I-8 and views from Dunaway Road north of I-8.

Conclusion

Table H-3 compares the two alternatives between MP 3 and MP 8.8 in the Imperial Valley Link with the Proposed Project for each environmental issue area as the overall area of comparison. For alternatives that are shorter than the overall area of comparison, it is assumed that the Proposed Project route would make up the remainder of the route within the area of comparison.

Overall, the FTHL Eastern Alternative would be environmentally superior alternative, due to its reduction of significant impacts to biological resources, its shorter length, and it would not create new Class I visual impacts as the West of Dunaway Alternative would. It would remain farther east than the proposed route thereby reducing land use concerns from nearby developers. Similar to the Proposed Project there would remain Class I impacts to DOC Farmland and temporary and permanent noise levels.

Table H-2. Imperial Valley Link Summary of Significant Unmitigable (Class I) Impacts by Proposed Project and Alternatives

Alternative	Significant Impacts (Class I)
Proposed Project, Imperial Valley Link	<p>B-1 Temporary and permanent losses of native vegetation</p> <p>B-5 Direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants</p> <p>B-7 Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for:</p> <p>B-7A Direct or indirect loss of Flat-Tailed horned lizard or direct loss of habitat</p> <p>B-7B Direct or indirect loss of Peninsular bighorn sheep or direct loss of habitat-</p> <p>B-10 Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species</p> <p>B-12 Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality (Class I for Peninsular bighorn sheep)</p> <p>V-5 Inconsistency with Interim BLM VRM Class III management objective due to increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 3 on BLM Road 326 north of Superstition Hills</p> <p>V-6 Inconsistency with Interim BLM VRM Class III management objective due to the introduction of structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 4 on SR78/86, north of Superstition Hills</p> <p>WR-2 Presence of a transmission line or substation would permanently change the character of a recreation area, diminishing its recreational value</p> <p>AG-2 Operation would permanently convert DOC Farmland to non-agricultural use</p> <p>AG-3 Operation would permanently interfere with Active Agricultural Operations</p> <p>AG-4 Operation would permanently convert Williamson Act lands to non-agricultural use</p> <p>C-1 Construction would cause an adverse change to known historic properties</p> <p>C-2 Construction would cause an adverse change to sites known to contain Native American human remains</p> <p>C-3 Construction would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains</p> <p>C-4 Construction would cause an adverse change to Traditional Cultural Properties</p> <p>N-1 Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances</p> <p>N-3 Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components</p> <p>N-4 Routine inspection and maintenance activities would increase ambient noise levels</p> <p>AQ-1 Construction would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants</p> <p>AQ-4 Project activities would cause a net increase of greenhouse gas emissions</p>

Sunrise Powerlink Transmission Line Project
H. COMPARISON OF ALTERNATIVES

Table H-2. Imperial Valley Link Summary of Significant Unmitigable (Class I) Impacts by Proposed Project and Alternatives

Alternative	Significant Impacts (Class I)
Class I Impacts Eliminated or Created by Route Segment Alternatives – Imperial Valley Link	
FTHL Eastern Alternative	<p><i>Class I Impacts similar to the Proposed Project</i> B-1, B-5, B-7, B-7A, B-10, AG-2, AG-3, C-3, C-4, N-1, N-3, N-4, AQ-1, AQ-4.</p> <p>No existing Class I impacts eliminated and no new Class I impacts created. The following impacts would not occur within either the Proposed Project route area of comparison or the alternative: B-7B, B-12, V-5, V-6, WR-2, AG-4, C-1, C-2.</p>
SDG&E West of Dunaway Alternative	<p><i>Class I Impacts similar to the Proposed Project</i> B-1, B-5, B-7, B-7A, B-10, C-3, C-4, AQ-1, AQ-4.</p> <p><i>Eliminates</i> AG-2, N-1, N-3, N-4.</p> <p><i>Creates</i> V-35 Inconsistency with BLM VRM Class III Management objective due to introduction of structure contrast, industrial character, view blockage and skylining when viewed from Key Viewpoint 28 on Dunaway Road</p> <p>The following impacts would not occur within either the Proposed Project route area of comparison or the alternative: B-7B, B-12, V-5, V-6, WR-2, AG-3, AG-4, C-1, C-2.</p>
SDG&E West Main Canal–Huff Road Modification Alternative	<p><i>Class I Impacts similar to the Proposed Project</i> B-1, B-5, B-10, AG-2, AG-3, C-3, C-4, N-1, N-3, N-4, AQ-1, AQ-4.</p> <p>No existing Class I impacts eliminated and no new Class I impacts created. The following impacts would not occur within either the Proposed Project route area of comparison or the alternative: B-7, B-7A, B-7B, B-12, V-5, V-6, WR-2, AG-4, C-1, C-2.</p>

Note: No Class I impacts would occur in any of the following issue areas for any alternative: Land Use, Water Resources, Geology Mineral Resources and Soils, Public Health and Safety, Transportation and Traffic, Socioeconomics, Fire and Fuels Management.

Table H-3. Comparison of the Proposed Project to FTHL Eastern Alternative and SDG&E West of Dunaway Alternative

Issue Area	Proposed Project (MP 3 to MP 8.8)	SDG&E West of Dunaway Alternative	FTHL Eastern Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 4 to MP 7.9	MP 3 to MP 8.8
Area of Comparison	MP 3 to MP 8.8	MP 3 to MP 8.8	MP 3 to MP 8.8
Biological Resources	<ul style="list-style-type: none"> • Ranking = 2 • Impacts the second most native habitat, Flat-Tailed horned lizard habitat, and natural jurisdictional drainages 	<ul style="list-style-type: none"> • Ranking = 3 • Impacts the most native habitat, Flat-Tailed horned lizard habitat (both Class I), and natural jurisdictional drainages (Class II) 	<ul style="list-style-type: none"> • Preferred • Impacts the least amount of native habitat, Flat-Tailed horned lizard habitat, and natural jurisdictional drainages
Visual Resources	<ul style="list-style-type: none"> • Ranking = 2 • Increased structure contrast, industrial character, view blockage and skylining resulting in adverse but less than significant Class III visual impacts. 	<ul style="list-style-type: none"> • Ranking = 3 • Increased structure contrast, industrial character, view blockage and skylining resulting in significant and unmitigable Class I visual impacts on views from Dunaway OHV Staging Area south of I-8, and views from Dunaway Road north of I-8. 	<ul style="list-style-type: none"> • Preferred • Increased structure contrast, industrial character, view blockage and skylining resulting in adverse but less than significant Class III visual impacts. • Linear extent of Class III visual impact on Yuha Basin ACEC would be less than Proposed Project because of the divergence north one mile sooner at MP 3.

Table H-3. Comparison of the Proposed Project to FTHL Eastern Alternative and SDG&E West of Dunaway Alternative

Issue Area	Proposed Project (MP 3 to MP 8.8)	SDG&E West of Dunaway Alternative	FTHL Eastern Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 4 to MP 7.9	MP 3 to MP 8.8
Area of Comparison	MP 3 to MP 8.8	MP 3 to MP 8.8	MP 3 to MP 8.8
Land Use	<ul style="list-style-type: none"> • Ranking = 2 • Rural residences impacted between MP 5 and 7.9 	<ul style="list-style-type: none"> • Preferred • No impacts to land uses 	<ul style="list-style-type: none"> • Ranking = 3 • Greatest number of rural residences and IID canals impacts
Wilderness and Recreation	<ul style="list-style-type: none"> • Ranking = 2 • Traverses Yuha Basin ACEC • 1.5 miles east of BLM Dunaway Primitive Campground • Does not traverse ORV area 	<ul style="list-style-type: none"> • Ranking = 3 • Traverses Yuha Basin ACEC for 1 mile • Immediately east of BLM Dunaway Primitive Campground • Traverses ORV area 	<ul style="list-style-type: none"> • Preferred • Traverses Yuha Basin ACEC for less than 1 mile • 3.5 miles east of BLM Dunaway Primitive Campground • Does not traverse ORV area
Agricultural Resources	<ul style="list-style-type: none"> • Ranking = 2 • DOC Farmland impacts (11 acres) • Active Agricultural Operations impacts (1.1 acres) 	<ul style="list-style-type: none"> • Preferred • DOC Farmland impacts (1.1 acres) • Active Agricultural Operations impacts (0.6 acres) 	<ul style="list-style-type: none"> • Ranking = 3 • DOC Farmland impacts (11.6 acres) • Active Agricultural Operations impacts (14 acres)
Cultural Resources	<ul style="list-style-type: none"> • Ranking = 2 • Impacts to 40 low sensitivity resources 	<ul style="list-style-type: none"> • Ranking = 3 • Impacts to 3 moderately sensitivity resources • Impacts to 49 low sensitivity resources 	<ul style="list-style-type: none"> • Preferred • No prehistoric cultural resources within the study corridor • Historic structures (canals and railroad) can be spanned and visual impacts would not be adverse
Paleontological Resources	<ul style="list-style-type: none"> • Ranking = 2 • High potential to impact paleontologically sensitive geologic units. 	<ul style="list-style-type: none"> • Ranking = 3 • High potential to impact paleontologically sensitive geologic units and route would be longest. 	<ul style="list-style-type: none"> • Preferred • High potential to impact paleontologically sensitive geologic units, but route would be shortest.
Noise	<ul style="list-style-type: none"> • Ranking = 2 • Corona noise would affect noise-sensitive receptors. 	<ul style="list-style-type: none"> • Preferred • No corona noise affects to noise-sensitive receptors. 	<ul style="list-style-type: none"> • Ranking = 3 • Corona noise would affect three additional noise-sensitive receptors.
Transportation and Traffic	<ul style="list-style-type: none"> • Ranking = 2 • Crosses over I-8, S80, several local roadways, and Southern Pacific ROW 	<ul style="list-style-type: none"> • Preferred • Crosses over I-8, S80, fewer local roadways, and Southern Pacific ROW 	<ul style="list-style-type: none"> • Ranking = 2 • Crosses over I-8, S80, several local roadways, and Southern Pacific ROW
Environmental Contamination	<ul style="list-style-type: none"> • Preferred • Low potential for existing soil contamination 	<ul style="list-style-type: none"> • Ranking = 2 • Crosses through least active agricultural lands reducing potential for soil contamination • Greater potential for spills and leaks and during construction due to greatest length 	<ul style="list-style-type: none"> • Ranking = 3 • Greatest potential for soil contamination in active agriculture areas. • Slightly shorter length reduces risk of spills and leaks

Sunrise Powerlink Transmission Line Project
H. COMPARISON OF ALTERNATIVES

Table H-3. Comparison of the Proposed Project to FTHL Eastern Alternative and SDG&E West of Dunaway Alternative

Issue Area	Proposed Project (MP 3 to MP 8.8)	SDG&E West of Dunaway Alternative	FTHL Eastern Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 4 to MP 7.9	MP 3 to MP 8.8
Area of Comparison	MP 3 to MP 8.8	MP 3 to MP 8.8	MP 3 to MP 8.8
Air Quality	<ul style="list-style-type: none"> • Ranking = 2 • Construction activity generates dust and exhaust emissions (Class I) 	<ul style="list-style-type: none"> • Ranking = 3 • Construction activity generates greater dust and exhaust emissions due to longest length (Class I) 	<ul style="list-style-type: none"> • Preferred • Reduced construction activity due to shortest length (Class I)
Water Resources	<ul style="list-style-type: none"> • Ranking = 2 • 6 Watercourse Crossings (1 Irrigation Canal, 5 Desert Washes) • Yuha Wash and Coyote Wash 	<ul style="list-style-type: none"> • Preferred • 10 Watercourse Crossings (10 Desert Washes) • Yuha Wash 	<ul style="list-style-type: none"> • Ranking = 3 • 5 Watercourse Crossings (5 Irrigation Canals) • Westside Main Canal, Dixie Drain, Forget Me Not Drain, and Westside Main Canal • Groundwater depth is 10 feet
Geology, Mineral Resources, and Soils	<ul style="list-style-type: none"> • Ranking = 2 • Crosses areas of desert pavement 	<ul style="list-style-type: none"> • Ranking = 3 • Crosses areas of desert pavement and route would be longest 	<ul style="list-style-type: none"> • Preferred • Does not cross any areas of desert pavement
Socioeconomics, Public Services, and Utilities	<ul style="list-style-type: none"> • Preferred • All impacts less than significant. • Construction activities would require water for dust control and may accidentally disrupt existing utilities. 	<ul style="list-style-type: none"> • Ranking = 2 • All impacts less than significant • 2.2 miles longer so would have greater public services requirements (water, solid waste), greater chance of encountering existing utilities, longer construction time/nuisance to businesses, which could impact revenues, and would cross through more properties thus impacting more properties' values. 	<ul style="list-style-type: none"> • Ranking = 3 • All impacts less than significant • Passes through active agricultural lands with greater chance of interfering with existing utilities and underground irrigation systems and affecting farming revenues.
Fire and Fuels Management	<ul style="list-style-type: none"> • No preference. All impacts less than significant with low fire risk. 	<ul style="list-style-type: none"> • No preference. All impacts less than significant with low fire risk. 	<ul style="list-style-type: none"> • No preference. All impacts less than significant with low fire risk.

H.3.1.2 Proposed Project vs. SDG&E West Main Canal–Huff Road Modification Alternative

This section compares the Proposed Project to SDG&E West Main Canal–Huff Road Modification Alternative. The relevant area of comparison is from MP 11 to MP 15.9, where the alternative would replace the Proposed Project.

Summary of Impacts

The portion of the **Proposed Project** avoided by this alternative in the area of comparison (MP 11 to MP 15.9) would have 12 significant (Class I) impacts to biological resources, visual resources, agricultural resources, cultural resources, noise, and air quality (see Table H-2 above). Additionally, as addressed

in Table H-4 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining nine issue areas, which have been found to be less than significant following implementation of required mitigation.

The **SDG&E West Main Canal–Huff Road Modification Alternative** would have 12 significant (Class I) impacts in biological resources, agricultural resources, cultural resources, noise, and air quality (see Table H-2 above). Additionally, as addressed in Table H-4 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining 10 issue areas, which have been found to be less than significant following implementation of required mitigation. The SDG&E West Main Canal–Huff Road Modification Alternative would *reduce or eliminate* the following environmental impacts of greatest concern for the Proposed Project:

- Avoids direct effects to the Bullfrog Farms and also to the Raceway development.
- Slightly reduces impacts to native habitats (Impact B-1, Class I impact) and to Flat-Tailed horned lizard habitat (Impact B-7A, Class I), but impacts would still be significant.
- Reduces impacts to DOC Farmlands, Active Agricultural Operations, and Williamson Act lands.
- Only one rural residence is located west of Huff Road within 1,000 feet of this alternative ROW that could be exposed to corona noise (Class I impact).

The **SDG&E West Main Canal–Huff Road Modification Alternative** would *increase* the following environmental impacts of greatest concern for the Proposed Project:

- Visual impacts would be similar (Class III), but the alternative would parallel (north-south) one of the primary public thoroughfares (Huff Road) so it would have greater visibility and duration of view compared to the Proposed Project.

Conclusion

Table H-4 compares the SDG&E West Main Canal–Huff Road Modification Alternative with the Proposed Project for each environmental issue area. For this segment of the project, land disturbance figures are calculated with the Proposed Project and the alternative from MP 11 to MP 15.9.

The West Main Canal–Huff Road Modification Alternative is environmentally superior, because it would minimize agricultural resources construction and operational impacts to Bullfrog Farm, and would also only expose one sensitive receptor to temporary and permanent significant (Class I) noise impacts. The transmission line would be collocated parallel to an existing IID transmission line for a segment along Huff Road and visual impacts would be similar to the proposed route and less than significant (Class III). Significant biological resources impacts to native habitats would also be reduced though impacts would remain significant (Class I).

Table H-4. Comparison of the Proposed Project to SDG&E West Main Canal–Huff Road Modification Alternative

Issue Area	Proposed Project (MP 11 to MP 15.9)	SDG&E West Main Canal–Huff Road Modification Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 11 to MP 15.9
Area of Comparison	MP 11 to MP 15.9	MP 11 to MP 15.9

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H. COMPARISON OF ALTERNATIVES

Table H-4. Comparison of the Proposed Project to SDG&E West Main Canal–Huff Road Modification Alternative

Issue Area	Proposed Project (MP 11 to MP 15.9)	SDG&E West Main Canal–Huff Road Modification Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 11 to MP 15.9
Area of Comparison	MP 11 to MP 15.9	MP 11 to MP 15.9
Biological Resources	<ul style="list-style-type: none"> • Ranking = 2 • More of this route extends over native habitat 	<ul style="list-style-type: none"> • Preferred • Would reduce Class I impacts to native habitat and Flat-Tailed horned lizard management area
Visual Resources	<ul style="list-style-type: none"> • Preferred • Increased structure contrast, industrial character, view blockage and skylining resulting in adverse but less than significant Class III visual impacts. 	<ul style="list-style-type: none"> • Ranking = 2 • Increased structure contrast, industrial character, view blockage and skylining resulting in adverse but less than significant Class III visual impacts. Overall visual sensitivity and visual change are slightly higher, so the visual impact would be slightly greater than for the Proposed Project even though it would still be rated a Class III impact.
Land Use	<ul style="list-style-type: none"> • Ranking = 2 • Rural residences impacted between MP 11 and 15.9. 	<ul style="list-style-type: none"> • Preferred • One rural residence and IID canals impacted.
Wilderness and Recreation	<ul style="list-style-type: none"> • No Preference. No impacts to recreation or wilderness areas. 	<ul style="list-style-type: none"> • No Preference. No impacts to recreation or wilderness areas.
Agricultural Resources	<ul style="list-style-type: none"> • Ranking = 2 • DOC Farmland impacts (13.7 acres) • Active Agricultural Operations impacts (17.8 acres) • Williamson Act lands impacts (0.2 acres) • Crosses Bullfrog Farms 	<ul style="list-style-type: none"> • Preferred • DOC Farmlands impacts (6.7 acres) • Active Agricultural Operations impacts (9.3 acres) • Williamson Act lands impacts (0.1 acres) • Avoids Bullfrog Farms
Cultural Resources	<ul style="list-style-type: none"> • No Preference. No known impacts to cultural resources identified 	<ul style="list-style-type: none"> • No Preference. No known impacts to cultural resources identified
Paleontological Resources	<ul style="list-style-type: none"> • No Preference. High potential to impact paleontologically sensitive geologic units. 	<ul style="list-style-type: none"> • No Preference. High potential to impact paleontologically sensitive geologic units.
Noise	<ul style="list-style-type: none"> • Ranking = 2 • Corona noise would affect noise-sensitive receptors. 	<ul style="list-style-type: none"> • Preferred • Corona noise would affect only one noise-sensitive receptor.
Transportation and Traffic	<ul style="list-style-type: none"> • Preferred • Crosses approximately three local roadways. 	<ul style="list-style-type: none"> • Ranking = 2 • Crosses approximately three local roadways. • Parallels Huff Road for approximately 1.5 miles, which is a main thoroughfare.
Environmental Contamination	<ul style="list-style-type: none"> • Ranking = 2 • Passes through less farmland thereby reducing potential for existing soil contamination 	<ul style="list-style-type: none"> • Preferred • Potential for residual pesticide and herbicide contamination in the soil in active farmlands
Air Quality	<ul style="list-style-type: none"> • No Preference. Construction activity generates Class I dust and exhaust emissions. 	<ul style="list-style-type: none"> • No Preference. Construction activity generates similar Class I dust and exhaust emissions
Water Resources	<ul style="list-style-type: none"> • Preferred • 3 Watercourse Crossings (3 Irrigation Canals) 	<ul style="list-style-type: none"> • Ranking = 2 • 6 Watercourse Crossings (6 Irrigation Canals) • Fillaree Canal

Table H-4. Comparison of the Proposed Project to SDG&E West Main Canal–Huff Road Modification Alternative

Issue Area	Proposed Project (MP 11 to MP 15.9)	SDG&E West Main Canal–Huff Road Modification Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 11 to MP 15.9
Area of Comparison	MP 11 to MP 15.9	MP 11 to MP 15.9
Geology, Mineral Resources, and Soils	<ul style="list-style-type: none"> • Preferred • ~1.7 miles of alignment crosses area of potential severe groundshaking 	<ul style="list-style-type: none"> • Ranking = 2 • ~2.4 miles of alignment crosses area of potential severe groundshaking
Socioeconomics, Public Services, and Utilities	<ul style="list-style-type: none"> • Ranking = 2 • Crosses over Bullfrog Farms, which could result in decreased revenues as a result of interference with operations. 	<ul style="list-style-type: none"> • Preferred • Avoids direct impacts to Bullfrog Farms and Raceland, so would not impact revenues.
Fire and Fuels Management	<ul style="list-style-type: none"> • No Preference. All impacts less than significant (Class III) 	<ul style="list-style-type: none"> • No Preference. All impacts less than significant (Class III)

H.3.2 Transmission Line Route Alternatives: Anza-Borrego Link

The following section describes the Proposed Project as it compares to the following two alternatives and two alternative options:

- Partial Underground 230 kV ABDSP SR78 to S2 Alternative
- Partial Underground 230 kV ABDSP SR78 to S2 Alternative *with All Underground Option*
- Overhead 500 kV ABDSP within Existing ROW Alternative
- Overhead 500 kV ABDSP Within Existing ROW Alternative *with East of Tamarisk Grove Camp-ground 150-Foot Option.*

These alternatives were developed to reduce significant and unmitigable construction and operational impacts within ABDSP and to State-designated Wilderness.

Significant and unmitigable (Class I) impacts of the Proposed Project and Class I impacts either created or eliminated by each alternative in the area of comparison (MP 58.8 to MP 92.7), which includes the Anza-Borrego Link (MP 60.9 to MP 83.5) and east and west of the Park in portions of the Imperial Valley and Central Links, are listed in Table H-5.

H.3.2.1 Proposed Project vs. Anza Borrego Link Route Alternatives

Summary of Impacts

The **Proposed Project** in the Anza-Borrego Link would have 35 significant (Class I) impacts to biological resources, visual resources, wilderness and recreation, cultural resources, noise, air quality, socioeconomics, public services and utilities and fire and fuels management (see Table H-5). Within the overall area of comparison, there would also be one additional significant (Class I) visual impact (Impact V-16) and two additional significant (Class I) agricultural impacts (Impacts AG-2 and AG-3) along the Proposed Project between the western boundary of ABDSP and the western end of the area of comparison (MP 92.7) in the Central Link (38 significant impacts total). Additionally, as addressed in Table H-6 below, there would be Class II (significant; can be mitigated to a less than significant level)

and Class III (adverse, less than significant) impacts in the remaining seven issue areas, which have been found to be less than significant following implementation of required mitigation.

The **Partial Underground 230 kV ABDSP SR78 to S2 Alternative** would have 26 significant (Class I) impacts in biological resources, visual resources, wilderness and recreation, agricultural resources, cultural resources, noise, air quality, socioeconomics, public services and utilities and fire and fuels management (see Table H-5). Additionally, as addressed in Table H-6 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining six issue areas, which have been found to be less than significant following implementation of required mitigation. The Partial Underground 230 kV ABDSP SR78 to S2 Alternative would *reduce or eliminate* the following environmental impacts of greatest concern for the Proposed Project:

- The proposed Central East Substation would not be constructed, and approximately two miles of transmission line to and from the substation would be eliminated.
- Reduces the visual and wilderness and recreation impacts of the Proposed Project by placing most of the line within ABDSP underground in existing roadways.
- Has Class I impacts to sensitive vegetation communities (Impact B-1), but the Class I impact would be reduced compared to the Proposed Project, because less acreage would be impacted where the alternative occurs within existing roadways.
- Substantially less linear extent compared to the Proposed Project.
- Eliminates approximately 28 miles of Class I visual impacts in ABDSP and Grapevine Canyon west of the Park's boundary (near rural residences) that would occur with the Proposed Project.
- Eliminates Class I visual impacts on Tamarisk Grove Campground and the Yaqui Well dispersed camping area, as well as SR78, which is a State Designated Scenic Highway in the park.
- The alternative would also eliminate the Class I visual impact on views from the Pacific Crest Trail toward Grapevine Canyon.
- Impacts fewer sensitive cultural resources and would avoid impacting the large site complex/TCP.
- By placing the line underground, the Partial Underground 230 kV ABDSP Alternative would replace the noise source of the 500 kV line with underground 230 kV lines that would create no audible noise, thereby eliminating a Class I noise impact (N-1).

The **Partial Underground 230 kV ABDSP SR78 to S2 Alternative** would *increase* the following environmental impacts of greatest concern for the Proposed Project:

- The Partial Underground 230 kV ABDSP SR78 to S2 Alternative is 38.2 miles long (10.5 miles overhead and 27.7 miles underground) and would replace 34 miles of the Proposed Project that is all overhead, which would create greater ground disturbance.
- A new 500 kV/230 kV substation would be constructed adjacent to the existing IID San Felipe Substation.
- Causes approximately 10 miles of significant Class I visual impacts, which would occur at the new 500 kV/230 kV San Felipe Substation and in the vicinity of S2 and a number of rural residences in San Felipe Valley. It should be noted that these visual impacts would be eliminated with use of the All Underground Option, which would place the line underground in SR78 and S2 and is discussed below.

- The following Class I (significant) biological impact would be created by this alternative: B-7L (Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat).
- The following Class I (significant) visual impacts would be created by this alternative: V-37 (Increased structure contrast, industrial character, view blockage, skylining, and glare from night lighting when viewing the San Felipe 500 kV to 230 kV Substation from Key Viewpoint 30 on northbound Split Mountain Road), V-38 (Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 31 on southbound San Felipe Road), and V-39 (Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 32 on southbound San Felipe Road near San Felipe).
- The overhead portion of this alternative would impact 30.3 acres of Williamson Act lands (Impact AG-4: Operation would permanently convert Williamson Act lands to non-agricultural use), creating a Class I (significant) impact to agricultural resources. The Proposed Project would not impact any Agricultural Resources. It should be noted that this impact would be eliminated with use of the All Underground Option, which would place the line underground in SR78 and S2 and is discussed below.
- Temporary air emissions and noise resulting from undergrounding multiple 230 kV lines would also be greater than for the proposed route during construction.
- The alternative alignment would cross the active Earthquake Valley Fault Zone several times resulting in a potential for damage from fault rupture, which would result in a significant impacts with the underground line, while the corresponding portion of the Proposed Project would not cross any active faults, except for at the proposed Central East Substation. The Earthquake Valley Fault is discussed in further detailed under the All Underground Option below.
- Approximately 115 noise-sensitive rural residential properties are located within 1,000 feet of this alternative ROW: approximately 100 residences are near the alternative ROW east of ABDSP between MP 0 and 8; one residence occurs within ABDSP (Park Ranger Residence) between MP 18 and 19; and 13 residences occur along S2 near Ranchita and Warner Springs.
- Any Future Transmission System Expansion (see Section B.2.7) would begin at the San Felipe Substation, which is located east of ABDSP (as opposed to the Central East Substation). Therefore, future 230 kV and/or 500 kV routes may need to be constructed that would run through ABDSP. The underground duct banks can accommodate an extra 230 kV circuit(s), but not a 500 kV line. In the event that more than one 230 kV circuit and/or a 500 kV future transmission line is needed, it would most likely either have to follow the Proposed Project or an alternative route through ABDSP or would follow the preferred SWPL Alternative route (see Section H.3).

The Partial Underground 230 kV ABDSP SR78 to S2 Alternative has the following underground segment as an option that could be implemented to offset significant (Class I) impacts of the alternative. Impacts for the All Underground Option (a one-mile segment near the SR78 and S2 intersection and a nine-mile segment along S2) are discussed below.

The **Partial Underground 230 kV ABDSP SR78 to S2 Alternative with the All Underground Option** would have 19 significant (Class I) impacts in biological resources, visual resources, wilderness and recreation, cultural resources, noise, air quality, geology, mineral resources, and soils, and socioeconomics public services and utilities (see Table H-5). Additionally, as addressed in Table H-6 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining seven issue areas, which have been found to be less than significant following implementation of required mitigation. The Partial Underground 230

kV ABDSP SR78 to S2 Alternative with the All Underground Option would *reduce or eliminate* the following environmental impacts of greatest concern for the Proposed Project:

- Allows the transmission line to be entirely underground through ABDSP.
- Avoids direct impacts of the Partial Underground ABDSP Alternative to a one-mile area of State-designated Grapevine Canyon Wilderness.
- Would not diminish the recreational value of the affected areas of ABDSP, PCT and San Dieguito River Park.
- Avoids significant Class I impacts to recreation areas (WR-2 and WR-4), rural residences, visual resources, and agricultural resources within San Felipe Valley.

The Partial Underground 230 kV ABDSP SR78 to S2 Alternative with the All Underground Option would *increase* the following environmental impacts of greatest concern for the Proposed Project:

- Places a double-circuit 230 kV transmission line underground within SR78 and S2 near and along the Earthquake Valley Fault, which would increase reliability concerns. As illustrated in Figure Ap.1-7 of Appendix 1, the Earthquake Valley Fault, which is in an Alquist-Priolo Zone, runs up the San Felipe Valley and is parallel to S2, including the area near the intersection of S2 and SR78. The underground option would cross and then roughly parallel the Earthquake Valley Fault and its Alquist-Priolo Fault Zone for its length. The Earthquake Valley Fault has not been well studied; however, based on its length, estimated maximum earthquake offsets would likely be within the range of several feet, which could adversely affect multiple sections of duct bank.

However, due to the relative inactivity of the fault and the low likelihood of this type of natural disaster occurring, it is not anticipated that the fault would rupture during the expected life of the project (i.e., 50 to 100 years). Therefore, it is not expected that reliability performance thresholds would be violated, which generally determine that an outage once in every 30 years is acceptable. The All Underground Option's location crossing and parallel to the Earthquake Valley Fault is not considered to pose a significant reliability concern.

- Creates a significant (Class I) impact due to fault rupture (Impact G-5: Project would expose people or structures to potential substantial adverse effects as result of surface fault rupture at crossings of active faults)
- Short-term impacts to traffic and transportation along SR78 and S2, including temporary road and lane closures that would temporarily disrupt traffic flow, may increase as a result of underground construction within SR78 and S2.

The **Overhead 500 kV ABDSP within Existing ROW Alternative** would have 27 significant (Class I) impacts in biological resources, visual resources, wilderness and recreation, cultural resources, noise, air quality, socioeconomics public services and utilities, and fire and fuels management (see Table H-5). Additionally, as addressed in Table H-6 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining seven issue areas, which have been found to be less than significant following implementation of required mitigation. The Overhead 500 kV ABDSP within Existing ROW Alternative would *reduce or eliminate* the following environmental impacts of greatest concern for the Proposed Project:

- Slightly reduces the Class I impact to golden eagle (Impact B-7H) that would occur with the Proposed Project because the alternative would occur farther away from the eagle nest site.

- Eliminates direct impacts to wilderness; however it would exacerbate Impact WR-2 (Presence of a transmission line or substation would permanently change the character of a recreation area, diminishing its recreational value) due to the increased number of towers required to stay within a narrower ROW. Impact WR-2 for both would be Class I.
- Would not involve undergrounding the existing 69 kV or 92 kV lines, so the alternative would be preferred for air quality because it would marginally reduce the overall emissions of Proposed Project Construction.

The **Overhead 500 kV ABDSP within Existing ROW Alternative** would *increase* the following environmental impacts of greatest concern for the Proposed Project:

- The alternative is 22.5 miles long and would replace 21.8 miles of the Proposed Project.
- Slightly increases impacts to sensitive vegetation communities.
- The overall visual sensitivities of the existing landscapes are the same but the anticipated level of visual change associated with the alternative would be greater. The alternative's structures would be slightly more complex in design (Delta configuration), the route would be located closer to SR78 and would require more road spans within ABDSP, and the alternative would require more towers than necessary for the Proposed Project.
- An additional Class I (significant) visual impact would also occur (V-40: Introduced structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 33 on westbound SR78 in ABDSP).
- Directly impacts the large cultural resources complex (Traditional Cultural Property [TCP]) in the western ABDSP (Class I; Impacts C-1, C-2, C-4). The Proposed Project would also impact this resource, but to a lesser extent because the constricted corridor of the alternative would pass through the center of the site and would require more towers within the site complex boundaries.
- Directly and indirectly impacts the Tamarisk Grove Campground. This resource has been recommended NRHP-eligible; however, it is anticipated that such impact can be reduced to a less than significant level (Class II).

The **Overhead 500 kV ABDSP Within Existing ROW Alternative with East of Tamarisk Grove Campground 150-Foot Option** would have 27 significant (Class I) impacts in biological resources, visual resources, wilderness and recreation, cultural resources, noise, air quality, socioeconomics public services and utilities, and fire and fuels management (see Table H-5). Additionally, as addressed in Table H-6 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining seven issue areas, which have been found to be less than significant following implementation of required mitigation. The Overhead 500 kV ABDSP Within Existing ROW Alternative with East of Tamarisk Grove Campground 150-Foot Option would *reduce or eliminate* the following environmental impacts of greatest concern:

- Environmental advantages would be similar to the Overhead 500 kV Within Existing ROW Alternative west of Tamarisk Grove Campground (see above).
- The East of Tamarisk Grove Campground 150-Foot Option would be the same as the proposed route and would move the new 500 kV transmission line farther from SR78 and Tamarisk Grove Campground, reducing highway encroachment and tree trimming around the campground. Use of the option would require discretionary action/approval from California State Park that would not be otherwise required under the Overhead 500 kV ABDSP Within Existing ROW Alternative.

The **Overhead 500 kV ABDSP Within Existing ROW Alternative with East of Tamarisk Grove Campground 150-Foot Option** would *increase* the following environmental impacts of greatest concern for the Proposed Project:

- The slightly more complex design of the Delta structure design associated with the alternative would cause slightly more structural contrast with the existing landscape compared to the Proposed Project. If the Proposed Project structure design is utilized, there would still be increased structural contrast as the alternative structures transition from the Delta design to the standard design and then back to the Delta design west of Tamarisk Grove Campground. For this reason, the Proposed Project is preferred over the Overhead 500 kV ABDSP Within Existing Alternative with East of Tamarisk Grove 150-Foot Option. However, the 150-Foot Option is preferred over the Overhead 500 kV ABDSP Within Existing ROW Alternative because of the slight reduction in structural contrast experienced from SR78 by relocating the line further from the road and the reduced amount of tree trimming that would be necessary at Tamarisk Grove Campground.
- Reducing tree trimming around the campground reduces impacts to biological resources, as well as to recreation and wilderness; however, impacts would still be significant.
- Moving the line farther from Tamarisk Grove Campground with the alternative route would reduce corona noise to sensitive receptors and recreationists, however, impacts would still be significant (Class I).
- Would not involve undergrounding the existing 69 kV or 92 kV lines, so it would marginally reduce the overall emissions of Proposed Project Construction.

Conclusion

Table H-6 compares the Proposed Project with the Partial Underground 230 kV ABDSP SR78 to S2 Alternative, the Partial Underground 230 kV ABDSP SR78 to S2 Alternative with All Underground Option, the Overhead 500 kV ABDSP within Existing ROW Alternative, and the Overhead 500 kV ABDSP Within Existing ROW Alternative with East of Tamarisk Grove Campground 150-Foot Option for each environmental issue area. The overall “area of comparison” of these four alternatives would be from Proposed Project MP 58.8 (existing San Felipe Substation area) to MP 92.7. For alternatives that are shorter than the overall area of comparison, it is assumed that the Proposed Project route would make up the remainder of the route within the area of comparison.

The Partial Underground 230 kV ABDSP SR78 to S2 Alternative with the All Underground Option (1-mile segment near SR78/S2 intersection and 9-mile segment along S2) would have the greatest reduction in Class I (significant) impacts. Overall the benefits of the All Underground Option, which would eliminate significant Class I impacts to visual resources, biological resources, agricultural resources, direct impacts to State-designated Wilderness in ABDSP, and operational noise impacts from corona noise to sensitive receptors in the San Felipe/Earthquake Valley, would more than offset reliability concerns associated with the Earthquake Valley Fault and temporary construction impacts due to additional undergrounding. Therefore, the Partial Underground 230 kV ABDSP SR78 to S2 Alternative with the All Underground Option has been found to be environmentally superior in the Anza-Borrego Link.

Future Transmission System Expansion. If the San Felipe Substation (as a component of the Partial Underground 230 kV ABDSP SR78 to S2 Alternative with All Underground Option) were to become the transition point between 500 kV and 230 kV with 230 kV underground lines brought through the ABDSP then ultimately as many as four additional 230 kV circuits may be required through the ABDSP (for a total of six 230 kV circuits) at an undetermined time in the future, and one future 500 kV line

may also be built to connect to the Southern California Edison service territory. Environmentally and economically, it would be preferable to have one 500 kV transmission line through the ABDSP than to have six 230 kV transmission lines and a 500 kV line through the Park with many more towers and lines and much greater ground disturbance. **However, the need for these future lines is not yet established, the timing is unknown, and a route outside of the Park could be considered viable by the future decisionmakers.**

Table H-5. Anza-Borrego Link Summary of Significant Unmitigable (Class I) Impacts by Proposed Project and Alternatives

Alternative	Significant Impacts (Class I)
Proposed Project, Anza-Borrego Link	<p>B-1 Temporary and permanent losses of native vegetation</p> <p>B-5 Direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants</p> <p>B-7 Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for:</p> <p>B-7A Direct or indirect loss of Flat-Tailed horned lizard or direct loss of habitat</p> <p>B-7B Direct or indirect loss of Peninsular bighorn sheep or direct loss of habitat</p> <p>B-7H Direct or indirect loss of golden eagle or direct loss of habitat</p> <p>B-7J Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat</p> <p>B-7O Direct or indirect loss of barefoot banded gecko or direct loss of habitat</p> <p>B-10 Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species</p> <p>B-12 Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality (Class I for Peninsular bighorn sheep)</p> <p>V-8 Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 5 on eastbound Old Kane Springs Road</p> <p>V-9 Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 6 on westbound SR78 at The Narrows</p> <p>V-10 Increased structure contrast, industrial character, and view blockage when viewed from Key Viewpoint 7 on northbound Mine Wash Road</p> <p>V-11 Increased structure contrast, industrial character, and view blockage when viewed from Key Viewpoint 8 at Kenyon Overlook</p> <p>V-12 Increased structure contrast, industrial character, and view blockage when viewed from Key Viewpoint 9 at Station 6 on the Cactus Loop Trail out of Tamarisk Grove Campground</p> <p>V-13 Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 10 in the Yaqui Well Primitive Camping Area</p> <p>V-14 Increased structure contrast, industrial character, and view blockage when viewed from Key Viewpoint 11 on westbound SR78</p> <p>V-15 Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 12 on Grapevine Canyon Road within Anza-Borrego Desert State Park</p> <p>WR-1 Construction activities would temporarily reduce access and visitation to recreation or wilderness areas</p> <p>WR-2 Presence of a transmission line or substation would permanently change the character of a recreation area, diminishing its recreational value</p> <p>WR-3 Presence of a transmission line would permanently preclude recreational activities</p> <p>WR-4 Presence of a transmission line in a designated wilderness or wilderness study area would result in the loss of wilderness land</p> <p>C-1 Construction would cause an adverse change to known historic properties</p> <p>C-2 Construction would cause an adverse change to sites known to contain Native American human remains</p> <p>C-3 Construction would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains</p> <p>C-4 Construction would cause an adverse change to Traditional Cultural Properties</p> <p>C-6 Long-term presence of the project would cause an adverse change to known historic architectural (built environment) resources</p> <p>N-1 Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances</p> <p>N-3 Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components</p>

Table H-5. Anza-Borrego Link Summary of Significant Unmitigable (Class I) Impacts by Proposed Project and Alternatives

Alternative	Significant Impacts (Class I)
	<p>N-4 Routine inspection and maintenance activities would increase ambient noise levels AQ-1 Construction would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants AQ-4 Project activities would cause a net increase of greenhouse gas emissions S-1 Project construction and/or transmission line presence would cause a substantial change in revenue for businesses, tribes, or governments F-2: Presence of the overhead transmission line would significantly increase the probability of a wildfire. F-3 Presence of the overhead transmission line would reduce the effectiveness of firefighting.</p> <p>Central Link Impacts within Area of Comparison (MP 83.5 [ABDSP boundary] to MP 92.7) V-16 Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 13 on Grapevine Canyon Road, just west of Anza-Borrego Desert State Park AG-3 Operation would permanently interfere with Active Agricultural Operations AG-4 Operation would permanently convert Williamson Act lands to non-agricultural use</p>
Class I Impacts Eliminated or Created by Route Segment Alternatives – Anza-Borrego Link	
Partial Underground 230 kV ABDSP SR78 to S2 Alternative	<p><i>Class I Impacts similar to the Proposed Project</i> B-1, B-5, B-7, B-7A, B-7B, B-7J, B-7O, B-10, B-12, WR-1, WR-2, WR-4, AG-4 (Central Link), C-3, C-4, N-1, N-4, AQ-1, AQ-4, S-1, F-2, F-3.</p> <p><i>Eliminates</i> B-7H, V-8, V-9, V-10, V-11, V-12, V-13, V-14, V-15, V-16 (Central Link), WR-3, AG-3 (Central Link), C-1, C-2, C-6, N-3.</p> <p><i>Creates</i> B-7L Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat V-37 Increased structure contrast, industrial character, view blockage, skylining, and glare from night lighting when viewing the San Felipe 500 kV to 230 kV Substation V-38 Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 30 on southbound San Felipe Road V-39 Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 31 on southbound San Felipe Road near San Felipe</p>
Partial Underground 230 kV ABDSP SR78 to S2 Alternative with All Underground Option	<p><i>Class I Impacts similar to the Proposed Project</i> B-1, B-5, B-7, B-7A, B-7B, B-7J, B-7O, B-10, B-12, WR-1, C-3, C-4, N-1, N-4, AQ-1, AQ-4, S-1.</p> <p><i>Eliminates</i> B-7H, V-8, V-9, V-10, V-11, V-12, V-13, V-14, V-15, WR-2, WR-3, WR-4, C-1, C-2, C-6, N-3, F-2, F-3.</p> <p><i>Eliminates new Class I impacts created by the Partial Underground Alternative</i> V-38, V-39, AG-4.</p> <p><i>Creates</i> V-37 Increased structure contrast, industrial character, view blockage, skylining, and glare from night lighting when viewing the San Felipe 500 kV to 230 kV Substation G-5 Project would expose people or structures to potential substantial adverse effects as result of surface fault rupture at crossings of active faults</p>
Overhead 500 kV ABDSP within Existing ROW Alternative	<p><i>Class I Impacts similar to the Proposed Project</i> B-1, B-5, B-7, B-7A, B-7B, B-7H, B-7J, B-7O, B-10, B-12, WR-1, WR-2, WR-3, C-1, C-2, C-3, C-4, C-6, N-1, N-3, N-4, AQ-1, AQ-4, S-1, F-2, F-3.</p> <p><i>Eliminates</i> V-8, V-9, V-10, V-11, V-12, V-13, V-14, V-15, WR-4.</p> <p><i>Creates</i> V-40 Introduced structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 32 on westbound SR78 in ABDSP</p>
Overhead 500 kV ABDSP within Existing ROW Alternative with East of Tamarisk Grove Campground Option	<p><i>Class I Impacts similar to the Proposed Project</i> B-1, B-5, B-7, B-7A, B-7B, B-7H, B-7J, B-7O, B-10, B-12, WR-1, WR-2, WR-3, C-1, C-2, C-3, C-4, C-6, N-1, N-3, N-4, AQ-1, AQ-4, S-1, F-2, F-3.</p> <p><i>Eliminates</i> V-8, V-9, V-10, V-11, V-12, V-13, V-14, V-15, WR-4.</p> <p><i>Creates</i> V-40 Introduced structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 32 on westbound SR78 in ABDSP</p>

Note: No Class I impacts would occur in any of the following issue areas for any alternative: Land Use, Water Resources, Health/Safety-Contamination, Public Health and Safety, Transportation/Traffic.

Table H-6. Comparison of the Proposed Project to ABDSP Alternatives

Issue Area	Proposed Project (MP 58.8 to MP 92.7)	Partial Underground 230 kV ABDSP SR78 to S2 Alternative	Partial Underground 230 kV ABDSP SR78 to S2 Alternative with the <u>All Underground Option*</u>	Overhead 500 kV ABDSP Within Existing ROW Alternative	Overhead 500 kV ABDSP Within Existing ROW Alternative with East of Tamarisk Grove Campground 150-Foot Option
Mileposts of the Proposed Project Replaced	N/A	San Felipe Substation (MP 58.8) to MP 92.7; construction of Central East Substation and transmission lines in/out of substation	San Felipe Substation (MP 58.8) to MP 92.7; construction of Central East Substation and transmission lines in/out of substation	Eastern ABDSP boundary (MP 60.9) to western boundary (MP 83.5)	Eastern ABDSP boundary (MP 60.9) to Tamarisk Grove Campground (MP 74.8)
Area of Comparison	MP 58.8 (San Felipe Substation) to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7
Biological Resources	<ul style="list-style-type: none"> • Ranking = 5 • Class I vegetation impacts • Class I bighorn sheep impacts • Class I Flat-Tailed horned lizard impacts • Class I golden eagle impacts 	<ul style="list-style-type: none"> • Ranking = 2 • Class I vegetation impacts reduced • Class I bighorn sheep impacts reduced long-term, although short-term increase during construction • Class I Flat-Tailed horned lizard impacts greatly reduced • Class I golden eagle impacts eliminated • Class I Stephens' kangaroo rat created 	<ul style="list-style-type: none"> • Preferred • Class I vegetation and Flat-Tailed horned lizard impacts essentially eliminated • Class I bighorn sheep impacts reduced long-term, although short-term increase during construction • Class I golden eagle impacts eliminated 	<ul style="list-style-type: none"> • Ranking = 3 • Class I vegetation impacts slightly higher • Class I bighorn sheep impacts slightly reduced • Class I Flat-Tailed horned lizard impacts similar • Class I golden eagle impacts slightly reduced 	<ul style="list-style-type: none"> • Ranking = 4 • Class I vegetation impacts slightly higher • Class I bighorn sheep impacts slightly reduced • Class I Flat-Tailed horned lizard impacts similar • Class I golden eagle impacts slightly reduced • This option is ranked lower than Overhead 500 kV ABDSP Within Existing ROW Alternative because the ROW is 50 feet wider, so the potential for impacts would be greater.

Sunrise Powerlink Transmission Line Project

H. COMPARISON OF ALTERNATIVES

Table H-6. Comparison of the Proposed Project to ABDSP Alternatives

Issue Area	Proposed Project (MP 58.8 to MP 92.7)	Partial Underground 230 kV ABDSP SR78 to S2 Alternative	Partial Underground 230 kV ABDSP SR78 to S2 Alternative with the <u>All Underground Option*</u>	Overhead 500 kV ABDSP Within Existing ROW Alternative	Overhead 500 kV ABDSP Within Existing ROW Alternative with East of Tamarisk Grove Campground 150-Foot Option
Mileposts of the Proposed Project Replaced	N/A	San Felipe Substation (MP 58.8) to MP 92.7; construction of Central East Substation and transmission lines in/out of substation	San Felipe Substation (MP 58.8) to MP 92.7; construction of Central East Substation and transmission lines in/out of substation	Eastern ABDSP boundary (MP 60.9) to western boundary (MP 83.5)	Eastern ABDSP boundary (MP 60.9) to Tamarisk Grove Campground (MP 74.8)
Area of Comparison	MP 58.8 (San Felipe Substation) to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7
Visual Resources	<ul style="list-style-type: none"> • Ranking = 3 • Increased structure contrast, industrial character, view blockage and skylining resulting in significant Class I visual impacts. • Approximately 28 miles of Class I visual impacts in ABDSP and Grapevine Canyon west of the park boundary and along designed scenic highway. 	<ul style="list-style-type: none"> • Ranking = 2 • Increased structure contrast, industrial character, view blockage and skylining resulting in significant Class I visual impacts. • Approximately 10 miles of Class I visual impacts at San Felipe Substation and in San Felipe Valley (along S2). 	<ul style="list-style-type: none"> • Preferred • Would be entirely underground thereby eliminating all Class I visual impacts. 	<ul style="list-style-type: none"> • Ranking = 5 • Introduced structure contrast, industrial character, view blockage, and skylining, resulting in significant and unmitigable (Class I) visual impacts. • The alternative's structures would be slightly more complex in design (Delta configuration). • The alternative route would be located closer to SR78, a designed Scenic highway, and would require more road spans within ABDSP. • Greater visual impacts/views from Tamarisk Grove Campground • Requires 4 more towers than necessary for Proposed Project. 	<ul style="list-style-type: none"> • Ranking = 4 • Introduced structure contrast, industrial character, view blockage and skylining when viewed from SR78 in ABDSP, resulting in significant and unmitigable (Class I) visual impacts. • Delta structure design would cause slightly more structural contrast with the existing landscape compared to the Proposed Project. • If standard lattice tower design is used, the switch back and forth between designs would make structural contrast more noticeable from SR78, a designated scenic highway.

Table H-6. Comparison of the Proposed Project to ABDSP Alternatives

Issue Area	Proposed Project (MP 58.8 to MP 92.7)	Partial Underground 230 kV ABDSP SR78 to S2 Alternative	Partial Underground 230 kV ABDSP SR78 to S2 Alternative with the <u>All Underground Option*</u>	Overhead 500 kV ABDSP Within Existing ROW Alternative	Overhead 500 kV ABDSP Within Existing ROW Alternative with East of Tamarisk Grove Campground 150-Foot Option
Mileposts of the Proposed Project Replaced	N/A	San Felipe Substation (MP 58.8) to MP 92.7; construction of Central East Substation and transmission lines in/out of substation	San Felipe Substation (MP 58.8) to MP 92.7; construction of Central East Substation and transmission lines in/out of substation	Eastern ABDSP boundary (MP 60.9) to western boundary (MP 83.5)	Eastern ABDSP boundary (MP 60.9) to Tamarisk Grove Campground (MP 74.8)
Area of Comparison	MP 58.8 (San Felipe Substation) to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7
Land Use	<ul style="list-style-type: none"> • Preferred • No Impacts 	<ul style="list-style-type: none"> • Ranking = 3 • 115 rural residences and commercial uses impacts 	<ul style="list-style-type: none"> • Ranking = 4 • Temporary impacts to residences and commercial uses along Old Kane Springs Road, SR78, and S2 from trenching in roadways 	<ul style="list-style-type: none"> • Ranking = 2 • Three rural residences impacts 	<ul style="list-style-type: none"> • Preferred (for that portion between MP 60.9 and 74.8 where same as Proposed Project); Ranking = 2 (between MP 74.8 to 83.5 where same as Overhead 500 kV Existing ROW Alternative) • Rural residences impacts
Wilderness and Recreation	<ul style="list-style-type: none"> • Ranking = 5 • 50.2 acres of direct impacts to wilderness (Class I) • Class I impacts to the character of ABDSP and PCT 	<ul style="list-style-type: none"> • Ranking = 2 • Reduces direct impact to State wilderness • Reduces permanent impact to character of ABDSP and Central Link recreation areas 	<ul style="list-style-type: none"> • Preferred • Eliminates direct impact to State wilderness • Eliminates permanent impact to character of ABDSP and Central Link recreation areas 	<ul style="list-style-type: none"> • Ranking = 4 • Eliminates direct impact to State wilderness • Precludes use of portions of Tamarisk Grove CG • Increases visual impact and thus impact to recreation experience 	<ul style="list-style-type: none"> • Ranking = 3 • Eliminates direct impact to State wilderness • Increases visual impact and thus impact to recreation experience
Agricultural Resources	<ul style="list-style-type: none"> • Preferred • No impacts 	<ul style="list-style-type: none"> • Ranking = 2 (least preferred) • Williamson Act lands impacts (30.3 acres) 	<ul style="list-style-type: none"> • Preferred • No impacts 	<ul style="list-style-type: none"> • Preferred • No impacts 	<ul style="list-style-type: none"> • Preferred • No impacts

Sunrise Powerlink Transmission Line Project

H. COMPARISON OF ALTERNATIVES

Table H-6. Comparison of the Proposed Project to ABDSP Alternatives

Issue Area	Proposed Project (MP 58.8 to MP 92.7)	Partial Underground 230 kV ABDSP SR78 to S2 Alternative	Partial Underground 230 kV ABDSP SR78 to S2 Alternative with the <u>All Underground Option*</u>	Overhead 500 kV ABDSP Within Existing ROW Alternative	Overhead 500 kV ABDSP Within Existing ROW Alternative with East of Tamarisk Grove Campground 150-Foot Option
Mileposts of the Proposed Project Replaced	N/A	San Felipe Substation (MP 58.8) to MP 92.7; construction of Central East Substation and transmission lines in/out of substation	San Felipe Substation (MP 58.8) to MP 92.7; construction of Central East Substation and transmission lines in/out of substation	Eastern ABDSP boundary (MP 60.9) to western boundary (MP 83.5)	Eastern ABDSP boundary (MP 60.9) to Tamarisk Grove Campground (MP 74.8)
Area of Comparison	MP 58.8 (San Felipe Substation) to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7
Cultural Resources	<ul style="list-style-type: none"> • Ranking = 3 • Class I impacts to a site complex/TCP • Impacts to 4 highly sensitive resources • 10 moderately sensitive resources • 53 low sensitivity resources • Indirect visual impacts to Tamarisk Grove Campground (recommended NRHP-eligible) 	<ul style="list-style-type: none"> • Ranking = 2 • Eliminates known Class I impacts to a site complex/TCP • Could create Class I impacts to other TCPs • Impacts to 3 highly sensitive resources • 10 moderately sensitive resources • 36 low sensitivity resources • Once operational, visual impacts to Tamarisk Grove Campground (recommended NRHP-eligible) are eliminated 	<ul style="list-style-type: none"> • Preferred • Eliminates known Class I impacts to a site complex/TCP • Once operational, visual impacts to Tamarisk Grove Campground (recommended NRHP-eligible) are eliminated • Potential to encounter unknown resources with greatest ground disturbance associated with underground trenching. 	<ul style="list-style-type: none"> • Ranking = 4 • Class I impacts to a site complex/TCP • Impacts to 3 highly sensitive resources • 12 moderately sensitive resources • 56 low sensitivity resources • Direct and indirect impacts to Tamarisk Grove Campground (recommended NRHP-eligible) 	<ul style="list-style-type: none"> • Ranking = 5 • Class I impacts to a site complex/TCP • Impacts to 3 highly sensitive resources • 12 moderately sensitive resources • 56 low sensitivity resources • Direct and indirect impacts to Tamarisk Grove Campground (recommended NRHP-eligible) • 50-foot-wider ROW east of Tamarisk Grove Campground than the Overhead 500 kV ABDSP Within Existing ROW Alternative would result in greater potential to encounter unknown resources.
Paleontological Resources	<ul style="list-style-type: none"> • No Preference. Zero to High potential to impact paleontologically sensitive units. 	<ul style="list-style-type: none"> • No Preference. Zero to High potential to impact paleontologically sensitive units, though underground construction has greater ground disturbance. 	<ul style="list-style-type: none"> • No Preference. Zero to High potential to impact paleontologically sensitive units though underground construction would have greater ground disturbance. 	<ul style="list-style-type: none"> • No Preference. Zero to High potential to impact paleontologically sensitive geologic units. 	<ul style="list-style-type: none"> • No Preference. Zero to High potential to impact paleontologically sensitive units.

Table H-6. Comparison of the Proposed Project to ABDSP Alternatives

Issue Area	Proposed Project (MP 58.8 to MP 92.7)	Partial Underground 230 kV ABDSP SR78 to S2 Alternative	Partial Underground 230 kV ABDSP SR78 to S2 Alternative with the <u>All Underground Option*</u>	Overhead 500 kV ABDSP Within Existing ROW Alternative	Overhead 500 kV ABDSP Within Existing ROW Alternative with East of Tamarisk Grove Campground 150-Foot Option
Mileposts of the Proposed Project Replaced	N/A	San Felipe Substation (MP 58.8) to MP 92.7; construction of Central East Substation and transmission lines in/out of substation	San Felipe Substation (MP 58.8) to MP 92.7; construction of Central East Substation and transmission lines in/out of substation	Eastern ABDSP boundary (MP 60.9) to western boundary (MP 83.5)	Eastern ABDSP boundary (MP 60.9) to Tamarisk Grove Campground (MP 74.8)
Area of Comparison	MP 58.8 (San Felipe Substation) to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7
Noise	<ul style="list-style-type: none"> • Ranking = 4 • Corona noise would affect noise-sensitive receptors 	<ul style="list-style-type: none"> • Ranking = 2 • Corona noise would not affect noise-sensitive receptors in the underground portions of the route, which is where most residences are located 	<ul style="list-style-type: none"> • Preferred • Corona noise would not affect noise-sensitive receptors 	<ul style="list-style-type: none"> • Ranking = 5 • Corona noise would affect noise-sensitive receptors (three additional receptors) 	<ul style="list-style-type: none"> • Ranking = 3 • Corona noise would be marginally reduced at noise-sensitive campground
Transportation and Traffic	<ul style="list-style-type: none"> • Ranking = 2 • Crosses SR78, S3, Old Kane Spring Road and Grapevine Canyon Road • 92 kV and 69 kV transmission line would be underground in road ROW 	<ul style="list-style-type: none"> • Ranking = 3 • Crosses, as an underground transmission line, 11 local roadways as well as SR78 and S2 • Crosses or parallels, as an overhead transmission line, S2 and San Felipe Way 	<ul style="list-style-type: none"> • Ranking = 4 • Underground construction in Old Kane Springs Road, SR78, S2 • ~10 additional miles of underground construction compared to Partial Underground Alternative. • Roadway closures are likely. 	<ul style="list-style-type: none"> • Preferred • Crosses SR78, S3, Old Kane Spring Road and Grapevine Canyon Road as an overhead transmission line • No underground segment requiring trenching in roadways 	<ul style="list-style-type: none"> • Preferred • Crosses SR78, S3, Old Kane Spring Road and Grapevine Canyon Road as an overhead transmission line • No underground segment requiring trenching in roadways

Sunrise Powerlink Transmission Line Project

H. COMPARISON OF ALTERNATIVES

Table H-6. Comparison of the Proposed Project to ABDSP Alternatives

Issue Area	Proposed Project (MP 58.8 to MP 92.7)	Partial Underground 230 kV ABDSP SR78 to S2 Alternative	Partial Underground 230 kV ABDSP SR78 to S2 Alternative with the <u>All Underground Option*</u>	Overhead 500 kV ABDSP Within Existing ROW Alternative	Overhead 500 kV ABDSP Within Existing ROW Alternative with East of Tamarisk Grove Campground 150-Foot Option
Mileposts of the Proposed Project Replaced	N/A	San Felipe Substation (MP 58.8) to MP 92.7; construction of Central East Substation and transmission lines in/out of substation	San Felipe Substation (MP 58.8) to MP 92.7; construction of Central East Substation and transmission lines in/out of substation	Eastern ABDSP boundary (MP 60.9) to western boundary (MP 83.5)	Eastern ABDSP boundary (MP 60.9) to Tamarisk Grove Campground (MP 74.8)
Area of Comparison	MP 58.8 (San Felipe Substation) to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7
Environmental Contamination	<ul style="list-style-type: none"> • Ranking = 3 • Greater potential for existing soil contamination during underground trenching in SR78 	<ul style="list-style-type: none"> • Ranking = 4 • Greater potential for known or unanticipated contamination due to more extensive trenching in roadways (higher voltage line would require a wider trench and underground length is greater) 	<ul style="list-style-type: none"> • Ranking = 5 • Requires most underground trenching and ground disturbance, which creates the greatest potential to encounter contamination. 	<ul style="list-style-type: none"> • Ranking = 2 • Slightly greater potential for spills and leaks during construction due to a greater number of towers 	<ul style="list-style-type: none"> • Preferred • Requires least amount of ground disturbance so the potential to encounter contamination is the least.
Air Quality	<ul style="list-style-type: none"> • Ranking = 3 • Construction activity generates dust and exhaust emissions, especially from underground lower voltage lines 	<ul style="list-style-type: none"> • Ranking = 4 • Construction activity generates greater levels of dust and exhaust emissions for undergrounding 	<ul style="list-style-type: none"> • Ranking = 5 • Construction activity generates greatest levels of dust and exhaust emissions for undergrounding and this alternative would require the most underground construction. 	<ul style="list-style-type: none"> • Ranking = 2 • Marginally reduces construction activity by avoiding undergrounding lower voltage lines, but requires construction of more towers to remain in existing ROW 	<ul style="list-style-type: none"> • Preferred • Marginally reduces construction activity by avoiding undergrounding lower voltage lines and would require least ground disturbance from fewer towers east of Tamarisk Campground

Table H-6. Comparison of the Proposed Project to ABDSP Alternatives

Issue Area	Proposed Project (MP 58.8 to MP 92.7)	Partial Underground 230 kV ABDSP SR78 to S2 Alternative	Partial Underground 230 kV ABDSP SR78 to S2 Alternative with the <u>All Underground Option*</u>	Overhead 500 kV ABDSP Within Existing ROW Alternative	Overhead 500 kV ABDSP Within Existing ROW Alternative with East of Tamarisk Grove Campground 150-Foot Option
Mileposts of the Proposed Project Replaced	N/A	San Felipe Substation (MP 58.8) to MP 92.7; construction of Central East Substation and transmission lines in/out of substation	San Felipe Substation (MP 58.8) to MP 92.7; construction of Central East Substation and transmission lines in/out of substation	Eastern ABDSP boundary (MP 60.9) to western boundary (MP 83.5)	Eastern ABDSP boundary (MP 60.9) to Tamarisk Grove Campground (MP 74.8)
Area of Comparison	MP 58.8 (San Felipe Substation) to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7
Water Resources	<ul style="list-style-type: none"> • Ranking = 2 • 26 Watercourse Crossings (26 Desert Washes) • Adjacent to San Felipe Creek and Grapevine Canyon for 2/3 length • Undergrounding of lower voltage lines increases erosion potential 	<ul style="list-style-type: none"> • Ranking = 4 • 45 Watercourse Crossings (45 Desert and Braided Washes) • 37 Watercourse Crossings Along the Underground Portion • Adjacent to San Felipe Creek • Underground construction increases erosion potential 	<ul style="list-style-type: none"> • Ranking = 5 • Crosses similar watercourses to the ABDSP Partial Underground SR78 to S2 Alternative, but would be entirely underground so would be unable to span any of them. • Most underground construction, which increases erosion potential 	<ul style="list-style-type: none"> • Ranking = 3 • Same as Proposed Project, but larger area of disturbance with more towers in ABDSP. • Reduces erosion potential due to no underground trenching of lower voltage lines 	<ul style="list-style-type: none"> • Preferred • Same as Proposed Project. Larger area of overhead tower disturbance due to more towers west of Tamarisk Grove Campground. • Reduces erosion potential due to no underground trenching of lower voltage lines
Geology, Mineral Resources, and Soils	<ul style="list-style-type: none"> • Preferred • Potential damage to areas of desert pavement (requires fewest overhead towers in ABDSP) • Project structures could be damaged due to severe seismic shaking 	<ul style="list-style-type: none"> • Ranking = 4 • Potential damage to areas of desert pavement • Crosses Earthquake Valley Fault Zone several times – potential for fault rupture • Project structures could be damaged due to severe seismic shaking 	<ul style="list-style-type: none"> • Ranking = 5 • Underground crossing and paralleling of Earthquake Valley Alquist-Priolo Fault Zone would create a new Class I impact and reliability concerns. 	<ul style="list-style-type: none"> • Ranking = 3 • Potential damage to areas of desert pavement (requires most overhead towers) • Project structures could be damaged due to severe seismic shaking 	<ul style="list-style-type: none"> • Ranking = 2 • Potential damage to areas of desert pavement (same as Proposed Project east of Tamarisk Grove, greater number of towers west of Tamarisk Grove) • Project structures could be damaged due to severe seismic shaking

Sunrise Powerlink Transmission Line Project

H. COMPARISON OF ALTERNATIVES

Table H-6. Comparison of the Proposed Project to ABDSP Alternatives

Issue Area	Proposed Project (MP 58.8 to MP 92.7)	Partial Underground 230 kV ABDSP SR78 to S2 Alternative	Partial Underground 230 kV ABDSP SR78 to S2 Alternative with the <u>All Underground Option*</u>	Overhead 500 kV ABDSP Within Existing ROW Alternative	Overhead 500 kV ABDSP Within Existing ROW Alternative with East of Tamarisk Grove Campground 150-Foot Option
Mileposts of the Proposed Project Replaced	N/A	San Felipe Substation (MP 58.8) to MP 92.7; construction of Central East Substation and transmission lines in/out of substation	San Felipe Substation (MP 58.8) to MP 92.7; construction of Central East Substation and transmission lines in/out of substation	Eastern ABDSP boundary (MP 60.9) to western boundary (MP 83.5)	Eastern ABDSP boundary (MP 60.9) to Tamarisk Grove Campground (MP 74.8)
Area of Comparison	MP 58.8 (San Felipe Substation) to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7	MP 58.8 to MP 92.7
Socioeconomics, Public Services, and Utilities	<ul style="list-style-type: none"> • Preferred for utilities, because least ground disturbance • Ranking = 2 for socioeconomics because fewer towers and farther from Tamarisk Campground, which could impact revenues 	<ul style="list-style-type: none"> • Ranking = 4 for utilities, because UG trenching • Ranking = 2 for socioeconomics because minimizes impacts from business revenues 	<ul style="list-style-type: none"> • Ranking = 5 for utilities, because most underground trenching • Preferred for socioeconomics, because minimizes impacts from business revenues and property values by being entirely underground 	<ul style="list-style-type: none"> • Ranking = 3 for utilities based on ground disturbance • Ranking = 4 for socioeconomics due to more towers, several crossings of SR78 and adjacent to Tamarisk Campground, which could impact revenues 	<ul style="list-style-type: none"> • Ranking = 2 for utilities based on ground disturbance • Ranking = 3 for socioeconomics because greater number of towers, but would be same as proposed by Tamarisk Grove.
Fire and Fuels Management	<ul style="list-style-type: none"> • Ranking = 2 • Class I significant impact because presence of overhead transmission line would reduce the effectiveness of firefighting 	<ul style="list-style-type: none"> • Ranking = 2 • Slightly preferred due to underground segment, which would not impact firefighting; however, the overhead portions would have a Class I impact 	<ul style="list-style-type: none"> • Preferred • Underground line would eliminate Class I fire management impacts 	<ul style="list-style-type: none"> • Ranking = 2 • Class I significant impact because presence of overhead transmission line would reduce the effectiveness of firefighting 	<ul style="list-style-type: none"> • Ranking = 2 • Class I significant impact because presence of overhead transmission line would reduce the effectiveness of firefighting

* It should be noted that the both underground options have been evaluated independently and one or the other may be constructed on its own, as determined by the decisionmakers who consider non-environmental issues as well.

H.3.3 Transmission Line Route Alternatives: Central Link

The following section describes the Proposed Project in the Central Link (MP 83.5 to 110.8) as it compares to four alternatives: the Santa Ysabel Existing ROW Alternative, Santa Ysabel Partial Underground Alternative, Santa Ysabel All Underground Alternative, and SDG&E Mesa Grande Alternative. The alternatives were developed namely to reduce significant visual impacts to the relatively undeveloped Santa Ysabel Valley. The overall “area of comparison” of these alternatives would be MP 100 to MP 109.5. For alternatives that are shorter than the overall area of comparison, the Proposed Project route was incorporated to make up the remainder of the route within the area of comparison. In the case of the Santa Ysabel Partial Underground Alternative, it may be used in conjunction with the SDG&E Mesa Grande Alternative within the area of comparison, as is shown in Table H-8.

Significant and unmitigable (Class I) impacts of the Proposed Project and Class I impacts either created or eliminated by each Central Link alternative are listed in Table H-7.

Summary of Impacts

The **Proposed Project** in this area of comparison (MP 100 to MP 109.5) would have 23 significant (Class I) impacts to biological resources, visual resources, wilderness and recreation, agricultural resources, cultural resources, noise, air quality, and fire and fuels management (see Table H-7). Additionally, as addressed in Table H-8 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining seven issue areas, which have been found to be less than significant following implementation of required mitigation.

The **Santa Ysabel Existing ROW Alternative** would have 21 significant (Class I) impacts in biological resources, visual resources, wilderness and recreation, agricultural resources, cultural resources, noise, air quality, and fire and fuels management (see Table H-7). Additionally, as addressed in Table H-8 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining seven issue areas, which have been found to be less than significant following implementation of required mitigation. The Santa Ysabel Existing ROW Alternative would *reduce or eliminate* the following environmental impacts of greatest concern for the Proposed Project:

- The Santa Ysabel Existing ROW Alternative is 9 miles long and would replace 9.4 miles of the Proposed Project.
- Located in an existing corridor and would not require relocation of the existing 69 kV line.

The **Santa Ysabel Existing ROW Alternative** would *increase* the following environmental impacts of greatest concern for the Proposed Project:

- The alternative would impact 40 residences, whereas the Proposed Project would impact only 4 residences.
- Located west of and roughly parallel to SR79 and would cross through greater acreage of oak woodlands and sensitive riparian habitat.
- Greater overall impacts to native habitats.

- Substantially more people would be exposed to the visual impact of the alternative between SR76 and Mesa Grande Road and the visual impact of the alternative would be slightly greater than that of the proposed route (though both are still Class I) between Mesa Grande Road and SR78.
- Impact V-41 (Introduced structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 34 on southbound SR79) would be an additional Class I visual impact.
- Although the Proposed Project and Santa Ysabel Existing ROW Alternative would result in Class I impacts to the recreational value of the Santa Ysabel Open Space Preserve (SYOSP) and San Dieguito River Park, the Proposed Project would not actually traverse the SYOSP.

The **Santa Ysabel All Underground Alternative** would have 14 significant (Class I) impacts in biological resources, agricultural resources, cultural resources, noise, air quality, and geology, mineral resources and soils (see Table H-7). Additionally, as addressed in Table H-8 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining nine issue areas, which have been found to be less than significant following implementation of required mitigation. The Santa Ysabel All Underground Alternative would *reduce or eliminate* the following environmental impacts of greatest concern for the Proposed Project:

- Located mostly in roads, which would minimize impacts to sensitive habitats.
- Eliminates a Class I impact to a golden eagle nest (Impact B-7H) caused by the Proposed Project and would replace it with a Class II temporary construction impact. Eliminates a Class I impact to the Stephens' kangaroo rat (Impact B-7L) caused by the Proposed Project.
- Replaces the proposed route with underground facilities and eliminates B-10 collision impacts (Class I impact).
- With the exception of the alternative's two necessary transition structures, this alternative would eliminate all aboveground structures and Class I visual impacts between SR76 and Proposed Project MP 109.4, approximately one mile south of SR78. Although the Santa Ysabel All Underground Alternative would require the aboveground transition structures (which are quite structurally complex), they would be located on private lands and would be minimally noticeable to the general viewing public. The north structure just south of SR76 would be almost completely screened from view by oak woodland. The south structure would be partially screened from view by terrain and vegetation at its location approximately one mile south of SR78. Views of the structure from SR78 would be brief and at right angles (well beyond the primary cone of vision of travelers) from SR78.
- Eliminates Class I impacts to the recreational value of the SYOSP and San Dieguito River Park and all operational recreation impacts that would result from this segment of the Proposed Project.
- By putting the line underground, ignitions for line operation and maintenance are avoided, obstacles to firefighters are eliminated, and vegetation management is no longer necessary for fire protection (and vegetation management impacts to natural resources are thus eliminated). Eliminates a Class I impact (Impact F-3) for fire and fuel management, and eliminates two Class II impacts (Impacts F-2 and F-4).
- No audible corona noise increase would occur with the underground segments (a Class I impact).

The **Santa Ysabel All Underground Alternative** would *increase* the following environmental impacts of greatest concern for the Proposed Project:

- Impact V-41 (Introduced structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 34 on southbound SR79) would be an additional Class I visual impact.

- Noise disturbance caused by construction would be somewhat greater.
- Increases overall emissions of construction with excavation for the underground segment and building of the access road.
- Creates an impact to water quality in Carrista Creek due to the substantial amount of excavation and permanent stream disturbance that would occur with the alternative. Mitigation requiring use of a directional drill would reduce this impact to less than significant (Class II).
- Passes directly west of the Chapel of Santa Ysabel in the SR79 road bed, a historic complex and California Historical Landmark recommended eligible for NRHP and CRHR listing. The cemetery associated with the Chapel that is a contributing element to the resource's NRHP-eligibility is located adjacent to SR79. This increases the likelihood to encounter unrecorded human remains (Impact C-3) during project construction, which would be a Class I (significant) impact.
- Passes within 0.25-mile of a leaking underground fuel tank site and a service station with three active underground storage tanks in the community of Santa Ysabel. Although the impact would be mitigable to less than significant, the Proposed Project passes west of the community and avoids these sites.
- A portion of SR79 at the northern portion of this alternative is located on Tribal land (where the Santa Ysabel Reservation is located below or east of the roadway), and approval of a non-highway facility, such as a transmission line, located within the State highway would require Caltrans, Bureau of Indian Affairs, or Santa Ysabel Tribe approval. Because construction would be entirely in the road, at this time it is assumed that approval would be granted and the alternative would be legally feasible.
- Creates a significant (Class I) impact due to fault rupture (Impact G-5: Project would expose people or structures to potential substantial adverse effects as result of surface fault rupture at crossings of active faults).

The **Santa Ysabel Partial Underground Alternative** would have 15 significant (Class I) impacts in biological resources, visual resources, agricultural resources, cultural resources, noise, air quality (see Table H-7). Additionally, as addressed in Table H-8 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining nine issue areas, which have been found to be less than significant following implementation of required mitigation. The Santa Ysabel Partial Underground Alternative would *reduce or eliminate* the following environmental impacts of greatest concern for the Proposed Project:

- Less impact to upland habitats and native vegetation (Impact B-1, Class I) since the construction of underground facilities would be primarily located within existing paved roads.
- Underground facilities eliminate Impact B-10 bird collision impacts (Class I).
- Eliminates transmission towers located within golden eagle foraging habitat (Impact B-7H).
- Eliminates impacts to DOC Farmland, Active Agricultural Operation, and Williamson Act lands in the southern Santa Ysabel Valley.
- With the exception of the alternative's two necessary transition structures, this alternative would eliminate all aboveground structures and Class I visual impacts between Mesa Grande Road (MP 105.5) and Proposed Project MP 109.4, approximately one mile south of SR78. Although the Partial Underground Alternative would require the two aboveground transition structures (which are quite structurally complex), the north structure (on Mesa Grande Road) could be relocated away

from most views from Mesa Grande Road (Mitigation Measure V-42a). The south structure would be partially screened from view by terrain and vegetation at its location approximately one mile south of SR78. Views of the structure from SR78 would be brief and at right angles (well beyond the primary cone of vision of travelers) from SR78. For these reasons, the Santa Ysabel Partial Underground Alternative is visually preferred over the Proposed Project. However, the Partial Underground Alternative is less visually preferred compared to the All Underground Alternative because it does not eliminate the Class I visual impacts between SR76 and Mesa Grande Road.

- By putting the line underground, ignitions for line operation and maintenance are avoided, obstacles to firefighters are eliminated, and vegetation management is no longer necessary for fire protection (and vegetation management impacts to natural resources are thus eliminated). Eliminates a Class I impact (Impact F-3) for fire and fuel management, and eliminates two Class II impacts (Impacts F-2 and F-4).

The **Santa Ysabel Partial Underground Alternative** would *increase* the following environmental impacts of greatest concern for the Proposed Project:

- Noise disturbance caused by construction would be somewhat greater.
- Increases overall emissions of construction with excavation for the underground segment and building of the access road.
- Similar to the Santa Ysabel All Underground Alternative, route would pass directly west of the Chapel of Santa Ysabel in the SR79 road bed, a historic complex and California Historical Landmark recommended eligible for NRHP and CRHR listing. The cemetery associated with the Chapel that is a contributing element to the resource's NRHP-eligibility is located adjacent to SR79. This increases the likelihood to encounter unrecorded human remains (Impact C-3) during project construction, which would be a Class I (significant) impact.
- Passes within 0.25-miles of a leaking underground fuel tank site and a service station with three active underground storage tanks in the community of Santa Ysabel. Although the impact would be mitigable to less than significant, the Proposed Project passes west of the community and avoids these sites.

The **SDG&E Mesa Grande Alternative** would have 17 significant (Class I) impacts in biological resources, visual resources, agricultural resources, cultural resources, noise, air quality, and fire and fuels management (see Table H-7). Additionally, as addressed in Table H-8 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining eight issue areas, which have been found to be less than significant following implementation of required mitigation. The SDG&E Mesa Grande Alternative would *reduce or eliminate* the following environmental impacts of greatest concern for the Proposed Project:

- Route would be shorter thereby reducing ground disturbance and associated impacts.
- Reduces impacts slightly to oak woodlands and chaparral habitats and a slight reduction in impacts to native vegetation impacts (Impact B-1, Class I impact).
- Both the Proposed Project and this alternative would have a Class I impact on a golden eagle nest location (Impact B-7H), however, this alternative would move the impact slightly farther away from the nest location, compared to the proposed route.
- The location of the Proposed Project higher on the hill north of Mesa Grande would cause slightly more structural contrast, greater structural prominence, and increased view blockage as the route

crests over the top of the hill. The Mesa Grande Alternative would result in slightly lower degrees of visual contrast, structure prominence, and view blockage because it would be located lower on the flanks of the hill.

- Impacts fewer acres of land under Active Agricultural Operation.

The **SDG&E Mesa Grande Alternative** would *increase* the following environmental impacts of greatest concern for the Proposed Project:

- Increases impacts to non-native grasslands.
- Impact V-44 [Introduced structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 36 on Mesa Grande Road (VS-VC)] would be a new Class I (significant) visual impact created by this alternative.
- Impacts more Williamson Act lands.

Conclusion

Table H-8 compares the Proposed Project with the four Central Link alternatives. The overall “area of comparison” of these alternatives would be MP 100 to MP 109.5. For alternatives that are shorter than the overall area of comparison, the Proposed Project route was incorporated to make up the remainder of the route within the area of comparison. In the case of the Santa Ysabel Partial Underground Alternative, it may be used in conjunction with the SDG&E Mesa Grande Alternative within the area of comparison, as is shown in Table H-8.

Overall the Santa Ysabel All Underground Alternative would reduce and/or eliminate significant (Class I) temporary and permanent impacts and has been found to be most preferred to all issue areas with significant impacts, except for air quality (Impact AQ-1), which has been found to be significant during construction activities for the Proposed Project and all of the alternatives. As a result, the Santa Ysabel All Underground Alternative is the environmentally superior transmission line route alternative in the Central Link.

The Santa Ysabel All Underground Alternative would pass through reservation lands of the Santa Ysabel Indians, and tribal lands would be avoided by the Santa Ysabel Partial Underground Alternative with the Mesa Grande Alternative. These tribes retain sovereign rights to determine whether they would negotiate easements for SDG&E to construct and operate transmission lines across their lands. In the absence of tribal easements, the Santa Ysabel All Underground Alternative would not be feasible. While the environmental impacts of the Santa Ysabel All Underground Alternative would be less than those of the Santa Ysabel Partial Underground Alternative with the Mesa Grande Alternative, the Santa Ysabel Partial Underground Alternative with the Mesa Grande Alternative is feasible. Therefore, if the Santa Ysabel All Underground Alternative is found to be infeasible, the Santa Ysabel Partial Underground Alternative with the Mesa Grande Alternative would meet project objectives and allow a route segment alternative to be successfully constructed.

Table H-7. Central Link Summary of Significant Unmitigable (Class I) Impacts by Proposed Project and Alternatives

Alternative	Significant Impacts (Class I)
Proposed Project, Central Link	<p>B-1 Temporary and permanent losses of native vegetation B-5 Direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants B-7 Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for B-7A Direct or indirect loss of Flat-Tailed horned lizard or direct loss of habitat B-7H Direct or indirect loss of golden eagle or direct loss of habitat B-7J Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat B-7L Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat B-10 Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species V-16 Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 13 on Grapevine Canyon Road, just west of Anza-Borrego Desert State Park V-17 Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 14 on southbound SR79 V-18 Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 15 on westbound Mesa Grande Road V-19 Increased structure contrast, industrial character, and view blockage when viewed from Key Viewpoint 16 at the Inaja Monument Park Overlook V-20 Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 17 on westbound SR78 WR-2 Presence of a transmission line or substation would permanently change the character of a recreation area, diminishing its recreational value AG-2 Operation would permanently convert DOC Farmland to non-agricultural use AG-3 Operation would permanently interfere with Active Agricultural Operations AG-4 Operation would permanently convert Williamson Act lands to non-agricultural use C-3 Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains C-4 Construction of the project would cause an adverse change to Traditional Cultural Properties N-1 Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances N-3 Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components N-4 Routine inspection and maintenance activities would increase ambient noise levels AQ-1 Construction would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants AQ-4 Project activities would cause a net increase of greenhouse gas emissions. F-2. Presence of the overhead transmission line would significantly increase the probability of a wildfire. F-3 Presence of the overhead transmission line would reduce the effectiveness of firefighting.</p>
Class I Impacts Eliminated or Created by Route Segment Alternatives – Central Link	
Santa Ysabel Existing ROW Alternative	<p><i>Class I Impacts similar to the Proposed Project</i> B-1, B-5, B-7, B-7H, B-7J, B-7L, B-10, WR-2, AG-2, AG-3, AG-4, C-3, C-4, N-1, N-4, AQ-1, AQ-4, F-2, F-3. <i>Eliminates</i> V-18, V-19, V-20, N-3. <i>Creates</i> V-41 Introduced structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 34 on southbound SR79. C-6 Long-term presence of the project would cause an adverse change to known historic architectural (built environment) resources. The following impacts would not occur with either the proposed route or the alternative in this segment: B-7A, V-16, V-17.</p>

Table H-7. Central Link Summary of Significant Unmitigable (Class I) Impacts by Proposed Project and Alternatives

Alternative	Significant Impacts (Class I)
Santa Ysabel Partial Underground Alternative	<p><i>Class I Impacts similar to the Proposed Project</i> B-1, B-5, B-7, B-7J, B-7L, AG-2, AG-3, AG-4, C-3, C-4, N-1, N-4, AQ-1, AQ-4. <i>Eliminates</i> B-7H, B-10 (for the underground portion), V-19, V-20, WR-2, N-3, F-2 (for the underground portion), F-3 (for the underground portion). <i>Creates</i> V-42 Introduced structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 35 on Mesa Grande Road.</p> <p>The following impacts would not occur with either the proposed route or the alternative in this segment: B-7A, V-16, V-17, V-18.</p>
Santa Ysabel SR79 All Underground Alternative	<p><i>Class I Impacts similar to the Proposed Project</i> B-1, B-5, B-7, B-7J, AG-2, AG-3, AG-4, C-3, C-4, N-1, N-4, AQ-1, AQ-4. <i>Eliminates</i> B-7H, B-7L, B-10, V-17, V-18, V-19, V-20, WR-2, N-3, F-2, F-3. <i>Creates</i> G-5 Project would expose people or structures to potential substantial adverse effects as result of surface fault rupture at crossings of active faults</p> <p>The following impacts would not occur with either the proposed route or the alternative in this segment: B-7A and V-16.</p>
SDG&E Mesa Grande Alternative	<p><i>Class I Impacts similar to the Proposed Project</i> B-1, B-5, B-7, B-7H, B-7J, B-7L, B-10, AG-4, C-3, C-4, N-1, N-4, AQ-1, AQ-4, F-2, F-3. <i>Creates</i> V-44 Introduced structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 36 on Mesa Grande Road</p> <p>The following impacts would not occur with either the proposed route or the alternative in this segment: B-7A, V-16, V-17, V-18, V-19, V-20, WR-2, AG-2, AG-3, N-3.</p>

Note: No Class I impacts would occur in any of the following issue areas for any alternative: Land Use, Water Resources, Public Health/Safety-Contamination, Transportation/Traffic, Socioeconomics, Public Services, and Utilities.

Sunrise Powerlink Transmission Line Project
H. COMPARISON OF ALTERNATIVES

Table H-8. Comparison of Alternatives in the Santa Ysabel Valley

Issue Area	Proposed Project (MP 100 to MP 109.5)	Santa Ysabel Existing ROW Alternative	Santa Ysabel All Underground Alternative	Santa Ysabel Partial Underground Alternative AND SDG&E Mesa Grande Alternative	Santa Ysabel Partial Underground Alternative WITHOUT using SDG&E Mesa Grande Alternative	Proposed Project AND SDG&E Mesa Grande Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 100 to MP 109.5	MP 100 to MP 109.4	MP 105.3 to MP 109.4 (SYUG Alt) & MP 102.2 to MP 103.5 (Mesa Grande)	MP 105.3 to MP 109.4	MP 102.2 to MP 103.5
Area of Comparison	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5
Biological Resources	<ul style="list-style-type: none"> • Ranking = 5 • Class I collision impacts • Class I golden eagle impacts • Less impact to native habitats compared to existing ROW alternative (Class I) 	<ul style="list-style-type: none"> • Ranking = 6 • Class I collision impacts • Class I golden eagle impacts (closest of all alternatives to a nest) 	<ul style="list-style-type: none"> • Preferred • Avoids Class I collision impacts • Reduces Class I golden eagle impacts to Class II • Eliminates Class I Stephens' kangaroo rat impacts • Locating underground alignment within existing roads minimizes impacts 	<ul style="list-style-type: none"> • Ranking = 2 • Reduces Class I Collision Impacts • Mesa Grande alternative reduces proximity to golden eagle nest • Reduces impacts to native habitats 	<ul style="list-style-type: none"> • Ranking = 3 • Reduces Class I collision impacts • Slightly closer to a Golden eagle nest in Mesa Grande section • Reduces impacts to native habitats 	<ul style="list-style-type: none"> • Ranking = 4 • Class I collision impact • Reduces distance to golden eagle nest slightly compared to Proposed Project. • Impacts to native habitats less than Proposed Project

Table H-8. Comparison of Alternatives in the Santa Ysabel Valley

Issue Area	Proposed Project (MP 100 to MP 109.5)	Santa Ysabel Existing ROW Alternative	Santa Ysabel All Underground Alternative	Santa Ysabel Partial Underground Alternative AND SDG&E Mesa Grande Alternative	Santa Ysabel Partial Underground Alternative WITHOUT using SDG&E Mesa Grande Alternative	Proposed Project AND SDG&E Mesa Grande Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 100 to MP 109.5	MP 100 to MP 109.4	MP 105.3 to MP 109.4 (SYPUG Alt) & MP 102.2 to MP 103.5 (Mesa Grande)	MP 105.3 to MP 109.4	MP 102.2 to MP 103.5
Area of Comparison	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5
Visual Resources	<ul style="list-style-type: none"> • Ranking = 5 • Increased structure contrast, industrial character, view blockage and skylining, resulting in significant and unmitigable (Class I) visual impacts from MP 100 to MP 109.5. 	<ul style="list-style-type: none"> • Ranking = 6 • Increased structure contrast, industrial character, view blockage and skylining, resulting in significant and unmitigable (Class I) visual impacts. • Between SR76 and Mesa Grande Road, the Class I impacts would be visible to more viewers than for the Proposed Project. • Between Mesa Grande Road and SR78, the Class I impacts would be more prominent than for Proposed Project. 	<ul style="list-style-type: none"> • Preferred • Slight degree of structure contrast, industrial character, and view blockage, resulting in adverse but less than significant (Class III) visual impacts. • With the exception of two necessary transition structures (one near SR76 and one south of SR78), this alternative eliminates all above-ground structures and Class I visual impacts from MP 100 to 109.5. 	<ul style="list-style-type: none"> • Ranking = 2 • Reduced visual contrast, structure prominence, and view blockage as the route approaches Mesa Grande Road from the north. • Introduced structure contrast, industrial character, view blockage and skylining, resulting in significant but mitigable (Class II) visual impacts on views from Mesa Grande Road from transition structure. • Eliminates all aboveground structures (except for two transition structures) and Class I visual impacts between Mesa Grande Road (MP 105.5) and MP 109.5, south of SR78. 	<ul style="list-style-type: none"> • Ranking = 3 • Introduced structure contrast, industrial character, view blockage and skylining, resulting in significant but mitigable (Class II) visual impacts on views from Mesa Grande Road from transition structure. • Eliminates all aboveground structures (except for two transition structures) and Class I visual impacts between Mesa Grande Road (MP 105.5) and MP 109.5, south of SR78. 	<ul style="list-style-type: none"> • Ranking = 4 • Reduced visual contrast, structure prominence, and view blockage as the route approaches Mesa Grande Road from the north, between MPs MG-0 and MG-1.8.
Land Use	<ul style="list-style-type: none"> • Preferred • 4 rural residences impacts from MP 100 to 110; 1 from MP 102.2 to 103.5 	<ul style="list-style-type: none"> • Ranking = 6 • 40 rural residences impacts • Commercial/office and industrial uses 	<ul style="list-style-type: none"> • Ranking = 5 • 28 rural residences impacts 	<ul style="list-style-type: none"> • Ranking = 4 • 23 rural residences impacts • Commercial/office and industrial uses 	<ul style="list-style-type: none"> • Ranking = 3 • 20 rural residences impacts • Commercial/office and industrial uses 	<ul style="list-style-type: none"> • Ranking = 2 • 3 rural residences impacts

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H. COMPARISON OF ALTERNATIVES

Table H-8. Comparison of Alternatives in the Santa Ysabel Valley

Issue Area	Proposed Project (MP 100 to MP 109.5)	Santa Ysabel Existing ROW Alternative	Santa Ysabel All Underground Alternative	Santa Ysabel Partial Underground Alternative AND SDG&E Mesa Grande Alternative	Santa Ysabel Partial Underground Alternative WITHOUT using SDG&E Mesa Grande Alternative	Proposed Project AND SDG&E Mesa Grande Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 100 to MP 109.5	MP 100 to MP 109.4	MP 105.3 to MP 109.4 (SYPUG Alt) & MP 102.2 to MP 103.5 (Mesa Grande)	MP 105.3 to MP 109.4	MP 102.2 to MP 103.5
Area of Comparison	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5
Wilderness and Recreation	<ul style="list-style-type: none"> • Ranking = 2 • Class I impact to recreational value of SDRP and SYOSP 	<ul style="list-style-type: none"> • Ranking = 3 • Class I impact to recreational value of SDRP and SYOSP • Additionally traverses West Vista Loop Trail in SYOSP 	<ul style="list-style-type: none"> • Preferred • Eliminates operational impacts to SDRP and SYOSP • Would constrain access to SYOSP during construction 	<ul style="list-style-type: none"> • Preferred • Eliminates operational impacts to SDRP and SYOSP • Would constrain access to SYOSP during construction 	<ul style="list-style-type: none"> • Preferred • Eliminates operational impacts to SDRP and SYOSP • Would constrain access to SYOSP during construction 	<ul style="list-style-type: none"> • Ranking = 2 • Class I impact to recreational value of SDRP and SYOSP
Agricultural Resources	<ul style="list-style-type: none"> • Ranking = 6 • DOC Farmland impacts (36.7, 25.9, 36.9 acres) • Active Agricultural Operations impacts (90.8, 35.7, 83.4, 22.2 acres) • Williamson Act lands impacts (8.5, 2.7, 1.6 acres) 	<ul style="list-style-type: none"> • Ranking = 2 • Williamson Act lands • Would not require relocation of line so would reduce area of construction 	<ul style="list-style-type: none"> • Preferred • Northern portion of this alternative would traverse agricultural lands under Williamson Act creating temporary impacts before it enters the SR79 roadway 	<ul style="list-style-type: none"> • Ranking = 3 • DOC Farmlands impacts (0.8 acres) • Active Agricultural Operations impacts (3.0, 22.0 acres) • Williamson Act lands impacts (1.0, 14.9 acres) • No Impacts because located in roadways; however, north of Mesa Grande Road within the area of comparison would be overhead following the proposed route 	<ul style="list-style-type: none"> • Ranking = 4 • DOC Farmlands impacts (0.8 acres) • Active Agricultural Operations impacts (3.0 acres) • Williamson Act lands impacts (1.0 acre) • Slightly longer without use of Mesa Grande Alternative creating more disturbance area 	<ul style="list-style-type: none"> • Ranking = 5 • Active Agricultural Operations impacts (22.0 acres) • Williamson Act lands impacts (14.9 acres) • Slightly shorter than the proposed route creating less disturbance

Table H-8. Comparison of Alternatives in the Santa Ysabel Valley

Issue Area	Proposed Project (MP 100 to MP 109.5)	Santa Ysabel Existing ROW Alternative	Santa Ysabel All Underground Alternative	Santa Ysabel Partial Underground Alternative AND SDG&E Mesa Grande Alternative	Santa Ysabel Partial Underground Alternative WITHOUT using SDG&E Mesa Grande Alternative	Proposed Project AND SDG&E Mesa Grande Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 100 to MP 109.5	MP 100 to MP 109.4	MP 105.3 to MP 109.4 (SYPUG Alt) & MP 102.2 to MP 103.5 (Mesa Grande)	MP 105.3 to MP 109.4	MP 102.2 to MP 103.5
Area of Comparison	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5
Cultural Resources	<ul style="list-style-type: none"> • Ranking = 2 • Impacts to 43 low sensitivity resources • No underground construction means reduced likelihood of unanticipated discoveries • Visual impact to Chapel of Santa Ysabel (Class II) 	<ul style="list-style-type: none"> • Ranking = 3 • Visual impacts to Chapel of Santa Ysabel (Class II) • Impacts to 4 moderate sensitivity resources • 18 low sensitivity resources 	<ul style="list-style-type: none"> • Ranking = 6 • Impacts to 143 low sensitivity resources • Potential for human remains in vicinity of the cemetery (Class I) • All underground construction increases likelihood of unanticipated discoveries 	<ul style="list-style-type: none"> • Ranking = 4 • Impacts to 6 moderate sensitivity resources • Impacts to 19 low sensitivity resources • Potential for human remains in vicinity of the cemetery (Class I) 	<ul style="list-style-type: none"> • Ranking = 5 • Impacts to 6 moderate sensitivity resources • Impacts to 19 low sensitivity resources • Potential for human remains in vicinity of the cemetery (Class I) • Would have slightly more ground disturbance, which could impact unknown resources, because the route would be slightly longer without use of Mesa Grande Alternative 	<ul style="list-style-type: none"> • Preferred • No known resources in this alternative When combined with Proposed Project: <ul style="list-style-type: none"> • Shorter than Proposed Project • Impacts to 43 low sensitivity resources • No underground construction means reduced likelihood of unanticipated discoveries • Visual impact to Chapel of Santa Ysabel (Class II)
Paleontological Resources	<ul style="list-style-type: none"> • Ranking = 3 • Zero to High potential to impact paleontologically sensitive geologic units. • Ranking based on amount of ground disturbance 	<ul style="list-style-type: none"> • Preferred • Zero to High potential to impact paleontologically sensitive geologic units. • Least ground disturbance because shorter route, would not require relocation of 69 kV lines or new access roads. 	<ul style="list-style-type: none"> • Ranking = 6 • Zero to High potential to impact paleontologically sensitive geologic units. • Greatest ground disturbance 	<ul style="list-style-type: none"> • Ranking = 4 • Zero to High potential to impact paleontologically sensitive geologic units. • Greater ground disturbance with underground construction and slightly shorter with Mesa Grande Alternative 	<ul style="list-style-type: none"> • Ranking = 5 • Zero to High potential to impact paleontologically sensitive geologic units. • Greater ground disturbance with underground construction. 	<ul style="list-style-type: none"> • Ranking = 2 • Zero potential to impact paleontologically sensitive geologic units. • Slightly less ground disturbance than the Proposed Project because shorter

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H. COMPARISON OF ALTERNATIVES

Table H-8. Comparison of Alternatives in the Santa Ysabel Valley

Issue Area	Proposed Project (MP 100 to MP 109.5)	Santa Ysabel Existing ROW Alternative	Santa Ysabel All Underground Alternative	Santa Ysabel Partial Underground Alternative AND SDG&E Mesa Grande Alternative	Santa Ysabel Partial Underground Alternative WITHOUT using SDG&E Mesa Grande Alternative	Proposed Project AND SDG&E Mesa Grande Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 100 to MP 109.5	MP 100 to MP 109.4	MP 105.3 to MP 109.4 (SYUG Alt) & MP 102.2 to MP 103.5 (Mesa Grande)	MP 105.3 to MP 109.4	MP 102.2 to MP 103.5
Area of Comparison	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5
Noise	<ul style="list-style-type: none"> • Ranking = 3 • Construction and corona noise would affect noise-sensitive receptors 	<ul style="list-style-type: none"> • Ranking = 4 • Construction and corona noise would affect additional noise-sensitive receptors and tribal lands 	<ul style="list-style-type: none"> • Preferred • No audible noise would be created by underground segments 	<ul style="list-style-type: none"> • Ranking = 2 • No audible noise would be created by underground segments 	<ul style="list-style-type: none"> • Ranking = 2 • No audible noise would be created by underground segments 	<ul style="list-style-type: none"> • Ranking = 3 • Construction and corona noise would affect additional noise-sensitive receptors and tribal lands
Transportation and Traffic	<ul style="list-style-type: none"> • Preferred • Fewest road crossings • Crosses over Mesa Grande Road and SR78 as an overhead transmission line, which has less impacts than underground trenching in roadways 	<ul style="list-style-type: none"> • Ranking = 2 • Crosses over two major arteries in the Santa Ysabel region, SR78 and SR79, as an overhead transmission line 	<ul style="list-style-type: none"> • Ranking = 3 • Crosses over SR79 and ranching roads as an underground transmission line • Crosses SR78 as an overhead transmission line 	<ul style="list-style-type: none"> • Ranking = 4 • Crosses over SR79, SR78, and Mesa Grande Road as an underground transmission line • Crosses north Mesa Grande Road as an overhead transmission line 	<ul style="list-style-type: none"> • Ranking = 4 • Crosses over SR79, SR78, and Mesa Grande Road as an underground transmission line • Crosses north Mesa Grande Road as an overhead transmission line 	<ul style="list-style-type: none"> • Preferred • Crosses over Mesa Grande Road as an overhead transmission line • Crosses over SR78 as an overhead transmission line
Environmental Contamination	<ul style="list-style-type: none"> • Ranking = 3 • Very low potential for existing soil contamination • Ranking based on length of route and ground disturbance 	<ul style="list-style-type: none"> • Preferred • Least potential for known or unanticipated contamination due to least ground disturbance 	<ul style="list-style-type: none"> • Ranking = 6 • Greatest potential for spills and leaks during construction due to most ground disturbance and passes near leaking fuel tank storage site 	<ul style="list-style-type: none"> • Ranking = 4 • Greater potential for known or unanticipated contamination due to underground construction • Slightly shorter with use of Mesa Grande Alternative • Passes near leaking fuel tank storage site 	<ul style="list-style-type: none"> • Ranking = 5 • Greater potential for known or unanticipated contamination due to underground construction • Passes near leaking fuel tank storage site 	<ul style="list-style-type: none"> • Ranking = 2 • Slightly less potential for spills and leaks during construction with use of Mesa Grande route, which is shorter than the proposed route

Table H-8. Comparison of Alternatives in the Santa Ysabel Valley

Issue Area	Proposed Project (MP 100 to MP 109.5)	Santa Ysabel Existing ROW Alternative	Santa Ysabel All Underground Alternative	Santa Ysabel Partial Underground Alternative AND SDG&E Mesa Grande Alternative	Santa Ysabel Partial Underground Alternative WITHOUT using SDG&E Mesa Grande Alternative	Proposed Project AND SDG&E Mesa Grande Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 100 to MP 109.5	MP 100 to MP 109.4	MP 105.3 to MP 109.4 (SYPUG Alt) & MP 102.2 to MP 103.5 (Mesa Grande)	MP 105.3 to MP 109.4	MP 102.2 to MP 103.5
Area of Comparison	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5
Air Quality	<ul style="list-style-type: none"> • Ranking = 2 • Construction activity generates dust and exhaust emissions 	<ul style="list-style-type: none"> • Preferred • Reduced construction activity 	<ul style="list-style-type: none"> • Ranking = 4 • Construction activity generates greater levels of dust and exhaust emissions with undergrounding 	<ul style="list-style-type: none"> • Ranking = 3 • Construction activity generates marginally greater levels of dust and exhaust emissions with undergrounding 	<ul style="list-style-type: none"> • Ranking = 3 • See Santa Ysabel Partial Underground 	<ul style="list-style-type: none"> • Ranking = 2 • No Preference. Construction activity generates similar dust and exhaust emissions
Water Resources	<ul style="list-style-type: none"> • Ranking = 3 • 10 Watercourse Crossings (Natural Washes). 	<ul style="list-style-type: none"> • Preferred • 9 Watercourse Crossings (Natural Washes) and shortest route. 	<ul style="list-style-type: none"> • Ranking = 5 • 7 Watercourse Crossings (Natural Washes) • Underground under and parallel to Carrista Creek. • Most ground disturbance. 	<ul style="list-style-type: none"> • Ranking = 4 • 18 Watercourse Crossings (Natural Washes). 	<ul style="list-style-type: none"> • Ranking = 4 • 18 Watercourse Crossings (Natural Washes). 	<ul style="list-style-type: none"> • Ranking = 2 • Same as Proposed Project. Fewer access roads.
Geology, Mineral Resources, and Soils	<ul style="list-style-type: none"> • Ranking = 3 • Erosion triggered or accelerated by construction 	<ul style="list-style-type: none"> • Ranking = 2 • Erosion triggered or accelerated by construction, but would not relocate 69 kV line and would be shortest • On steeper terrain than proposed route 	<ul style="list-style-type: none"> • Ranking = 6 • Erosion triggered or accelerated by underground construction 	<ul style="list-style-type: none"> • Ranking = 4 • Erosion triggered or accelerated by underground construction • Mesa Grande Road crosses gentler terrain and would be shorter 	<ul style="list-style-type: none"> • Ranking = 5 • Erosion triggered or accelerated by construction 	<ul style="list-style-type: none"> • Preferred • Reduces potential impacts related to seismically induced slope failures because it crosses gentler terrain

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H. COMPARISON OF ALTERNATIVES

Table H-8. Comparison of Alternatives in the Santa Ysabel Valley

Issue Area	Proposed Project (MP 100 to MP 109.5)	Santa Ysabel Existing ROW Alternative	Santa Ysabel All Underground Alternative	Santa Ysabel Partial Underground Alternative AND SDG&E Mesa Grande Alternative	Santa Ysabel Partial Underground Alternative WITHOUT using SDG&E Mesa Grande Alternative	Proposed Project AND SDG&E Mesa Grande Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 100 to MP 109.5	MP 100 to MP 109.4	MP 105.3 to MP 109.4 (SYPUG Alt) & MP 102.2 to MP 103.5 (Mesa Grande)	MP 105.3 to MP 109.4	MP 102.2 to MP 103.5
Area of Comparison	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5	MP 100 to MP 109.5
Socioeconomics, Public Services, and Utilities	<ul style="list-style-type: none"> • Ranking = 3 • Entirely overhead, but would require relocation of the 69 kV line, which could disrupt existing utilities. 	<ul style="list-style-type: none"> • Preferred • Would be shorter, overhead, and would not require relocation of 69 kV resulting in less probability of utility disruptions and less water and service requirements during construction. 	<ul style="list-style-type: none"> • Ranking = 6 for public services and utilities • Would have the greatest ground disturbance requiring more water, services, and would have the greatest potential to disturb underground utilities. 	<ul style="list-style-type: none"> • Ranking = 4 • Partially overhead and would be shorter than without the Mesa Grande Alternative, which would reduce water and service requirements and create a lesser potential for utility disruption than without the SDG&E Mesa Grande Alternative. 	<ul style="list-style-type: none"> • Ranking = 5 • Partially overhead and would be longer than with the Mesa Grande Alternative. 	<ul style="list-style-type: none"> • Ranking = 2 • Shorter than the proposed route, but would require relocation of 69 kV line.
Fire and Fuels Management	<ul style="list-style-type: none"> • Ranking = 4 • Class I impact due to obstruction to firefighting abilities. 	<ul style="list-style-type: none"> • Ranking = 3 • Would collocate line in existing corridor reducing impacts to firefighting abilities 	<ul style="list-style-type: none"> • Preferred • Underground line would eliminates a Class I impact by not obstructing firefighting abilities. • Eliminates two Class II fire impacts as well. 	<ul style="list-style-type: none"> • Ranking = 2 • Partially underground line would reduce a Class I impact by not obstructing firefighting abilities. • Eliminates two Class II fire impacts as well. 	<ul style="list-style-type: none"> • Ranking = 2 • Partially underground line would reduce a Class I impact by not obstructing firefighting abilities. • Eliminates two Class II fire impacts as well. 	<ul style="list-style-type: none"> • Ranking = 4 • Same as proposed route

H.3.4 Transmission Line Route Alternatives: Inland Valley Link

The following section describes the Proposed Project in the Inland Valley Link (MP 110.8 to MP 136.3) as it compares to the CNF Existing 69 kV Route Alternative, Oak Hollow Road Underground Alternative, San Vicente Transition Alternative, and Chuck Wagon Road Alternative. All of these alternatives were developed to reduce namely visual impacts to various residences along the Inland Valley Link.

Significant and unmitigable (Class I) impacts of the Proposed Project and Class I impacts either created or eliminated by each alternative in the Inland Valley Link are listed in Table H-9.

H.3.4.1 Proposed Project vs. CNF Existing 69 kV Route Alternative

The Proposed Project is compared to the 0.5-mile CNF Existing 69 kV Route Alternative for all environmental issue areas with an area of comparison from MP 111.5 to MP 112.5.

Summary of Impacts

The **Proposed Project** in this area of comparison (MP 111.5 to MP 112.5) would have 11 significant (Class I) impacts to biological resources, visual resources, agricultural resources, cultural resources, air quality, and fire and fuels management (see Table H-9). Additionally, as addressed in Table H-10 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining nine issue areas, which have been found to be less than significant following implementation of required mitigation.

The **CNF Existing 69 kV Route Alternative** would have 12 significant (Class I) impacts in biological resources, visual resources, agricultural resources, cultural resources, air quality, and fire and fuels management (see Table H-9). Additionally, as addressed in Table H-10 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining nine issue areas, which have been found to be less than significant following implementation of required mitigation. The CNF Existing 69 kV Route Alternative would *reduce or eliminate* the following environmental impacts of greatest concern for the Proposed Project:

- One-half mile shorter than the Proposed Project.
- The existing 69 kV transmission line would not need to be relocated.
- Located along a previously disturbed corridor, would be shorter (and have less impact to sensitive habitats), and would avoid the impacts oak woodlands that the Proposed Project's pulling sites would have. This would slightly reduce impacts to native vegetation (Impact B-1, Class I).

The **CNF Existing 69 kV Route Alternative** would *increase* the following environmental impacts of greatest concern for the Proposed Project:

- It is noted that the Proposed Project alignment would avoid encroachment into the Cleveland National Forest.
- Both the Proposed Project and the CNF Alternative would have minimal visibility from SR78 and Little Page Road, the nearest public roads. However, both would have some visibility from nearby residences and substantially higher visibility from CNF lands. Although the forest lands in this location are relatively remote, the CNF lands that would be crossed by the alternative are assigned a HIGH Scenic Integrity Objective (SIO). Viewed from the forest lands crossed by the alternative, the level of visual change that would be experienced would be moderate-to-high, which would not be consistent with the HIGH Scenic Integrity Objective. The HIGH SIO requires that the action

repeat the form, line, color, texture, and pattern common to the landscape character so completely and at such scale that it is not evident. This inconsistency would be considered a significant and unmitigable (Class I) visual impact (Impact V-45).

Conclusion

Table H-10 compares the Proposed Project with the CNF Existing 69 kV Route Alternative for all environmental issue areas from MP 111.5 to MP 112.5. Because the CNF Existing 69 kV Route Alternative would follow an existing ROW, utilizing existing access roads, would be 0.5 miles shorter, and would not require relocation of the existing 69 kV line, impacts to all issue areas (except visual, agricultural, and water resources) are similar or reduced. There would be one additional watercourse crossing with the alternative route, but impacts would be less than significant. The alternative would pass through a greater amount of Active Agricultural Operations and Williamson Act lands. The Proposed Project would result in an adverse but less than significant (Class III) visual impact as it crosses private lands (due to limited visibility), however, the CNF Alternative's SIO inconsistency would result in a new significant (Class I) visual impact (Impact V-45). This impact, although significant, would be limited to a relatively remote area with limited visibility and the 230 kV line would follow an existing already-disturbed transmission corridor. Therefore, the benefits resulting from the reduction of physical environmental impacts from other issue areas would outweigh the new Class I visual impact and the CNF Existing 69 kV Route Alternative is considered to be environmentally superior.

Table H-9. Inland Valley Link Summary of Significant Unmitigable (Class I) Impacts by Proposed Project and Alternatives

Alternative	Significant Impacts (Class I)
Proposed Project, Inland Valley Link	<ul style="list-style-type: none"> B-1 Temporary and permanent losses of native vegetation B-5 Direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants B-7 Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat B-7H Direct or indirect loss of golden eagle or direct loss of habitat B-7J Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat B-10 Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species V-23 Increased structure contrast, industrial character, view blockage, and skylining when viewing Cable Poles I124 from Key Viewpoint 20 on westbound San Vicente Road V-24 Increased structure contrast, industrial character, view blockage, and skylining when viewing the span of SR67 from Key Viewpoint 21 on southbound SR67 WR-2 Presence of a transmission line or substation would permanently change the character of a recreation area, diminishing its recreational value AG-2 Operation would permanently convert DOC Farmland to non-agricultural use AG-3 Operation would permanently interfere with Active Agricultural Operations AG-4 Operation would permanently convert Williamson Act lands to non-agricultural use C-1 Construction of the project would cause an adverse change to known historic properties C-2 Construction of the project would cause an adverse change to sites known to contain Native American human remains C-3 Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains C-4 Construction of the project would cause an adverse change to Traditional Cultural Properties N-1 Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances N-4 Routine inspection and maintenance activities would increase ambient noise levels AQ-1 Construction would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants AQ-4 Project activities would cause a net increase of greenhouse gas emissions F-1 Construction and/or maintenance activities would significantly increase the probability of a wildfire. F-2 Presence of the overhead transmission line would significantly increase the probability of a wildfire. F-3 Presence of the overhead transmission line would reduce the effectiveness of firefighting.

Table H-9. Inland Valley Link Summary of Significant Unmitigable (Class I) Impacts by Proposed Project and Alternatives

Alternative	Significant Impacts (Class I)
Class I Impacts Eliminated or Created by Route Segment Alternatives – Inland Valley Link	
CNF Existing 69 kV Route Alternative	<p><i>Class I Impacts similar to the Proposed Project</i> B-1, B-5, B-7, B-7J, B-10, C-3, C-4, AQ-1, AQ-4, F-2, F-3.</p> <p><i>Creates</i> V-45 Inconsistency with USFS Scenic Integrity Objective due to introduction of structure contrast, industrial character, view blockage, and skylining when viewed from forest lands along the CNF Alternative route</p> <p>The following impacts would not occur within either the Proposed Project route area of comparison or the alternative: B-7H, V-23, V-24, WR-2, AG-2, AG-3, AG-4, C-1, C-2, N-1, N-4, F-1.</p>
Oak Hollow Road Underground Alternative	<p><i>Class I Impacts similar to the Proposed Project</i> B-1, B-5, B-7, B-7J, C-3, C-4, N-1, N-4, AQ-1, AQ-4.</p> <p><i>Eliminates</i> B-7H, B-10, AG-3, AG-4, F-2, F-3.</p> <p>The following impacts would not occur within either the Proposed Project route area of comparison or the alternative: V-23, V-24, WR-2, AG-2, C-1, C-2, F-1.</p>
San Vicente Road Transition Alternative	<p><i>Class I Impacts similar to the Proposed Project</i> B-1, B-5, B-7, B-7J, B-10, C-3, C-4, N-1, N-4, AQ-1, AQ-4.</p> <p><i>Eliminates</i> V-23, WR-2, F-2, F-3.</p> <p>The following impacts would not occur within either the Proposed Project route area of comparison or the alternative: B-7H, V-24, AG-2, AG-3, AG-4, C-1, C-2, F-1.</p>
Chuck Wagon Road Alternative	<p><i>Class I Impacts similar to the Proposed Project</i> B-1, B-5, B-7, B-7J, B-10, C-3, C-4, N-1, N-4, AQ-1, AQ-4, F-2.</p> <p><i>Eliminates</i> V-23, WR-2, AG-2, F-3.</p> <p>The following impacts would not occur with either the proposed route or the alternative in this segment: B-7H, V-24, AG-3, AG-4, C-1, C-2, F-1.</p>

Note: No Class I impacts would occur in any of the following issue areas for any alternative: Land Use, Water Resources, Geology Mineral Resources and Soils, Public Health/Safety-Contamination, Public Health/Safety-EMF, Transportation/Traffic, Socioeconomics, Public Services, and Utilities

Table H-10. Comparison of the Proposed Project to CNF Existing 69 kV Route Alternative

Issue Area	Proposed Project (MP 111.3 to MP 111.8)	CNF Existing 69 kV Route Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 111.5 to MP 112.5
Area of Comparison	MP 111.5 to MP 112.5	MP 111.5 to MP 112.5
Biological Resources	<ul style="list-style-type: none"> • Ranking = 2 • Greater Class I impacts to sensitive vegetation communities 	<ul style="list-style-type: none"> • Preferred • Less impact to Class I sensitive vegetation communities
Visual Resources	<ul style="list-style-type: none"> • Preferred • Introduced structure contrast, industrial character, view blockage, and skylining when viewing the route from SR78 and Little Page Road, resulting in adverse but less than significant (Class III) visual impacts (because of very limited public visibility). 	<ul style="list-style-type: none"> • Ranking = 2 • Inconsistency with USFS "HIGH" Scenic Integrity Objective due to introduction of structure contrast, industrial character, view blockage, and skylining when viewed from CNF lands along the alternative route, resulting in a significant (Class I) visual impact.
Land Use	<ul style="list-style-type: none"> • No Preference. No impacts to land use 	<ul style="list-style-type: none"> • No Preference. No impact to land use

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Table H-10. Comparison of the Proposed Project to CNF Existing 69 kV Route Alternative

Issue Area	Proposed Project (MP 111.3 to MP 111.8)	CNF Existing 69 kV Route Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 111.5 to MP 112.5
Area of Comparison	MP 111.5 to MP 112.5	MP 111.5 to MP 112.5
Wilderness and Recreation	<ul style="list-style-type: none"> No Preference. No impacts to recreation or wilderness areas 	<ul style="list-style-type: none"> No Preference. No impacts to recreation or wilderness areas
Agricultural Resources	<ul style="list-style-type: none"> Preferred Active Agricultural Operations impacts (13.5 acres) Williamson Act lands impacts (0.6 acres) 	<ul style="list-style-type: none"> Ranking = 2 Active Agricultural Operations impacts (14.9 acres) Williamson Act lands impacts (1.5 acres)
Cultural Resources	<ul style="list-style-type: none"> Ranking = 2 More new ground disturbance (no known resources) 	<ul style="list-style-type: none"> Preferred Less new ground disturbance (no known resources)
Paleontological Resources	<ul style="list-style-type: none"> No Preference. Zero potential to impact paleontologically sensitive geologic units. 	<ul style="list-style-type: none"> No Preference. Zero potential to impact paleontologically sensitive geologic units.
Noise	<ul style="list-style-type: none"> No Preference. No nearby receptors would be affected by construction and corona noise. 	<ul style="list-style-type: none"> No Preference. No nearby receptors would be affected by construction and corona noise.
Transportation and Traffic	<ul style="list-style-type: none"> No Preference. No impact on transportation and traffic 	<ul style="list-style-type: none"> No Preference. No impact on transportation and traffic
Environmental Contamination	<ul style="list-style-type: none"> Ranking = 2 Greater potential for spills and leaks and during construction due to longer length 	<ul style="list-style-type: none"> Preferred Very low potential for existing soil contamination.
Air Quality	<ul style="list-style-type: none"> No Preference. Construction activity generates dust and exhaust emissions. 	<ul style="list-style-type: none"> No Preference. Construction activity generates similar dust and exhaust emissions, though the route would be slightly shorter.
Water Resources	<ul style="list-style-type: none"> Preferred No watercourse crossings 	<ul style="list-style-type: none"> Ranking = 2 1 watercourse crossing (Mountain Wash)
Geology, Mineral Resources, and Soils	<ul style="list-style-type: none"> Ranking = 2 Longer route with more ground disturbance. 	<ul style="list-style-type: none"> Preferred Route would be shorter and would not require relocation of existing 69 kV line resulting in slightly less erosion and potential damage to project structures due to the presence of unsuitable soils.
Socioeconomics, Public Services, and Utilities	<ul style="list-style-type: none"> Ranking = 2 Longer length and would require relocation of 69 kV line. 	<ul style="list-style-type: none"> Preferred Route would be shorter and would not require relocation of existing 69 kV line.
Fire and Fuels Management	<ul style="list-style-type: none"> Ranking = 2 Creates a new transmission corridor. 	<ul style="list-style-type: none"> Preferred By keeping the line adjacent to an existing 69 kV transmission line would reduce the impact, although it would still remain significant (Class I)

H.3.4.2 Proposed Project vs. Oak Hollow Road Underground Alternative

This section compares the Proposed Project with the Oak Hollow Road Underground Alternative for all environmental issue areas between MP 116.7 and MP 117.3. The alternative transition tower would replace Tower I93, and Towers I92, I91, I90, and I89 and the proposed transition poles would be eliminated. The alternative would require 0.6 miles of additional underground transmission line.

Summary of Impacts

The **Proposed Project** in this area of comparison (MP 116.7 and MP 117.3) would have 16 significant (Class I) impacts to biological resources, visual resources, agricultural resources, cultural resources, noise, air quality, and fire and fuels management (see Table H-9 above). Additionally, as addressed in Table H-11 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining eight issue areas, which have been found to be less than significant following implementation of required mitigation.

The **Oak Hollow Road Underground Alternative** would have 10 significant (Class I) impacts in biological resources, agricultural resources, cultural resources, noise, air quality (see Table H-9). Additionally, as addressed in Table H-11 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining ten issue areas, which have been found to be less than significant following implementation of required mitigation. The Oak Hollow Road Underground Alternative would *reduce or eliminate* the following environmental impacts of greatest concern for the Proposed Project:

- Undergrounding of the transmission line in this relatively short stretch would be located primarily within existing roads, and would reduce native habitat impacts compared to the Proposed Project. This would result in a slight reduction in the Class I vegetation impacts (Impact B-1).
- The reduction in overhead transmission towers would have a very minor reduction in Class I collision impacts (Impact B-10).
- By placing the line underground the Oak Hollow Road Underground would reduce visual impacts and would move the transition structure farther west to a more remote location.
- Impacts fewer acres of land under Active Agricultural Operation.

The **Oak Hollow Road Underground Alternative** would *increase* the following environmental impacts of greatest concern for the Proposed Project:

- Additional undergrounding would increase ground disturbance and its associated impacts.

Conclusion

Table H-11 compares the Proposed Project with the Oak Hollow Road Underground Alternative for all environmental issue areas between MP 116.7 and MP 117.3. The alternative transition tower would replace Tower I93, and Towers I92, I91, I90, and I89 and the proposed transition poles would be eliminated. The alternative would require 0.6 miles of additional underground transmission line.

The Oak Hollow Underground Alternative would be preferred in the issue areas of biology, visual resources, agricultural resources, noise, water resources, and fire and fuels management. Reduction or elimination of all significant (Class I) impacts associated with the Proposed Project would be included with those issue areas found preferred with the Oak Hollow Underground Alternative, except for air quality (Impact AQ-1), which has been found to be significant during construction activities for the Proposed Project as well due to emissions from construction activities. The Oak Hollow Road Underground Alternative was found not to be preferred in the remaining issue areas due to greater ground disturbance from increased underground construction and impacts, which have been found to be less than significant. Therefore, the Oak Hollow Underground Alternative is considered to be environmentally superior.

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Table H-11. Comparison of the Proposed Project to Oak Hollow Road Underground Alternative

Issue Area	Proposed Project (MP 116.7 to MP 117.3)	Oak Hollow Road Underground Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 116.7 to MP 117.3
Area of Comparison	MP 116.7 to MP 117.3	MP 116.7 to MP 117.3
Biological Resources	<ul style="list-style-type: none"> • Ranking = 2 • Greater ground disturbance than the alternative (slightly greater Class I impact to sensitive habitats) 	<ul style="list-style-type: none"> • Preferred • Decreased in Class I impacts to sensitive habitats • Very minor reduction in collision impacts (Class I)
Visual Resources	<ul style="list-style-type: none"> • Ranking = 2 • Increased structure contrast, industrial character, view blockage, and skylining when viewing the route from Oak Hollow residences, resulting in a significant (Class I) visual impact. 	<ul style="list-style-type: none"> • Preferred • Introduced structure contrast and industrial character in the east hollow area, resulting in adverse but less than significant (Class III) visual impacts.
Land Use	<ul style="list-style-type: none"> • No Preference. Four rural residences impacts. 	<ul style="list-style-type: none"> • No Preference. Four rural residences impacts.
Wilderness and Recreation	<ul style="list-style-type: none"> • No Preference. No impact to recreation or wilderness areas 	<ul style="list-style-type: none"> • No Preference. No impact to recreation or wilderness areas
Agricultural Resources	<ul style="list-style-type: none"> • Ranking = 2 • Active Agricultural Operations impacts (2.7 acres) 	<ul style="list-style-type: none"> • Preferred • Active Agricultural Operations impacts (0.3 acres)
Cultural Resources	<ul style="list-style-type: none"> • Preferred • No known cultural resources 	<ul style="list-style-type: none"> • Ranking = 2 • No known cultural resources • Greater underground length could result in more unanticipated discoveries
Paleontological Resources	<ul style="list-style-type: none"> • No Preference. Zero potential to impact paleontologically sensitive geologic units. 	<ul style="list-style-type: none"> • No Preference. Zero potential to impact paleontologically sensitive geologic units.
Noise	<ul style="list-style-type: none"> • Ranking = 2 • Construction and corona noise would affect noise-sensitive receptors 	<ul style="list-style-type: none"> • Preferred • No audible noise would be created by underground segments
Transportation and Traffic	<ul style="list-style-type: none"> • Preferred • Overhead transmission line would cross Oak Hollow Road and Gunn Stage Road 	<ul style="list-style-type: none"> • Ranking = 2 • Underground transmission line would be in Oak Hollow Road, and would cross paved driveways, paved, gravel, and dirt driveways and local roads, as well as Gunn Stage Road
Environmental Contamination	<ul style="list-style-type: none"> • No Preference. Very low potential for existing soil contamination 	<ul style="list-style-type: none"> • No Preference. Very low potential for existing soil contamination
Air Quality	<ul style="list-style-type: none"> • Preferred • Construction activity generates dust and exhaust emissions 	<ul style="list-style-type: none"> • Ranking = 2 • Construction activity generates greater levels of dust and exhaust emissions for undergrounding
Water Resources	<ul style="list-style-type: none"> • Ranking = 2 • 1 watercourse crossing (overhead) 	<ul style="list-style-type: none"> • Preferred • Disturbance in existing roadways • 1 watercourse crossing (underground)
Geology, Mineral Resources, and Soils	<ul style="list-style-type: none"> • Preferred • Less ground disturbance with overhead construction 	<ul style="list-style-type: none"> • Ranking = 2 • Underground so greater erosion potential and potential damage to project structures due to the presence of unsuitable soils

Table H-11. Comparison of the Proposed Project to Oak Hollow Road Underground Alternative

Issue Area	Proposed Project (MP 116.7 to MP 117.3)	Oak Hollow Road Underground Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 116.7 to MP 117.3
Area of Comparison	MP 116.7 to MP 117.3	MP 116.7 to MP 117.3
Socioeconomics, Public Services, and Utilities	<ul style="list-style-type: none"> • Preferred for utilities • Less chance for utility disruptions with overhead lines • Ranking = 2 for socioeconomics 	<ul style="list-style-type: none"> • Ranking = 2 for public services and utilities • Would have the greatest ground disturbance requiring more water, services, and would have the greatest potential to disturb underground utilities. All impacts would be less than significant (Class III).
Fire and Fuels Management	<ul style="list-style-type: none"> • Ranking = 2 	<ul style="list-style-type: none"> • Preferred • Eliminates a Class I impact (F-3), and reduces two Class II impacts to No Impact (F-2, and F-4) by putting the line underground.

H.3.4.3 Proposed Project vs. San Vicente Transition Alternative and Chuck Wagon Road Alternative

This section compares the Proposed Project to the San Vicente Transition Alternative and Chuck Wagon Road Alternative. The relevant area of comparison is between MP 121.7 and MP 125.6. The Chuck Wagon Road Alternative would bypass the Proposed Project route between these mileposts. The San Vicente Transition Alternative would bypass the Proposed Project route between MP 121.9 and MP 122.2. With respect to the San Vicente Transition Alternative, it is assumed that the Proposed Project route would make up the remainder of the route within the area of comparison (i.e., MP 121.7 to MP 121.9 and MP 122.2 to MP 125.6).

Summary of Impacts

The **Proposed Project** in this area of comparison (MP 121.7 to MP 125.6) would have 15 significant (Class I) impacts to biological resources, visual resources, wilderness and recreation, agricultural resources, cultural resources, noise, air quality, and fire and fuels management (see Table H-9 above). Additionally, as addressed in Table H-12 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining seven issue areas, which have been found to be less than significant following implementation of required mitigation.

The **San Vicente Transition Alternative** would have 11 significant (Class I) impacts in biological resources, agricultural resources, cultural resources, noise, air quality (see Table H-9), compared to . Additionally, as addressed in Table H-12 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining 11 issue areas, which have been found to be less than significant following implementation of required mitigation. The San Vicente Transition Alternative would *reduce or eliminate* the following environmental impacts of greatest concern for the Proposed Project:

- This alternative would place a portion of this short alternative link underground, within an existing paved road (San Vicente Road) and by doing so would reduce impacts to native vegetation (Impact B-1, Class I) and collision impacts (Impact B-10, Class I).

- The Proposed Project would locate the I124 Cable Poles (transition structures) in a highly visible (to westbound travelers) location north of San Vicente Road. The resulting visual impact would be significant and Class I. However, by relocating the Cable Poles to a better screened site, approximately 0.3 miles further west along San Vicente Road, the visual impact would be reduced to a level that would be adverse but less than significant.
- Impacts fewer acres of DOC Farmlands than the proposed route.
- Decreases the distance of overhead transmission line within the Barnett Ranch Open Space Preserve, thereby eliminating operational recreation impacts for this 0.3 miles underground portion. However, Impact WR-2 would still be Class I for the remainder of the Proposed Project overhead route through the Preserve.

The **San Vicente Transition Alternative** would *increase* the following environmental impacts of greatest concern for the Proposed Project:

- Moves the transition structure from its proposed location along San Vicente Road (MP 121.9) approximately 0.3 miles west to MP 122.2 slightly increasing underground construction and associated ground disturbance impacts.
- Increased traffic impacts from 2,100 feet of additional underground construction in San Vicente Road.

The **Chuck Wagon Road Alternative** would have 12 significant (Class I) impacts in biological resources, agricultural resources, cultural resources, noise, air quality, and fire and fuels management (see Table H-9). Additionally, as addressed in Table H-12 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining ten issue areas, which have been found to be less than significant following implementation of required mitigation. The Chuck Wagon Road Alternative would *reduce or eliminate* the following environmental impacts of greatest concern for the Proposed Project:

- Avoids impacts to 1.7 acres of Barnett Ranch Open Space Preserve.
- Biologically preferred to the Proposed Project because approximately half of the alignment would be underground, which would lessen Class I impacts to vegetation (Impact B-1), and Class I impacts from bird collision (Impact B-10).
- The Chuck Wagon Road Alternative would continue the underground portion of the route to the south (down Chuck Wagon Road) to a point that would have minimal public visibility. From the transition point west to its intersection with the Proposed Project near MP 125.5, the Chuck Wagon Road Alternative would cause adverse but less than significant (Class III) visual impacts, thereby eliminating approximately four miles of Class I visual impacts.
- Eliminates Class I wilderness and recreation impacts to Barnett Ranch Open Space Preserve and would not create impacts to other recreation areas.
- Reduces impacts to DOC Farmlands.
- Reduces impacts to firefighting obstacles due to longer underground length.

The **Chuck Wagon Road Alternative** would *increase* the following environmental impacts of greatest concern for the Proposed Project:

- Located mostly within designated critical habitat for the southwestern arroyo toad.
- Impacts 25 residences, whereas the Proposed Project would impact only 14 residences.
- Increases impacts to land under Active Agricultural Operation.

Conclusion

Table H-12 compares the Proposed Project with the San Vicente Transition Alternative and the Chuck Wagon Road Alternative. The overall “area of comparison” of these alternatives would be MP 121.7 to MP 125.6. If an alternative route is shorter than the overall area of comparison, the Proposed Project route was used to make up the remainder of the route within the area of comparison.

Since the San Vicente Transition Alternative would reduce the eliminate a Class I visual impact at only one structure location (paired transition structures), and the Chuck Wagon Road Alternative would eliminate approximately four miles of Class I visual Impact (including the transition structure location), the Chuck Wagon Road Alternative is preferred over the San Vicente Transition Alternative and the Proposed Project for visual resources. The Chuck Wagon Alternative would also be most preferred for biological resources, wilderness and recreation, cultural resources, and noise. It would be least preferred for land use, paleontological resources, traffic and transportation, water resources, geologic resources, utilities, and fire and fuels management. Because the Chuck Wagon Alternative would be most superior and would reduce or eliminate the major significant impacts of the proposed route in this segment, it is considered to be environmentally superior.

Table H-12. Comparison of the Proposed Project to San Vicente Transition Alternative and Chuck Wagon Road Alternative

Issue Area	Proposed Project (MP 121.7 to MP 125.6)	San Vicente Transition Alternative	Chuck Wagon Road Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 121.9 to MP 122.2	MP 121.7 to MP 125.6
Area of Comparison	MP 121.7 to MP 125.6	MP 121.7 to MP 125.6	MP 121.7 to MP 125.6
Biological Resources	<ul style="list-style-type: none"> • Ranking = 3 • Vegetation along entire route subject to Class I impacts from construction of towers and access roads (Class I) • Entire route with potential for impacts from Class I collision impacts 	<ul style="list-style-type: none"> • Ranking = 2 • Same as the proposed route, but with a small section to be undergrounded in San Vicente Road, thereby reducing slightly Class I impacts from vegetation loss and collision 	<ul style="list-style-type: none"> • Preferred • Approximately half of this alignment to be constructed underground in roadways, thereby reducing Class I impacts to native vegetation and collision • Located within Southwestern arroyo toad critical habitat
Visual Resources	<ul style="list-style-type: none"> • Ranking = 3 • Increased structure contrast, industrial character, view blockage, and skylining when viewing Cable Poles I124 from Key Viewpoint 20 on westbound San Vicente Road, resulting in significant (Class I) visual impacts. • Significant (Class I) visual impacts west of Cable Poles I124. 	<ul style="list-style-type: none"> • Ranking = 2 • Increased structure contrast, industrial character, and view blockage when viewed from Key Viewpoint 37 on eastbound San Vicente Road, resulting in adverse but less than significant (Class III) visual impacts (because of limited visibility). • Eliminates Class I visual impact at one structure (pair) location. 	<ul style="list-style-type: none"> • Preferred • Introduced structure contrast, industrial character, and view blockage when viewed from private lands along the alternative, resulting in adverse but less than significant (Class III) visual impacts (because of limited public visibility). • Eliminates approximately four miles of Class I visual impact.

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Table H-12. Comparison of the Proposed Project to San Vicente Transition Alternative and Chuck Wagon Road Alternative

Issue Area	Proposed Project (MP 121.7 to MP 125.6)	San Vicente Transition Alternative	Chuck Wagon Road Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 121.9 to MP 122.2	MP 121.7 to MP 125.6
Area of Comparison	MP 121.7 to MP 125.6	MP 121.7 to MP 125.6	MP 121.7 to MP 125.6
Land Use	<ul style="list-style-type: none"> • Preferred • 2 rural residences impacts between 121.9 and 122.2 • 14 rural residences impacts between 121.7 and 125.6 	<ul style="list-style-type: none"> • Preferred • 2 rural residences impacts between 121.9 and 122.2. • 14 rural residences impacts between 121.7 and 125.6 (where would be the same as the Proposed Project) 	<ul style="list-style-type: none"> • Ranking = 2 • 25 rural residences impacts between 121.7 and 125.6
Wilderness and Recreation	<ul style="list-style-type: none"> • Ranking = 3 • Overhead transmission line would traverse the Barnett Ranch Open Space Preserve for 1.8 miles • Class I impacts to recreational value of Barnett Ranch Preserve 	<ul style="list-style-type: none"> • Ranking = 2 • Reduces distance of overhead transmission line within Barnett Ranch Open Space Preserve by 0.3 miles • Eliminates operational impacts for this 0.3-mile segment in the Preserve 	<ul style="list-style-type: none"> • Preferred • Avoids Barnett Ranch Open Space Preserve • No impacts to recreation or wilderness areas
Agricultural Resources	<ul style="list-style-type: none"> • Ranking = 3 • DOC Farmland impacts (3.1, 10.4 acres) • Active Agricultural Operations impacts (0, 2.8 acres) 	<ul style="list-style-type: none"> • Preferred • DOC Farmland impacts (0.4 acres) • No Active Agricultural Operations 	<ul style="list-style-type: none"> • Ranking = 2 • DOC Farmland impacts (6.5 acres) • Active Agricultural Operations impacts (6.6 acres)
Cultural Resources	<ul style="list-style-type: none"> • Ranking = 2 • Impacts to 16 low sensitivity cultural resources. 	<ul style="list-style-type: none"> • Ranking = 3 • In addition to sites for the proposed route, one cultural resource identified within study corridor, as well as probability for 1-3 additional resources due to density of sites in the area. • Underground trenching has a greater chance of encountering unknown resources. 	<ul style="list-style-type: none"> • Preferred • Impacts to 2 moderate sensitivity cultural resources. • Impacts to 2 low sensitivity cultural resources.
Paleontological Resources	<ul style="list-style-type: none"> • Preferred • Zero potential to impact paleontologically sensitive geologic units 	<ul style="list-style-type: none"> • Preferred • Zero potential to impact paleontologically sensitive geologic units 	<ul style="list-style-type: none"> • Ranking = 2 • Low potential to impact paleontologically sensitive geologic units
Noise	<ul style="list-style-type: none"> • Ranking = 3 • Construction and corona noise would affect noise-sensitive receptors 	<ul style="list-style-type: none"> • Ranking = 2 • No audible noise would be created by underground segments 	<ul style="list-style-type: none"> • Preferred • No audible noise would be created by underground segments
Transportation and Traffic	<ul style="list-style-type: none"> • Preferred • Crosses San Vicente Road as an overhead transmission line 	<ul style="list-style-type: none"> • Ranking = 2 • Crosses San Vicente Road as an underground transmission line • Additional underground construction in roadways 	<ul style="list-style-type: none"> • Ranking = 3 • Crosses San Vicente Road and Chuck Wagon Road as an underground transmission line • Additional underground construction in roadways

Table H-12. Comparison of the Proposed Project to San Vicente Transition Alternative and Chuck Wagon Road Alternative

Issue Area	Proposed Project (MP 121.7 to MP 125.6)	San Vicente Transition Alternative	Chuck Wagon Road Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 121.9 to MP 122.2	MP 121.7 to MP 125.6
Area of Comparison	MP 121.7 to MP 125.6	MP 121.7 to MP 125.6	MP 121.7 to MP 125.6
Environmental Contamination	<ul style="list-style-type: none"> No Preference. Very low potential for existing soil contamination 	<ul style="list-style-type: none"> No Preference. Very low potential for existing soil contamination 	<ul style="list-style-type: none"> No Preference. Very low potential for existing soil contamination
Air Quality	<ul style="list-style-type: none"> No Preference. Construction activity generates similar dust and exhaust emissions 	<ul style="list-style-type: none"> No Preference. Construction activity generates similar dust and exhaust emissions 	<ul style="list-style-type: none"> No Preference. Construction activity generates similar dust and exhaust emissions
Water Resources	<ul style="list-style-type: none"> Ranking = 2 4 watercourse crossings (natural washes) Daney Canyon 	<ul style="list-style-type: none"> Preferred Same as the Proposed Project, but disturbance would occur in existing roadways 	<ul style="list-style-type: none"> Ranking = 3 9 watercourse crossings (8 minor natural washes, 1 large natural wash) Daney Canyon
Geology, Mineral Resources, and Soils	<ul style="list-style-type: none"> Preferred Construction could trigger or accelerate erosion 	<ul style="list-style-type: none"> Ranking = 2 Construction could trigger or accelerate erosion with ground disturbance, which would be greater with underground construction 	<ul style="list-style-type: none"> Ranking = 3 Underground construction could trigger or accelerate erosion with additional underground trenching
Socioeconomics, Public Services, and Utilities	<ul style="list-style-type: none"> Preferred Overhead construction has less potential to disturb underground utilities 	<ul style="list-style-type: none"> Preferred The short underground segment would not make a difference in terms of utility disruption 	<ul style="list-style-type: none"> Ranking = 2 Underground construction in roadways has the potential to disrupt underground utilities.
Fire and Fuels Management	<ul style="list-style-type: none"> Ranking = 3 Class I impact with a new overhead obstacle to firefighters Part of route would be in existing corridor, but would be widened to accommodate a second line, which can impact effectiveness of ground-based firefighting while the line is still energized. 	<ul style="list-style-type: none"> Ranking = 2 Line would be underground for slightly longer resulting in a slight decrease of overhead firefighting obstacles (otherwise it would be similar to the Proposed Project) 	<ul style="list-style-type: none"> Preferred Class I impact with a new overhead obstacle to firefighters, but would have longest underground segment thereby reducing the impact.

H.3.5 Transmission Line Route Alternatives: Coastal Link

H.3.5.1 Proposed Project vs. Coastal Link Route Alternatives

The following section describes the Proposed Project in the Coastal Link (MP 136.3 to MP 149.9) as it compares to the Pomerado Road to Miramar Area North Alternative, Los Peñasquitos Canyon Preserve–Mercy Road Alternative, Black Mountain to Park Village Road Underground Alternative, and Coastal Link System Upgrade Alternative. All of the Coastal Link alternatives were suggested and developed to reduce namely visual impacts to residences along the route and biological impacts within Los Peñasquitos Canyon Preserve.

Significant and unmitigable (Class I) impacts of the Proposed Project and Class I impacts either created or eliminated by each alternative in the Coastal Link are listed in Table H-13.

Summary of Impacts

The **Proposed Project** in the Coastal Link would have 12 significant (Class I) impacts to biological resources, visual resources, cultural resources, noise, air quality, fire and fuels management (see Table H-13 below). Additionally, as addressed in Table H-14 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining nine issue areas, which have been found to be less than significant following implementation of required mitigation.

The **Pomerado Road to Miramar Area North Alternative** would have 9 significant (Class I) impacts in biological resources, cultural resources, noise, and air quality (see Table H-13). Additionally, as addressed in Table H-14 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining 11 issue areas, which have been found to be less than significant following implementation of required mitigation. The Pomerado Road to Miramar Area North Alternative would *reduce or eliminate* the following environmental impacts of greatest concern for the Proposed Project:

- Avoids most of Los Peñasquitos Canyon Preserve.
- Similar to the segment of the Proposed Project it would replace, the alternative route would have Class II impacts to the least Bell's vireo (Impact B-7D) and coastal California gnatcatcher (Impact B-7M), and Class I impacts to sensitive vegetation communities (Impact B-1), although the Class I impact would be reduced because it would occur primarily within existing roadways.
- The Proposed Project would result in Class II and Class III visual impacts along the aboveground portions of the route from MP 138.2 to approximately MP 142.2 and from 146.6 to 149.9 at Peñasquitos Substation, a total aboveground distance of approximately 7.3 miles. The Pomerado Road to Miramar Area North Alternative would result in Class III visual impacts at the east transition structure adjacent to Pomerado Road and from the aboveground portion of the route from MP 10.5 to MP 12.8, a distance of approximately 2.3 miles. Although the visual impacts of both the Proposed Project and the Pomerado Road to Miramar Area North Alternative would be similar, the alternative would eliminate approximately five miles of aboveground Class III visual impacts.
- Impacts two educational uses, whereas the Proposed Project would impact four schools and two religious facilities.
- Impacts significantly fewer residential uses (approximately 2,130 fewer residences).
- Avoids six urban parks and multiple bikeways and would traverse one-tenth of the distance through Los Peñasquitos Canyon Preserve, in comparison to the Proposed Project.
- Less DOC Farmland would be converted by the alternative.

The **Pomerado Road to Miramar Area North Alternative** would *increase* the following environmental impacts of greatest concern for the Proposed Project:

- Additional undergrounding would increase ground disturbance and its associated impacts.
- Impacts more commercial/office and industrial uses than the Proposed Project.

The **Los Peñasquitos Canyon Preserve–Mercy Road Alternative** would have 8 significant (Class I) impacts in biological resources, cultural resources, noise, and air quality (see Table H-13). Additionally, as addressed in Table H-14 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining 11 issue areas, which have been found to be less than significant following implementation of required mitigation. The Los Peñasquitos Canyon Preserve–Mercy Road Alternative would *reduce or eliminate* the following environmental impacts of greatest concern for the Proposed Project:

- Similar to the segment of the Proposed Project it would replace, alternative would have Class I impacts to sensitive vegetation communities (Impact B-1), although the Class I impact would be reduced because it would occur entirely within existing roadways.
- The Proposed Project would include an additional 1.5 miles of aboveground transmission line before it would reach the transition structure adjacent to Chicarita Substation. The additional transmission line would cause Class III visual impacts, but would not be particularly noticeable because the line would include the addition of structures to an existing corridor. The structures would be the same design as the existing structures, would be paired up to existing structures, and would include the removal of a small line.
- The Proposed Project would impact: four schools and two religious facilities, which the alternative would not and more commercial/office and industrial uses than the alternative.
- Avoids operational impacts to the Los Peñasquitos Canyon Preserve and the new corona noise source would be relocated from the Chicarita corridor to an underground segment.
- If Mitigation Measure V-27a is not implemented, then the alternative would be preferred.

The **Los Peñasquitos Canyon Preserve–Mercy Road Alternative** would *increase* the following environmental impacts of greatest concern for the Proposed Project:

- The Proposed Project transition structure would be located just to the south of the substation and would cause Class II visual impacts because of the high visibility of the transition structure to nearby residences. However, Mitigation Measure V-27a would require the relocation of the structure to the north side of the substation where it would have very limited visibility. Therefore, the Proposed Project is preferred over the Los Peñasquitos Canyon Preserve–Mercy Road Alternative if Mitigation Measure V-27a is fully implemented because this solution would result in the lowest visibility of the very industrially complex transition structures.
- The Proposed Project would impact 1,700 residences, which is approximately 550 residences less than the alternative.

Both this segment of the Proposed Project and the **Black Mountain to Park Village Road Underground Alternative** would be underground and have no associated aboveground facilities. The Black Mountain to Park Village Road Underground Alternative would have 7 significant (Class I) impacts in biological resources, cultural resources, noise, and air quality (see Table H-13). Additionally, as addressed in Table H-14 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining 11 issue areas, which have been found to be less than significant following implementation of required mitigation. The Black Mountain to Park Village Road Underground Alternative would *reduce or eliminate* the following environmental impacts of greatest concern for the Proposed Project:

- Eliminates all biological impacts associated with the segment of the Proposed Project that it would replace since it would occur entirely within existing roadways.

The **Black Mountain to Park Village Road Underground Alternative** would *increase* the following environmental impacts of greatest concern for the Proposed Project:

- The Black Mountain to Park Village Road Underground Alternative would have Class II impacts to approximately 935 residences, 1 church, and 1 elementary school during construction (Impact L-1: Construction would temporarily disturb land uses at or near the alignment). The Proposed Project would have Class II impacts to 1 religious facility and approximately 350 residences between MP 143.7 and 144.1.

The **Coastal Link System Upgrade Alternative** would eliminate *all* potential environmental impacts associated with the Proposed Project 230 kV segment between Sycamore Canyon and Peñasquitos Substations. However, construction of the alternative would result in 3 short-term significant (Class I) impacts in noise and air quality during construction (see Table H-13). Depending on which option is pursued, the Coastal Link Upgrade Alternative would result in: expansion of the existing Sycamore Canyon Substation (MP 136.3) within the existing substation easement and additional towers or replaced poles within the existing SDG&E transmission line ROWs north and south of Sycamore Canyon Substation and between the existing Miguel and Jamacha Substations. The additional towers or poles would be similar to those occurring in the existing transmission corridors.

Conclusion

Table H-14 compares the Proposed Project with the Coastal Link Alternatives for every environmental issue area. The route segment alternatives would occur from MP 138.1 to MP 149.9 (Peñasquitos Substation). The overall “area of comparison” would be the entire Coastal Link for the route segments against the Coastal Link Upgrades Alternative. For alternatives that are shorter than the overall area of comparison, the Proposed Project route has been used to make up the remainder of the Coastal Link route within the area of comparison.

All of the Coastal Link transmission alternatives and the proposed route would create greater impacts than the Coastal Upgrade Alternative. The Coastal Link Upgrades would occur entirely within existing SDG&E-owned substations and easements and would eliminate all impacts of the Coastal Link. Therefore, the Coastal Link Upgrades Alternative has been found to be environmentally superior in the Coastal Link.

Table H-13. Coastal Link Summary of Significant Unmitigable (Class I) Impacts by Proposed Project and Alternatives

Alternative	Significant Impacts (Class I)
Proposed Project, Coastal Link	B-1 Temporary and permanent losses of native vegetation B-5 Direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants B-10 Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species C-3 Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains C-4 Construction of the project would cause an adverse change to Traditional Cultural Properties N-1 Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances N-4 Routine inspection and maintenance activities would increase ambient noise levels AQ-1 Construction would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants AQ-4 Project activities would cause a net increase of greenhouse gas emissions. F-1: Construction and/or maintenance activities would significantly increase the probability of a wildfire. F-2: Presence of the overhead transmission line would significantly increase the probability of a wildfire. F-3 Presence of the overhead transmission line would reduce the effectiveness of firefighting.

Table H-13. Coastal Link Summary of Significant Unmitigable (Class I) Impacts by Proposed Project and Alternatives

Alternative	Significant Impacts (Class I)
Class I Impacts Eliminated or Created by Route Segment Alternatives – Coastal Link	
Pomerado Road to Miramar Area North Alternative	<i>Class I Impacts similar to the Proposed Project</i> B-1, B-5, B-10, C-3, C-4, N-1, N-4, AQ-1, AQ-4. <i>Eliminates</i> F-2. The following impacts would not occur with either the proposed route or the alternative in this segment: F-1, F-3.
Los Peñasquitos Canyon Preserve–Mercy Road Alternative	<i>Class I Impacts similar to the Proposed Project</i> B-1, B-5, C-3, C-4, N-1, N-4, AQ-1, AQ-4. <i>Eliminates</i> B-10, F-2. The following impacts would not occur with either the proposed route or the alternative in this segment: F-1, F-3.
Black Mountain to Park Village Road Underground Alternative	<i>Class I Impacts similar to the Proposed Project</i> B-1, C-3, C-4, N-1, N-4, AQ-1, AQ-4. The following impacts would not occur with either the proposed route or the alternative in this segment: B-5, B-10, F-1, F-2, F-3.
Coastal Link Upgrades Alternative	<i>Class I Impacts similar to the Proposed Project</i> AQ-1, AQ-4, and N-1. <i>Eliminates</i> B-1, B-5, B-10, C-3, C-4, N-4, F-1, F-2, F-3.

Note: No Class I impacts would occur in any of the following issue areas for any alternative: Land Use, Water Resources, Geology Mineral Resources and Soils, Public Health/Safety-Contamination, Transportation/Traffic, Socioeconomics, Public Services, and Utilities

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Table H-14. Comparison of the Proposed Project to Coastal Link Alternatives

Issue Area	Proposed Project (Coastal Link)	Pomerado Road to Miramar Area North – Combined Underground Alternative and Underground/Overhead Alternative	Los Peñasquitos Canyon Preserve–Mercy Road Alternative	Black Mountain to Park Village Road Underground Alternative	Coastal Link Upgrades Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 138.1 to MP 149.9 (Peñasquitos Substation)	MP 140.5 to MP 144.1	MP 143.7 to MP 144.1	Entire Coastal Link
Area of Comparison	MP 136.3 (Sycamore Canyon Substation) to MP 149.9 (Peñasquitos Substation)	MP 136.3 to MP 149.9	MP 136.3 to MP 149.9	MP 136.3 to MP 149.9	MP 136.3 to MP 149.9
Biological Resources	<ul style="list-style-type: none"> • Ranking = 5 • Class I impacts to vegetation. • Class II impacts to least Bell's vireo and coastal California gnatcatcher. • Impacts to Los Peñasquitos Canyon Preserve. 	<ul style="list-style-type: none"> • Ranking = 2 • Class I impacts to vegetation reduced. • Class II impacts to least Bell's vireo and coastal California gnatcatcher similar. • Avoids Los Peñasquitos Canyon Preserve. 	<ul style="list-style-type: none"> • Ranking = 3 • Class I impacts to vegetation reduced. • Class II impacts to least Bell's vireo and coastal California gnatcatcher similar. • Avoids eastern portion of Los Peñasquitos Canyon Preserve by being underground in roadways. 	<ul style="list-style-type: none"> • Ranking = 4 • Class I impacts to vegetation slightly reduced. • Class II impacts to least Bell's vireo and coastal California gnatcatcher similar. • Impacts to Los Peñasquitos Canyon Preserve. 	<ul style="list-style-type: none"> • Preferred • Eliminates all Coastal Link impacts • Work would include reconductoring and/or would be within existing substations only in already disturbed corridors

Table H-14. Comparison of the Proposed Project to Coastal Link Alternatives

Issue Area	Proposed Project (Coastal Link)	Pomerado Road to Miramar Area North – Combined Underground Alternative and Underground/Overhead Alternative	Los Peñasquitos Canyon Preserve–Mercy Road Alternative	Black Mountain to Park Village Road Underground Alternative	Coastal Link Upgrades Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 138.1 to MP 149.9 (Peñasquitos Substation)	MP 140.5 to MP 144.1	MP 143.7 to MP 144.1	Entire Coastal Link
Area of Comparison	MP 136.3 (Sycamore Canyon Substation) to MP 149.9 (Peñasquitos Substation)	MP 136.3 to MP 149.9	MP 136.3 to MP 149.9	MP 136.3 to MP 149.9	MP 136.3 to MP 149.9
Visual Resources	<ul style="list-style-type: none"> • Ranking = 3 • Underground segment causes no long-term visual impact. • Aboveground portion causes increased structure contrast, industrial character, view blockage, and skylining when viewing the Proposed Project from KVP 22 on Cypress Canyon Park Drive, resulting in a less than significant (Class III) impact. • Aboveground portion causes increased structure contrast, industrial character, view blockage, and skylining when viewing transition structure C32 near Chicarita Substation from KVP 24 on Calle De Las Rosas, resulting in a significant, but mitigable (Class II) visual impact. 	<ul style="list-style-type: none"> • Ranking = 2 • Underground segment causes no long-term visual impact. • Aboveground portion introduces structure contrast, industrial character, and view blockage when viewing the alternative transition structure from Key Viewpoint 38 on Rose Garden Court in the Mill Creek residential development, resulting in an adverse but less than significant (Class III) visual impact. • Results in approximately five fewer miles of aboveground adverse but less than significant visual impacts compared to the Proposed Project. 	<ul style="list-style-type: none"> • Ranking = 4 • Underground option of the route causes no long-term visual impact. • Aboveground portion of route introduces structure contrast, industrial character, and view blockage when viewing the alternative transition structure from Key Viewpoint 3 at the intersection of Scripps Poway Parkway and Spring Canyon Road, resulting in an adverse but less than significant (Class III) visual impact. • Visual impact would be slightly less than the Proposed Project if Proposed Project Mitigation Measure 27a is not implemented. 	<ul style="list-style-type: none"> • Ranking = 3 • Entirely underground. No long-term visual impact. Considered equal to the Proposed Project 	<ul style="list-style-type: none"> • Preferred • Upgrades existing transmission facilities without introducing new structures, the alternative would not have noticeable operational impacts to visual resources.

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Table H-14. Comparison of the Proposed Project to Coastal Link Alternatives

Issue Area	Proposed Project (Coastal Link)	Pomerado Road to Miramar Area North – Combined Underground Alternative and Underground/Overhead Alternative	Los Peñasquitos Canyon Preserve–Mercy Road Alternative	Black Mountain to Park Village Road Underground Alternative	Coastal Link Upgrades Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 138.1 to MP 149.9 (Peñasquitos Substation)	MP 140.5 to MP 144.1	MP 143.7 to MP 144.1	Entire Coastal Link
Area of Comparison	MP 136.3 (Sycamore Canyon Substation) to MP 149.9 (Peñasquitos Substation)	MP 136.3 to MP 149.9	MP 136.3 to MP 149.9	MP 136.3 to MP 149.9	MP 136.3 to MP 149.9
Land Use	<ul style="list-style-type: none"> • Ranking = 4 • 4,000 residences impacts between MP 138.1 and 149.9 • Impact to: 4 schools; 2 religious facilities; commercial/office and industrial near MP 142 and 149 	<ul style="list-style-type: none"> • Ranking = 3 • 1,865 residences impacts • 2 schools impacts • Commercial/office and industrial between MP 142.1 and 149.9. 	<ul style="list-style-type: none"> • Ranking = 2 • In addition to proposed route, would impact fewer residences along alternative segment • Commercial/office and industrial between MP 140 and 141. 	<ul style="list-style-type: none"> • Ranking = 5 • In addition to the proposed route, impacts fewest residences, but passes 1 religious facility and 1 elementary school. 	<ul style="list-style-type: none"> • Preferred • Eliminates all Coastal Link impacts. • Work would occur in existing corridors or substations and would not include construction of a new line.
Wilderness and Recreation	<ul style="list-style-type: none"> • Ranking = 4 • Class II impact to recreational value of 6 urban parks, bikeways, and 5.2 miles of the Los Peñasquitos Canyon Preserve 	<ul style="list-style-type: none"> • Ranking = 2 • Traverses 0.5 miles of Los Peñasquitos Canyon Preserve • Eliminates impacts to any other recreation areas in Coastal Link 	<ul style="list-style-type: none"> • Ranking = 3 • Temporarily constrains access to 2 recreation areas • Avoids impacts to Views West Park and eastern portion of Los Peñasquitos Canyon Preserve 	<ul style="list-style-type: none"> • Ranking = 4 • Alternative segment would not impact recreation areas. • Remainder would be same as Proposed Project. 	<ul style="list-style-type: none"> • Preferred • Eliminates all Coastal Link impacts. • Includes upgrades to existing facilities without introducing new structures, so would not change the character of a recreation area or preclude recreational activities.
Agricultural Resources	<ul style="list-style-type: none"> • Ranking = 2 • DOC Farmland impacts (2.4 acres) 	<ul style="list-style-type: none"> • Preferred • No agricultural impacts 	<ul style="list-style-type: none"> • Ranking = 2 • DOC Farmland impacts (2.4 acres) along proposed route • No agricultural resources impacts along alternative segment 	<ul style="list-style-type: none"> • Ranking = 2 • DOC Farmland impacts (2.4 acres) along proposed route • No agricultural resources impacts along alternative segment 	<ul style="list-style-type: none"> • Preferred • No agricultural impacts

Table H-14. Comparison of the Proposed Project to Coastal Link Alternatives

Issue Area	Proposed Project (Coastal Link)	Pomerado Road to Miramar Area North – Combined Underground Alternative and Underground/Overhead Alternative	Los Peñasquitos Canyon Preserve–Mercy Road Alternative	Black Mountain to Park Village Road Underground Alternative	Coastal Link Upgrades Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 138.1 to MP 149.9 (Peñasquitos Substation)	MP 140.5 to MP 144.1	MP 143.7 to MP 144.1	Entire Coastal Link
Area of Comparison	MP 136.3 (Sycamore Canyon Substation) to MP 149.9 (Peñasquitos Substation)	MP 136.3 to MP 149.9	MP 136.3 to MP 149.9	MP 136.3 to MP 149.9	MP 136.3 to MP 149.9
Cultural Resources	<ul style="list-style-type: none"> • Ranking = 3 • Impacts to 1 moderate and 5 low sensitivity cultural resources. 	<ul style="list-style-type: none"> • Ranking = 2 • Impacts to 1 low sensitivity cultural resource. 	<ul style="list-style-type: none"> • Ranking = 5 • Impacts to 7 low sensitivity cultural resources 	<ul style="list-style-type: none"> • Ranking = 4 • Impacts to 1 previously recorded prehistoric lithic artifact scatter along alternative segment. • Impacts to 1 moderate and 5 low sensitivity cultural resources along remainder of proposed route. 	<ul style="list-style-type: none"> • Preferred • Eliminates all Coastal Link impacts • Work would occur in existing corridors or substations and would not include construction of a new line so reduced likelihood of encountering resources.
Paleontological Resources	<ul style="list-style-type: none"> • Ranking = 5 • Low to high potential to impact paleontologically sensitive geologic units • Impacts greatest amount of paleontologically sensitive geologic units thus increasing potential adverse impacts to fossil resources 	<ul style="list-style-type: none"> • Ranking = 3 • Low to high potential to impact paleontologically sensitive geologic units. • Impacts a smaller area of paleontologically sensitive geologic units thus decreasing potential adverse impacts to fossil resources 	<ul style="list-style-type: none"> • Ranking = 4 • Low to high potential to impact paleontologically sensitive geologic units • Smaller area of paleontologically sensitive geologic units thus decreasing potential adverse impacts to fossil resources. 	<ul style="list-style-type: none"> • Ranking = 2 • Marginal to high potential to impact paleontologically sensitive geologic units thereby impacting the smallest area of paleontologically sensitive geologic units 	<ul style="list-style-type: none"> • Preferred • Eliminates all Coastal Link impacts • Greatly reduced ground disturbance to paleontologically sensitive resources.

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Table H-14. Comparison of the Proposed Project to Coastal Link Alternatives

Issue Area	Proposed Project (Coastal Link)	Pomerado Road to Miramar Area North – Combined Underground Alternative and Underground/Overhead Alternative	Los Peñasquitos Canyon Preserve–Mercy Road Alternative	Black Mountain to Park Village Road Underground Alternative	Coastal Link Upgrades Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 138.1 to MP 149.9 (Peñasquitos Substation)	MP 140.5 to MP 144.1	MP 143.7 to MP 144.1	Entire Coastal Link
Area of Comparison	MP 136.3 (Sycamore Canyon Substation) to MP 149.9 (Peñasquitos Substation)	MP 136.3 to MP 149.9	MP 136.3 to MP 149.9	MP 136.3 to MP 149.9	MP 136.3 to MP 149.9
Noise	<ul style="list-style-type: none"> • Ranking = 3 • Construction and corona noise would affect noise-sensitive receptors 	<ul style="list-style-type: none"> • Ranking = 3 • Construction noise would be relocated from the Park Village and Rancho Peñasquitos area to the Scripps Miramar Ranch area, and the new corona noise source would be relocated from the Chicarita corridor to the corridor south of Peñasquitos Substation. 	<ul style="list-style-type: none"> • Ranking = 2 • No audible noise would be created by underground segments and fewer residences would be impacted • New corona noise source would be relocated from the Chicarita corridor to an underground segment. 	<ul style="list-style-type: none"> • Ranking = 3 • Construction would affect noise-sensitive receptors and would be similar to the proposed route 	<ul style="list-style-type: none"> • Preferred • Eliminates all Coastal Link impacts • Work would occur in existing corridors or substations and would not include construction of a new line so construction duration and excavation would be reduced
Transportation and Traffic	<ul style="list-style-type: none"> • Ranking = 4 • Crosses I-156, SR56, and 7 local roadways • Less underground construction 	<ul style="list-style-type: none"> • Ranking = 5 • Crosses I-15 and 14 local roadways • Adjacent to MCAS Miramar • Longer underground route 	<ul style="list-style-type: none"> • Ranking = 3 • Crosses I-15 and 3 roadways as an underground transmission line • Longer underground route 	<ul style="list-style-type: none"> • Ranking = 2 • Crosses 2 local roadways as an underground transmission line 	<ul style="list-style-type: none"> • Preferred • Eliminates all Coastal Link road crossings • Work would occur in existing corridors or substations and would not include construction of a new line across or in roadways
Environmental Contamination	<ul style="list-style-type: none"> • Ranking = 2 • Very low potential for existing soil contamination 	<ul style="list-style-type: none"> • Ranking = 4 • Known and potential areas of contamination along underground construction and longest length of underground construction 	<ul style="list-style-type: none"> • Ranking = 3 • Known and potential areas of contamination along underground construction 	<ul style="list-style-type: none"> • Ranking = 2 • Similar to Proposed Project with very low potential for existing soil contamination 	<ul style="list-style-type: none"> • Preferred • Eliminates all Coastal Link impacts • Least ground disturbance and potential for soil contamination

Table H-14. Comparison of the Proposed Project to Coastal Link Alternatives

Issue Area	Proposed Project (Coastal Link)	Pomerado Road to Miramar Area North – Combined Underground Alternative and Underground/Overhead Alternative	Los Peñasquitos Canyon Preserve–Mercy Road Alternative	Black Mountain to Park Village Road Underground Alternative	Coastal Link Upgrades Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 138.1 to MP 149.9 (Peñasquitos Substation)	MP 140.5 to MP 144.1	MP 143.7 to MP 144.1	Entire Coastal Link
Area of Comparison	MP 136.3 (Sycamore Canyon Substation) to MP 149.9 (Peñasquitos Substation)	MP 136.3 to MP 149.9	MP 136.3 to MP 149.9	MP 136.3 to MP 149.9	MP 136.3 to MP 149.9
Air Quality	<ul style="list-style-type: none"> • Ranking = 2 • Construction activity generates dust and exhaust emissions 	<ul style="list-style-type: none"> • Ranking = 5 • Construction activity generates greater levels of dust and exhaust emissions with more undergrounding disturbance 	<ul style="list-style-type: none"> • Ranking = 4 • Construction activity generates dust and exhaust emissions similar to proposed route, but would require more underground construction 	<ul style="list-style-type: none"> • Ranking = 3 • Construction activity generates similar dust and exhaust emissions with slightly more underground construction 	<ul style="list-style-type: none"> • Preferred • Eliminates all Coastal Link impacts • Work would occur in existing corridors or substations and would not include construction of a new line so emissions would be reduced
Water Resources	<ul style="list-style-type: none"> • Ranking = 4 • 19 watercourse crossings (19 natural washes in suburban setting) • Los Peñasquitos Canyon 	<ul style="list-style-type: none"> • Ranking = 2 • 6 watercourse crossings (6 Natural washes in suburban/urban setting) • Reduces impacts to Los Peñasquitos Canyon 	<ul style="list-style-type: none"> • Ranking = 5 • 18 watercourse crossings (19 natural washes in suburban setting) • Greatest potential for water impacts in Los Peñasquitos Canyon with underground trenching 	<ul style="list-style-type: none"> • Ranking = 3 • Same as Proposed Project, but slightly preferred because most disturbance will be in existing roadways 	<ul style="list-style-type: none"> • Preferred • Eliminates all Coastal Link impacts • Work would occur in existing corridors or substations and would not include construction of a new line so ground disturbance would be least
Geology, Mineral Resources, and Soils	<ul style="list-style-type: none"> • Ranking = 2 • Construction could trigger or accelerate erosion and/or landslides. 	<ul style="list-style-type: none"> • Ranking = 5 • Construction could trigger or accelerate erosion and/or landslides • Greatest ground disturbance due to most underground trenching. 	<ul style="list-style-type: none"> • Ranking = 4 • Construction could trigger or accelerate erosion and/or landslides and there is increased undergrounding disturbance. 	<ul style="list-style-type: none"> • Ranking = 3 • Construction could trigger or accelerate erosion and/or landslides based on ground disturbance. 	<ul style="list-style-type: none"> • Preferred • Eliminates all Coastal Link impacts • Work would occur in existing corridors or substations and would not include construction of a new line so ground disturbance would be least.

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Table H-14. Comparison of the Proposed Project to Coastal Link Alternatives

Issue Area	Proposed Project (Coastal Link)	Pomerado Road to Miramar Area North – Combined Underground Alternative and Underground/Overhead Alternative	Los Peñasquitos Canyon Preserve–Mercy Road Alternative	Black Mountain to Park Village Road Underground Alternative	Coastal Link Upgrades Alternative
Mileposts of the Proposed Project Replaced	N/A	MP 138.1 to MP 149.9 (Peñasquitos Substation)	MP 140.5 to MP 144.1	MP 143.7 to MP 144.1	Entire Coastal Link
Area of Comparison	MP 136.3 (Sycamore Canyon Substation) to MP 149.9 (Peñasquitos Substation)	MP 136.3 to MP 149.9	MP 136.3 to MP 149.9	MP 136.3 to MP 149.9	MP 136.3 to MP 149.9
Socioeconomics, Public Services, and Utilities	<ul style="list-style-type: none"> • Ranking = 2 • Has least underground trenching for transmission line construction, which results in a lesser potential to disrupt existing utilities and requires less services and water during construction. 	<ul style="list-style-type: none"> • Ranking = 5 • Underground construction for greatest length and in a commercial/industrial area has greatest potential to disrupt utilities and could impact business revenues. 	<ul style="list-style-type: none"> • Ranking = 4 • More underground construction has a greater potential to disrupt utilities and public services. 	<ul style="list-style-type: none"> • Ranking = 3 • Slightly more underground construction so slightly greater potential to impact underground utilities and require more water for dust suppression. 	<ul style="list-style-type: none"> • Preferred • Eliminates all Coastal Link impacts. • Would not include construction of a new line requiring excavation that could disrupt utilities and require more water and other public services. • Construction-related disturbances would be reduced so associated revenue impacts would be reduced.
Fire and Fuels Management	<ul style="list-style-type: none"> • Ranking = 5 • Overhead portions of the line could create obstacles to firefighting, but it would be in existing corridors. 	<ul style="list-style-type: none"> • Ranking = 2 • Impacts to overhead corridor at western end, but would be mostly underground and overhead towers would be in existing corridor. 	<ul style="list-style-type: none"> • Ranking = 3 • No impacts with underground line and a greater distance of line would be underground. 	<ul style="list-style-type: none"> • Ranking = 4 • No impacts with underground line and line would be underground slightly longer. 	<ul style="list-style-type: none"> • Preferred • Eliminates all Coastal Link impacts. • Work would occur in existing corridors or substations and would not include construction of a new line so would not increase firefighting obstacles

H.3.6 Comparison of Substation Alternatives to Central East Substation

The following section describes the proposed Central East Substation site (MP 91.0) as it compares to the Top of the World Substation Site Alternative, which would be located approximately one mile west of the proposed Central East Substation site. The Top of the World Substation site was developed namely to reduce visual impacts of the proposed Central East Substation site and transmission line into the substation, and to reduce the amount of grading/ground disturbance that would be required.

Significant and unmitigable (Class I) impacts of the proposed Central East Substation and Class I impacts either created or eliminated by Top of the World Substation Site Alternative are listed in Table H-15.

Summary of Impacts

The **Proposed Project** at the Central East Substation site would have 14 significant (Class I) impacts to biological resources, visual resources, cultural resources, noise, air quality, and fire and fuels management (see Table H-15 below). Additionally, as addressed in Table H-16 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining nine issue areas, which have been found to be less than significant following implementation of required mitigation.

The **Top of the World Substation Site Alternative** would have 12 significant (Class I) impacts in biological resources, cultural resources, agricultural resources, air quality, and fire and fuels management (see Table H-15). Additionally, as addressed in Table H-16 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining ten issue areas, which have been found to be less than significant following implementation of required mitigation. The Top of the World Substation Site Alternative would **reduce or eliminate** the following environmental impacts of greatest concern for the Proposed Project:

- Construction of the Top of the World Substation and the three-mile access road would impact approximately 115 acres of sensitive vegetation communities (approximately 30 acres of this would be at the Central East Substation site for laydown yards). The proposed Central East Substation would impact approximately 143 acres of sensitive vegetation communities.
- A three-mile road has to be constructed to access this alternative site; the access road to the proposed Central East Substation would be shorter, approximately 2.79 miles long.
- This alternative would reduce impacts to southwestern willow flycatcher critical habitat (Impact B-7E) that would occur with the proposed Central East Substation.
- This alternative spreads its impacts out over more than three miles instead of confining them to a more singular area like the proposed Central East Substation site.
- Although the impact would be less than significant, the Top of the World site would eliminate the potential to experience surface fault rupture (Impact G-4) should an earthquake on the Earthquake Valley Fault Zone propagate rupture along a fault through the Central East Substation site.
- Assuming effective implementation of Mitigation Measures V-52a and V-54a, Top of the World site is preferred over the Proposed Project. Certain visual impacts would remain while the following impacts would be eliminated or reduced:

- Viewers on San Felipe Road (S2) to the east would experience no visual impact from the substation or connecting transmission line.
- Viewers on SR79 to the west would experience Class III visual impacts from the substation.
- Scouts at the Boy Scout facilities in the valley would experience no visual impacts.
- Scouts on the hillside trails above the valley to the south would experience no visual impact from the west connecting transmission line on the north side of the ridge.

The **Top of the World Substation Site Alternative** would *increase* the following environmental impacts of greatest concern for the Proposed Project:

- The alternative site has higher potential to support the Stephens' kangaroo rat than the Central East site.
- No DOC Farmlands, Active Agricultural Operations, or Williamson Act lands exist within or adjacent to the proposed Central East Substation site; however, the Top of the World Substation would have Class I operational impacts to Active Agricultural Operations (Impact AG-3: Operation would permanently interfere with Active Agricultural Operations).
- Assuming effective implementation of Mitigation Measures V-52a and V-54a, Top of the World site is preferred over the Proposed Project. Certain visual impacts would remain while others would be eliminated. The remaining visual impacts (after mitigation) would be as follows:
 - Viewers on San Felipe Road (S2) to the north would experience Class I visual impacts from the west connecting transmission line.
 - Viewers on SR79 to the west would experience Class I visual impacts from the west connecting transmission line as it converges on SR79.
 - Scouts on the hillside trails above the valley to the south would experience Class III visual impacts from the substation.
 - Scouts on the hillside trails and the outpost camp above the valley to the south would experience significant (Class I) visual impacts once the west connecting 230 kV transmission line emerges from behind the central ridge (approximately 1.5 miles west of the Boy Scout facilities in the valley).

Conclusion

Table H-16 compares the Proposed Project with the Top of the World Substation Alternative site for all environmental issue areas. The transmission line routes into the substation would follow the Proposed Project route to the point where the line to the proposed Central East Substation site is proposed to jog southeast (approximately MP 92.7). At this point the alternative 500 kV route would turn west for 1.1 miles to enter the alternative site. Exiting the substation, the line would travel southwest for 400 feet and then west and north-northwest to rejoin the Proposed Project around MP 95.

The Top of the World Substation Site Alternative would be preferred to the proposed Central East Substation for the following issue areas: visual resources, land use, cultural resources, noise, transportation and traffic, water resources, and geologic resources. It would reduce overall visual impacts of a 500/230 kV substation by eliminating the significant (Class I) visual impact on views from San Felipe Road to the east and replacing it with an adverse but less than significant (Class III) visual impact on views from the Boy Scout trails on the slopes and ridge above and to the south of the valley where the

Boy Scout camp is located. It would be less preferred for biological resources, wilderness and recreation, agricultural resources, and cultural resources. Although the access road would be longer, the Top of the World site would require substantially less grading of the site itself.

Reduced earthwork and associated impacts, coupled with a reduction in significant visual impacts, the Top of the World Substation Site Alternative has been found to be the environmentally superior substation site alternative. It should be noted that the Top of the World Substation would not be built with use of the Partial Underground 230 kV ABDSP SR78 to S2 Alternative with the All Underground Option, which has been found to be environmentally superior in the Anza-Borrego Link.

Table H-15. Central East Substation Summary of Significant Unmitigable (Class I) Impacts by Alternative

Alternative	Significant Impacts (Class I)
Central East Substation	<p>B-1 Temporary and permanent losses of native vegetation</p> <p>B-5 Direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants</p> <p>B-7 Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for</p> <p>B-7H Direct or indirect loss of golden eagle or direct loss of habitat</p> <p>B-7J Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat</p> <p>B-7L Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat</p> <p>B-10 Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species</p> <p>V-21 Increased structure contrast, industrial character, view blockage, and skylining when viewing the Central East Substation site from Key Viewpoint 18 on BIA Road 51</p> <p>V-22 Increased structure contrast, industrial character, and view blockage when viewing the Central East Substation site from Key Viewpoint 19 on northbound San Felipe Road</p> <p>C-3 Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains</p> <p>N-1 Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances</p> <p>AQ-1 Construction would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants</p> <p>F-2: Presence of the overhead transmission line would significantly increase the probability of a wildfire.</p> <p>F-3 Presence of the overhead transmission line would reduce the effectiveness of firefighting (transmission line route in/out of substation only).</p>

Class I Impacts Eliminated or Created by Top of the World Substation Site Alternative

Top of the World Substation Alternative	<p><i>Class I Impacts similar to the proposed Central East Substation</i></p> <p>B-1, B-5, B-7, B-7J, B-7L, B-10, C-3, AQ-1, F-2, F-3.</p> <p><i>Eliminates</i> B-7H, V-21, V-22, N-1.</p> <p><i>Creates</i></p> <p>C-4 Construction of the project would cause an adverse change to Traditional Cultural Properties</p> <p>AG-3 Operation would permanently interfere with Active Agricultural Operations.</p>
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Note: No Class I impacts would occur in any of the following issue areas for the proposed Central East Substation or the Top of the World Substation Alternative: Land Use, Wilderness and Recreation, Water Resources, Geology Mineral Resources and Soils, Public Health/Safety-Contamination, Public Health/Safety-EMF, Transportation/Traffic, Socioeconomics, Public Services, and Utilities.

Sunrise Powerlink Transmission Line Project
H. COMPARISON OF ALTERNATIVES

Table H-16. Comparison of the Proposed Project to Top of the World Substation Alternative

Issue Area	Proposed Project	Top of the World Substation Alternative
Mileposts of the Proposed Project Replaced/ Area of Comparison	N/A	MP 92.7 to MP 95 and Central East Substation site
Biological Resources	<ul style="list-style-type: none"> • Preferred • Class I vegetation impacts • Class II southwestern willow flycatcher critical habitat impacts • Class II Stephens' kangaroo rat impacts. • Requires more grading and earthwork at site, but slightly preferred confines impacts to a more singular area 	<ul style="list-style-type: none"> • Ranking = 2 • Class I vegetation impacts reduced due to less grading • Class II southwestern willow flycatcher critical habitat impacts eliminated • Class II Stephens' kangaroo rat impacts probable. • Spreads impacts over more than three miles with longer access roads
Visual Resources	<ul style="list-style-type: none"> • Ranking = 2 (Assuming effective implementation of Top of the World Mitigation Measures V-52a and V-54a, otherwise ranked first) • Central East Substation and connecting 230 kV and 500 kV transmission lines would cause significant Class I visual impacts on views from San Felipe Road (S2) to the east. • The west connecting 230 kV transmission line would cause Class I visual impacts on views from San Felipe Road (S2) to the north. • Central East Substation would cause adverse but less than significant (Class III) visual impacts on views from SR79 to the west. • The west connecting 230 kV transmission line would cause Class I visual impacts on views from SR79 as the route converges on and then parallels the highway. • Central East Substation and the connecting transmission lines would cause no visual impacts on the Boy Scout facilities in the valley to the south. • The west connecting 230 kV transmission line would cause significant (Class I) visual impacts on views from the hiking trails on the slopes and ridge above and to the south of the valley and on views from the access road to the Boy Scout camp. 	<ul style="list-style-type: none"> • Preferred (Assuming implementation of Mitigation Measures V-52a and V-54a) • Top of the World Substation and connecting 230 kV and 500 kV transmission lines would cause no visual impacts on views from San Felipe Road (S2) to the east. • The west connecting 230 kV transmission line would cause Class I visual impacts on views from San Felipe Road (S2) to the north. • Top of the World Substation would cause adverse but less than significant (Class III) visual impacts on views from SR79 to the west. • The west connecting 230 kV transmission line would cause Class I visual impacts on views from SR79 as the route converges on and then parallels the highway. • Top of the World Substation and the connecting transmission lines would cause no visual impacts on the Boy Scout facilities in the valley to the south. • Top of the World Substation would cause adverse but less than significant (Class III) visual impacts on views from the hiking trails on the slopes and ridge above and to the south of the valley.
Land Use	<ul style="list-style-type: none"> • Ranking = 2 • Rural residences impacts. 	<ul style="list-style-type: none"> • Preferred • No impacts.
Wilderness and Recreation	<ul style="list-style-type: none"> • Preferred • No impact to recreation or wilderness areas 	<ul style="list-style-type: none"> • Ranking = 2 • Transmission lines would be visible to visitors to the Mataguay Scout Reservation from the Boy Scout trails on the slopes and ridge above and to the south of the valley where the Boy Scout camp is located (there would be no visual impacts on the Boy Scout facilities in the valley to the south). • Transmission lines would traverse associated Scout recreation areas (i.e., hiking trails)

Table H-16. Comparison of the Proposed Project to Top of the World Substation Alternative

Issue Area	Proposed Project	Top of the World Substation Alternative
Agricultural Resources	<ul style="list-style-type: none"> • Preferred • No DOC Farmlands, Active Agricultural Operations, or Williamson Act lands exist within or adjacent to the proposed Central East Substation site. 	<ul style="list-style-type: none"> • Ranking = 2 • Class I impacts to Active Agricultural Operations (77.7 acres)
Cultural Resources	<ul style="list-style-type: none"> • Ranking = 2 • 21 known cultural resources within the proposed Central East Substation property thus it is located in a more sensitive area with a greater likelihood of impacting resources. 	<ul style="list-style-type: none"> • Preferred • One known cultural resource, a bedrock milling site with ceramic scatter, located within a half mile of the site. • Greater length of corridor required to connect this substation alternative, but density of resources in the area is less.
Paleontological Resources	<ul style="list-style-type: none"> • No Preference. Zero potential to impact paleontologically sensitive geologic units 	<ul style="list-style-type: none"> • No Preference. Zero potential to impact paleontologically sensitive geologic units
Noise	<ul style="list-style-type: none"> • Ranking = 2 • Substation operation noise would affect noise-sensitive receptors 	<ul style="list-style-type: none"> • Preferred. • Substation operation noise would not affect noise-sensitive receptors
Transportation and Traffic	<ul style="list-style-type: none"> • No Preference. Access to substation from S2 	<ul style="list-style-type: none"> • No Preference. Access to substation from S2
Environmental Contamination	<ul style="list-style-type: none"> • No Preference. Very low potential for existing or unanticipated soil contamination 	<ul style="list-style-type: none"> • No Preference. Very low potential for existing or unanticipated soil contamination
Air Quality	<ul style="list-style-type: none"> • Ranking = 2 • Construction activity generates dust and exhaust emissions, but would require slightly more earthwork 	<ul style="list-style-type: none"> • Preferred • Construction activity generates dust and exhaust emissions
Water Resources	<ul style="list-style-type: none"> • Ranking = 2 • Substantial ground disturbance with grading at substation site 	<ul style="list-style-type: none"> • Ranking = 1 • Substantial ground disturbance, but less than the proposed substation site
Geology, Mineral Resources, and Soils	<ul style="list-style-type: none"> • Ranking = 2 • Construction could trigger or accelerate erosion • Potential for fault rupture along trend of the Earthquake Valley Fault Zone 	<ul style="list-style-type: none"> • Preferred • Construction could trigger or accelerate erosion, which would be reduced with less grading and earthwork
Socioeconomics, Public Services, and Utilities	<ul style="list-style-type: none"> • Ranking = 2 • Impacts would be less than significant though slightly more water may be required because increased grading activities. 	<ul style="list-style-type: none"> • Preferred • Impacts would be less than significant.
Fire and Fuels Management	<ul style="list-style-type: none"> • No Preference. Impacts would be significant to firefighting ability due to line presence. 	<ul style="list-style-type: none"> • No Preference. Impacts would be significant to firefighting ability due to line presence.

H.3.7 Conclusion: Environmentally Superior Alternative Along the Proposed Route and Route Segments

The conclusions in Sections H.2.1 through H.2.6 for Proposed Project and alternatives in the northern area result in the environmentally superior alternative defined in the bullets below. Eight segments of the Proposed Project would be retained, representing 79.4 miles out of the 150 miles of originally proposed route.

- Proposed Project from MP-0 to MP-3
- FTHL Eastern Alternative (replacing Proposed Project MP-3 to MP-8.8)
- Proposed Project from MP 8.8 to MP 11
- West Main Canal–Huff Road Modification Alternative (replacing the Proposed Project from MP 11 to MP 16)
- Proposed Project from MP 16 to MP 58.5 (San Felipe Substation)
- Partial Underground 230 kV ABDSP SR78 to S2 Alternative with both the All Underground ABDSP Option and the Underground Along S2 Option (replacing the Proposed Project from MP 58.5 to MP 90.5)
- Proposed Project from MP 90.5 to MP 100
- Santa Ysabel All Underground Alternative (replacing the Proposed Project from MP 100 to MP 109). If the Santa Ysabel All Underground Alternative is determined to be infeasible, the Mesa Grande Alternative with the Santa Ysabel Partial Underground Alternative would be constructed to replace the Santa Ysabel All Underground Alternative.
- Proposed Project from MP 109 to MP 111.5
- CNF Existing 69 kV Route Alternative (replacing the Proposed Project from MP 111.5 to MP 112.5)
- Proposed Project from MP 112.5 to MP 116.5
- Oak Hollow Underground Alternative (replacing the Proposed Project from MP 116.5 to MP 117.2)
- Proposed Project from MP 117.2 to MP 121.9
- Chuck Wagon Alternative (replacing the Proposed Project from MP 121.9 to MP 125.5)
- Proposed Project from MP 125.5 to MP 136.5 (Sycamore Canyon Substation)
- Coastal Link Upgrades (eliminating the need for the Proposed Project from MP 136.5 to the western terminus at MP 149.9)
- Top of the World Substation Site¹

The environmentally superior transmission line route along the Proposed Project route is illustrated in Figure H-1.

¹ It should be noted that the Top of the World Substation would not be required with use of the Partial Underground 230 kV ABDSP SR78 to S2 Alternative with the All Underground Option, which has been found to be superior to the Proposed Project in the Anza-Borrogo Link.

Figure H-1. Environmentally Superior Transmission Line Route Segment Alternative for the Proposed Project

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H.4 Comparison of SWPL Alternatives

Sections E.1 through E.4 present the impact analysis of the SWPL route alternatives. Following are the SWPL alternatives that are considered in the EIR/EIS:

- Interstate 8 Alternative, from the Imperial Valley Substation to MP 131 of the Proposed Project.
 - Five Options: Campo North Option, Buckman Springs Underground Option, West Buckman Springs Option, South Buckman Springs Option, and the Chocolate Canyon Option.
- BCD Alternative (would replace the central segment of the Interstate 8 Alternative from MP I8-39.5 to I8-58).
 - One Option: BCD South Option
- Route D Alternative north of I-8 (would replace the Interstate 8 Alternative starting at MP I8-70, ending at the Central South Substation Alternative).
- Modified Route D Alternative south of the I-8 freeway (would replace the Interstate 8 Alternative from about MP I8-47 to MP I8-70).
 - One Option: Star Valley Option

In order to compare the SWPL Alternatives to the Environmentally Superior Route Segment Alternative of Proposed Project, an environmentally superior SWPL alternative has been developed based on impact analysis in all environmental issue areas starting initially with the Interstate 8 Alternative (from Imperial Valley Substation to MP 131 of the Proposed Project) and comparing it to other Interstate 8 Alternative Options. This superior Interstate 8 Alternative is then compared to the BCD, Route D, and Modified Route D Alternatives and options to determine an Environmentally Superior SWPL Alternative.

This overall Environmentally Superior SWPL Alternative is defined in Section H.4.5 and is then compared in Section H.5 to the environmentally superior combination of routes along the Proposed Project route (see Section H.3) to determine an overall environmentally superior transmission line route between Imperial Valley Substation and the San Diego load center. The connected actions associated with construction of the Proposed Project (see Section B for a description of these projects) would occur with all of the SWPL Alternative routes.

The Superior Alternative for Proposed Project Route Segments, which is defined above in Section H.3.7, would have 38 significant and unmitigable (Class I) impacts in the following issue areas: biological resources; visual resources; wilderness and recreation; agricultural resources; cultural resources; noise; air quality; geology mineral resources, and soils; socioeconomics, public services, and utilities; and fire and fuels management. Significant and unmitigable (Class I) impacts of the Environmentally Superior Route Segment Alternative of Proposed Project and Class I impacts either created or eliminated by each SWPL alternative are listed in Table H-17.

H.4.1 Comparison of Interstate 8 Alternative Options

H.4.1.1 Interstate 8 Alternative vs. I-8 Alternative with Campo North Option

In response to a request from the Campo Tribe, the Campo North Option is considered in which the Interstate 8 Alternative route would remain north of the freeway in the vicinity of the wind farm, passing immediately adjacent to the southernmost wind turbine in the Kumeyaay Wind Energy Project (at about MP I8-45) and just north of the Caltrans ROW.

Summary of Impacts

The **Interstate 8 Alternative without Campo North Option** (only MP I8-44.5 to MP I8-46) in this segment would have 17 significant (Class I) impacts to biological resources, visual resources, noise, air quality, and fire and fuels management (see Table H-17 below). Additionally, as addressed in Table H-18 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining 10 issue areas, which have been found to be less than significant following implementation of required mitigation.

The **Campo North Option** would have 18 significant (Class I) impacts in biological resources, visual resources, agricultural resources, cultural resources, noise, air quality, geology, mineral resources, and soils, and fire and fuels management (see Table H-17). Additionally, as addressed in Table H-18 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining six issue areas, which have been found to be less than significant following implementation of required mitigation. The Campo North Option would **reduce or eliminate** the following environmental impacts of greatest concern for the Interstate 8 Alternative:

- Shortens the Interstate 8 Alternative by about 0.5 miles thereby reducing ground disturbance.
- Eliminates two freeway crossings and results in a lesser (though still significant) visual impacts.
- Eliminates land use and noise (Class I) impacts because there are no sensitive receptors along the route.

The **Campo North Option** would have the following environmental impacts of greatest concern for the Proposed Project:

- Similar to the Interstate 8 Alternative, the option would create a Class I visual impact (Impact V-71: Increased structure contrast, industrial character, structure prominence and view blockage when viewed from Key Viewpoint 58 on eastbound I-8).

Conclusion

Table H-18 compares the Interstate 8 Alternative with the Campo North Option for all environmental issue areas. The overall “area of comparison” for this option is MP I8-44.5 to MP I8-46. The Campo North Option has been found to be preferred for all issue areas and namely it would be preferred by the Campo Tribe in the area, would reduce ground disturbance due to shorter length, would avoid two crossings of I-8, and would avoid sensitive receptors eliminating Class I noise impacts from construction and corona noise. Therefore, the Interstate 8 Alternative with the Campo North Option has been found to be environmentally superior to the Interstate 8 Alternative alone.

Table H-17. Summary of Significant Unmitigable (Class I) Impacts by Proposed Project and SWPL Alternatives

Alternative	Significant Impacts (Class I)
Environmentally Superior Route Segment Alternative for the Proposed Project (Imperial Valley Substation to	B-1 Temporary and permanent losses of native vegetation
	B-5 Direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants
	B-7 Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for
	B-7A Direct or indirect loss of Flat-Tailed horned lizard or direct loss of habitat
	B-7B Direct or indirect loss of Peninsular bighorn sheep or direct loss of habitat
	B-7H Direct or indirect loss of golden eagle or direct loss of habitat
	B-7J Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat
	B-7L Direct or indirect loss of Stephens’ kangaroo rat or direct loss of habitat

Table H-17. Summary of Significant Unmitigable (Class I) Impacts by Proposed Project and SWPL Alternatives

Alternative	Significant Impacts (Class I)
Sycamore Canyon Substation at MP 136.3)	<p>B-70 Direct or indirect loss of barefoot banded gecko or direct loss of habitat</p> <p>B-10 Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species</p> <p>B-12 Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality (Class I for Peninsular bighorn sheep)</p> <p>V-5 Inconsistency with Interim BLM VRM Class III management objective due to increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 3 on BLM Road 326 north of Superstition Hills</p> <p>V-6 Inconsistency with Interim BLM VRM Class III management objective due to the introduction of structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 4 on SR78/86, north of Superstition Hills</p> <p>V-16 Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 13 on Grapevine Canyon Road, just west of Anza-Borrego Desert State Park</p> <p>V-21 Increased structure contrast, industrial character, view blockage, and skylining when viewing the Central East Substation site from Key Viewpoint 18 on BIA Road 51</p> <p>V-22 Increased structure contrast, industrial character, and view blockage when viewing the Central East Substation site from Key Viewpoint 19 on northbound San Felipe Road</p> <p>V-24 Increased structure contrast, industrial character, view blockage, and skylining when viewing the span of SR67 from Key Viewpoint 21 on southbound SR67</p> <p>V-37 Increased structure contrast, industrial character, view blockage, skylining, and glare from night lighting when viewing the San Felipe 500 kV to 230 kV Substation</p> <p>V-45 Inconsistency with USFS Scenic Integrity Objective due to introduction of structure contrast, industrial character, view blockage, and skylining when viewed from forest lands along the CNF Alternative route</p> <p>WR-1 Construction activities would temporarily reduce access and visitation to recreation or wilderness areas</p> <p>WR-2 Presence of a transmission line or substation would permanently change the character of a recreation area, diminishing its recreational value</p> <p>AG-2 Operation would permanently convert DOC Farmland to non-agricultural use</p> <p>AG-3 Operation would permanently interfere with Active Agricultural Operations</p> <p>AG-4 Operation would permanently convert Williamson Act lands to non-agricultural use</p> <p>C-1 Construction would cause an adverse change to known historic properties</p> <p>C-2 Construction would cause an adverse change to sites known to contain Native American human remains</p> <p>C-3 Construction would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains</p> <p>C-4 Construction would cause an adverse change to Traditional Cultural Properties</p> <p>C-6 Long-term presence of the project would cause an adverse change to known historic architectural (built environment) resources</p> <p>N-1 Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances</p> <p>N-3 Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components</p> <p>N-4 Routine inspection and maintenance activities would increase ambient noise levels</p> <p>AQ-1 Construction would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants</p> <p>AQ-4 Project activities would cause a net increase of greenhouse gas emissions</p> <p>G-5 Project would expose people or structures to potential substantial adverse effects as result of surface fault rupture at crossings of active faults</p> <p>S-1 Project construction and/or transmission line presence would cause a substantial change in revenue for businesses, tribes, or governments</p> <p>F-1: Construction and/or maintenance activities would significantly increase the probability of a wildfire.</p> <p>F-2: Presence of the overhead transmission line would significantly increase the probability of a wildfire.</p> <p>F-3 Presence of the overhead transmission line would reduce the effectiveness of firefighting.</p>

Table H-17. Summary of Significant Unmitigable (Class I) Impacts by Proposed Project and SWPL Alternatives

Alternative	Significant Impacts (Class I)
Class I Impacts Eliminated or Created by SWPL Alternatives	
Interstate 8 Alternative	<p><i>Class I Impacts Similar to the Environmentally Superior Proposed Project Route</i> B-1, B-5, B-7, B-7A, B-7B, B-7H, B-7J, B-7O, B-10, B-12, WR-2, AG-2, AG-3, AG-4, C-1, C-2, C-3, C-4, C-6, N-1, N-3, N-4, AQ-1, AQ-4, F-1, F-2, F-3.</p> <p><i>Eliminates</i> V-5, V-6, V-16, V-21, V-22, V-24, V-37, V-45, WR-1, G-5, S-1.</p> <p><i>Creates</i> V-58 Inconsistency with BLM VRM Class III Management objective due to introduction of structure contrast, industrial character, view blockage and skylining when viewed from Key Viewpoint 46 at the Plaster City West OHV Staging Area V-60 Inconsistency with BLM VRM Class II Management objective due to introduction of structure contrast, industrial character, view blockage and skylining when viewed from Key Viewpoint 48 south of Table Mountain ACEC on Old Highway 80 (Airport Mesa) V-62 Increased structure contrast, industrial character, and view blockage when viewed from Key Viewpoint 50 on westbound I-8 V-63 Inconsistency with USFS Scenic Integrity Objective due to introduction of structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 51 on eastbound I-8 in Cottonwood Valley V-64 Inconsistency with USFS Scenic Integrity Objective due to introduction of structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 52 on westbound I-8 north of Cottonwood Valley V-66 Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 53 on westbound Alpine Road V-68 Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 55 on Moreno Boulevard WR-3 Presence of a transmission line would permanently preclude recreational activities C-5 Project operation and maintenance would cause an adverse change to known historic properties</p>
Campo North Option	<p><i>Class I Impacts Similar to the Environmentally Superior Proposed Project Route</i> B-1, B-5, B-7, B-7J, B-10, B-12, C-3, C-4, N-1, N-3, N-4, AQ-1, AQ-4, F-1, F-2, F-3.</p> <p><i>Eliminates Compared to Superior Proposed Project</i> B-7A, B-7B, B-7H, B-7O, V-5, V-6, V-16, V-21, V-22, V-24, V-37, V-45, WR-1, WR-2, AG-2, AG-3, AG-4, C-1, C-2, C-6, G-5, S-1.</p> <p><i>Creates Compared to Superior Proposed Project</i> V-71 Increased structure contrast, industrial character, structure prominence and view blockage when viewed from Key Viewpoint 58 on eastbound I-8</p> <p><i>Creates Compared to Interstate 8 Alternative in this segment</i> V-71. Does not eliminate any additional Class I impacts of the Interstate 8 Alternative in this segment.</p>
Buckman Springs Underground Option	<p><i>Class I Impacts Similar to the Environmentally Superior Proposed Project Route</i> B-1, B-5, B-7, B-7J, B-10, C-3, C-4, N-1, N-3, N-4, AQ-1, AQ-4, F-1.</p> <p><i>Eliminates Compared to Superior Proposed Project</i> B-7A, B-7B, B-7H, B-7O, B-12, V-5, V-6, V-16, V-21, V-22, V-24, V-37, V-45, WR-1, WR-2, AG-2, AG-3, AG-4, C-1, C-2, C-6, G-5, S-1, F-2, F-3.</p> <p><i>Creates Compared to Superior Proposed Project</i> V-70 Inconsistency with USFS Scenic Integrity Objective due to introduction of structure contrast, industrial character, and view blockage when viewed from Key Viewpoint 57 on the northbound I-8 on-ramp from Buckman Springs Road in Cottonwood Valley</p> <p><i>Eliminates Compared to I-8 Alternative in this segment</i> V-63, V-64, WR-3, C-1, C-2, C-5, C-6, F-2, F-3.</p> <p><i>Creates Compared to I-8 Alternative in this segment</i> V-70.</p>

Table H-17. Summary of Significant Unmitigable (Class I) Impacts by Proposed Project and SWPL Alternatives

Alternative	Significant Impacts (Class I)
West Buckman Springs Option	<p><i>Class I Impacts Similar to the Environmentally Superior Proposed Project Route</i> B-1, B-5, B-7, B-7H, B-7J, B-10, WR-2, AG-3, AG-4, C-3, C-4, N-1, N-3, N-4, AQ-1, AQ-4, F-1, F-2.</p> <p><i>Eliminates Compared to Superior Proposed Project</i> B-7A, B-7B, B-7O, B-12, V-5, V-6, V-16, V-21, V-22, V-24, V-37, V-45, WR-1, AG-2, C-1, C-2, C-6, G-5, S-1, F-3.</p> <p><i>Creates Compared to Superior Proposed Project</i> V-69 Inconsistency with USFS Scenic Integrity Objective due to introduction of structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 56 on northbound Buckman Springs Road in Cottonwood Valley C-5 Project operation and maintenance would cause an adverse change to known historic properties</p> <p><i>Eliminates Compared to I-8 Alternative in this segment</i> V-63, V-64, WR-3, AG-2, C-1, C-2.</p> <p><i>Creates Compared to I-8 Alternative in this segment</i> V-69.</p>
South Buckman Springs Option	<p><i>Class I Impacts Similar to the Environmentally Superior Proposed Project Route</i> B-1, B-5, B-7, B-7J, B-10, AG-4, C-3, C-4, N-1, N-3, N-4, AQ-1, AQ-4, F-1, F-2.</p> <p><i>Eliminates Compared to Superior Proposed Project</i> B-7A, B-7B, B-7H, B-7O, B-12, V-5, V-16, V-21, V-22, V-24, V-37, V-45, WR-1, WR-2, AG-2, AG-3, C-1, C-2, C-6, G-5, S-1, F-3.</p> <p><i>Eliminates Compared to I-8 Alternative in this segment</i> V-62, WR-3.</p> <p><i>Creates</i> V-72 Increased structure contrast, industrial character, structure prominence and view blockage when viewed from Key Viewpoint 59 on Cameron Truck Trail V-87 Increased structure contrast, industrial character, structure prominence and view blockage when viewed from South Buckman Springs Road V-88 Inconsistency with USFS Scenic Integrity Objective due to introduction of structure contrast, industrial character, view blockage, and skylining along the South Buckman Springs Option C-5 Project operation and maintenance would cause an adverse change to known historic properties</p>
Chocolate Canyon Option	<p><i>Class I Impacts Similar to the Environmentally Superior Proposed Project Route</i> B-1, B-5, B-7, B-7H, B-7J, B-10, C-3, C-4, WR-2, N-1, N-4, AQ-1, AQ-4, F-1, F-2, F-3.</p> <p><i>Eliminates Compared to Superior Proposed Project</i> B-7A, B-7B, B-7O, B-12, V-5, V-6, V-16, V-21, V-22, V-24, , V-37, V-45, WR-1, AG-2, AG-3, AG-4, C-1, C-2, C-6, N-3, G-5, S-1.</p> <p><i>Creates</i> V-73 Increased structure contrast, industrial character, structure prominence and view blockage associated with the Chocolate Canyon Option C-5 Project operation and maintenance would cause an adverse change to known historic properties Does not eliminate any additional Class I impacts of the Interstate 8 Alternative.</p>
BCD Alternative	<p><i>Class I Impacts Similar to the Environmentally Superior Proposed Project Route</i> B-1, B-5, B-7, B-7B, B-7H, B-7J, B-7O, B-10, B-12, WR-2, AG-3, AG-4, C-3, C-4, N-1, N-3, N-4, AQ-1, AQ-4, F-2.</p> <p><i>Eliminates Compared to Superior Proposed Project</i> B-7A, V-5, V-6, V-16, V-21, V-22, V-24, V-37, V-45, WR-1, AG-2, C-1, C-2, C-6, G-5, S-1, F-1, F-3.</p> <p><i>Eliminates Compared to the Interstate 8 Alternative (MP I8-40 to I8-58 with Campo North and West Buckman Springs Option)</i> V-69, WR-2, C-1, C-5, F-1, F-3.</p> <p><i>Creates</i> V-74 Inconsistency with BLM VRM Class II Management objective due to introduction of structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 60 on McCain Valley Road at Sacaton Overlook Road V-75 Inconsistency with BLM VRM Class II Management objective due to introduction of structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 61 on at Carrizo Overlook V-76 Inconsistency with BLM VRM Class II Management objective due to introduction of structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 62 on McCain Valley Road South of Cottonwood Campground</p>

Table H-17. Summary of Significant Unmitigable (Class I) Impacts by Proposed Project and SWPL Alternatives

Alternative	Significant Impacts (Class I)
	V-77 Inconsistency with USFS Scenic Integrity Objective due to introduction of structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 63 on the Pacific Crest National Scenic Trail just north of Fred Canyon Road
BCD South Option	<p>Class I Impacts Similar to the Environmentally Superior Proposed Project Route B-1, B-5, B-7, B-7H, B-7J, B-10, AG-4, C-3, C-4, N-1, N-3, N-4, AQ-1, AQ-4, F-2.</p> <p>Eliminates B-7A, B-7B, B-7O, B-12, V-5, V-6, V-16, V-21, V-22, V-24, V-37, V-45, WR-1, WR-2, AG-2, AG-3, C-1, C-2, C-5 (compared to I-8 Alternative only), C-6, G-5, S-1, F-1, F-3.</p> <p>Creates V-89 Increased structure contrast, industrial character, structure prominence and view blockage when viewed from Key Viewpoint 79 on La Posta Truck Trail V-90: Inconsistency with USFS Scenic Integrity Objective due to introduction of structure contrast, industrial character, view blockage, and skylining along the BCD South Option</p>
Route D Alternative with Central South Substation	<p>Class I Impacts Similar to the Environmentally Superior Proposed Project Route B-1, B-5, B-7, B-7H, B-7J, B-10, WR-2, AG-3, AG-4, C-3, C-4, N-1, N-3, N-4, AQ-1, AQ-4, F-2.</p> <p>Eliminates Compared to the Environmentally Superior Proposed Project Route B-7A, B-7O, B-12, V-5, V-6, V-16, V-21, V-22, V-24, V-37, V-45, WR-1, AG-2, C-1, C-2, C-6, G-5, S-1, F-1, F-3.</p> <p>Eliminates Compared to the Interstate 8 Alternative (MP I8-70 to I8-92.7) V-66, V-68, WR-3, AG-2, C-1, C-2, C-5, C-6, F-1.</p> <p>Creates V-78 Inconsistency with USFS Scenic Integrity Objective due to introduction of structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 64 on Boulder Creek Road</p>
Modified Route D Alternative with Modified Route D Substation	<p>Class I Impacts Similar to the Environmentally Superior Proposed Project Route B-1, B-5, B-7, B-7H, B-7J, B-10, V-82, V-83, V-84, WR-2, AG-2, AG-3, AG-4, C-3, C-4, N-1, N-3, N-4, AQ-1, AQ-4, F-1, F-2, F-3.</p> <p>Eliminates Compared to the Environmentally Superior Proposed Project Route B-7A, B-7B, B-7O, B-12, V-5, V-6, V-16, V-21, V-22, V-24, V-37, V-45, WR-1, C-1, C-2, C-6, G-5, S-1.</p> <p>Eliminates Compared to the Interstate 8 Alternative (MP I8-49 to I8-71) V-62, V-63, V-64, C-1, C-2, C-5, C-6.</p> <p>Creates V-82 Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 67 on northbound South Buckman Springs Road V-83 Inconsistency with USFS Scenic Integrity Objective due to introduction of structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 68 on Lyons Valley Road V-84 Inconsistency with USFS Scenic Integrity Objective due to introduction of structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 69 on Japatul Road</p>
Star Valley Option with Modified Route D Alternative with Modified Route D Substation	<p>Class I Impacts Similar to the Environmentally Superior Proposed Project Route B-1, B-5, B-7, B-7H, B-7J, B-10, V-86, C-3, C-4, N-1, N-4, AQ-1, AQ-4, F-1, F-2.</p> <p>Eliminates B-7A, B-7B, B-7O, B-12, V-5, V-6, V-16, V-21, V-22, V-24, V-37, V-45, WR-1, WR-2, AG-2, AG-3, AG-4, C-1, C-2, C-6, N-3, G-5, S-1, F-3.</p> <p>Eliminates Compared to Modified Route D Alternative and I-8 Alternative it would replace (MP MRD-34 to MP I8-73.6) C-1, C-2, C-5, C-6</p> <p>Creates V-86 Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 70 on Star Valley Road</p>

Note: No Class I impacts would occur in any of the following issue areas for any alternative: Land Use, Water Resources, Public Health/Safety-Contamination, Transportation/Traffic.

Table H-18. Comparison of the Interstate 8 Alternative to Interstate 8 Alternative with Campo North Option

Issue Area	Interstate 8 Alternative	Interstate 8 Alternative with Campo North Option
Mileposts of the I-8 Alternative Replaced/ Area of Comparison	N/A	MP I8-44.5 to MP I8-46
Biological Resources	<ul style="list-style-type: none"> • Ranking = 2 • Slightly greater Class I impacts to sensitive vegetation communities 	<ul style="list-style-type: none"> • Preferred • Class I impacts to sensitive vegetation communities
Visual Resources	<ul style="list-style-type: none"> • Ranking = 2 • Increased structure contrast, industrial character, and view blockage when viewed from I-8, resulting in a significant (Class I) visual impact. • Requires two freeway crossings and result in a greater visual impact. 	<ul style="list-style-type: none"> • Preferred • Increased structure contrast, industrial character, and view blockage when viewed from I-8, resulting in a significant (Class I) visual impact. • Eliminates two freeway crossings and result in a lesser (though still significant) visual impact.
Land Use	<ul style="list-style-type: none"> • Ranking = 2 • Would pass nearby rural residences on the Campo Reservation. 	<ul style="list-style-type: none"> • Preferred • No sensitive land uses.
Wilderness and Recreation	<ul style="list-style-type: none"> • No Preference. No impact to recreation or wilderness areas 	<ul style="list-style-type: none"> • No Preference. No impact to recreation or wilderness areas
Agricultural Resources	<ul style="list-style-type: none"> • No Preference. No agricultural impacts. 	<ul style="list-style-type: none"> • No Preference. No agricultural impacts.
Cultural Resources	<ul style="list-style-type: none"> • Ranking = 2 • No known cultural resources but presumed present and route would be longer with increased disturbance and potential to encounter resources. 	<ul style="list-style-type: none"> • Preferred • No known cultural resources but presumed present • Shorter length and reduced ground disturbance.
Paleontological Resources	<ul style="list-style-type: none"> • No Preference. Zero potential to impact paleontologically sensitive geologic units. 	<ul style="list-style-type: none"> • No Preference. Zero potential to impact paleontologically sensitive geologic units.
Noise	<ul style="list-style-type: none"> • Ranking = 2 • Corona noise would affect noise-sensitive receptors on Campo Reservation. 	<ul style="list-style-type: none"> • Preferred • No noise-sensitive receptors along route option. • Eliminates Class I noise impacts from construction and operation.
Transportation and Traffic	<ul style="list-style-type: none"> • Ranking = 2 • Crosses I-8 twice and local roadways 	<ul style="list-style-type: none"> • Preferred • Crosses local roadways.
Environmental Contamination	<ul style="list-style-type: none"> • Ranking = 2 • Very low potential for existing soil contamination. 	<ul style="list-style-type: none"> • Preferred • Shorter length results in even less potential to encounter unknown contamination.
Air Quality	<ul style="list-style-type: none"> • Ranking = 2 • Construction activity generates dust and exhaust emissions. 	<ul style="list-style-type: none"> • Preferred • Reduced construction activity.
Water Resources	<ul style="list-style-type: none"> • Ranking = 2 • 0.5 miles longer than Interstate 8 Alternative with Campo North Option. 	<ul style="list-style-type: none"> • Preferred • 0.5 miles shorter than Interstate 8 Alternative.
Geology, Mineral Resources, and Soils	<ul style="list-style-type: none"> • Ranking = 2 • Potential fault rupture and strong groundshaking where crosses Yuha Wells fault. • Greater potential to interfere with known mineral resources and/or trigger or accelerate erosion due to longer length. 	<ul style="list-style-type: none"> • Preferred • Potential fault rupture and strong groundshaking where crosses Yuha Wells fault. • Less potential to potentially interfere with known mineral resources and/or trigger or accelerate erosion due to shorter length.

Table H-18. Comparison of the Interstate 8 Alternative to Interstate 8 Alternative with Campo North Option

Issue Area	Interstate 8 Alternative	Interstate 8 Alternative with Campo North Option
Mileposts of the I-8 Alternative Replaced/ Area of Comparison	N/A	MP I8-44.5 to MP I8-46
Socioeconomics, Public Services, and Utilities	<ul style="list-style-type: none"> • Ranking = 2 • Longer length increases use of water for dust control and has a greater chance of disrupting existing utilities. 	<ul style="list-style-type: none"> • Preferred • Shorter length and underground disturbance outweighs proximity of route to wind turbines and the potential for disruption to their generation and/or transmission of power.
Fire and Fuels Management	<ul style="list-style-type: none"> • Ranking = 2 • Overhead line could create obstacles to firefighting, but it would be in existing corridors. 	<ul style="list-style-type: none"> • Preferred • Overhead line could create obstacles to firefighting, but close proximity to wind turbines would consolidate obstacles to firefighting.

H.4.1.2 Interstate 8 Alternative vs. Buckman Springs Options

In the area of Buckman Springs, three route options are considered, two to preserve hang gliding and paragliding opportunities in Horse Canyon and one to utilize an existing transmission line corridor and avoid passing through Backcountry Non-Motorized land use zones within the CNF. The I-8 Alternative as defined would be located between the Horse Canyon hang gliding and paragliding takeoff and landing points, presenting a safety risk to glider pilots. The overall “area of comparison” of these four alternatives is between MP I8-47.2 to MP I8-58.5. For alternatives that are shorter than the overall area of comparison, the Interstate 8 Alternative route has been used to make up the remainder of the route within the area of comparison.

Summary of Impacts

The **Interstate 8 Alternative** in this area of comparison would have 24 significant (Class I) impacts to biological resources, visual resources, wilderness and recreation, agricultural resources, cultural resources, noise, air quality, and fire and fuels management (see Table H-17 above). Additionally, as addressed in Table H-19 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining seven issue areas, which have been found to be less than significant following implementation of required mitigation.

The **Buckman Springs Underground Option** would have 14 significant (Class I) impacts in biological resources, visual resources, cultural resources, noise, air quality, and fire and fuels management (see Table H-17). Additionally, as addressed in Table H-19 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining ten issue areas, which have been found to be less than significant following implementation of required mitigation. The Buckman Springs Underground Option would **reduce or eliminate** the following environmental impacts of greatest concern for the Interstate 8 Alternative:

- Eliminates Class I preclusion impacts to Horse Canyon hang-gliding/paragliding site and any other recreation impacts.
- Installation of an underground route segment for approximately 1.9 miles eliminates all operational visual impacts of the overall 500 kV line.
- Eliminates B-10 bird collision impacts (Class I impact) for the underground portion.

The **Buckman Springs Underground Option** would *increase* the following environmental impacts of greatest concern for the Interstate 8 Alternative:

- Underground trenching for 1.9 miles creates the greatest associated ground disturbance impacts.
- An 80-foot-wide area would be cleared and graded to construct this underground option, which would result in greater temporary impacts to vegetation communities (a total of approximately 24 acres) as compared to the Interstate 8 Alternative.
- Permanent impacts to vegetation communities would also be greater because of a 14-foot-wide access road along the length of the alternative, vault manholes to the underground system, and overhead/underground 500 kV transition stations at each end of the route.

The **West Buckman Springs Option** would have 20 significant (Class I) impacts in biological resources, visual resources, wilderness and recreation, agricultural resources, cultural resources, noise, air quality, and fire and fuels management (see Table H-17). Additionally, as addressed in Table H-19 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining seven issue areas, which have been found to be less than significant following implementation of required mitigation. The West Buckman Springs Option would *reduce or eliminate* the following environmental impacts of greatest concern for the Interstate 8 Alternative:

- Minimizes hang gliding and paragliding impacts by moving the transmission line to a location west of Buckman Springs Valley, rather than east where the route is currently proposed.
- Like the I-8 Alternative, the option would result in inconsistencies with USFS Scenic Integrity Objectives and Class I visual impacts. However, a route along the west side of Cottonwood Valley or along Bear Valley Road (with implementation of Mitigation Measure V-68a) is most preferred.
- Reduces length of route within the Back Country Non-Motorized Zone in CNF.²

The **West Buckman Springs Option** would *increase* the following environmental impacts of greatest concern for the Interstate 8 Alternative:

- Passes just west of the Boulder Oaks Campground and within two miles northeast of the Morena Reservoir creating new Class I recreation impacts.
- At MP I8-54, the route would cross to the south side of I-8 heading west and the option also crosses S80 creating greater traffic impacts.

² As discussed in Section D.17, the Back Country Non-Motorized (BCNM) zone includes areas that are undeveloped with few, if any, roads. Developed facilities supporting dispersed recreation activities are minimal and generally limited to trails and signage. The level of human use and infrastructure is low. This zone is managed for a range of non-motorized uses that include mechanized, equestrian, and pedestrian public access. Administrative access, usually for community protection, is allowed by exception for emergency situations and for short-duration management purposes, such as fuel treatment. The intent is to use temporary routes while management is occurring and then close or remove the route. Access to authorized facilities and to private land is not anticipated, but may occur by exception when there are existing rights to such access. Except for trails, facility construction is generally not allowed, but may occur in remote locations where road access is not needed for maintenance. Temporary facilities are expected to be removed when they are no longer needed. Major utility corridors and roads are not suitable within this land use zone.

The **South Buckman Springs Option** would have 19 significant (Class I) impacts in biological resources, visual resources, agricultural resources, cultural resources, noise, air quality, and fire and fuels management (see Table H-17). Additionally, as addressed in Table H-19 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining eight issue areas, which have been found to be less than significant following implementation of required mitigation. The South Buckman Springs Option would **reduce or eliminate** the following environmental impacts of greatest concern for the Interstate 8 Alternative:

- Avoids passing through Backcountry Non-Motorized land use zones within the CNF that occur north and east of Interstate 8.
- Avoids direct effects to the La Posta Reservation.
- Joins the West Buckman Springs Option described above, which minimizes hang gliding and paragliding impacts in Horse Canyon area.

The **South Buckman Springs Option** would **increase** the following environmental impacts of greatest concern for the Interstate 8 Alternative:

- After joining the West Buckman Springs Option, the route passes just west of the Boulder Oaks Campground and within two miles northeast of the Morena Reservoir creating new Class I recreation impacts.

Conclusion

Table H-19 compares the Interstate 8 Alternative with the three Buckman Springs options for all environmental issue areas. The overall “area of comparison” of these four alternatives is between MP I8-47.2 to MP I8-58.5. For alternatives that are shorter than the overall area of comparison, the Interstate 8 Alternative route has been used to make up the remainder of the route within the area of comparison. The overhead West of Buckman Springs Option is found to be environmentally superior in this segment of the Interstate 8 Alternative for the following reasons:

- All of the options through Cottonwood Valley would result in inconsistencies with USFS Scenic Integrity Objectives and would create significant unmitigable visual impacts. However, the West of Buckman Springs Option along the west side of Cottonwood Valley is preferred for visual resources (with or without implementation of Mitigation Measure V-68a)
- The West of Buckman Springs Option would reduce length of the line within the undeveloped areas of the Back Country Non-Motorized land use zone in CNF.
- The West of Buckman Springs Option would reduce hang gliding and paragliding impacts to Horse Canyon launch/landing area, but would create new significant impacts to the nearby Boulder Oaks Campground.
- The West of Buckman Springs Option would have reduced ground disturbance compared to the Buckman Springs Underground Option resulting in fewer impacts to biological resources and other disturbance-related environmental issue areas.

Table H-19. Comparison of the Interstate 8 Alternative to the Buckman Springs Options

Issue Area	Interstate 8 Alternative	Buckman Springs Underground Option	West Buckman Springs Option	South Buckman Springs Option
Mileposts of the I-8 Alternative Replaced	N/A	MP 18-55 to MP 18-57	MP 18-54 to MP 18-58.5	MP 18-47.2 to MP 18-58.5
Area of Comparison	MP 18-47.2 to MP 18-58.5	MP 18-47.2 to MP 18-58.5	MP 18-47.2 to MP 18-58.5	MP 18-47.2 to MP 18-58.5
Biological Resources	<ul style="list-style-type: none"> • Preferred • Class I impacts to sensitive vegetation • Class II impacts to jurisdictional habitats • Class II impacts to arroyo toads • Class I impact to golden eagle. 	<ul style="list-style-type: none"> • Ranking = 4 • Greater Class I impacts to sensitive vegetation (temporary and permanent) • Greater Class II impacts to jurisdictional habitats • Greater Class II impacts to arroyo toads • Class I impact to golden eagle. • Reduces Class I collision impacts with underground portion 	<ul style="list-style-type: none"> • Ranking = 2 • Slightly greater impacts to sensitive vegetation • Class II impacts to jurisdictional habitats • Greater Class II impacts to arroyo toads • Class I impact to golden eagle. 	<ul style="list-style-type: none"> • Ranking = 3 • Slightly greater impacts to sensitive vegetation • Greater Class II impacts to jurisdictional habitats • Greater Class II impacts to arroyo toads • Class I impact to golden eagle. • Greater Class II impacts to quino checkerspot butterfly
Visual Resources	<ul style="list-style-type: none"> • Ranking = 4 • Inconsistency with USFS Scenic Integrity Objective due to introduction of structure contrast, industrial character, view blockage, and skylining when viewed from KVP 51 on eastbound I-8 in Cottonwood Valley (Class I visual impact). • Inconsistency with USFS Scenic Integrity Objective due to introduction of structure contrast, industrial character, view blockage, and skylining when viewed from KVP 52 on westbound I-8 north of Cottonwood Valley (Class I impact). 	<ul style="list-style-type: none"> • Ranking = 3 • Inconsistency with USFS Scenic Integrity Objective due to introduction of structure contrast, industrial character, and view blockage when viewed from KVP 57 on the northbound I-8 on-ramp from Buckman Springs Road in Cottonwood Valley, resulting in a significant (Class I) visual impact from the transition structures. • Preferred over I-8 Alternative because eliminates overhead towers for 1.9 miles. 	<ul style="list-style-type: none"> • Preferred (Assuming effective implementation of Mitigation Measure V-68a) • Inconsistency with USFS Scenic Integrity Objective due to introduction of structure contrast, industrial character, view blockage, and skylining when viewed from KVP 56 on northbound Buckman Springs Road in Cottonwood Valley, resulting in a significant (Class I) Visual Impact. 	<ul style="list-style-type: none"> • Ranking = 2 (Assuming effective implementation of Mitigation Measure V-68a) • Introduced structure contrast, industrial character, view blockage, and skylining when viewing to the south from I-8, and at the south end of Cottonwood Valley resulting in Class I visual impacts. • Inconsistency with USFS Scenic Integrity Objective due to introduction of structure contrast, industrial character, view blockage, and skylining when viewed from I-8 in the southern end of Cottonwood Valley, resulting in a significant (Class I) visual impact.

Sunrise Powerlink Transmission Line Project
H. COMPARISON OF ALTERNATIVES

Table H-19. Comparison of the Interstate 8 Alternative to the Buckman Springs Options

Issue Area	Interstate 8 Alternative	Buckman Springs Underground Option	West Buckman Springs Option	South Buckman Springs Option
Mileposts of the I-8 Alternative Replaced	N/A	MP 18-55 to MP 18-57	MP 18-54 to MP 18-58.5	MP 18-47.2 to MP 18-58.5
Area of Comparison	MP 18-47.2 to MP 18-58.5	MP 18-47.2 to MP 18-58.5	MP 18-47.2 to MP 18-58.5	MP 18-47.2 to MP 18-58.5
Land Use	<ul style="list-style-type: none"> • Ranking = 4 • 6 residences impacts, including residences on tribal land. 	<ul style="list-style-type: none"> • Preferred • No impacts to sensitive receptors. 	<ul style="list-style-type: none"> • Ranking = 3 • Passes Mountain Empire High School within 1,000 feet of the alternative route. 	<ul style="list-style-type: none"> • Ranking = 2 • Passes 7 rural residences, not on tribal land. • Avoids passing through BCNM land use zones north and east of I-8 within CNF.
Wilderness and Recreation	<ul style="list-style-type: none"> • Ranking = 4 • Precludes use of Horse Canyon hang gliding/paragliding site (Class I impact). 	<ul style="list-style-type: none"> • Preferred • Eliminates Class I preclusion impacts to Horse Canyon hang gliding/paragliding site and any other recreation impacts. 	<ul style="list-style-type: none"> • Ranking = 3 • Eliminates Class I preclusion impacts to Horse Canyon hang gliding/paragliding site. • Creates Class I impacts to the recreational value of Boulder Oaks Campground (closer to campground than South of Buckman Springs Option) • Parallels PCT for 0.4 miles. 	<ul style="list-style-type: none"> • Ranking = 2 • In conjunction with West of Buckman Springs Option, eliminates Class I preclusion impacts to Horse Canyon hang gliding/paragliding site • Creates Class I impacts to recreational value of Boulder Oaks Campground. • Avoids passing through BCNM land use zones north and east of I-8 within CNF.
Agricultural Resources	<ul style="list-style-type: none"> • Ranking = 4 • Total agricultural land impacted: 351.6 acres. • DOC Farmlands impacts (135.5 acres). • Active Agricultural Operations impacts (198.8 acres). • Williamson Act lands impacts (141.9 acres). 	<ul style="list-style-type: none"> • Ranking = 2 • Total agricultural land impacted: 35.3 acres. • Williamson Act lands impacts (35.3 acres). 	<ul style="list-style-type: none"> • Ranking = 3 • Total agricultural land impacted: 67.6 acres. • DOC Farmlands impacts (20.0 acres). • Active Agricultural Operations impacts (29.3 acres). • Williamson Act lands impacts (67.6 acres). 	<ul style="list-style-type: none"> • Preferred • Total agricultural land impacted: 20.3 acres. • DOC Farmlands impacts (2.7 acres). • Active Agricultural Operations impacts (5.4 acres). • Williamson Act lands impacts (20.3 acres).
Cultural Resources	<ul style="list-style-type: none"> • Preferred • Impacts to 2 moderate sensitivity cultural resources. • Impacts to 11 low sensitivity cultural resources. 	<ul style="list-style-type: none"> • Ranking = 2 • Impacts to 2 moderate sensitivity cultural resources. • Impacts to 11 low sensitivity cultural resources. • Greater potential for unanticipated discoveries due to greater disturbance. 	<ul style="list-style-type: none"> • Ranking = 3 • Impacts to 3 moderate sensitivity cultural resources. • Impacts to 13 low sensitivity cultural resources. 	<ul style="list-style-type: none"> • Ranking = 4 • Impacts to 3 moderate sensitivity cultural resources. • Impacts to 14 low sensitivity cultural resources.

Table H-19. Comparison of the Interstate 8 Alternative to the Buckman Springs Options

Issue Area	Interstate 8 Alternative	Buckman Springs Underground Option	West Buckman Springs Option	South Buckman Springs Option
Mileposts of the I-8 Alternative Replaced	N/A	MP 18-55 to MP 18-57	MP 18-54 to MP 18-58.5	MP 18-47.2 to MP 18-58.5
Area of Comparison	MP 18-47.2 to MP 18-58.5	MP 18-47.2 to MP 18-58.5	MP 18-47.2 to MP 18-58.5	MP 18-47.2 to MP 18-58.5
Paleontological Resources	<ul style="list-style-type: none"> • Ranking = 2 • Zero to high potential to impact paleontologically sensitive geologic units. 	<ul style="list-style-type: none"> • Ranking = 4 • Zero to high potential to impact paleontologically sensitive geologic units and greatest disturbance and has greatest ground disturbance with underground trenching. 	<ul style="list-style-type: none"> • Preferred • Zero to high potential to impact paleontologically sensitive geologic units, but would traverse least areas underlain by paleontologically sensitive geologic units. 	<ul style="list-style-type: none"> • Ranking = 3 • Zero to high potential to impact paleontologically sensitive geologic units and longest overhead route.
Noise	<ul style="list-style-type: none"> • Ranking = 2 • Corona noise would affect noise-sensitive receptors. 	<ul style="list-style-type: none"> • Preferred • No audible noise would be created by underground segments. 	<ul style="list-style-type: none"> • Ranking = 2 • Corona noise would affect noise-sensitive receptors. 	<ul style="list-style-type: none"> • Ranking = 2 • Corona noise would affect noise-sensitive receptors.
Transportation and Traffic	<ul style="list-style-type: none"> • Preferred • Crosses I-8 and local roadways 	<ul style="list-style-type: none"> • Ranking = 4 • Crosses 1 local roadway (would cross I-8 once rejoins I-8 Alternative) • Underground construction of transmission line (though not in roadway) 	<ul style="list-style-type: none"> • Ranking = 3 • Crosses I-8, S80, Buckman Springs Road and local roadways 	<ul style="list-style-type: none"> • Ranking = 2 • Crosses I-8 as well as local roadways
Environmental Contamination	<ul style="list-style-type: none"> • Preferred • Very low potential for existing or unanticipated soil contamination. 	<ul style="list-style-type: none"> • Ranking = 3 • Greatest ground disturbance and potential to encounter contamination. 	<ul style="list-style-type: none"> • Preferred • Very low potential for existing or unanticipated soil contamination. 	<ul style="list-style-type: none"> • Ranking = 2 • Very low potential for existing or unanticipated soil contamination, but route would be longest.
Air Quality	<ul style="list-style-type: none"> • Preferred • Construction activity generates dust and exhaust emissions. 	<ul style="list-style-type: none"> • Ranking = 2 (least preferred) • Construction activity generates greater dust and exhaust emissions with undergrounding. 	<ul style="list-style-type: none"> • Preferred • Construction activity generates dust and exhaust emissions. 	<ul style="list-style-type: none"> • Preferred • Construction activity generates dust and exhaust emissions.

Sunrise Powerlink Transmission Line Project
H. COMPARISON OF ALTERNATIVES

Table H-19. Comparison of the Interstate 8 Alternative to the Buckman Springs Options

Issue Area	Interstate 8 Alternative	Buckman Springs Underground Option	West Buckman Springs Option	South Buckman Springs Option
Mileposts of the I-8 Alternative Replaced	N/A	MP 18-55 to MP 18-57	MP 18-54 to MP 18-58.5	MP 18-47.2 to MP 18-58.5
Area of Comparison	MP 18-47.2 to MP 18-58.5	MP 18-47.2 to MP 18-58.5	MP 18-47.2 to MP 18-58.5	MP 18-47.2 to MP 18-58.5
Water Resources	<ul style="list-style-type: none"> • Ranking = 2 • 8 watercourse crossings (natural washes) • La Posta Creek, Kitchen Creek, and Cottonwood Creek results in an additional creek crossing. 	<ul style="list-style-type: none"> • Ranking = 3 • 8 watercourse crossings (natural washes) • La Posta Creek, Kitchen Creek, and Cottonwood Creek results in an additional creek crossing. • Underground segment not in a roadway. 	<ul style="list-style-type: none"> • Preferred • 9 watercourse crossings (natural washes) • La Posta Creek and Cottonwood Creek 	<ul style="list-style-type: none"> • Preferred • 9 watercourse crossings (natural washes) • La Posta Creek and Cottonwood Creek
Geology, Mineral Resources, and Soils	<ul style="list-style-type: none"> • Ranking = 2 • Construction could trigger or accelerate erosion and landslides. 	<ul style="list-style-type: none"> • Ranking = 4 • Greatest disturbance from trenching could trigger or accelerate erosion and landslides. 	<ul style="list-style-type: none"> • Preferred • Longer than Interstate 8 Alternative with more towers, but would require least grading for access roads and is on gentler terrain, which reduces the potential for triggering or accelerating erosion during construction. 	<ul style="list-style-type: none"> • Ranking = 3 • Construction could trigger or accelerate erosion and landslides and route is longest.
Socioeconomics, Public Services, and Utilities	<ul style="list-style-type: none"> • Preferred • Overhead construction has less potential to disturb underground utilities. 	<ul style="list-style-type: none"> • Ranking = 3 • Underground trenching uses most water for dust control and has greatest chance of disrupting existing underground utilities 	<ul style="list-style-type: none"> • Preferred • Overhead construction has less potential to disturb underground utilities 	<ul style="list-style-type: none"> • Ranking = 2 • Longer length increases use of water for dust control. • Parallels existing 69 kV line increasing chance of accidental utility disruptions.
Fire and Fuels Management	<ul style="list-style-type: none"> • Ranking = 2 • Overhead line creates obstacle to firefighting and increases probability of ignitions. 	<ul style="list-style-type: none"> • Preferred • Underground construction eliminates firefighting obstacles. 	<ul style="list-style-type: none"> • Ranking = 2 • Overhead line creates obstacle to firefighting and increases probability of ignitions. 	<ul style="list-style-type: none"> • Ranking = 2 • Overhead line creates obstacle to firefighting and increases probability of ignitions.

H.4.1.3 Interstate 8 Alternative vs. I-8 Alternative with Chocolate Canyon Option

The Chocolate Canyon Option was developed as part of the Interstate 8 Alternative to reduce visual impacts to residential areas along Chocolate Canyon in the area northwest of Alpine (around MP I8-79).

Summary of Impacts

The **Interstate 8 Alternative without Chocolate Canyon Option** (only MP I8-78.8 to MP I8-82.3) in this segment would have 16 significant (Class I) impacts to biological resources, visual resources, noise, air quality, and fire and fuels management (see Table H-17 above). Additionally, as addressed in Table H-20 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining 10 issue areas, which have been found to be less than significant following implementation of required mitigation.

The **Chocolate Canyon Option** would have 18 significant (Class I) impacts in biological resources, visual resources, wilderness and recreation, cultural resources, air quality, and fire and fuels management (see Table H-17). Additionally, as addressed in Table H-20 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining 10 issue areas, which have been found to be less than significant following implementation of required mitigation. The Chocolate Canyon Option would **reduce or eliminate** the following environmental impacts of greatest concern for the Interstate 8 Alternative:

- Moves route farther from residences thereby reducing impacts to sensitive land uses.
- Although still significant (Class I) the option moves the route lower on the slope reducing visual resources Impact V-66 (Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 53 on westbound Alpine Road).
- Utilizes existing access roads thus reducing ground disturbance and its associated impacts.

The **Chocolate Canyon Option** would **increase** the following environmental impacts of greatest concern for the Interstate 8 Alternative:

- The 4.1-mile route would be approximately one mile longer than the Interstate 8 Alternative.
- Creates a significant Class I impact (Impact V-73: Increased structure contrast, industrial character, structure prominence and view blockage associated with the Chocolate Canyon Option).

Conclusion

Table H-20 compares the Interstate 8 Alternative with the Chocolate Canyon Option for all environmental issue areas. The overall “area of comparison” would be MP I8-78.8 to MP I8-82.3. The Chocolate Canyon Option has been found to be environmentally superior over the Interstate 8 Alternative in this segment for the following reasons:

- Although the Chocolate Canyon Option would be approximately one mile longer, it would utilize existing access roads reducing ground disturbance overall.
- The option’s route would be located along the base of the slope along Chocolate Canyon (see Figure E.1.3-18) thereby reducing land use and significant visual resources impacts, as well as overhead obstacles to firefighting.

- The visual impacts of the option would be significant; however, the option is visually preferred over the I-8 Alternative segment because the option would follow Chocolate Canyon at a lower elevation and stay off the western ridgeline. Visibility of the route segment would be substantially reduced for travelers on I-8, residences off of Peutz Valley Road, and the numerous residences to the west of the I-8 Alternative route.
- The Chocolate Canyon Option’s transition towers on the south side of the I-8 Freeway would be less visible than those of the Interstate 8 Alternative, and the option’s structure prominence would be reduced because the lower elevation route would minimize structure skylining in general and eliminate structure skylining along the ridgeline west of Chocolate Canyon.

Table H-20. Comparison of the Interstate 8 Alternative to Interstate 8 Alternative with Chocolate Canyon Option

Issue Area	Interstate 8 Alternative	Interstate 8 Alternative with Chocolate Canyon Option
Mileposts of the I-8 Alternative Replaced/ Area of Comparison	N/A	MP 18-78.8 to MP 18-82.3
Biological Resources	<ul style="list-style-type: none"> • Ranking = 2 • Slightly greater Class I impacts to sensitive vegetation communities due to construction of new access roads along Chocolate Canyon. • Impacts to coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, arroyo toad, and golden eagle are expected to be similar between Chocolate Canyon and Interstate 8 Alternative. 	<ul style="list-style-type: none"> • Preferred • Although the Chocolate Canyon Option would require 11 additional towers be built, the amount of permanent impacts to sensitive vegetation communities (Class I) is expected to be less for Chocolate Canyon because access roads would be constructed along existing dirt roads. • Impacts to coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, arroyo toad, and golden eagle are expected to be similar.
Visual Resources	<ul style="list-style-type: none"> • Ranking = 2 • Increased structure contrast, industrial character, and view blockage when viewed from I-8, resulting in a significant (Class I) visual impact. 	<ul style="list-style-type: none"> • Preferred • Option follows Chocolate Canyon at a lower elevation and staying off the ridgeline to the west reducing visibility of the route for travelers on I-8, residences off of Peutz Valley Road, and the numerous residences to the west of the I 8 Alternative route. • Structure prominence would be reduced, because the lower elevation route would minimize structure skylining in general and eliminate structure skylining along the ridgeline west of Chocolate Canyon. • Mitigation Measure V-66a would move the proposed I-8 transition structures further to the northwest along the south side of Alpine Road and spanning I-8 to a new location slightly to the west of the currently proposed span location. The resulting visual impact of the transition structures, though still significant (Class I), would be less than the impact resulting from the I-8 location.
Land Use	<ul style="list-style-type: none"> • Ranking = 2 • Located closer to sensitive residential receptors. 	<ul style="list-style-type: none"> • Preferred • Route would be farther from residences of Peutz Valley Road and west of the I-8 Alternative route.
Wilderness and Recreation	<ul style="list-style-type: none"> • Preferred • No impact to recreation or wilderness areas. 	<ul style="list-style-type: none"> • Ranking = 2 • Route would be along the access road to El Capitan Reservoir and line would be closer to the reservoir.

Table H-20. Comparison of the Interstate 8 Alternative to Interstate 8 Alternative with Chocolate Canyon Option

Issue Area	Interstate 8 Alternative	Interstate 8 Alternative with Chocolate Canyon Option
Mileposts of the I-8 Alternative Replaced/ Area of Comparison	N/A	MP 18-78.8 to MP 18-82.3
Agricultural Resources	<ul style="list-style-type: none"> No Preference. No agricultural impacts. 	<ul style="list-style-type: none"> No Preference. No agricultural impacts.
Cultural Resources	<ul style="list-style-type: none"> Ranking = 2 Two cultural resources that are potentially eligible for CRHR/NRHP-listing (CA-SDI-17138, a bedrock milling site; CA-SDI-17139, a historical refuse scatter) are located within the study corridor. Route would be longer with increased disturbance and greater potential to encounter resources. 	<ul style="list-style-type: none"> Preferred 1 previously recorded prehistoric bedrock milling site that is potentially eligible for CRHR/NRHP-listing (CA-SDI-13614) is located within study corridor. No new access roads resulting in reduced ground disturbance.
Paleontological Resources	<ul style="list-style-type: none"> Ranking = 2 Zero to low potential to impact paleontologically sensitive geologic units. 	<ul style="list-style-type: none"> Preferred Zero to low potential to impact paleontologically sensitive geologic units. No new access roads resulting in reduced ground disturbance.
Noise	<ul style="list-style-type: none"> Ranking = 2 Corona noise would affect noise-sensitive receptors. 	<ul style="list-style-type: none"> Preferred Route would be farther from noise sensitive receptors.
Transportation and Traffic	<ul style="list-style-type: none"> Preferred Crosses local roadways. 	<ul style="list-style-type: none"> Ranking = 2 Crosses local roadways. Peutz Valley is used for helicopter low-level terrain-following training flights. Overhead line would potentially result in air traffic impacts to U.S. Navy air space for these training activities.
Environmental Contamination	<ul style="list-style-type: none"> Ranking = 2 Very low potential for existing soil contamination. 	<ul style="list-style-type: none"> Preferred Slightly less ground disturbance results in even less potential to encounter unknown contamination.
Air Quality	<ul style="list-style-type: none"> Ranking = 2 Construction activity generates dust and exhaust emissions. 	<ul style="list-style-type: none"> Preferred Slightly reduced construction activity due to use of existing access roads.
Water Resources	<ul style="list-style-type: none"> Ranking = 2 Ground disturbance and erosion could impact water quality. 	<ul style="list-style-type: none"> Preferred Reduced ground disturbance because uses existing access roads and construction would be on gentler slopes, which result in lesser erosion and chance of impacting water quality even though would be closer to El Capitan Reservoir.
Geology, Mineral Resources, and Soils	<ul style="list-style-type: none"> Ranking = 2 Greater potential to interfere with known mineral resources and/or trigger or accelerate erosion due to increased ground disturbance and construction higher on ridgeline. 	<ul style="list-style-type: none"> Preferred Slightly less potential to potentially interfere with known mineral resources and/or trigger or accelerate erosion due to reduced ground disturbance and construction on gentler slopes
Socioeconomics, Public Services, and Utilities	<ul style="list-style-type: none"> Ranking = 2 Construction of new access roads increases use of water for dust control. 	<ul style="list-style-type: none"> Preferred Slightly reduced disturbance reduces use of water for dust control.

Table H-20. Comparison of the Interstate 8 Alternative to Interstate 8 Alternative with Chocolate Canyon Option

Issue Area	Interstate 8 Alternative	Interstate 8 Alternative with Chocolate Canyon Option
Mileposts of the I-8 Alternative Replaced/ Area of Comparison	N/A	MP 18-78.8 to MP 18-82.3
Fire and Fuels Management	<ul style="list-style-type: none"> • Ranking = 2 • Overhead line higher on the ridgeline potentially would create aircraft obstacles to firefighting. 	<ul style="list-style-type: none"> • Preferred • Overhead line could create aircraft obstacles to firefighting, but would be at base of canyon reducing the impact.

H.4.1.4 Conclusion: Environmentally Superior Interstate 8 Alternative Route

The conclusions in Sections H.4.1.1 through H.4.1.3 for the five options to the Interstate 8 Alternative result in the environmentally superior Interstate 8 Alternative, which includes the following options:

- Campo North Option
- West Buckman Springs Option
- Chocolate Canyon Option

This Environmentally Superior Interstate 8 Alternative is compared to other SWPL Alternatives in the following sections to determine an Environmentally Superior SWPL Alternative (see Section H.4.5)

H.4.2 Interstate 8 Alternative vs. BCD Alternatives

H.4.2.1 Summary of Impacts

The preferred **Interstate 8 Alternative** in this segment, which includes Campo North Option and West of Buckman Springs Options (see Sections H.4.1.1 and H.4.1.2), would have 27 significant (Class I) impacts to biological resources, visual resources, wilderness and recreation, agricultural resources, cultural resources, noise, air quality, and fire and fuels management (see Table H-17 above). Additionally, as addressed in Table H-21 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining 9 issue areas, which have been found to be less than significant following implementation of required mitigation.

The **BCD Alternative** would have 24 significant (Class I) impacts in biological resources, visual resources, wilderness and recreation, agricultural resources, cultural resources, noise, air quality, and fire and fuels management (see Table H-17). Additionally, as addressed in Table H-21 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining seven issue areas, which have been found to be less than significant following implementation of required mitigation. The BCD Alternative would *reduce or eliminate* the following environmental impacts of greatest concern for the Interstate 8 Alternative:

- Both the BCD and Interstate 8 Alternatives would be prominently visible to their respective viewing populations and result in significant (Class I) visual impacts and inconsistencies with USFS Scenic Integrity Objectives and the BCD Alternative would also be inconsistent with BLM VRM Class II management objectives. However, The Interstate 8 Alternative would be seen by significantly more

viewers along I-8 corridor and crossing Cottonwood Valley. The BCD Alternative's more remote location would limit its visibility to a relatively few number of viewers compared to the number of viewers along I-8.

- Impacts only 5 residences, whereas the Interstate 8 Alternative would impact 33 residences.

The **BCD Alternative** would *increase* the following environmental impacts of greatest concern for the Interstate 8 Alternative:

- BCD Alternative is approximately one mile longer than the Interstate 8 Alternative, which creates greater ground disturbance, and would result in slightly greater impacts to sensitive vegetation communities (Impact B-1; Class I). This alternative would result in greater impacts to oak riparian forest than the Interstate 8 Alternative.
- Creates Class I impacts to Peninsular bighorn sheep (Impact B-7B) that are known to occur immediately east of the alternative in the In-Ko-Pah Mountains. The BCD corridor is approximately 400 feet from designated critical habitat for Peninsular bighorn sheep at its closest point (near MP BCD-6). This portion of the Interstate 8 Alternative would not result in any impacts to bighorn sheep.
- Results in greater Class I impacts golden eagles (Impact B-7H) because two nest locations would be impacted. One nest occurs less than 4,000 feet from the BCD Alternative, and there is direct line-of-site between this nest area and the project. The other nest golden eagle nest location around Buckman Springs would be the only eagle nest impacted by this portion of the Interstate 8 Alternative (Class I).
- Creates Class I impacts to recreational resources in the McCain Valley Resource Conservation Area. Similar to the Interstate 8 Alternative, would also impact the PCT (Class I).
- Impacts a greater number of cultural resources.
- Crosses through the middle of more Back Country Non-Motorized (BCNM) zone within CNF farther from the already disturbed I-8 and S1 corridors. Major utility corridors and roads are not suitable within this land use zone (see Section D.17 for more information on CNF land use zones).

The **BCD South Option** would have 17 significant (Class I) impacts in biological resources, visual resources, agricultural resources, cultural resources, noise, air quality, fire and fuels management (see Table H-17). Additionally, as addressed in Table H-21 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining nine issue areas, which have been found to be less than significant following implementation of required mitigation. The BCD South Option would *reduce or eliminate* the following environmental impacts of greatest concern for the Interstate 8 Alternative:

- Avoids crossing through the middle of the BCNM and it is considered environmentally preferred to the BCD Alternative.
- The portion of the option that would be the same as the BCD Alternative (MP BCD-0 to BCD-13.5) would be located in a more remote location, farther from residences.

The **BCD South Option** would *increase* the following environmental impacts of greatest concern for the Interstate 8 Alternative:

- See the impacts increased above under the BCD Alternative between MP BCD-0 to BCD-13.5.
- Longest overall route thereby increasing ground disturbance.

H.4.2.2 Conclusion: Interstate 8 Alternative vs. BCD Alternative

Table H-21 compares the Interstate 8 Alternative with the BCD Alternative and the BCD South Option for all environmental issue areas. The BCD Alternative would replace the portion of the Interstate 8 Alternative between MP I8-39.5 to MP 58 (18.5 miles) with a route that is one mile longer (19.5 miles long). The BCD South Option would diverge from the BCD Alternative at MP BCD-13.5 and would rejoin the Interstate 8 Alternative at MP I8-50 or would primarily be used to continue south to join the Modified Route D Alternative. The Interstate 8 Alternative with the Campo North and the West of Buckman Springs Options is found to be environmentally superior to the BCD Alternative for the following reasons:

- The BCD Alternative is approximately one mile longer than the Interstate 8 Alternative, which creates greater ground disturbance and associated impacts (e.g., slightly greater impacts to sensitive vegetation communities) .
- Greater length and disturbance also increases impacts to cultural resources.
- Though the BCD Alternative would pass by fewer sensitive receptors (residences), its more remote location near the In-Ko-Pah Mountains would create significant impacts to Peninsular bighorn sheep that would not occur with the Interstate 8 Alternative.
- The BCD Alternative would also affect one more golden eagle nest location than the Interstate 8 Alternative.
- The BCD Alternative crosses through more of the Back Country Non-Motorized (BCNM) land use zone within CNF, which would be farther from the already disturbed I-8 and S1 transportation corridors that the Interstate 8 Alternative would generally follow in this segment (even though the Interstate 8 alternative would also cross the BCNM zone). Major utility corridors and roads are not suitable within the BCNM land use zone (though a Plan Amendment could modify this inconsistency).

The BCD South Option diverges from the BCD Alternative at MP BCD-16 could join either the Interstate 8 Alternative or the Modified Route D Alternative. It is considered environmentally superior to the BCD Alternative it would replace for the following reasons:

- The BCD South Option would avoid crossing through an additional BCNM land use zone
- In combination with the BCD Alternative from MP BCD-0 to BCD-15, the BCD South Option would create a longer route with greater ground disturbance than the segment of the Interstate 8 Alternative that it would replace.
- With use of the BCD Alternative segment, this option would still have significant impacts to Peninsular bighorn sheep along the western edge of the Carrizo Gorge Wilderness.

The Interstate 8 Alternative would pass through reservation lands of the Campo and La Posta Bands of Kumeyaay Indians, and tribal lands would be avoided by the BCD Alternative with the BCD South Option. These tribes retain sovereign rights to determine whether they would negotiate easements for SDG&E to construct and operate transmission lines across their lands. In the absence of tribal easements, the Interstate 8 Alternative and the Campo North Option would not be feasible. While the environmental impacts of the Interstate 8 Alternative with the Campo North Option would be less than those of the BCD Alternative with the BCD South Option, the BCD Alternative with the BCD South Option is feasible and would connect to either the Interstate 8 Alternative or to the Modified Route D Alternative. Therefore, if the Interstate 8 Alternative with the Campo North Option is found to be infeasible, the BCD Alternative with the BCD South Option would meet project objectives and allow a SWPL Alternative to be successfully constructed.

Table H-21. Comparison of the Interstate 8 Alternative to BCD Alternative and BCD South Option

Issue Area	Interstate 8 Alternative with Campo North Option and West Buckman Springs Option	BCD Alternative	BCD Alternative with BCD South Option
Mileposts of the I-8 Alternative Replaced	N/A	MP 18-39.5 to MP 18-58	MP 18-39.5 to MP 18-51 (or would join the Buckman South Option at MP MRD-2.4)
Area of Comparison	MP 18-39.5 to MP 18-58	MP 18-39.5 to MP 18-58	MP 18-39.5 to MP 18-5858
Biological Resources	<ul style="list-style-type: none"> • Preferred • Class I impacts to sensitive vegetation communities • Class I impacts to golden eagle • No impact to Peninsular bighorn sheep • Class II direct impacts to arroyo toad breeding habitat; indirect impacts to toad upland habitat 	<ul style="list-style-type: none"> • Ranking = 2 • Slightly greater Class I impacts to sensitive vegetation communities • Greater Class I impacts to golden eagle (additional nest location would be impacted as compared to Interstate 8) • Creates Class I impact to Peninsular bighorn sheep • Class II indirect impacts to arroyo toad upland habitat (no direct impacts to breeding habitat) 	<ul style="list-style-type: none"> • Ranking = 3 • Greatest Class I impacts to sensitive vegetation communities due to longest length • Greater Class I impacts to golden eagle (additional nest location would be impacted as compared to Interstate 8) • Creates Class I impact to Peninsular bighorn sheep • Class II indirect impacts to arroyo toad upland habitat (no direct impacts to breeding habitat)
Visual Resources	<ul style="list-style-type: none"> • Ranking = 2 • Most visible of the three routes. • Route length similar to BCD Alternative but substantially shorter than any BCD South configuration. • Prominently visible to viewing populations along the I-8 Corridor and in Cottonwood Valley and recreationists on CNF. • Introduced structure contrast, industrial character, view block-age, and skylining would result in significant (Class I) visual impacts. • Results in inconsistencies with USFS Scenic Integrity Objectives. 	<ul style="list-style-type: none"> • Preferred • Least visible of the three routes. • Route length similar to I-8 with Campo North and West of Buckman Springs Option but substantially shorter than any BCD South configuration. • Avoids the highly visible I-8 segment from MP 18-40 to 18-58.5. • Prominently visible to viewing populations in McCain Valley and recreationists on CNF. • Results in inconsistencies with USFS Scenic Integrity Objectives. • Results in inconsistencies with BLM VRM Class II management objectives. • More remote location would limit its visibility to a relatively few number of viewers compared to the number of viewers along I 8. 	<ul style="list-style-type: none"> • Ranking = 3 • More visible than the BCD Alternative but less visible than the I-8 with Campo North and West of Buckman Springs configuration. • Route length longer than the other two route configurations. • Prominently visible to viewing populations in La Posta Valley and Cottonwood Valley (for West of Buckman Springs Option). • Prominently visible to viewing populations in La Posta Valley, Cameron Valley, and along South Buckman Springs Road (for South Buckman Springs Option). • Prominently visible to recreationists on CNF. • Results in inconsistencies with USFS Scenic Integrity Objectives. • Results in inconsistencies with BLM VRM Class II management objectives.

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H. COMPARISON OF ALTERNATIVES

Table H-21. Comparison of the Interstate 8 Alternative to BCD Alternative and BCD South Option

Issue Area	Interstate 8 Alternative with Campo North Option and West Buckman Springs Option	BCD Alternative	BCD Alternative with BCD South Option
Mileposts of the I-8 Alternative Replaced	N/A	MP 18-39.5 to MP 18-58	MP 18-39.5 to MP 18-51 (or would join the Buckman South Option at MP MRD-2.4)
Area of Comparison	MP 18-39.5 to MP 18-58	MP 18-39.5 to MP 18-58	MP 18-39.5 to MP 18-5858
Land Use	<ul style="list-style-type: none"> • Ranking = 2 for sensitive receptors; Preferred for crossing least BCNM land use zone area in CNF. • Passes within 1,000 feet of 1,258 residences. • Crosses through Back Country Non-Motorized (BCNM) land use zone within CNF. 	<ul style="list-style-type: none"> • Preferred for sensitive receptors; Ranking = 3 for crossing most BCNM land use zone area in CNF. • 5 rural residences impacts. • Crosses through middle of most BCNM land use zone within CNF. 	<ul style="list-style-type: none"> • Ranking = 3 for sensitive receptors; Preferred for crossing least BCNM land use zone in CNF. • Passes within 1,000 feet of 1,263 residences. • Avoids BCNM land use zone in CNF (eliminates impacts with use of Modified Route D Alternative; otherwise would be similar to Interstate 8 with West of Buckman Springs Alternative).
Wilderness and Recreation	<ul style="list-style-type: none"> • Preferred • Class I impacts to the recreational value of the PCT. • Class I impacts to Boulder Oaks Campground (along West of Buckman Springs Option). 	<ul style="list-style-type: none"> • Preferred • Class I impacts to the recreational value of the PCT. • Class I impacts to recreational resources in the McCain Valley Resource Conservation Area. 	<ul style="list-style-type: none"> • Ranking = 2 • Class I impacts to the recreational value of the PCT. • Class I impacts to recreational resources in the McCain Valley Resource Conservation Area (along BCD Alternative) and Boulder Oaks Campground (along West of Buckman Springs Option).
Agricultural Resources	<ul style="list-style-type: none"> • Ranking = 3 • DOC Farmland impacts (20.0 acres) • Active Agricultural Operations impacts (81.4 acres of grazing operations). • Williamson Act lands impacts (78.8 acres). 	<ul style="list-style-type: none"> • Preferred • Active Agricultural Operations impacts (9.9 acres). • Williamson Act lands impacts (112.2 acres). 	<ul style="list-style-type: none"> • Ranking = 2 • DOC Farmland impacts (20.0 acres) • Active Agricultural Operations impacts (65 acres). • Williamson Act lands impacts (135.2 acres).
Cultural Resources	<ul style="list-style-type: none"> • Preferred • Impacts to 16 low sensitivity cultural resources. 	<ul style="list-style-type: none"> • Ranking = 2 • Impacts to 21 low sensitivity cultural resources. 	<ul style="list-style-type: none"> • Ranking = 3 • Impacts to 1 high sensitivity cultural resource; 2 moderate sensitivity cultural resources; and 15 low sensitivity cultural resources. • Longest route with greatest ground disturbance and chance of encountering unknown resources.
Paleontological Resources	<ul style="list-style-type: none"> • Ranking = 3 • Zero to high potential to impact paleontologically sensitive geologic units. 	<ul style="list-style-type: none"> • Preferred • Marginal potential to impact paleontologically sensitive geologic units. 	<ul style="list-style-type: none"> • Ranking = 2 • Portion of the route along BCD would have a marginal potential to disturb paleontologically sensitive units and rest of the route would be zero to high.

Table H-21. Comparison of the Interstate 8 Alternative to BCD Alternative and BCD South Option

Issue Area	Interstate 8 Alternative with Campo North Option and West Buckman Springs Option	BCD Alternative	BCD Alternative with BCD South Option
Mileposts of the I-8 Alternative Replaced	N/A	MP 18-39.5 to MP 18-58	MP 18-39.5 to MP 18-51 (or would join the Buckman South Option at MP MRD-2.4)
Area of Comparison	MP 18-39.5 to MP 18-58	MP 18-39.5 to MP 18-58	MP 18-39.5 to MP 18-5858
Noise	<ul style="list-style-type: none"> • Ranking = 2 • Corona noise would affect substantially more sensitive receptors than the BCD Alternative. 	<ul style="list-style-type: none"> • Preferred • Corona noise would affect fewest noise-sensitive receptors. 	<ul style="list-style-type: none"> • Ranking = 3 • Corona noise would affect the most sensitive receptors.
Transportation and Traffic	<ul style="list-style-type: none"> • Ranking = 2 • Crosses over I-8 6 times, SR94, multiple local roadways. • May impact RxR and/or Airport. 	<ul style="list-style-type: none"> • Preferred • Crosses over 10 local roadways. • May impact RxR and/or Airport. 	<ul style="list-style-type: none"> • Ranking = 3 • Requires construction of a tower in Caltrans ROW on island between eastbound and westbound roadways on I-8, which may impact feasibility.
Environmental Contamination	<ul style="list-style-type: none"> • Preferred • Very low potential for existing or unanticipated soil contamination. 	<ul style="list-style-type: none"> • Ranking = 2 • Very low potential for existing or unanticipated soil contamination, but route would be one mile longer than Interstate 8 Alternative. 	<ul style="list-style-type: none"> • Ranking = 3 • Very low potential for existing or unanticipated soil contamination, but route would be longest.
Air Quality	<ul style="list-style-type: none"> • Preferred • Construction activity generates dust and exhaust emissions. 	<ul style="list-style-type: none"> • Ranking = 2 • Construction activity generates similar dust and exhaust emissions, but route would be one mile longer. 	<ul style="list-style-type: none"> • Ranking = 3 • Construction activity generates similar dust and exhaust emissions, but route would be longest.
Water Resources	<ul style="list-style-type: none"> • Preferred • 10 Watercourse crossings (natural washes) • Campo Creek, Miller Creek, La Posta Creek, and Kitchen Creek. 	<ul style="list-style-type: none"> • Ranking = 2 • 11 Watercourse crossings (natural washes) • Tule Creek, La Posta Creek, and Kitchen Creek. • This route is more mountainous. 	<ul style="list-style-type: none"> • Ranking = 3 • 3 Watercourse crossings (natural washes) • Tule Creek, La Posta Creek, Kitchen Creek, Antone Canyon. • This route is more mountainous and would be the longest route with the greatest ground disturbance.
Geology, Mineral Resources, and Soils	<ul style="list-style-type: none"> • Preferred • Construction could trigger or accelerate erosion and/or landslides. 	<ul style="list-style-type: none"> • Ranking = 2 • Construction could trigger or accelerate erosion and/or landslides and route would be longer and more mountainous. 	<ul style="list-style-type: none"> • Ranking = 3 • Longest route and mountainous, thus creating greatest potential for erosion and/or landslides.
Socioeconomics, Public Services, and Utilities	<ul style="list-style-type: none"> • Preferred • Slightly reduced disturbance reduces use of water for dust control; however, would be along I-8 with greater chance of encountering existing utilities. 	<ul style="list-style-type: none"> • Preferred • Longer route, but would be located in a more remote location where there is less of a chance of encountering existing utilities. 	<ul style="list-style-type: none"> • Ranking = 2 • Longest route and a portion of the route would be along the I-8 corridor where there is the potential for existing utilities that could be accidentally disrupted.

Table H-21. Comparison of the Interstate 8 Alternative to BCD Alternative and BCD South Option

Issue Area	Interstate 8 Alternative with Campo North Option and West Buckman Springs Option	BCD Alternative	BCD Alternative with BCD South Option
Mileposts of the I-8 Alternative Replaced	N/A	MP I8-39.5 to MP I8-58	MP I8-39.5 to MP I8-51 (or would join the Buckman South Option at MP MRD-2.4)
Area of Comparison	MP I8-39.5 to MP I8-58	MP I8-39.5 to MP I8-58	MP I8-39.5 to MP I8-5858
Fire and Fuels Management	<ul style="list-style-type: none"> • Preferred • Similar burn potential. • Overhead transmission line would potentially create an obstacle to firefighting and would increase the probability of a wildfire due to construction activities and line presence (Class I). 	<ul style="list-style-type: none"> • Ranking = 2 • Similar burn potential. • Route would be one mile longer than I-8 Alternative resulting in greater impacts to firefighting abilities and would increase the probability of a wildfire due to greater construction activities and duration (Class I). 	<ul style="list-style-type: none"> • Ranking = 3 • Similar burn potential. • Longest route would result in greatest impacts to firefighting abilities and would increase the probability of a wildfire due to greater construction activities and duration (Class I).

H.4.3 Comparison of Interstate 8 Alternative vs. Route D Alternative (North of I-8)

The Route D Alternative, originally developed by SDG&E as a route that would avoid ABDSP, would be a 500 kV alternative that would diverge from I-8 Alternative at MP I8-70.3 and would pass through the Boulder Creek Valley north of the town of Descanso. It would pass between the Cuyamaca Rancho State Park and the Capitan Grande Reservation.

The Route D Alternative would require use of the Central South Substation Alternative in order to convert from 500 kV to 230 kV. This substation would be located on private land at the north end of the Route D transmission line segment and along the Proposed Project's 230 kV segment, west of the crossing of the San Diego River gorge.

The Route D Alternative would be a 17.3-mile 500 kV alternative that would diverge from Interstate Alternative at MP I8-70.3 and would join the Proposed Project at MP 113.5 at the Central South Substation site. An additional 17.5 miles of the Proposed Project's 230 kV segment (from MP 113.5 to MP 131) would also be required in order to reach the point where the Interstate 8 Alternative would connect to the Proposed Project. Therefore, the Route D Alternative would require a total of 34.8 miles of new transmission line to replace 22.5 miles of the Interstate 8 Alternative.

The Interstate 8 Alternative would rejoin the Proposed Project at MP 131 of the proposed route, requiring 22.5 miles of new transmission between MP I8-70.3 and MP I8-92.8 (MP 131 of the Proposed Project).

H.4.3.1 Summary of Impacts

The preferred **Interstate 8 Alternative** from MP I8-70 to I8-92.7 (including the Chocolate Canyon Option (see Section H.4.1.3), would have 26 significant (Class I) impacts to biological resources, visual resources, wilderness and recreation, cultural resources, noise, air quality, and fire and fuels management (see Table H-17 above). Additionally, as addressed in Table H-22 below, there would be Class II (significant; can be mitigated to a less than significant level) and a number of Class III (adverse, less than significant) impacts in the remaining 9 issue areas, which have been found to be less than significant following implementation of required mitigation. Use of the Route D Alternative would also include

construction of the environmentally preferred Proposed Project between MP 113.5 and MP 131, which includes use of the Oak Hollow Road Underground Alternative and the Chuck Wagon Road Alternative.

The **Route D Alternative (North of I-8)** would have 18 significant (Class I) impacts in biological resources, visual resources, wilderness and recreation, agricultural resources, cultural resources, noise, air quality, and fire and fuels management (see Table H-17). Additionally, as addressed in Table H-22 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining seven issue areas, which have been found to be less than significant following implementation of required mitigation. The Route D Alternative (North of I-8) would *reduce or eliminate* the following environmental impacts of greatest concern for the Interstate 8 Alternative:

- Eliminates significant (Class I) preclusion impacts to the Blossom Valley Hang Gliding and Paragliding site and would affect less recreation areas than the Interstate 8 Alternative segment that it would replace, even though Impact WR-2 (Presence of a transmission line or substation would permanently change the character of a recreation area, diminishing its recreational value) would be significant for both routes.
- Avoids underground construction in Alpine Boulevard, which is a congested roadway.

The **Route D Alternative (North of I-8)** would *increase* the following environmental impacts of greatest concern for the Interstate 8 Alternative:

- The Route D Alternative would be 12.3 miles longer than the portion of the Interstate 8 Alternative that it would replace and would result in greater impacts to sensitive vegetation communities than the Interstate 8 Alternative (although both would result in significant impacts to sensitive vegetation).
- Results in significant impacts to golden eagles at two nesting locations. The equivalent segment of the Interstate 8 Alternative would result in significant impacts to golden eagles at one nesting location.
- The Route D Alternative would affect nearly more 10 miles of additional Forest System lands as compared with the Interstate 8 Alternative segment it would replace, and create an inconsistency with USFS Scenic Integrity Objectives in this additional segment.
- The Route D Alternative would be located within a predominantly undeveloped landscape of high preservation value to the National Forest, and would include a crossing of the upper San Diego River Canyon. It would also be visible from Cuyamaca Peak. Therefore, the visual impact associated with the Route D Alternative is considered greater than the visual impact associated with the equivalent segment of the Interstate 8 Alternative.
- Creates new significant unmitigable visual impact (Impact V-78: Inconsistency with USFS Scenic Integrity Objective due to introduction of structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 64 on Boulder Creek Road).
- Route D Alternative would potentially impact a greater number of cultural resources.
- Results in a much longer route through Back Country Non Motorized (BCNM) zone within CNF. Major utility corridors and roads are not suitable within this land use zone (see Section D.17 for more information on CNF land use zones).

H.4.3.2 Conclusion: Interstate 8 Alternative vs. Route D Alternative

Table H-22 compares the Interstate 8 Alternative with the Route D Alternative for all environmental issue areas. The Route D Alternative would replace the portion of the Interstate 8 Alternative between MP I8-70.3 to I8-92.7 (MP 131 of the Proposed Project). In order to compare Route D to the Interstate 8 Alternative, Route D would be used in conjunction with the environmentally superior transmission line route segment of the Proposed Project between the Central South Substation (MP 113.5 of the Proposed Project) and MP 131, which includes incorporation of the environmentally preferred Chuck Wagon Road route segment alternative. The Route D Alternative would have greater environmental impacts, and the Interstate 8 Alternative with the Chocolate Canyon Option has been found to be environmentally superior in this segment for the following reasons:

- Because of its greater length and remote location, the Route D Alternative would have greater impacts to sensitive vegetation communities, jurisdictional habitats, arroyo toads, and golden eagles.
- The Route D Alternative (with the required segment of the Proposed Project) would be 12.3 miles longer than the portion of the Interstate 8 Alternative that it would replace and would result in substantially greater ground disturbance and associated impacts.
- The Route D Alternative would also have an additional 8 miles of aboveground 500 kV line in comparison to the Interstate 8 Alternative segment it would replace, which would have substantially larger structures with considerably more industrial character than a 230 kV line.
- Inconsistency with USFS Scenic Integrity Objectives would create a new significant visual impact and the route would potentially impact a greater number of cultural resources.
- The Route D Alternative would result in a much longer route through Back Country Non Motorized (BCNM) zone within CNF and it would pass through a Designated Roadless Area. Major utility corridors and roads are not suitable within the BCNM land use zone and significant permitting delays could occur to address these inconsistencies within CNF.

Table H-22. Comparison of the Interstate 8 Alternative to Route D Alternative

Issue Area	Interstate 8 Alternative (with Chocolate Canyon Option; MP I8-70 to I8-92.7)	Route D Alternative (plus Proposed Project from MP 113.5 to MP 131)
Mileposts of the I-8 Alternative Replaced/ Area of Comparison	N/A	MP I8-70.3 to MP I8-92.8 and the I-8 Substation site (Route D would use Central South Substation site)
Biological Resources	<ul style="list-style-type: none"> • Preferred • Class I impacts to sensitive vegetation communities • Class II impacts to jurisdictional habitats • Class I impacts to golden eagle (1 nest location) • Class II impacts to arroyo toads 	<ul style="list-style-type: none"> • Ranking = 2 • Greater Class I impacts to sensitive vegetation communities (12.3-mile-longer route) • Greater Class II impacts to jurisdictional habitats • Greater Class I impacts to golden eagle (2 nest locations) • Greater Class II impacts to arroyo toads

Table H-22. Comparison of the Interstate 8 Alternative to Route D Alternative

Issue Area	Interstate 8 Alternative (with Chocolate Canyon Option; MP I8-70 to I8-92.7)	Route D Alternative (plus Proposed Project from MP 113.5 to MP 131)
Mileposts of the I-8 Alternative Replaced/ Area of Comparison	N/A	MP I8-70.3 to MP I8-92.8 and the I-8 Substation site (Route D would use Central South Substation site)
Visual Resources	<ul style="list-style-type: none"> • Preferred • 17.8 miles of aboveground 230 kV transmission line and 9 miles underground. • 230 kV structures are substantially smaller and less prominent compared to 500 kV structures. • Introduced structure contrast, industrial character, view blockage, and skylining, resulting in significant (Class I) visual impacts. • Landscapes crossed would be suburban and rural. 	<ul style="list-style-type: none"> • Ranking = 2 • 17 miles of aboveground 500 kV transmission line. • Introduced structure contrast, industrial character, view blockage, and skylining, resulting in significant (Class I) visual impacts. • Landscapes crossed would be predominantly undeveloped and natural appearing with the exception of a few, isolated rural residences. • Would be inconsistent with USFS Scenic Integrity Objectives.
Land Use	<ul style="list-style-type: none"> • Ranking = 2 for sensitive receptors; Preferred for crossing less BCNM land use zone area in CNF. • Impacts: 4 community uses; 2 educational uses; 3 religious uses • 1,235 residences impacts. • Commercial/office and industrial use 	<ul style="list-style-type: none"> • Preferred for sensitive receptors; Ranking = 2 for BCNM land in CNF • 5 rural residences impacts, plus residences along the proposed route (portions of the Inland Valley Link, Chuck Wagon Alternative and Oak Hollow Underground Alternative), which would be a fewer number of overall sensitive receptors • Crosses much more BCNM land use zone in CNF where utility corridors and roads are not suitable.
Wilderness and Recreation	<ul style="list-style-type: none"> • Ranking = 2 • Class I impacts to the recreational value of the Trans-County Trail and 6 other recreation areas • Class I preclusion impacts to the Blossom Valley HG/PG site 	<ul style="list-style-type: none"> • Preferred • Class I impacts to the recreational value of the Trans-County Trail and 2 other recreation areas • Crosses much more BCNM zone within CNF where major utility corridors and roads are not suitable.
Agricultural Resources	<ul style="list-style-type: none"> • Preferred • Active Agricultural Operations impacts (53.8 acres) • Williamson Act lands impacts (0.03 acres) 	<ul style="list-style-type: none"> • Ranking = 2 • Active Agricultural Operations impacts (199.5 acres) • Williamson Act lands impacts (22.2 acres)
Cultural Resources	<ul style="list-style-type: none"> • Preferred • Impacts to 3 cultural resources of moderate sensitivity • Impacts to 26 cultural resources of low sensitivity 	<ul style="list-style-type: none"> • Ranking = 2 • Impacts to 12 cultural resources of moderate sensitivity • Impacts to 48 cultural resources of low sensitivity
Paleontological Resources	<ul style="list-style-type: none"> • Ranking = 2 • Zero to high potential to impact paleontologically sensitive geologic units 	<ul style="list-style-type: none"> • Preferred • Zero to low potential to impact paleontologically sensitive geologic units despite increased ground disturbance
Noise	<ul style="list-style-type: none"> • Ranking = 2 • Corona noise would affect additional noise-sensitive receptors 	<ul style="list-style-type: none"> • Preferred • Corona noise would affect fewer noise-sensitive receptors.
Transportation and Traffic	<ul style="list-style-type: none"> • Ranking = 2 • Crosses over I-8 multiple times, SR79, and multiple local roadways • Would include undergrounding the transmission line in Alpine Boulevard. 	<ul style="list-style-type: none"> • Preferred • Crosses 3 forest roads and 4 local roadways along Route D, plus impacts of the Proposed Project • Underground construction along Inland Valley Link of proposed route (including Chuck Wagon and Oak Hollow Road Underground Alternatives).

Table H-22. Comparison of the Interstate 8 Alternative to Route D Alternative

Issue Area	Interstate 8 Alternative (with Chocolate Canyon Option; MP I8-70 to I8-92.7)	Route D Alternative (plus Proposed Project from MP 113.5 to MP 131)
Mileposts of the I-8 Alternative Replaced/ Area of Comparison	N/A	MP I8-70.3 to MP I8-92.8 and the I-8 Substation site (Route D would use Central South Substation site)
Environmental Contamination	<ul style="list-style-type: none"> • Preferred • Potential for existing or unanticipated soil contamination 	<ul style="list-style-type: none"> • Ranking = 2 • Greater potential for unanticipated soil contamination due to substantially longer route.
Air Quality	<ul style="list-style-type: none"> • Preferred • Construction activity generates dust and exhaust emissions 	<ul style="list-style-type: none"> • Ranking = 2 • Construction activity generates greater levels of dust and exhaust emissions for additional corridor length
Water Resources	<ul style="list-style-type: none"> • Preferred • 28 Watercourse Crossings (Natural Washes) • San Diego River and San Vicente Creek • Power Line is underground and in roadway from MP I8-71.4 to I8-79.2. 	<ul style="list-style-type: none"> • Ranking = 2 • 22 Watercourse Crossings (Natural Washes) • Viejas Creek, King Creek, Conejos Creek, Boulder Creek, Ritchie Creek and San Diego River
Geology, Mineral Resources, and Soils	<ul style="list-style-type: none"> • Ranking = 2 • Construction activities would interfere with access to known mineral resources because the route crosses the northern edges of two adjacent quarries located between MP I8-89.5 and I8-90.5 (Class II). 	<ul style="list-style-type: none"> • Preferred • Longer length would result in additional erosion potential, but route would not potentially impact quarry operations.
Socioeconomics, Public Services, and Utilities	<ul style="list-style-type: none"> • Preferred • Overhead and underground construction could accidentally disrupt existing utilities and would require water for dust control and concrete production. 	<ul style="list-style-type: none"> • Ranking = 2 • 12.3 additional miles of overhead and underground transmission line, which increases the potential to disrupt existing utilities and requires more services and water during construction.
Fire and Fuels Management	<ul style="list-style-type: none"> • Preferred • Overhead transmission line would potentially create an obstacle to firefighting and would increase the probability of a wildfire due to construction activities and line presence. 	<ul style="list-style-type: none"> • Ranking = 2 • Additional length of overhead transmission corridor would increase the obstacles to firefighting and the probability of a wildfire.

H.4.4 Comparison of Preferred Interstate 8 Alternative with Interstate 8 Substation vs. Modified Route D Alternative with Modified Route D Substation and Star Valley Option

The Modified Route D Alternative would replace the Interstate 8 Alternative between MP I8-47 and I8-71 (a 24-mile segment). The Modified Route D Alternative would add 13 miles to the length of the Interstate 8 Alternative. However, even with this additional length, the Interstate 8 Alternative with the Modified Route D segment would still be 25 miles shorter than the portion of the Proposed Project it would replace.

The 3.2-mile Star Valley Option would replace the last 1.5 miles of the Modified Route D Alternative, exiting the Modified Route D Alternative Substation to the west-northwest rather than to the north. This option would be an overhead double-circuit 230 kV transmission line, heading west and northwest for 2.2 miles, then north for approximately 0.3 miles to meet Star Valley Road, 0.7 miles east of I-8 Exit

33 for Willows Road. On the southwest side of the bend in Star Valley Road, the route would transition underground and continue north to Alpine Boulevard, joining the Interstate 8 Alternative at MP I8-73.6.

Instead of building and connecting into the Modified Route D Substation, another option for the Modified Route D Alternative's connection to the Proposed Project would be to remain at 500 kV, cross Interstate 8 and connect with the Route D Alternative, continuing north through the Boulder Creek area to the new Central South Substation Alternative. However, the Route D Alternative is not found to be environmentally superior (see Section H.4.3) and so this option has not been considered further for comparison.

H.4.4.1 Summary of Impacts

The **Environmentally Superior Interstate 8 Alternative** in this area of comparison, which includes the West of Buckman Springs Option (see Section H.4.1.2), would have 30 significant (Class I) impacts in biological resources, visual resources, wilderness and recreation, cultural resources, noise, air quality, fire and fuels management (see Table H-17 above). Additionally, as addressed in Table H-23 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining 8 issue areas, which have been found to be less than significant following implementation of required mitigation.

The **Modified Route D Alternative with Modified Route D Substation** would have 26 significant (Class I) impacts in biological resources, visual resources, wilderness and recreation, cultural resources, noise, air quality, and fire and fuels management (see Table H-17). Additionally, as addressed in Table H-23 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining seven issue areas, which have been found to be less than significant following implementation of required mitigation. The Modified Route D Alternative with Modified Route D Substation would *reduce or eliminate* the following environmental impacts of greatest concern for the Interstate 8 Alternative with the West of Buckman Springs Option:

- With a total route length of 36.3 miles, the Modified Route D Alternative would be 13 miles longer than the equivalent Interstate 8 Alternative/West Buckman segment. However, much of the Modified Route D Alternative (approximately 16 miles) would have very limited public visibility because of the remoteness of several route segments. Specifically, from MP MRD--0.5 to approximately MRD-5.5, the Modified Route D Alternative would have very limited public visibility aside from the span over La Posta Road. Also, the 11-mile southern east-west segment from MP MRD-10 to MRD-21 would pass through rugged backcountry with substantially fewer viewers and limited points of visual access. Only 18 of the route's 36.3 miles of transmission line would be moderately to highly visible to rural residences, South Buckman Springs Road, Lyons Valley Road, and Japatul Road. The 2.3 miles north of the Modified Route D Alternative substation site would be highly visible within the I-8 corridor.
- The Modified Route D Alternative would also pass primarily through Back Country Motorized Use Restricted and Developed Area Interface land use zones within CNF (see Figure D.17-2 which shows Forest Land Use Zones). It was originally suggested by CNF, because it would be more consistent with the Forest's Land Management Plan and would cross through more compatible land use zones within CNF, while also avoiding the more restrictive designations (Back Country and Back Country Non-Motorized Land Use Zones), which are inconsistent with the presence of a transmission line and would require amendment to the Forest's Land Management Plan for approval of a transmission line.

- The Modified Route D Alternative would avoid the central segment of the Interstate 8 Alternative with West of Buckman Springs Option that passes through the scenic Cottonwood Valley along I-8, though Visual Resources Mitigation Measure V-69a would reduce the mileage through Cottonwood Valley by approximately two miles.
- With a total of approximately 15 route miles passing through Cleveland National Forest, the Modified Route D would result in four fewer miles of inconsistency with the Forest's HIGH Scenic Integrity Objective (compared to 19 miles of HIGH SIO inconsistency for the I-8/West Buckman route combination).
- Frequent wildfire ignitions occur along the I-8 corridor, because it is a major transportation route. Due to the steep terrain, ignitions have the tendency to spread quickly into major events. The I-8 Alternative would place a firefighting obstacle in a critical tactical firefighting area.

The **Modified Route D Alternative with Modified Route D Substation** would *increase* the following environmental impacts of greatest concern for the Interstate 8 Alternative with the West of Buckman Springs Option:

- Adds 13 miles to the length of the Interstate 8 Alternative thereby increasing ground disturbance and associated affects and would result in an additional 13 miles of significant (Class I) visual impact compared to the Interstate 8 Alternative with the West of Buckman Springs Option (though as discussed above, the Modified Route D Alternative would actually be less visible compared to I-8 with West Buckman Springs).
- Results in greater impacts to sensitive vegetation communities (Impact B-1) than the Interstate 8 Alternative (both would result in Class I impacts to sensitive vegetation).
- The Modified Route D Alternative would result in Class I impacts to golden eagles (Impact B-7H) at two nesting locations and a Class III impact at another additional nest location. The Interstate 8 Alternative would result in Class I impacts to golden eagles at one nesting location.
- Results in greater impacts to least Bell's vireo (Impact B-7D) as compared to the Interstate 8 Alternative.
- Modified Route D Substation would be more visible compared to the Interstate 8 Alternative Substation.
- The Modified Route D Alternative would be more visible to rural residences compared to the I-8 Alternative, primarily along the route segments defined by MP MRD-5.5 to MRD-11, MP MRD-21 to MRD-23, and MP MRD-30 to MRD-34.
- With a total of approximately 10.5 route miles passing through public lands administered by the Bureau of Land Management, the Modified Route D would result in 10.5 miles more of inconsistency with BLM's VRM Class III management objective (compared to 0 miles of BLM VRM inconsistency for the I-8/West Buckman route combination).
- Passes a greater number of sensitive receptors.

The **Modified Route D Alternative with Modified Route D Substation with the Star Valley Option** would create one additional significant (Class I) visual impact and would eliminate four significant (Class I) cultural resources impacts in the portion of the Modified Route D Alternative it would replace (see Table H-17). Additionally, as addressed in Table H-23 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts, which have been found to be less than significant following implementation of required mitigation. The

Modified Route D Alternative with Modified Route D Substation with the Star Valley Option would **reduce or eliminate** the following environmental impacts of greatest concern for the Interstate 8 Alternative with the West of Buckman Springs Option:

- See the impacts reduced above under the Modified Route D Alternative with Modified Route D Substation (without the Star Valley Option).
- Reduces the length of underground construction in Alpine Boulevard, which is a main road in Alpine that has utility congestion in the roadway, and would thus reduce ground disturbance.
- Avoids major cultural resources of concern of an archaeological site known to contain human remains (CA-SDI-6706) (along the Interstate 8 Alternative in Alpine Boulevard).
- The Star Valley Option would substantially reduce the visibility of the structurally complex and industrial appearing transition structures by relocating the structures out of the highly traveled and highly exposed I-8 corridor to the southern vicinity of Star Valley Road.

The **Modified Route D Alternative with Modified Route D Substation with the Star Valley Option** would **increase** the following environmental impacts of greatest concern for the Interstate 8 Alternative with the West of Buckman Springs Option:

- See the impacts increased above under the Modified Route D Alternative with Modified Route D Substation (without the Star Valley Option).
- The Star Valley Option would be more visible to residences compared to the I-8 Alternative with the West of Buckman Springs Option (assuming implementation of Visual Resources Mitigation Measure V-66a, otherwise, the visibility to residences would be similar).

H.4.4.2 Conclusion: Interstate 8 Alternative vs. Modified Route D Alternative

Table H-23 compares the Environmentally Superior Interstate 8 Alternative with the Modified Route D Alternative with Modified Route D Substation with and without the Star Valley Option for all environmental issue areas. The “area of comparison” would replace the Interstate 8 Alternative between MP I8-47 and I8-73.6. The Modified Route D Alternative without the Star Valley Option would follow the Interstate 8 Alternative between MP I8-71 and MP I8-73.6 to the point where the Star Valley Option would rejoin the route.

The Modified Route D Alternative with Modified Route D Substation with the Star Valley Option is found to be environmentally superior in this segment for the following reasons:

- The Modified Route D Alternative would avoid the more restrictive Forest land use zone designations (Back Country and Back Country Non-Motorized Land Use Zones), which are inconsistent with the presence of a transmission line. The Interstate 8 Alternative with West of Buckman Springs Option would pass through the BCNM and Back Country land use zones.
- The Modified Route D Alternative is located farther from the I-8 Freeway, so is preferred from a fire and fuels management perspective over the Interstate 8 Alternative. The I-8 corridor has a high rate of ignitions and steep terrain, and presence of a transmission line near the freeway would create a significant obstacle to firefighting in a critical tactical firefighting area and during the important initial stage of a fire.
- Although longer than the Interstate 8 Alternative it would replace, the Modified Route D Alternative with the 3.2-mile Star Valley Option would reduce the amount of undergrounding required in Alpine Boulevard. This would minimize traffic and utility impacts, and would avoid a major cultural resources site of concern that is located at the eastern end of Alpine Boulevard.

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- The Star Valley Option would also move the transition structure for the underground segment to a less visible location (from adjacent to the I-8 Freeway to along Star Valley Road).

Table H-23. Comparison of the Interstate 8 Alternative to Modified Route D Alternative

Issue Area	Interstate 8 Alternative with West of Buckman Springs Option	Modified Route D Alternative with Modified Route D Substation AND Star Valley Option	Modified Route D Alternative with Modified Route D Substation WITHOUT Star Valley Option
Mileposts of the I-8 Alternative Replaced	N/A	MP 18-47 and 18-73.6 (Star Valley Option between MP MD-34.1 and MP 18-73.6)	MP 18-17 to MP 18-71
Area of Comparison	MP 18-47 to 18-73.6	MP 18-47 to 18-73.6	MP 18-47 to 18-73.6
Biological Resources	<ul style="list-style-type: none"> • Preferred • 25.7 miles long [2.5 miles are underground in a road] • 1 southwestern willow flycatcher (WIFL) migrant [potential noise impact] • 1 arroyo toad (ARTO) location [direct impact to breeding and upland habitat] • 2 ARTO assumed present locations [not likely present but upland impacts would occur if present] • 1 golden eagle nest site (Class I) • No quino checkerspot butterflies (QCB) in vicinity (> 3 miles away) • Orcutt's brodiaea at substation site 	<ul style="list-style-type: none"> • Ranking = 2 • 37.1 miles long (36.8 overhead and 0.3 is underground in a road) • 1 least Bell's vireo (LBVI) location (minor [if any] direct impacts from access road); noise impacts if construction during breeding season • 1 LBVI migrant (assumed not to breed in alignment – no impacts to habitat would occur) • 1 LBVI assumed present (survey not completed – noise impacts only) • 1 WIFL assumed present (survey not completed – noise impacts only) • 1 ARTO known location (not surveyed) – upland impacts only • 1 ARTO assumed present (survey not completed, not likely present – upland impacts only) • 2 golden eagle nest sites (Class I) • QCB locations documented within 1 and 2 miles of the alternative • 4 Hermes copper locations 	<ul style="list-style-type: none"> • Ranking = 3 • 38.8 miles long (36.3 overhead and 2.5 miles underground) • 1 least Bell's vireo (LBVI) location (minor [if any] direct impacts from access road) • 1 LBVI migrant (assumed not to breed in alignment – no impacts to habitat would occur) • 1 ARTO known location (not surveyed) – upland impacts only • 2 golden eagle nest sites (Class I) • QCB locations documented within 1 and 2 miles of the alternative • Greater access road impacts and 3 additional pull sites • 4 Hermes copper locations

Table H-23. Comparison of the Interstate 8 Alternative to Modified Route D Alternative

Issue Area	Interstate 8 Alternative with West of Buckman Springs Option	Modified Route D Alternative with Modified Route D Substation <u>AND</u> Star Valley Option	Modified Route D Alternative with Modified Route D Substation <u>WITHOUT</u> Star Valley Option
Mileposts of the I-8 Alternative Replaced	N/A	MP 18-47 and 18-73.6 (Star Valley Option between MP MD-34.1 and MP 18-73.6)	MP 18-17 to MP 18-71
Area of Comparison	MP 18-47 to 18-73.6	MP 18-47 to 18-73.6	MP 18-47 to 18-73.6
	<ul style="list-style-type: none"> • Ranking = 3 (assumes implementation of Mitigation Measure V-69a reroute) • Would be substantially more visible to greater numbers of people along the highly traveled I-8 corridor. • Creates significant impacts in Cottonwood Valley area, but would avoid significant visual impacts to Cameron, Lion's and Japatul Valleys • Greatest number of viewers, consisting primarily of travelers on I-8. • Transition structure along I-8/Alpine Boulevard would be highly visible (assumes implementation of Mitigation Measure V-66a). 	<ul style="list-style-type: none"> • Preferred • Would be substantially less visible to the public due to remoteness of several route segments. • Avoids Cottonwood Valley and crossing of I-8 but would create significant impacts in Cameron, Lyon's, and Japatul Valleys. • Fewer viewers, especially along southern portion of the route where there would be limited visibility and line would be farther from I-8. • Would result in four fewer miles of inconsistency with CNF HIGH Scenic Integrity Objective. • Would result in an additional 13 miles of significant (Class I) visual impact. • Substation would be more visible compared to I-8 substation. • Would be more visible to rural residences. • Would result in 10.5 miles of inconsistency with BLM's VRM Class III management objective. • Star Valley Option would substantially reduce the visibility of the structurally complex and industrial appearing transition structures by relocating them out of the I-8 corridor. • The Star Valley Option would be more visible to residences (about 12) compared to the I-8 Alternative (assuming implementation of Mitigation Measure V-66a). 	<ul style="list-style-type: none"> • Ranking = 2 • Would be substantially less visible to the public due to remoteness of several route segments. • Avoids Cottonwood Valley and crossing of I-8 but would create significant impacts in Cameron, Lyons, and Japatul Valleys. • Fewer viewers, especially along southern portion of the route where there would be limited visibility and line would be farther from I-8. • Would result in four fewer miles of inconsistency with CNF HIGH Scenic Integrity Objective. • Would result in an additional 13 miles of significant (Class I) visual impact. • Substation would be more visible compared to I-8 substation. • Would be more visible to rural residences. • Would result in 10.5 miles of inconsistency with BLM's VRM Class III management objective. • Transition structure along I-8/Alpine Boulevard would be highly visible.

Sunrise Powerlink Transmission Line Project
H. COMPARISON OF ALTERNATIVES

Table H-23. Comparison of the Interstate 8 Alternative to Modified Route D Alternative

Issue Area	Interstate 8 Alternative with West of Buckman Springs Option	Modified Route D Alternative with Modified Route D Substation AND Star Valley Option	Modified Route D Alternative with Modified Route D Substation WITHOUT Star Valley Option
Mileposts of the I-8 Alternative Replaced	N/A	MP I8-47 and I8-73.6 (Star Valley Option between MP MD-34.1 and MP I8-73.6)	MP I8-17 to MP I8-71
Area of Comparison	MP I8-47 to I8-73.6	MP I8-47 to I8-73.6	MP I8-47 to I8-73.6
Land Use	<ul style="list-style-type: none"> • Preferred for sensitive receptors; Ranking = 3 for BCNM land within CNF • Route would be shortest and would pass fewer sensitive receptors. • Passes a total of 80 sensitive receptors, 65 receptors of which are located from MP I8-71 to I8-73.6 along Alpine Boulevard. • Crosses much more BCNM zone within CNF where major utility corridors and roads are not suitable. 	<ul style="list-style-type: none"> • Ranking = 2 based on sensitive receptors; Preferred for avoidance of BCNM land within CNF • Longer route and a greater number of sensitive receptors. • Passes a total of 97 sensitive receptors. • Star Valley Option would pass 15 receptors and would avoid 65 sensitive receptors along Alpine Blvd. • BCNM land use zone within CNF would be avoided. 	<ul style="list-style-type: none"> • Ranking = 3 • Longer route and a greater number of sensitive receptors. • Passes a total of 147 sensitive receptors. • Would pass 65 receptors along Alpine Boulevard (MP I8-71 to MP I8-73.6) that would be avoided with the Star Valley Option. • BCNM land use zone within CNF would be avoided.
Wilderness and Recreation	<ul style="list-style-type: none"> • Ranking = 3 • Would pass through BCNM land use zones within CNF. • Class I impacts to the recreational value of the PCT and Boulder Oaks Campground • Route is most developed 	<ul style="list-style-type: none"> • Slightly Preferred • SVO would eliminate impacts to ma-Tar-Awa RV Park and Viejas Casino. • Class I impacts to the recreational value of the PCT, Hauser Wilderness, Hauser Mountain WSA, and would jeopardize listing of future wilderness expansion area 	<ul style="list-style-type: none"> • Ranking = 2 • Class I impacts to the recreational value of the PCT, Hauser Wilderness, Hauser Mountain WSA, and would jeopardize listing of future wilderness expansion area
Agricultural Resources	<ul style="list-style-type: none"> • Preferred • DOC Farmland impacts (20.0 acres) • Active Agricultural Operations impacts (80.3 acres of grazing operations) • Williamson Act lands impacts (109.9 acres) 	<ul style="list-style-type: none"> • Ranking = 3 • DOC Farmland impacts (35.0 acres) • Active Agricultural Operations impacts (521.8 acres of grazing and orchard land) • Williamson Act lands impacts (415.7 acres) • Impacts additional 1.1 acres of Active Agricultural land (orchard) with use of the Star Valley Option. 	<ul style="list-style-type: none"> • Ranking = 2 • DOC Farmland impacts (35.0 acres) • Active Agricultural Operations impacts (520.7 acres of grazing land) • Williamson Act lands impacts (415.7 acres)

Table H-23. Comparison of the Interstate 8 Alternative to Modified Route D Alternative

Issue Area	Interstate 8 Alternative with West of Buckman Springs Option	Modified Route D Alternative with Modified Route D Substation <u>AND</u> Star Valley Option	Modified Route D Alternative with Modified Route D Substation <u>WITHOUT</u> Star Valley Option
Mileposts of the I-8 Alternative Replaced	N/A	MP I8-47 and I8-73.6 (Star Valley Option between MP MD-34.1 and MP I8-73.6)	MP I8-17 to MP I8-71
Area of Comparison	MP I8-47 to I8-73.6	MP I8-47 to I8-73.6	MP I8-47 to I8-73.6
Cultural Resources	<ul style="list-style-type: none"> • Ranking = 2 • Impacts to 18 cultural resources (2 resources of high sensitivity; 6 resources of moderate sensitivity; 8 resources of low sensitivity; and 2 resources of no sensitivity), including one archaeological site known to contain human remains (CA-SDI-6706) would be adversely affected by construction (Class I). • Shortest route with least ground disturbance. 	<ul style="list-style-type: none"> • Preferred • Impacts to 22 cultural resources (10 resources of moderate sensitivity; 8 resources of low sensitivity; 1 resource of unknown sensitivity; and 3 of no sensitivity) • Longer route with a few more resources, but would avoid major cultural resources site of concern. 	<ul style="list-style-type: none"> • Ranking = 3 • Impacts the same 22 resources as with the Star Valley Option, plus one archaeological site known to contain human remains (CA-SDI-6706) would be adversely affected by construction (Class I). • Longer route than the Interstate 8 Alternative and thus greater potential to encounter resources and impacts most total resources (23 total).
Paleontological Resources	<ul style="list-style-type: none"> • Ranking = 2 • Zero to high potential to impact paleontologically sensitive geologic units. 	<ul style="list-style-type: none"> • Preferred • Zero to low potential to impact paleontologically sensitive geologic units. • No geologic units with high potential to impact paleontological resources. 	<ul style="list-style-type: none"> • Preferred • Zero to low potential to impact paleontologically sensitive geologic units. • No geologic units with high potential to impact paleontological resources.
Noise	<ul style="list-style-type: none"> • Preferred • Route would be shortest and would pass the fewest sensitive receptors. 	<ul style="list-style-type: none"> • Ranking = 2 • Longer route and a greater number of sensitive receptors than the Interstate 8 Alternative. 	<ul style="list-style-type: none"> • Ranking = 3 • Longer route and a passes the greater number of sensitive receptors, although many of the residences would be along Alpine Boulevard where the line would installed underground and there would be no operational corona noise.
Transportation and Traffic	<ul style="list-style-type: none"> • Ranking = 3 • Would result in 2 additional crossings of I-8 and a crossing of SR79 	<ul style="list-style-type: none"> • Preferred • Eliminates 2 crossings of I-8 (would cross I-8 once along West of Buckman Springs Option) • Use of Star Valley Option, which reduces underground construction in Alpine Boulevard would reduce associated traffic impacts 	<ul style="list-style-type: none"> • Ranking = 2 • Eliminates 2 crossings of I-8 (would cross I-8 once along West of Buckman Springs Option) • Would have more undergrounding in busy Alpine Boulevard than with the Star Valley Option.
Public Health and Safety	<ul style="list-style-type: none"> • Preferred • Construction could encounter unknown contamination 	<ul style="list-style-type: none"> • Ranking = 2 • Chance of encountering contamination would be greater due to substantially longer route than the Interstate 8 Alternative. 	<ul style="list-style-type: none"> • Ranking = 3 • Chance of encountering contamination would be greatest due to longest route and more underground trenching in a developed area/roadway than with the Star Valley Option.

Sunrise Powerlink Transmission Line Project
H. COMPARISON OF ALTERNATIVES

Table H-23. Comparison of the Interstate 8 Alternative to Modified Route D Alternative

Issue Area	Interstate 8 Alternative with West of Buckman Springs Option	Modified Route D Alternative with Modified Route D Substation <u>AND</u> Star Valley Option	Modified Route D Alternative with Modified Route D Substation <u>WITHOUT</u> Star Valley Option
Mileposts of the I-8 Alternative Replaced	N/A	MP I8-47 and I8-73.6 (Star Valley Option between MP MD-34.1 and MP I8-73.6)	MP I8-17 to MP I8-71
Area of Comparison	MP I8-47 to I8-73.6	MP I8-47 to I8-73.6	MP I8-47 to I8-73.6
Air Quality	<ul style="list-style-type: none"> • Preferred • Construction activity generates dust and exhaust emissions. 	<ul style="list-style-type: none"> • Ranking = 2 • Longer route would generate greater dust and exhaust emissions, but use of Star Valley Option would reduce underground trenching. 	<ul style="list-style-type: none"> • Ranking = 3 • Longest route and more underground than with the Star Valley Option would generate greatest dust and exhaust emissions.
Water Resources	<ul style="list-style-type: none"> • Preferred • Shortest route with least ground disturbance. 	<ul style="list-style-type: none"> • Ranking = 2 • Longer route with greater ground disturbance. • Use of the Star Valley Option would not make a difference because most of the undergrounding would be in existing roadways 	<ul style="list-style-type: none"> • Ranking = 2 • Longer route with greater ground disturbance. • Use of the Star Valley Option would not make a difference because most of the undergrounding would be in existing roadways
Geology, Mineral Resources, and Soils	<ul style="list-style-type: none"> • Preferred • Construction could trigger or accelerate erosion and/or landslides 	<ul style="list-style-type: none"> • Ranking = 2 • Construction could trigger or accelerate erosion and/or landslides and route would be substantially longer. 	<ul style="list-style-type: none"> • Ranking = 3 • Construction could trigger or accelerate erosion and/or landslides and route would be longest with more underground construction.
Socioeconomics, Public Services, and Utilities	<ul style="list-style-type: none"> • Preferred • Overhead and underground construction could potentially disrupt existing utilities, but route would be 13 miles shorter than the Modified Route D Alternative. 	<ul style="list-style-type: none"> • Ranking = 2 • Longer route, which increases chance of disrupting existing utilities and requires more public services, but would reducing undergrounding with Star Valley Option. 	<ul style="list-style-type: none"> • Ranking = 3 • Longest route with longer underground portion in Alpine Boulevard without Star Valley Option results in greatest chance of disrupting existing utilities and requires most public services, such as water for dust control.
Fire and Fuels Management	<ul style="list-style-type: none"> • Ranking = 2 • Class I impacts from new firefighting obstacle and increased probability of ignitions. • Creates significant obstacle in critical tactical firefighting area along I-8 corridor where there is a high frequency of ignitions. 	<ul style="list-style-type: none"> • Preferred • Class I impacts from new firefighting obstacle and increased probability of ignitions. • Although longer and more prone to burning than along I-8, route remains farther from I-8 corridor where there is a high frequency of ignitions and a line would create a long-term obstacle to firefighting. 	<ul style="list-style-type: none"> • Preferred • Class I impacts from new firefighting obstacle and increased probability of ignitions. • Although longer and more prone to burning than along I-8, route remains farther from I-8 corridor where there is a high frequency of ignitions and a line would create a long-term obstacle to firefighting.

H.4.5 Conclusion: Environmentally Superior SWPL Alternative

The conclusions in Sections H.4.1 through H.4.4 for various SWPL alternatives and options result in the identification of the combination route that is CPUC's Environmentally Superior SWPL alternative for the southern transmission line route. It would primarily utilize the Interstate 8 Alternative and would incorporate the following segment option/alternatives:

- Interstate 8 Alternative from Imperial Valley Substation to MP I8-49, just east of the La Posta Reservation, with Campo North Option. If the Campo North Option is determined to be infeasible, the BCD Alternative with the BCD South Option would be constructed to replace the Interstate 8 Alternative from MP I8-40 to MP I8-51.
- Modified Route D Alternative beginning at its eastern connection with the Interstate 8 Alternative (MP I8-51) with the Modified Route D Alternative Substation and the Star Valley Option, reconnecting to the Interstate 8 Alternative at MP I8-74.
- Interstate 8 Alternative underground in Alpine Boulevard
- Chocolate Canyon Option (replacing Interstate 8 Alternative from MP I8-78.5 to MP I8-82)
- Interstate 8 Alternative from end of Chocolate Canyon Option to MP 131 of the Proposed Project
- Environmentally Superior Transmission Line Route Segment Alternative (as defined in Section H.3.7) for the Proposed Project from MP 131 to its termination at the Sycamore Canyon Substation (MP 136.3)
- Coastal Link Upgrades Alternative (see Section H.3)

The Environmentally Superior SWPL transmission line route is illustrated in Figure H-2.

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Figure H-2. Environmentally Superior SWPL Alternative
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H.5 Comparison of LEAPS System Alternatives with the Environmentally Superior Alternative for the Proposed Project Route and the Environmentally Superior SWPL Alternative

Section E.7 presents the impact analysis of the two Lake Elsinore Advanced Pumped Storage (LEAPS) alternatives: a Transmission-Only alternative and a transmission and generation alternative. The Nevada Hydro Company proposes to build the Lake Elsinore Advanced Pumped Storage (LEAPS) Project, which would include a new 32-mile 500 kV new transmission line between the proposed Lake and Pendleton Substations (the proposed Lake-Pendleton transmission line) and add an additional 230 kV circuit on 48 miles of existing 230 kV transmission towers between the existing Talega and Escondido Substations (the existing Talega-Escondido transmission line). The LEAPS Transmission-Only Alternative would traverse Riverside County, Cleveland National Forest (Trabuco Ranger District) and northern San Diego County, including Marine Corps Base Camp Pendleton (MCBCP).

In addition to the transmission components listed above, the generation component of LEAPS Generation and Transmission Alternative facilities would include construction of a Lake Elsinore lower reservoir, a Decker Canyon upper reservoir, the Santa Rosa Powerhouse, and water/power conduits between Lake Elsinore and the Decker Canyon area including power shafts, power tunnel, penstocks, and tailrace tunnels.

This section describes the advantages and disadvantages of the LEAPS Transmission-Only Alternative and the LEAPS Generation and Transmission Alternative and will compare the environmentally superior LEAPS alternative to the previously defined superior transmission route alternatives to determine the overall environmentally preferred transmission line route alternative:

- Environmentally Superior Route Segment Alternative for the Proposed Project (see Section H.2.7)
- Environmentally Superior SWPL Alternative (see Section H.4.5)

H.5.1 LEAPS Transmission And Generation vs. LEAPS Transmission-Only Alternatives

The **LEAPS Generation and Transmission Alternative** would have 41 significant (Class I) impacts in biological resources, visual resources, land use, wilderness and recreation, cultural resources, noise, air quality, water resources, geology, mineral resources and soils, socioeconomics, public services and utilities, and fire and fuels management (see Table H-24). The **LEAPS Transmission-Only Alternative** would have 27 significant (Class I) impacts in biological resources, visual resources, wilderness and recreation, cultural resources, noise, air quality, and fire and fuels management (see Table H-24). Additionally, as addressed in Table H-25 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining issue areas, which have been found to be less than significant following implementation of required mitigation. It should be noted that if one of the LEAPS Alternatives are constructed, in the absence of a new transmission line from Imperial Valley to the San Diego load center, the connected actions for the Proposed Project, which are described in Section B, would not likely be built.

The **LEAPS Generation and Transmission Alternative** would have substantially greater environmental impacts than the LEAPS Transmission-Only Alternative, including the following:

- Scope and duration of construction (4 years) would be much greater with the generation component.
- Results in residential and/or business displacement from powerhouse facilities, creating Class I impacts to Land Use and Socioeconomics in the event of lost business revenues.
- Generation component creates Class I impacts to Wilderness and Recreation from loss of public access to 100+ acres of USFS land.
- Generation component would occur within 1,000 feet of ~ 30 residences and a school (Butterfield Elementary School)
- Operation of the pumped storage generator would require off-peak power to pump water to the reservoir, thus indirectly resulting in power plant emissions even though the LEAPS generators would create no direct emissions (Class I).
- Generation component involves substantial alteration of the surface and possibly groundwater resources at the site (Class I).
- Tailrace structure for the powerhouse crosses the Willard fault and creates a significant (Class I) impact.
- Seismic event would create a significant (Class I) impact on project construction activities and infrastructure.
- Because the proposed upper reservoir sites are located at the headwaters of San Juan Creek, roughly coincident with the drainage divide between that watershed and that of Lake Elsinore, a dam failure could discharge water into San Juan Creek, and a dike failure could discharge water toward Lake Elsinore potentially resulting in loss of life (Class I).

Conclusion Regarding LEAPS Alternatives

None of the impacts listed above would occur with the **LEAPS Transmission-Only Alternative**; it would have fewer impacts than the LEAPS Generation and Transmission Alternative. Therefore, only the LEAPS Transmission-Only Alternative is considered further in comparison to other alternatives in the following sections.

H.5.2 Summary of Impacts of Transmission Alternatives

Significant and unmitigable (Class I) impacts of the Environmentally Superior Route Segment Alternative for the Proposed Project and Class I impacts either created or eliminated by each transmission alternative are listed in Table H-24.

The Environmentally Superior Route Segment Alternative of the Proposed Project would have 38 significant (Class I) impacts to biological resources, visual resources, wilderness and recreation, agricultural resources, cultural resources, noise, air quality, socioeconomics, public services, and utilities, and fire and fuels management (see Table H-17 above).

The Environmentally Superior SWPL Alternative would have 32 significant (Class I) impacts to biological resources, visual resources, wilderness and recreation, agricultural resources, cultural resources, noise, air quality, and fire and fuels management (see Table H-17 above). Additionally, as addressed in Table H-25 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining issue areas, which have been found to be less than significant following implementation of required mitigation.

The **LEAPS Transmission-Only Alternative** would *eliminate* all unmitigable and mitigable significant impacts of the superior Proposed Project and the superior SWPL Alternative, as well as all impacts of the connected actions since the projects would not likely occur without construction of a new transmission line from Imperial Valley. However, 27 new similar significant (Class I) impacts would be created (in a different project area) for the LEAPS alternative.

The **LEAPS Transmission-Only Alternative** would *increase* the following environmental impacts of greatest concern for the Proposed Project:

- Several miles of Talega-Escondido alignment pass through industrial/commercial areas in Escondido with numerous hazardous material sites and many sites with known contamination.
- May result in residential and/or business displacement, creating Class I impacts to Land Use as well as Socioeconomics in the event of lost business revenues.
- Inconsistency with USFS Scenic Integrity Objectives due to the introduction of transmission line structure contrast, industrial character, view blockage, skylining, and unnatural vegetative clearing (Class I).

H.5.3 Conclusion Regarding Environmentally Superior Transmission Alternative

Table H-25 compares the Environmentally Superior Route Segment Alternative for the Proposed Project (see Section H.3.7) with the Environmentally Superior SWPL Alternative (see Section H.4.5), LEAPS Generation and Transmission Alternative, and the LEAPS Transmission-Only Alternative for all environmental issue areas. Following is a summary of key points in the comparison of transmission alternatives.

The LEAPS Transmission-Only Alternative has been found to be the Overall Environmentally Superior Transmission Line Route Alternative due to its substantially shorter length and reduced environmental impacts (see Figure H-3). It should be noted that it would meet most project objectives and would allow importation of renewable generation into the San Diego area, which is what is required under CEQA/NEPA; however, it would not directly access renewable resources in the Imperial Valley without the construction of additional transmission lines to the north. This alternative would:

- Requires a total of 39.6 miles of new transmission construction (31.8 miles of new 500 kV transmission line and 7.8 miles of new 69 kV in the existing Talega-Escondido corridor) plus 51 miles of 230 kV upgrades in the existing Talega-Escondido corridor.
- Require nearly 100 miles less new transmission line construction than the Environmentally Superior Route Segment Alternative for the Proposed Project (138 miles), and about 60 miles less than the Environmentally Superior SWPL Alternative (110 miles long).
- Have the least ground disturbance (due to substantially shorter length), so it would be most preferred for biological resources, cultural resources, air quality, water resources, geologic resources, and public services and utilities.
- Be preferred for visual resources, agricultural resources, transportation and traffic, and fire and fuel management. It would only have 2 miles of transmission line in an area of significant conflict where the location of overhead obstacles are correlated to areas of high fire risk.
- Eliminates all impacts of the connected actions since the projects would not likely occur without construction of a new transmission line from Imperial Valley.

The Superior SWPL Alternative is found to have overall fewer impacts than the Environmentally Superior Proposed Project Route Segment Alternative. Major factors in comparison of these two alternatives are the following:

- The Superior SWPL Alternative would not directly impact State-Designated Wilderness.
- The shorter length and reduced ground disturbance of the superior SWPL Alternative (110 miles as compared to 138 miles for the superior northern route) results in reduced impacts in the areas of biological resources, geology, mineral resources, and soils, air quality, public health and safety, transportation and traffic, and socioeconomics, public services and utilities.
- Because the Environmentally Superior Route Segment Alternative of the Proposed Project includes several underground segments (both through ABDSP and east of the Park through the San Felipe and Santa Ysabel Valleys), the visual impacts of this alternative would be largely similar to the Environmentally Superior SWPL Alternative.
- When also considering the Future Transmission System Expansion 230 kV and 500 kV lines that would begin at San Felipe Substation and would likely be routed through ABDSP, the Superior Route Segment Alternative of the Proposed Project is less preferred for visual resources and would potentially directly impact State-Designated Wilderness (with significant impacts similar to the Proposed Project). If future 230 kV lines cannot be installed underground in roadways, this preferred northern transmission route would thus overall be less preferred than the preferred route for the SWPL Alternatives.
- The superior SWPL Alternative would also avoid five cultural resources sites with potential to disturb human remains so is preferred for this issue area over the superior Proposed Project (northern) alternative.

Comparative fire risk for the Superior Proposed Project Alternative and the Superior SWPL Alternative is as follows:

- The Superior SWPL route would have almost 20 more miles of overhead transmission lines, which would create firefighting obstacles and would increase the probability of ignitions, but the portion of the Superior SWPL route within a high fire risk area would be in an area of fewer assets at risk.
- The overall mileage of significant conflict which correlates overhead obstacles with fire risk (11 miles) would be greatest for the superior SWPL route, whereas the overhead portion of the superior Proposed Project route in the Ramona and Poway firesheds would contribute to 8.5 total miles of significant conflict.

Ranking of Overall Transmission Alternatives. Therefore, the overall environmental ranking of the transmission alternatives from most environmentally superior to least environmentally superior is as follows:

1. LEAPS Transmission-Only Alternative
2. Environmentally Superior SWPL Alternative
3. Environmentally Superior Route Segment Alternative for the Proposed Project
4. LEAPS Generation and Transmission Alternative.

Table H-24. Summary of Significant Unmitigable (Class I) Impacts for Environmentally Superior Alternative Along Proposed Project Route, SWPL Route, and LEAPS Transmission-Only Alternative

Alternative	Significant Impacts (Class I)
Environmentally Superior Route Segment Alternative for the Proposed Project	See Table H-17 for a list of Significant and Unmitigable (Class I) impacts of the Environmentally Superior Route Segment Alternative of the Proposed Project
Environmentally Superior SWPL Alternative	<p>B-1 Temporary and permanent losses of native vegetation</p> <p>B-5 Direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants</p> <p>B-7 Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for</p> <p>B-7A Direct or indirect loss of Flat-Tailed horned lizard or direct loss of habitat</p> <p>B-7B Direct or indirect loss of Peninsular bighorn sheep or direct loss of habitat</p> <p>B-7H Direct or indirect loss of golden eagle or direct loss of habitat</p> <p>B-7J Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat</p> <p>B-7O Direct or indirect loss of barefoot banded gecko or direct loss of habitat</p> <p>B-10 Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species</p> <p>B-12 Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality (Class I for Peninsular bighorn sheep)</p> <p>V-71 Increased structure contrast, industrial character, structure prominence and view blockage when viewed from Key Viewpoint 58 on eastbound I-8</p> <p>V-73 Increased structure contrast, industrial character, structure prominence and view blockage associated with the Chocolate Canyon Option</p> <p>V-86 Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 70 on Star Valley Road</p> <p>WR-2 Presence of a transmission line or substation would permanently change the character of a recreation area, diminishing its recreational value</p> <p>WR-3 Presence of the transmission line would permanently preclude recreational activities</p> <p>AG-2 Operation would permanently convert DOC Farmland to non-agricultural use</p> <p>AG-3 Operation would permanently interfere with Active Agricultural Operations</p> <p>AG-4 Operation would permanently convert Williamson Act lands to non-agricultural use</p> <p>C-1 Construction would cause an adverse change to known historic properties</p> <p>C-2 Construction would cause an adverse change to sites known to contain Native American human remains</p> <p>C-3 Construction would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains</p> <p>C-4 Construction would cause an adverse change to Traditional Cultural Properties</p> <p>C-5 Project operation and maintenance would cause an adverse change to known historic properties</p> <p>C-6 Long-term presence of the project would cause an adverse change to known historic architectural (built environment) resources</p> <p>N-1 Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances</p> <p>N-3 Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components</p> <p>N-4 Routine inspection and maintenance activities would increase ambient noise levels</p> <p>AQ-1 Construction would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants</p> <p>AQ-4 Project activities would cause a net increase of greenhouse gas emissions</p> <p>F-1: Construction and/or maintenance activities would significantly increase the probability of a wildfire.</p> <p>F-2: Presence of the overhead transmission line would significantly increase the probability of a wildfire.</p> <p>F-3 Presence of the overhead transmission line would reduce the effectiveness of firefighting.</p>

Table H-24. Summary of Significant Unmitigable (Class I) Impacts for Environmentally Superior Alternative Along Proposed Project Route, SWPL Route, and LEAPS Transmission-Only Alternative

Alternative	Significant Impacts (Class I)
Environmentally Superior SWPL Alternative	<p><i>Eliminates</i> V-5, V-6, V-16, V-21, V-22, V-24, V-37, V-45, WR-1, G-5, S-1.</p> <p><i>Creates (see also above)</i></p> <p>V-71 Increased structure contrast, industrial character, structure prominence and view blockage when viewed from Key Viewpoint 58 on eastbound I-8</p> <p>V-73 Increased structure contrast, industrial character, structure prominence and view blockage associated with the Chocolate Canyon Option</p> <p>V-86 Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 70 on Star Valley Road</p> <p>WR-3 Presence of the transmission line would permanently preclude recreational activities</p> <p>C-5 Project operation and maintenance would cause an adverse change to known historic properties</p>
Class I Impacts Eliminated or Created by LEAPS Alternatives	
LEAPS Transmission-Only Alternative	<p><i>Class I Impacts Similar to the Environmentally Superior Proposed Project Route</i> B-1, B-5, B-7, B-7H, B-7J, B-10, WR-2, C-3, C-4, N-1, N-3, N-4, AQ-1, AQ-4, S-1, F-1, F-2, F-3.</p> <p><i>Eliminates impacts of the Environmentally Superior Proposed Project Route</i> B-7A, B-7B, B-7O, B-12, V-5, V-6, V-16, V-21, V-22, V-24, V-37, V-45, WR-1, AG-2, AG-3, AG-4, C-1, C-2, C-6, G-5, S-1.</p> <p><i>Eliminates impacts of the Environmentally Superior SWPL Alternative</i> B-7A, B-7B, B-7O, V-71, V-73, V-86, AG-2, AG-3, AG-4, C-1, C-2, C-5, C-6.</p> <p><i>Creates</i></p> <p>B-9 Adverse Effects to Linkages or Wildlife Movement Corridors, the Movement of Fish, and/or Native Wildlife Nursery Sites</p> <p>V-S-1 Long-term visibility of land scars in arid and semi-arid landscapes (Class I for CNF land and Class II for other lands)</p> <p>V-S-2 Introduction of substation and transmission line structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint L1, on DePalma Frontage Road and Southbound Interstate 15</p> <p>V-S-3 Introduction of structure contrast and industrial character associated with the Lake-Pendleton 500 kV transmission line, when viewed from Key Viewpoint L2 on Lake Elsinore and I-15</p> <p>V-S-4 Inconsistency with USFS Scenic Integrity Objective due to the introduction of transmission line structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint L3, southbound on South Main Divide Road</p> <p>V-S-5 Inconsistency with USFS Scenic Integrity Objective due to the introduction of transmission line structure contrast, industrial character, view blockage, skylining, and unnatural vegetative clearing when viewed from Key Viewpoint L4, northbound on South Main Divide Road</p> <p>V-S-6 Inconsistency with USFS Scenic Integrity Objective due to the introduction of transmission line structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint L5, on Ortega Highway</p> <p>V-S-7 Inconsistency with USFS Scenic Integrity Objective due to the introduction of transmission line structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint L6, on Hombre Lane in La Cresta Subdivision</p> <p>WR-3 Presence of a transmission line would permanently preclude recreational activities</p>

Table H-24. Summary of Significant Unmitigable (Class I) Impacts for Environmentally Superior Alternative Along Proposed Project Route, SWPL Route, and LEAPS Transmission-Only Alternative

Alternative	Significant Impacts (Class I)
LEAPS Generation and Transmission Alternative	<p><i>Eliminates impacts of the Environmentally Superior Proposed Project Route</i> B-7A, B-7B, B-7O, B-12, V-5, V-6, V-16, V-21, V-22, V-24, V-37, V-45, WR-1, WR-4 AG-2, AG-3, AG-4, G-5.</p> <p><i>Eliminates impacts of the Environmentally Superior SWPL Alternative</i> B-7A, B-7B, B-7O, V-71, V-73, V-86, AG-2, AG-3, AG-4.</p> <p><i>Creates <u>in addition</u> to those impacts listed above under the LEAPS Transmission-Only Alternative</i></p> <p>V-S-11 Construction of reservoir and associated facilities on National Forest System lands would cause medium-term visibility of construction activities, equipment, and night lighting and an increase in industrial character</p> <p>V-S-13 Introduction of structure contrast and industrial character associated with the Santa Rosa Powerhouse and aboveground Midpoint Substation, when viewed from Key Viewpoint L9 on Grand Avenue</p> <p>V-S-14 Inconsistency with USFS Scenic Integrity Objective due to long-term visibility of a non-natural landscape feature (reservoir facilities) from Key Viewpoints L3 and L4 on South Main Divide Road and from Key Viewpoint L5, Ortega Highway</p> <p>L-2 Presence of a transmission line or substation would disrupt land uses at or near the alignment</p> <p>C-1 Construction of the project would cause an adverse change to known historic properties</p> <p>C-5 Project operation and maintenance would cause an adverse change to known historic properties</p> <p>AQ-3: Power generated during transmission line operation would cause emissions from power plants</p> <p>H-9 Project construction or operation would potentially impact local water supply.</p> <p>H-11 Project reservoir would capture runoff</p> <p>H-12 Project operations could impact the quantity and quality of groundwater recharge</p> <p>H-15 Project operations could result in dam or dike breach and a consequent loss of human life</p> <p>G-4 Project structures could be damaged by seismically induced groundshaking and/or ground failure exposing people or structures to substantial adverse effects</p> <p>G-7 Project would expose people or structures to potential substantial adverse effects as a result of landslides, earthflows, debris flows, and/or rockfall</p> <p>S-1 Project construction and/or transmission line presence would cause a substantial change in revenue for businesses, tribes, or governments</p>

Note: No Class I impacts would occur in any of the following issue areas for any alternative: Public Health/Safety-Contamination, Transportation/Traffic.

Sunrise Powerlink Transmission Line Project
H. COMPARISON OF ALTERNATIVES

Table H-25. Comparison of Transmission Alternatives

Issue Area	Environmentally Superior Route Segment Alternative for the Proposed Project	Environmentally Superior SWPL Alternative	LEAPS Generation and Transmission Alternative	LEAPS Transmission-Only Alternative
Biological Resources	<ul style="list-style-type: none"> • Ranking = 4 • 138.8 miles long (85.2 overhead and 53.6 miles underground) with most potential to impact sensitive vegetation • Flat-Tailed horned lizard (FTHL) Management Area = 25.9 miles • Peninsular bighorn sheep (PBS) Critical Habitat = 16.2 miles • Least Bell's vireo (LBVI) noise impacts to at least 19 locations • Southwestern willow flycatcher (WIFL) noise impacts possible near Critical Habitat along S2; at least 24 migrants observed in multiple locations along SR78 and S2 within ROW • Arroyo toad (ARTO), LBVI, WIFL assumed present in Santa Ysabel & underground impacts to riparian habitat • LBVI, WIFL assumed present near underground portion of Chuck Wagon with potential noise impacts • Golden eagle (Class I) impact to one pair; Class II impacts to two pairs • Burrowing owl (BUOW) impacts to 2 breeding pairs along FTHL Alternative and 2 other BUOW locations along West Main Canal Alternative • Stephens' kangaroo rat (SKR) permanent and temporary impacts to at least 11 occupied habitat polygons • Barefoot banded gecko assumed present • Potential for western yellow-billed cuckoo noise impacts along S2. 	<ul style="list-style-type: none"> • Ranking = 3 • 110.0 miles long (104.1 overhead and 5.9 miles underground) • FTHL Management Area = 7.0 miles • PBS Critical Habitat = 9.7 miles • QCB Critical Habitat = 4.0 miles; QCB locations documented within 1 and 2 miles • 1 LBVI location (minor [if any] direct impacts from access road); noise impacts if construction during breeding season • 1 LBVI migrant (assumed not to breed in alignment – no impacts to habitat would occur) • 1 LBVI and 1 WIFL assumed present (noise impacts only) • 1 ARTO known location (upland impacts only) and 2 ARTO assumed present (not likely present – upland impacts only) • 3 golden eagle nest sites (all Class I impacts) • 4 Hermes copper locations • California gnatcatcher (CAGN) Critical Habitat = 0.2 miles • CAGN assumed present in 2 locations (not likely present) • Barefoot banded gecko assumed present. 	<ul style="list-style-type: none"> • Ranking = 2 • Identical to LEAPS Transmission-Only Alternative, except an additional 2 miles of ground disturbance for underground construction and associated impacts would occur. • More potential habitat for SKR at staging areas 	<ul style="list-style-type: none"> • Preferred • 39.5 miles of new transmission line (47 miles of adding an additional line to existing poles) • Quino checkerspot butterfly (QCB) Critical Habitat impacts to 8 acres – all surveys were negative • LBVI – observed at 1 location – noise impacts only • LBVI – assumed present along San Luis Rey (Critical Habitat) – noise impacts only • WIFL – assumed present along San Luis Rey (Critical Habitat) – noise impacts only • ARTO – present at 3 locations (upland impacts only) and assumed present along San Luis Rey (upland impacts only) • 1 (minimum) golden eagle nest site (Class I) • CAGN Critical Habitat – impacts to 8 acres along 500 kV line and to 13.3 miles along Talega-Escondido line • CAGN – present at 2 locations (noise impacts only) • SKR – assumed present in 58 acres of habitat and at Pendleton Substation • Riverside Fairy Shrimp – potential to occur in road pools and at Camp Pendleton • Munz's onion – close to ROW but not expected to be impacted

Table H-25. Comparison of Transmission Alternatives

Issue Area	Environmentally Superior Route Segment Alternative for the Proposed Project	Environmentally Superior SWPL Alternative	LEAPS Generation and Transmission Alternative	LEAPS Transmission-Only Alternative
Visual Resources	<ul style="list-style-type: none"> • Ranking = 4 • Future transmission system expansion from San Felipe Substation through ABDSP would create the most severe and geographically extensive Class I visual impacts of all alternatives. • Most underground construction, which eliminates operational visual impacts. • Greatest impacts to BLM lands in Imperial County and along SR78 east of ABDSP to San Felipe Substation (Class I) • Significant impacts from San Felipe Substation, which creates a large industrial structure near the eastern Park boundary. • Largely similar significant (Class I) visual impacts to the preferred SWPL Alternative, but shifted locations. 	<ul style="list-style-type: none"> • Ranking = 3 • Prominently visible along I-8. • Inconsistency with USFS Scenic Integrity Objectives and BLM VRM Class Objectives due to the introduction of transmission line structure contrast, industrial character, view blockage, skylining, and unnatural vegetative clearing (Class I) • Largely similar significant (Class I) visual impacts to the preferred proposed route, but shifted locations. 	<ul style="list-style-type: none"> • Ranking = 2 • Inconsistency with USFS Scenic Integrity Objectives due to the introduction of transmission line structure contrast, industrial character, view blockage, skylining, and unnatural vegetative clearing, and reservoir/generation facilities (Class I) • Shortest 500 kV route and located in most remote location with least viewers. • 230 kV upgrades would occur within an existing corridor. • Introduction of structure contrast and industrial character associated with the Santa Rosa Powerhouse and aboveground Midpoint Substation (Class I impact) 	<ul style="list-style-type: none"> • Preferred • Inconsistency with USFS Scenic Integrity Objectives due to the introduction of transmission line structure contrast, industrial character, view blockage, skylining, and unnatural vegetative clearing (Class I) • Shortest 500 kV route and located in most remote location with least viewers. • 230 kV upgrades would occur within an existing corridor.

Sunrise Powerlink Transmission Line Project
H. COMPARISON OF ALTERNATIVES

Table H-25. Comparison of Transmission Alternatives

Issue Area	Environmentally Superior Route Segment Alternative for the Proposed Project	Environmentally Superior SWPL Alternative	LEAPS Generation and Transmission Alternative	LEAPS Transmission-Only Alternative
Land Use	<ul style="list-style-type: none"> • Preferred • Crosses agricultural lands, IID canals; commercial, office, industrial and residential uses • Passes within 1,000 feet of ~175 residences. 	<ul style="list-style-type: none"> • Ranking = 2 • Passes within 1,000 feet of more than 1,300 residences and 1 school (Mountain Empire High School along West of Buckman Springs Option). 	<ul style="list-style-type: none"> • Ranking = 4 • Crosses open space and residential uses • Passes ~1,800 residences and 1 school (name unknown) total. • Generation component would occur within 1,000 feet of ~30 residences and a school (Butterfield Elementary School) • The construction staging expansion are for the powerhouse and substation would cause displacement of residences and the transmission component may as well (Class I). • Crosses Back Country Non Motorized (BCNM) land use zones in CNF 	<ul style="list-style-type: none"> • Ranking = 3 • Crosses open space; public facilities; Residential and agricultural resources • New 500 kV line passes 253 residences • Passes ~1,800 residences and 1 school (name unknown) total. • Potential for some residential and/or business displacement due to the transmission line (Class I), and the proponents propose to purchase certain properties to help offset this effect although specific properties have not yet been identified. • Crosses BCNM land use zones in CNF
Wilderness and Recreation	<ul style="list-style-type: none"> • Preferred • Eliminates permanent direct impacts and reduces indirect impacts to designated Wilderness; PCT; and sensitive recreational resources in ABDSP; and Santa Ysabel Valley. • Class I impacts to recreational value of OSPs in Inland Valley Link. • No direct impacts to State-designated Wilderness, but direct impacts would potentially occur with future transmission expansion. 	<ul style="list-style-type: none"> • Ranking = 2 • Class I impacts to value of recreational resources along a 110-mile length in Imperial County (especially Yuha basin ACEC, Juan Bautista de Anza Trail, Jacumba WA); PCT; Hauser Wilderness (indirect); Hauser Mountain WSA (indirect); and would jeopardize listing of future wilderness expansion area in CNF. • No direct impacts to State-designated Wilderness or BCNM zones, but much longer route than LEAPS Alternatives. 	<ul style="list-style-type: none"> • Ranking = 4 • Class I preclusion of use of hang gliding site ("E" Site) and operations could negatively affect thermals in areas near the transmission line • Class I impacts to recreational value of Tenaja Trail, Horsethief Trail, and San Mateo canyon Wilderness • Inconsistent with USFS ROS settings (20.5 miles) • Class I impact – Loss of public access to 100+ acres of USFS land. • Crosses BCNM land use zones in CNF • No direct impacts to State-designated Wilderness 	<ul style="list-style-type: none"> • Ranking = 3 • Class I preclusion of use of hang gliding site ("E" Site) and operations could negatively affect thermals in areas near the line • Class I impacts to recreational value of Tenaja Trail, Horsethief Trail, and San Mateo Canyon Wilderness • Inconsistent with USFS ROS settings (20.5 miles) • Crosses Back Country Non Motorized (BCNM) land use zones in CNF. • No direct impacts to State-designated Wilderness

Table H-25. Comparison of Transmission Alternatives

Issue Area	Environmentally Superior Route Segment Alternative for the Proposed Project	Environmentally Superior SWPL Alternative	LEAPS Generation and Transmission Alternative	LEAPS Transmission-Only Alternative
Agricultural Resources	<ul style="list-style-type: none"> • Ranking = 2 • Significant (Class I) impacts to 518.1 total acres of DOC Farmland, Active Agricultural Operations, and Williamson Act lands. 	<ul style="list-style-type: none"> • Ranking = 3 • Significant (Class I) impacts to 883.1 total acres of DOC Farmland, Active Agricultural Operations, and Williamson Act lands. 	<ul style="list-style-type: none"> • Preferred • Lake-Pendleton 500 kV line transects two Forest Service grazing allotments and construction activities could interfere with Active Agricultural Operations (grazing operations). This impact would be less than significant with mitigation (Class II). • No agricultural resources would be affected by the generation component. 	<ul style="list-style-type: none"> • Preferred • Lake-Pendleton 500 kV transmission line would transect two Forest Service-Trabuco Ranger District grazing allotments and construction activities could interfere with Active Agricultural Operations (grazing operations). This impact would be less than significant with mitigation (Class II).
Cultural Resources	<ul style="list-style-type: none"> • Ranking = 4 • Impacts to 8 cultural resources of high sensitivity, including 5 with human remains (Class I). • Impacts to 55 cultural resources of moderate sensitivity and 33 cultural resources of low sensitivity. 	<ul style="list-style-type: none"> • Ranking = 3 • Impacts to 1 cultural resource of high sensitivity; 56 cultural resources of moderate sensitivity; 64 cultural resources of low sensitivity; 2 cultural resources of unknown sensitivity. • Potential Class I visual impacts to built environment resources, including the Desert View Tower (CHL-939) • Possible additional impacts within Native American reservations. 	<ul style="list-style-type: none"> • Ranking = 2 • Impacts to 1 cultural resources of high sensitivity; 7 cultural resources of moderate sensitivity; 7 cultural resources of low sensitivity. 	<ul style="list-style-type: none"> • Preferred • Impacts to 2 cultural resources of moderate sensitivity and 2 cultural resources of low sensitivity.
Paleontological Resources	<ul style="list-style-type: none"> • Ranking = 4 • Zero to high potential to impact paleontologically sensitive geologic units • Numerous previously recorded fossil localities within one mile of route. • No known fossil localities within proposed ROW 	<ul style="list-style-type: none"> • Ranking = 3 • Zero to high potential to impact paleontologically sensitive geologic units • No known paleontological localities within one mile of route 	<ul style="list-style-type: none"> • Ranking = 2 • Zero to high potential to impact paleontologically sensitive geologic units • No known paleontological localities within one mile of route • More ground disturbance than LEAPS Transmission-Only Alternative results in greater chance of encountering paleontological resources 	<ul style="list-style-type: none"> • Preferred • Zero to high potential to impact paleontologically sensitive geologic units • No known paleontological localities within one mile of route • Least amount of ground disturbance anticipated and therefore least amount of impact to paleontologically sensitive geologic units

Sunrise Powerlink Transmission Line Project
H. COMPARISON OF ALTERNATIVES

Table H-25. Comparison of Transmission Alternatives

Issue Area	Environmentally Superior Route Segment Alternative for the Proposed Project	Environmentally Superior SWPL Alternative	LEAPS Generation and Transmission Alternative	LEAPS Transmission-Only Alternative
Noise	<ul style="list-style-type: none"> • Preferred • Passes fewest receptors and has most underground construction, which would eliminate impacts of corona noise 	<ul style="list-style-type: none"> • Ranking = 4 • Construction and corona noise would affect a greater number of noise-sensitive receptors than the environmentally preferred Proposed Project route. 	<ul style="list-style-type: none"> • Ranking = 3 • Transmission line would be similar to LEAPS Transmission-Only Alternative. • Equipment supporting powerhouse would have noise sources associated with heavy machinery, but operations would be placed underground and would not significantly affect surface noise levels. 	<ul style="list-style-type: none"> • Ranking = 2 • New 500 kV line passes fewer sensitive receptors than the preferred SWPL alternative. • Most receptors would be along existing Talega-Escondido corridor where the line would be upgraded to 230 kV and change in corona noise, though significant (Class I), would be incremental.
Transportation and Traffic	<ul style="list-style-type: none"> • Ranking = 3 • Crosses 18 highways, 41 roadways, 4 reservation roads, 2 RxR, and 6 airports. 	<ul style="list-style-type: none"> • Ranking = 2 • Crosses 9 highways, 31 roadways, 1 forest road, 6 reservation roads, 1 RxR, and 1 airport. • Fewer major arteries crossed, less underground construction, less disturbance to circulation and this alternative is shorter than the preferred proposed route. 	<ul style="list-style-type: none"> • Ranking = 4 • Generation component would take ~4 years to construct with prolonged impacts to traffic and transportation. • Fewer roadways crossed, but the duration of construction would significantly impact local roadways. 	<ul style="list-style-type: none"> • Preferred • Substantially shorter route would require fewer roadway crossings and construction duration would be shorter. • New 500 kV line crosses I-15 once and the Talega-Escondido corridor crosses I-15 twice

Table H-25. Comparison of Transmission Alternatives

Issue Area	Environmentally Superior Route Segment Alternative for the Proposed Project	Environmentally Superior SWPL Alternative	LEAPS Generation and Transmission Alternative	LEAPS Transmission-Only Alternative
Public Health and Safety	<ul style="list-style-type: none"> • Ranking = 2 • Construction activities could encounter unknown environmental contamination. • Alignment would pass several known contaminated sites mapped along this route, resulting in a potential of encountering known contamination. • Alignment would pass through or adjacent to several military sites with potential to encounter unexploded ordnances. 	<ul style="list-style-type: none"> • Preferred • Shorter route with less underground trenching and passing through more undeveloped and open space land than the preferred proposed route, resulting in less chance of encountering contamination. • Only two known contaminated sites mapped along this route, resulting in less chance of encountering known contamination. 	<ul style="list-style-type: none"> • Ranking = 4 • Several miles of alignment pass through industrial/commercial areas in Escondido with numerous hazardous material sites and many sites with known contamination, resulting in a significant potential to encounter known and unknown contamination • Substantially shorter transmission route results in less potential for construction and maintenance activities to result in contamination. • Generation component would be in a remote area where there are no known contaminated sites and only one hazardous material site within 0.25 miles of the project. 	<ul style="list-style-type: none"> • Ranking = 3 • Several miles of this alignment passes through an industrial/commercial area in Escondido with numerous hazardous material sites and many sites with known contamination, resulting in a significant potential to encounter known and unknown contamination. • Substantially shorter transmission route results in less potential for construction and maintenance activities to result in contamination.
Air Quality	<ul style="list-style-type: none"> • Ranking = 3 • Construction activity generates dust and exhaust emissions. • Results in a net increase of greenhouse gases and a significant climate change impact (Class I), because total construction GHG emissions exceed the GHG reductions achieved due to avoided power plant emissions over 40 years of line operation. 	<ul style="list-style-type: none"> • Ranking = 2 • Shorter route with less underground trenching than the preferred proposed route. • Results in a net increase of greenhouse gases and a significant climate change impact (Class I), because total construction GHG emissions exceed the GHG reductions achieved due to avoided power plant emissions over 40 years of line operation. 	<ul style="list-style-type: none"> • Ranking = 4 • Longer duration of construction and associated emissions with generation component. • Operation of the pumped storage generator would require off-peak power to pump water to the reservoir, thus indirectly resulting in power plant emissions even though the LEAPS generators would create no direct emissions (Class I). 	<ul style="list-style-type: none"> • Preferred • Substantially shorter route and least ground disturbance. • Results in a net increase of greenhouse gases and a significant climate change impact (Class I), because total construction GHG emissions exceed the GHG reductions achieved due to avoided power plant emissions over 40 years of transmission line operation.

Sunrise Powerlink Transmission Line Project
H. COMPARISON OF ALTERNATIVES

Table H-25. Comparison of Transmission Alternatives

Issue Area	Environmentally Superior Route Segment Alternative for the Proposed Project	Environmentally Superior SWPL Alternative	LEAPS Generation and Transmission Alternative	LEAPS Transmission-Only Alternative
Water Resources	<ul style="list-style-type: none"> • Ranking = 2 • Although crosses a large portion of ABDSP and is longest, much of this is desert with lower precipitation potential than the Forest land. 	<ul style="list-style-type: none"> • Ranking = 3 • Similar to preferred proposed route, but involves substantial disturbance of natural Forest Service land with long-season surface water potential. 	<ul style="list-style-type: none"> • Ranking = 4 • Generation component involves a substantial alteration of the surface and possibly ground-water resources at the site (Class I). 	<ul style="list-style-type: none"> • Preferred • Substantially shorter route and least ground disturbance results in fewer watercourse crossings and least potential to impact water quality.
Geology, Mineral Resources, and Soils	<ul style="list-style-type: none"> • Ranking = 4 • Construction activities would potentially interfere with known mineral resources and/or trigger or accelerate erosion due to ground disturbance. • Underground crossing and paralleling of Earthquake Valley Alquist-Priolo Fault Zone and underground crossing and paralleling of mapped trace of the active Elsinore Fault would create significant new Class I impacts and reliability concerns along long portions of the route. • A seismic event could result in damage to project structures from seismic shaking and seismically induced ground failures, a Class II impact. • Potential damage to areas of desert pavement 	<ul style="list-style-type: none"> • Ranking = 2 • Shorter route with less underground trenching than the preferred proposed route resulting in less potential to trigger or accelerate erosion. • Construction activities would potentially interfere with several known mineral resources. • Potential damage to areas of desert pavement • Potential damage to project structures due to fault rupture at the overhead crossings of the Yuha Wells Fault (MP 18-8.8) or where the trend of the Elsinore fault approaches the alignment (between MP 18-18 to 18-18.5) (Class II impact). 	<ul style="list-style-type: none"> • Ranking = 3 • Shorter transmission route and less ground disturbance results in reduced erosion potential. • Construction activities would potentially interfere with one known mineral resource. • Tailrace structure for the powerhouse crosses the Willard fault and creates a significant (Class I) impact (Impact G-4). • Seismic event would create a significant (Class I) impact on project construction activities and infrastructure (Impact G-7) 	<ul style="list-style-type: none"> • Preferred • Substantially shorter route and least ground disturbance results in reduced erosion potential. • No significant fault crossings. • Construction activities would potentially interfere with one known mineral resource.

Table H-25. Comparison of Transmission Alternatives

Issue Area	Environmentally Superior Route Segment Alternative for the Proposed Project	Environmentally Superior SWPL Alternative	LEAPS Generation and Transmission Alternative	LEAPS Transmission-Only Alternative
Socio-economics, Public Services, and Utilities	<ul style="list-style-type: none"> • Ranking = 3 • Longest line length and increased underground construction results in greater chance of accidental utility disruptions and increased water usage for dust control. • Significant (Class I) impacts to Park revenues during construction activities in ABDSP. 	<ul style="list-style-type: none"> • Ranking = 2 • Shorter length than preferred proposed route with less underground construction results in less demand for services and chance of accidentally disrupting existing utilities 	<ul style="list-style-type: none"> • Ranking = 4 • Much greater ground disturbance with underground facilities/tunneling. • Longer construction duration and need for associated services. • Potential for residential and/or business displacement due to line, and proponents propose to purchase certain properties to help offset this effect, but would potentially result in a total loss of businesses and revenues (Class I). • Beneficial impacts (Class IV) from the hiring of 20 new long-term employees. 	<ul style="list-style-type: none"> • Preferred • Potential for utility disruptions with upgrades in existing Talega-Escondido corridor and connection into SCE transmission system; but substantially shorter route, least ground disturbance and least underground construction results overall in least demand for services and chance of accidentally disrupting existing utilities.
Fire and Fuels Management	<ul style="list-style-type: none"> • Ranking = 3 • Class I impacts from new firefighting obstacle and increased probability of ignitions. • Has the most underground construction, which reduces the operational impacts associated with firefighting obstacles and potential wildfire ignitions. • Has the highest amount of assets at risk from wildfire. • Overall the line creates 8.5 miles of significant conflict due to new overhead obstacles (locations of new obstacles are correlated with areas of fire risk) 	<ul style="list-style-type: none"> • Ranking = 4 • Class I impacts from new firefighting obstacle and increased probability of ignitions. • Less underground construction than the preferred proposed route. • Portion of route that parallels I-8, a critical tactical firefighting area, would be in a low fire risk area. • Overall the line creates 11 miles of significant conflict due to new overhead obstacles (locations of new obstacles are correlated with areas of fire risk) 	<ul style="list-style-type: none"> • Ranking = 2 • Class I impacts from new firefighting obstacle and increased probability of ignitions. • Although route is shorter, there is greater fuel/vegetation and mountainous terrain. • Generation component increases construction duration and potential for wildfire ignitions. • Overall the line creates 2 miles of significant conflict due to new overhead obstacles (locations of new obstacles are correlated with areas of fire risk) and generation component would be in one location. 	<ul style="list-style-type: none"> • Preferred • Class I impacts from new firefighting obstacle and increased probability of ignitions. • Although route is shorter, there is greater fuel/vegetation and mountainous terrain. • Crosses through fireheds (Lake Elsinore and Margarita) with high fire risk; however, new line is located in remote area with fewer assets at risk. • Overall the line creates 2 miles of significant conflict due to new overhead obstacles (locations of new obstacles are correlated with areas of fire risk).

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Figure H-3. Environmentally Superior Transmission Line Alternative (LEAPS Transmission-Only Alternative)

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H.6 Comparison of Environmentally Superior Transmission Line Route Alternative (LEAPS Transmission-Only Alternative) with Non-Wires Alternatives

Within this section, the Environmentally Superior Transmission Line Route Alternative (LEAPS Transmission-Only Alternative) is compared to the following Non-Wires alternatives to determine the overall environmentally preferred alternative:

- New In-Area Renewable Generation Alternative (includes wind, solar thermal, biomass/biogas, and solar photovoltaic generation)
- New In-Area All-Source Generation Alternative (includes smaller amounts of wind, biomass/biogas, solar photovoltaic generation than that considered in the Renewable Alternative, plus one gas-fire baseload power plant and four peaking power plants). The solar thermal component is not included in the All-Source Alternative.

Table H-26 lists the Class I impacts created and eliminated by the Non-Wires alternatives compared to the LEAPS Transmission-Only Alternative. Table H-27 summarizes the impacts of each component of the New In-Area Renewable Generation Alternative and Table H-28 summarizes the impacts of each component of the New In-Area All-Source Generation Alternative.

H.6.1 Summary of Impacts

The **LEAPS Transmission-Only Alternative**, the Environmentally Superior Transmission Line Route Alternative, would have 27 significant (Class I) impacts in biological resources, visual resources, wilderness and recreation, cultural resources, noise, air quality, and fire and fuels management (see Table H-26). Additionally, as addressed in Table H-29 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining eight issue areas, which have been found to be less than significant following implementation of required mitigation.

The **New In-Area Renewable Generation Alternative** would have 32 significant (Class I) impacts in biological resources, visual resources, wilderness and recreation, agricultural resources, cultural resources, noise, air quality, water resources, and fire and fuels management (see Table H-26). Additionally, as addressed in Tables H-27 through H-29 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining six issue areas, which have been found to be less than significant following implementation of required mitigation. The New In-Area Renewable Generation Alternative would *reduce or eliminate* the following environmental impacts of greatest concern for the LEAPS Transmission-Only Alternative, which has been found to be the environmentally superior transmission line alternative:

- The New In-Area Renewable Generation Alternative would result in an overall net reduction in greenhouse gases during operation. Direct emissions from the biogas/biomass facilities would be more than offset by avoiding the GHG that would otherwise escape to the atmosphere during decomposition of the fuel feedstock and the beneficial reduction of emissions from the PV, Solar Thermal, and Wind components.
- Impacts would be within largely confined point-source areas (except for transmission connections), rather than along a linear extent.

- Would be in proximity (within 1,000 feet) of the least number of residences and resulting noise impacts would be reduced as well. No preclusion of land uses would occur.
- Greatly reduces the impacts of fire due to new firefighting obstacles (assuming that the Solar Thermal transmission line would be underground).

The **New In-Area Renewable Generation Alternative** would *increase* the following environmental impacts of greatest concern for the LEAPS Transmission-Only Alternative:

- Wind component would result in significant (Class I) impacts across the 7,263-acre site, because constructed on undeveloped arid landscapes that are not easily revegetated and from introduction of prominent industrial features on recreational BLM and Tribal land and visible from nearby residences and public roads.
- Solar Thermal component would change the visual character of the Borrego Valley and significantly impact views from ABDSP, including from Font's Point and Inspiration Point.
- Significant wilderness and recreation impacts from the Wind component as well as the Solar Thermal component in the Borrego Valley (with a 138 kV transmission line through ABDSP either underground or overhead).
- Solar Thermal component would consist of a 1,450-acre site in desert that would be completely impacted, most of which is sensitive vegetation (Class I)
- Biogas/biomass facilities would permanently convert DOC Farmland to non-agricultural uses.

The **New In-Area All-Source Generation Alternative** would have 38 significant (Class I) impacts in biological resources, visual resources, wilderness and recreation, agricultural resources, cultural resources, noise, air quality, public health and safety, water resources, and fire and fuels management (see Table H-26). Additionally, as addressed in Tables H-27 through H-29 below, there would be Class II (significant; can be mitigated to a less than significant level) and Class III (adverse, less than significant) impacts in the remaining five issue areas, which have been found to be less than significant following implementation of required mitigation. The New In-Area All-Source Generation Alternative would *reduce or eliminate* the following environmental impacts of greatest concern for the LEAPS Transmission-Only Alternative, which has been found to be the environmentally superior transmission line alternative:

- See Solar PV and Biogas/Biomass components discussed under New In-Area Renewable Generation Alternative above. The Wind component would also be similar, however, it would be half the size as with the New Renewable Generation Alternative.
- Would result in the least amount of ground disturbance and associated impacts and would be most preferred for biological resources, visual resources, and wilderness and recreation due to construction generally in more developed/disturbed areas.

The **New In-Area All-Source Generation Alternative** would *increase* the following environmental impacts of greatest concern for the LEAPS Transmission-Only Alternative:

- See Solar PV and Biogas/Biomass components discussed under New In-Area Renewable Generation Alternative above. The Wind component would also be similar, however, it would be half the size as with the New Renewable Generation Alternative.
- Greatly increases a significant (Class I) air quality impact from operation air emissions from the power plants, peakers, and biogas/biomass facilities over the lifetime of the project (Impact AQ-3).

- Significant impacts to water resources and public services due to use of water for evaporative cooling (unless dry cooling is used).
- Significant impacts to public health and safety due to increased safety risk from use and storage of hazardous materials, including aqueous ammonia.
- The SDCPP facilities would also permanently convert DOC Farmland to non-agricultural uses.

H.6.2 Conclusion Regarding Environmentally Superior Transmission and Non-Wires Alternatives

LEAPS Transmission-Only in Comparison to Non-Wires Alternatives. Table H-29 compares the LEAPS Transmission-Only Alternative, which is the Environmentally Superior, with the New In-Area Renewable Generation and New In-Area All-Source Generation Alternatives for all environmental issue areas. All three of these alternatives would eliminate or reduce all impacts of the Proposed Project and SWPL Alternatives. However, the LEAPS Transmission-Only Alternative would still have the following impacts:

- The LEAPS Transmission-Only Alternative would be least preferred from a land use, paleontological resources, noise, transportation and traffic, geology, mineral resources and soils, and fire and fuels management perspective.
- The LEAPS Transmission-Only Alternative would create temporary and permanent impacts along the entire project length of the Lake-Pendleton and Talega-Escondido transmission corridors and would impact over 1,600 additional residences and one school than would the Non-Wires alternatives.
- The LEAPS Transmission-Only Alternative results in the potential for residential and/or business displacement due to the new 500 kV line (Class I).
- The transmission line would cross BCNM land use zone within CNF. Major utility corridors and roads are not suitable within the BCNM land use zone (though a Plan Amendment could modify this inconsistency).
- The transmission line creates inconsistency with the USFS Scenic Integrity Objectives, which would create significant visual impacts (Class I).
- Creates Class I preclusion of use of hang gliding site ("E" Site) and operations could negatively affect thermals in areas near the transmission line, even with the 500 kV underground segment.
- Electrical equipment associated with the new transmission system would result in the potential escape of sulfur hexafluoride (SF₆), a potent GHG and because the proposed transmission system equipment would cause a net increase in SF₆ emissions, this impact would be significant and unavoidable (Class I).
- Construction of the transmission line would create GHG emissions that would be considered significant and unmitigable (Class I) and would not be offset by a reduction in GHG emissions during operation until several decades into the operational life of the project. Transmission of non-renewable energy would preclude achieving a decrease in GHGs.
- Much of the new 500 kV route would be located on mountainous forest lands and would have the greatest erosion and landslide potential.

- Multiple transmission line crossings of I-15 and local roadways would create the greatest transportation and traffic impacts.
- It would also be least preferred for fire and fuels management, because it would traverse areas of extremely high fire risk, increase the probability of ignitions, and would create new firefighting obstacles along the corridor.

Due to the significant (Class I) long-term operational effects of this linear project, especially on land use, noise, air quality, and fire and fuels management, the LEAPS Transmission-Only Alternative has been found to be less preferred than both the New In-Area Renewable Generation and New In-Area All-Source Alternatives.

Comparison of Non-Wires Alternatives. Both Non-Wires alternatives would have similar solar PV and biomass/biogas facilities and impacts. In addition, the New In-Area Renewable Generation Alternative alone would include construction of a Solar Thermal component and Wind component. On the other hand, the New In-Area All-Source Generation Alternative would include the additional construction of a reduced Wind component (approximately half of the size of with the Renewable Generation Alternative), a natural gas-fired baseload power plant, and 4 natural gas-fired peaker plants at locations where existing applications have been submitted.

Although the New In-Area Renewable Generation Alternative would not create a significant greenhouse gas impact during operation and the New In-Area All-Source Generation Alternative would increase operational air emissions, disadvantages of the New In-Area Renewable Generation Alternative include:

- Due to extensive temporary and permanent ground disturbance and increased water usage during construction with the Wind and Solar Thermal components and associated transmission linears, the New In-Area Renewable Generation Alternative is less preferred for biological resources, cultural resources, transportation and traffic, geology, mineral resources, and soils, and fire and fuels management (if the Solar Thermal component transmission line is overhead).
- In addition, the Wind and Solar Thermal components of the New In-Area Renewable Alternative would result in significant wilderness/recreation and visual resources impacts over approximately 7,263 acres and 1,450 acres, respectively. This/The Wind component would be twice the size of the Wind component associated with the New In-Area All-Source Alternative.
- Although GHG emissions would be offset by a reduction during operation, construction of the New In-Area Renewable Generation Alternative with its extensive ground disturbance and construction activities (especially with the Solar Thermal and larger Wind components) would create GHG construction emissions.

In comparison, the New In-Area All-Source Alternative has been found to be environmentally preferred to the New In-Area Renewable Generation Alternative for the following reasons.

- The New In-Area All-Source Generation Alternative would not include construction of the Solar Thermal component and would reduce the size of the Wind component, thereby greatly reducing significant impacts to undeveloped areas in the Borrego Valley and on BLM and Tribal lands.
- New In-Area All-Source Generation Alternative would generally include construction in more developed/industrial areas (as opposed to more undeveloped and undisturbed areas with the Renewables Alternative) and would also result in the least amount of ground disturbance and associated impacts, and would thus be most preferred for biological resources.

- In-Area generation with natural gas-fired components would greatly reduce losses from transmission lines. It would increase system reliability by placing the new generation at the load source and by balancing reliance on intermittent resources (e.g., solar and wind power) with gas-fired generation.
- The gas-fired power plants would occur at existing facilities and/or disturbed sites and may result in the closure of older more-polluting power plants resulting in an overall reduction in baseline emissions that would not occur with the New In-Area Renewable Generation Alternative.

The comparison of different generation alternatives against each other and against transmission alternatives are extremely difficult, since the impacts are very different. However, based on all the factors described above, the environmental ranking of the environmentally superior transmission and Non-Wires alternatives from most environmentally superior to least environmentally superior is as follows:

1. New In-Area All-Source Generation Alternative
2. New In-Area Renewable Generation Alternative
3. LEAPS Transmission-Only Alternative.

Figure H-4 depicts the Overall Environmentally Superior Alternative, which is the New In-Area All-Source Generation Alternative.

Table H-26. Summary of Significant Unmitigable (Class I) Impacts by Environmentally Superior Transmission and Non-Wires Alternatives

Alternative	Significant Impacts (Class I)
LEAPS Transmission-Only Alternative	<p>B-1 Temporary and permanent losses of native vegetation</p> <p>B-5 Direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants</p> <p>B-7 Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for</p> <p>B-7H Direct or indirect loss of golden eagle or direct loss of habitat</p> <p>B-7J Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat</p> <p>B-9 Adverse Effects to Linkages or Wildlife Movement Corridors, the Movement of Fish, and/or Native Wildlife Nursery Sites</p> <p>B-10 Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species</p> <p>V-S-1 Long-term visibility of land scars in arid and semi-arid landscapes (Class I for CNF land and Class II for other lands)</p> <p>V-S-2 Introduction of substation and transmission line structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint L1, on DePalma Frontage Road and Southbound Interstate 15</p> <p>V-S-3 Introduction of structure contrast and industrial character associated with the Lake-Pendleton 500 kV transmission line, when viewed from Key Viewpoint L2 on Lake Elsinore and I-15</p> <p>V-S-4 Inconsistency with USFS Scenic Integrity Objective due to the introduction of transmission line structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint L3, southbound on South Main Divide Road</p> <p>V-S-5 Inconsistency with USFS Scenic Integrity Objective due to the introduction of transmission line structure contrast, industrial character, view blockage, skylining, and unnatural vegetative clearing when viewed from Key Viewpoint L4, northbound on South Main Divide Road</p> <p>V-S-6 Inconsistency with USFS Scenic Integrity Objective due to the introduction of transmission line structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint L5, on Ortega Highway</p> <p>V-S-7 Inconsistency with USFS Scenic Integrity Objective due to the introduction of transmission line structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint L6, on Hombre Lane in La Cresta Subdivision</p>

Table H-26. Summary of Significant Unmitigable (Class I) Impacts by Environmentally Superior Transmission and Non-Wires Alternatives

Alternative	Significant Impacts (Class I)
	<p>WR-2 Presence of a transmission line or substation would permanently change the character of a recreation area, diminishing its recreational value</p> <p>WR-3 Presence of a transmission line would permanently preclude recreational activities</p> <p>C-3 Construction would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains</p> <p>C-4 Construction would cause an adverse change to Traditional Cultural Properties</p> <p>N-1 Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances</p> <p>N-3 Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components</p> <p>N-4 Routine inspection and maintenance activities would increase ambient noise levels</p> <p>AQ-1 Construction would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants</p> <p>AQ-4 Project activities would cause a net increase of greenhouse gas emissions</p> <p>S-1 Project construction and/or transmission line presence would cause a substantial change in revenue for businesses, tribes, or governments</p> <p>F-1: Construction and/or maintenance activities would significantly increase the probability of a wildfire.</p> <p>F-2: Presence of the overhead transmission line would significantly increase the probability of a wildfire.</p> <p>F-3 Presence of the overhead transmission line would reduce the effectiveness of firefighting.</p>

Class I Impacts Eliminated or Created by Non-Wires Alternatives

New In-Area Renewable Generation	<p><i>Class I Impacts similar to the LEAPS Transmission-Only Alternative</i> B-1, B-5, B-7, B-7H, B-7J, B-10, C-3, C-4, N-1, N-3, AQ-1, S-1, F-2, F-3.</p> <p><i>Eliminates</i> B-9, V-S-1, V-S-3, V-S-4, V-S-5, V-S-6, V-S-7, WR-2, WR-3, AQ-4, N-4, F-1.</p> <p><i>Creates</i></p> <p>B-7B Direct or indirect loss of Peninsular bighorn sheep or direct loss of habitat</p> <p>B-7O Direct or indirect loss of barefoot banded gecko or direct loss of habitat</p> <p>B-13 Operation of the Wind Alternative would lead to avian mortality from collision with turbines</p> <p>B-14 Operation of the Wind Alternative would lead to bat mortality from collision with turbines</p> <p>V-NW1 Increased structure contrast, industrial character, view blockage, and skylining</p> <p>V-NW2 Long-term visibility of land scars in arid and semi-arid landscapes</p> <p>V-NW4 Increased structure contrast, industrial character, view blockage, and skylining associated with substation development</p> <p>V-NW5 Long-term visibility of Wind Alternative turbines and associated facilities from Interstate 8</p> <p>V-NW6 Increased structure contrast, industrial character, view blockage, and skylining when viewing the Wind Alternative turbines and associated facilities from nearby residences and public roads</p> <p>V-NW7 Inconsistency with BLM VRM Class II Management objective due to introduction of structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 59 on at Carrizo Overlook</p> <p>V-NW8 Inconsistency with BLM VRM Class II Management objective due to introduction of structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 60 on McCain Valley Road South of Cottonwood Campground</p> <p>WR-1: Construction activities would temporarily reduce access and visitation to recreation or wilderness areas</p> <p>WR-2B Presence of the wind towers/turbines and associated facilities would permanently change the character of a recreation area, diminishing its recreational value</p> <p>AG-2: Operation would permanently convert DOC Farmland to non-agricultural use</p> <p>AG-3: Operation would permanently interfere with Active Agricultural Operations</p> <p>N-4B: Maintenance activities during operations of the wind tower/turbines and associated facilities would increase ambient noise levels</p> <p>H-6 Transmission towers or other aboveground project features located in a floodplain or water-course would result in flooding, flood diversions, or erosion</p>
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Table H-26. Summary of Significant Unmitigable (Class I) Impacts by Environmentally Superior Transmission and Non-Wires Alternatives

Alternative	Significant Impacts (Class I)
New In-Area All-Source Generation	<p><i>Class I Impacts similar to the LEAPS Transmission-Only Alternative</i> B-1, B-5, B-7, B-7H, B-7J, B-10, WR-3, C-3, C-4, N-1, N-3, AQ-1, S-1, F-2, F-3.</p> <p><i>Additional Class I Impacts similar to New In-Area Renewable Generation Alternative</i> B-7O, B-13, B-14, V-NW1, V-NW2, V-NW4, V-NW5, V-NW6, V-NW7, V-NW8, V-NW12, WR-2B, AG-2, AG-3, N-4B.</p> <p><i>Eliminates of LEAPS Transmission-Only Alternative</i> B-9, V-S-1, V-S-3, V-S-4, V-S-5, V-S-6, V-S-7, WR-2, WR-3, N-4, F-1.</p> <p><i>Eliminates of New In-Area Renewable Generation Alternative</i> WR-1 and H-6.</p> <p><i>Creates</i> B-8 Construction activities would result in a potential loss of nesting birds (Violation of the Migratory Bird Treaty Act) B-16 Power plant operation and maintenance activities would result in disturbance to wildlife and could result in wildlife mortality V-NW12 Increased structure contrast, industrial character, view blockage, and skylining P-5 Soil or groundwater contamination could result from accidental spill or release of hazardous materials during operation and maintenance P-7 Use and storage of hazardous materials at power plant sites would create public health and safety hazards AQ-4 Project activities would cause a net increase of greenhouse gas emissions H-9 Project construction or operation would potentially impact local water supply. S-3 Project construction and operation would increase the need for public services and facilities</p>

Note: No Class I impacts would occur in any of the following issue areas for any alternative: Land Use, Transportation/Traffic, Geology Mineral Resources and Soils.

Table H-27. Summary of Impacts of New In-Area Renewable Generation Alternative

Issue Area	SOLAR THERMAL*	SOLAR PHOTOVOLTAIC	BIOMASS/BIOGAS	WIND
	Also incorporated into New In-Area All-Source Generation Alternative			
Biological Resources	<ul style="list-style-type: none"> • Construction and operation of project would result in complete loss of nearly 1,450 acres of sensitive vegetation (Class I) • Construction would impact sensitive plant and wildlife species (Class I) • Construction would create loss of potential habitat for sensitive wildlife species (Class I) • Transmission line presence would result in collision of migrating bird species (Class I) with use of Option 2 overhead transmission only (Option 1 would not create this impact) 	<ul style="list-style-type: none"> • Construction noise could impact birds nesting on rooftops or in nearby areas (Class II) • No operational impacts to plants or wildlife species would occur because once installed solar PV would involve passive absorption of sunlight and conversion to electricity 	<ul style="list-style-type: none"> • Construction and operation of project would result in complete loss of ~28 acres of vegetation community • Construction would impact to sensitive plant and wildlife species (Class I) • Transmission line presence would result in collision of migrating bird species on overhead transmission line (Class I), Fallbrook Facility only 	<ul style="list-style-type: none"> • Construction and operation of project would result in complete loss of 50 to 100 acres of native vegetation (Class I) • Construction would create loss of potential habitat for sensitive wildlife species (Class I) • Presence of Wind turbines would result in mortality of birds and bats due to collision (Class I)
Visual Resources	<ul style="list-style-type: none"> • Construction would create indirect visual impacts from designated Wilderness within ABDSP (Class II) • Operation of project would create degradation of visual character, night lighting, and additional glare from generation facility (Class I) • Replacement of wood poles with steel poles for 138 kV line in and adjacent to ABDSP (Class I), Option 2 overhead transmission only 	<ul style="list-style-type: none"> • Construction would create adverse but less than significant impact due to short duration and limited area necessary for construction (Class III) • Operation would create adverse but less than significant impact due flat nature of Solar PV systems and urban setting of installation (Class III) 	<ul style="list-style-type: none"> • Construction would create adverse but less than significant impact due to distance from sensitive receptor and industrial nature of setting (Class III) • Operational would introduce industrial character to a rural setting (Class II), Fallbrook transmission line only 	<ul style="list-style-type: none"> • Construction would create long-term visibility of land scars (Class I) • Operation would introduce of prominent industrial features (400-foot-high wind turbines) on recreational BLM and tribal land (Class I) • Operation would introduce industrial features inconsistent with BLM Class II Management objectives (Class I)
Land Use	<ul style="list-style-type: none"> • Construction would create noise and dust (Class II) • Operation would create no impacts because would not disrupt nearby land uses 	<ul style="list-style-type: none"> • Construction would be short-term and use limited land areas (Class III) • Operation would create no impacts because would take place on existing residential and commercial rooftops and would not disrupt nearby land uses 	<ul style="list-style-type: none"> • Construction would create noise and dust (Class II) • Operation would create no impacts because would not disrupt nearby land uses 	<ul style="list-style-type: none"> • Construction would create noise and dust (Class II) • Operation would create no impacts because would not disrupt nearby land uses

Table H-27. Summary of Impacts of New In-Area Renewable Generation Alternative

Issue Area	SOLAR THERMAL*	SOLAR PHOTOVOLTAIC	BIOMASS/BIOGAS	WIND
	Also incorporated into New In-Area All-Source Generation Alternative			
Wilderness and Recreation	<ul style="list-style-type: none"> • Construction noise and presence of heavy equipment would reduce access and visitation to the ABDSP (Class I) • Presence of transmission line and facilities would diminish value of recreational experience (Class I), Solar Thermal facilities and Option 2 overhead transmission line only 	<ul style="list-style-type: none"> • Construction would diminish recreation value of preserve and parks near vicinity of solar PV installation (Class II) • Operation of solar PV systems would result in no impacts because it would not occur in wilderness or recreation areas 	<ul style="list-style-type: none"> • Construction would create no impacts because it would occur on existing landfill or orchard facilities with no recreational or wilderness lands nearby • Operation would create no impacts because it would occur on existing landfill or orchard facilities with no recreational or wilderness lands nearby 	<ul style="list-style-type: none"> • Construction would create noise and dust and would diminish recreation value (Class II) • Visibility of wind towers/turbines would permanently change character of recreational area (Class I)
Agricultural Resources	<ul style="list-style-type: none"> • Construction would potentially interfere with agriculture operations in project vicinity (Class II) • Operation would create no impacts to agriculture, DOC, or Williamson Act farmlands 	<ul style="list-style-type: none"> • Construction would create no impacts to agriculture lands due to its short duration and the use of limited land areas in primarily urban environments • Operation of the solar PV systems would result in no impacts because it would occur on existing structures in primarily urban settings 	<ul style="list-style-type: none"> • Construction of biomass facility and transmission line would potentially interfere with agriculture operations in project vicinity, (Class II), Fallbrook Facility only • Operation would permanently convert 28 acres of DOC and Active Agriculture farmland to non-agricultural use (Class I), Fallbrook Facility only 	<ul style="list-style-type: none"> • Construction would potentially impact grazing operations within the vicinity (Class II), transmission line only • Operation would create no impacts to agriculture resources because the wind farm is sited on no agriculture lands, and the transmission line would be underground and would create no impacts once constructed
Cultural Resources	<ul style="list-style-type: none"> • Construction could encounter human remains (Class I) • Construction could encounter Traditional Cultural Properties (TCPs) (Class I or Class II) • Operation could impact historic properties within vicinity (Class II) 	<ul style="list-style-type: none"> • Construction could encounter TCPs (Class II) • Operation would create no impacts because solar PV siting would be chosen to avoid historical buildings and architectural resources 	<ul style="list-style-type: none"> • Construction could encounter human remains (Class I) • Construction could encounter TCPs (Class I or Class II) • Operation could impact known historic properties within the vicinity (Class II) 	<ul style="list-style-type: none"> • Construction could encounter human remains (Class I) • Construction could encounter TCPs (Class I or Class II) • Operation could impact historic properties within vicinity (Class II)
Paleontological Resources	<ul style="list-style-type: none"> • Construction would potentially destroy or disturb paleontological resources (Class II) • Operation would create no impacts because it would not disturb the subsurface geologic formation 	<ul style="list-style-type: none"> • Construction would create no impacts because it would occur on already existing buildings • Operation would create no impacts because it would not disturb the subsurface geologic formation 	<ul style="list-style-type: none"> • Construction would potentially destroy or disturb paleontological resources (Class II) • Operation would create no impacts because it would not disturb the subsurface geologic formation 	<ul style="list-style-type: none"> • Construction would potentially destroy or disturb paleontological resources (Class II) • Operation would create no impacts because it would not disturb the subsurface geologic formation

Table H-27. Summary of Impacts of New In-Area Renewable Generation Alternative

Issue Area	SOLAR THERMAL*	SOLAR PHOTOVOLTAIC	BIOMASS/BIOGAS	WIND
	Also incorporated into New In-Area All-Source Generation Alternative			
Noise	<ul style="list-style-type: none"> • Construction noise would disturb sensitive receptors (Class I), Option 1 and 2 transmission line only • Construction would temporarily cause groundborne vibration (Class II) • Operation would cause increased corona noise and maintenance noise (Class III), Option 2 overhead transmission line only for corona noise 	<ul style="list-style-type: none"> • Construction noise would produce significant noise (Class II) • Operation would cause no impacts because it would involve passive absorption of sunlight and transformation to electricity 	<ul style="list-style-type: none"> • Construction noise would impact surrounding residential area (Class II), Fallbrook Facility only • Operation would cause permanent noise in a rural and natural setting (Class I), Fallbrook Facility only 	<ul style="list-style-type: none"> • Construction and operation noise would impact sensitive receptors (Class II) • Operation maintenance activities would potentially include helicopters and other equipment and would periodically cause a substantial increase in noise (Class I).
Transportation and Traffic	<ul style="list-style-type: none"> • Construction could temporarily disrupt traffic flow, emergency service providers, bus/transit services(Class II) • Construction could temporarily disrupt pedestrian and bicycle movement (Class II) • Construction could potentially damage roads (Class II) • Operation would create no impacts because it would involve few workers and vehicle trips 	<ul style="list-style-type: none"> • Construction could potential damage roads (Class II) • Operation would create no impacts because it would not require any workers or vehicle trips 	<ul style="list-style-type: none"> • Construction could potentially damage roads (Class II) • Construction would temporarily increase traffic on roads (Class II) • Operation would create no impacts because the additional traffic generated is expected to be less than 1 percent of existing Fallbrook traffic amounts 	<ul style="list-style-type: none"> • Construction could cause lane closures and disrupt traffic (Class II) • Construction could temporarily disrupt pedestrian and bicycle movement (Class II) • Construction could potentially damage roads (Class II) • Operation would create no impacts because it would involve few workers and vehicle trips
Public Health and Safety	<ul style="list-style-type: none"> • Construction could cause soil or groundwater contamination from hazardous materials (Class II) • Unknown contaminants may be found during construction (Class II) • Operation could cause soil or groundwater contamination from hazardous materials (Class II) 	<ul style="list-style-type: none"> • Construction could cause soil or groundwater contamination from hazardous materials (Class III) • Operation would create no impacts because it would involve no hazardous materials 	<ul style="list-style-type: none"> • Construction could cause soil or groundwater contamination from hazardous materials (Class II) • Residual pesticides and herbicides could be encountered during construction (Class II), Fallbrook facility only • Unknown contaminants may be found during construction (Class II) • Operation could cause soil or groundwater contamination from hazardous materials (Class II) 	<ul style="list-style-type: none"> • Construction could cause soil or groundwater contamination from hazardous materials (Class II) • Unknown contaminants may be found during construction (Class II) • Soil or groundwater contamination could be moved during construction (Class II) • Operation could cause soil or groundwater contamination from hazardous materials (Class II)

Table H-27. Summary of Impacts of New In-Area Renewable Generation Alternative

Issue Area	SOLAR THERMAL*	SOLAR PHOTOVOLTAIC	BIOMASS/BIOGAS	WIND
	Also incorporated into New In-Area All-Source Generation Alternative			
Air Quality	<ul style="list-style-type: none"> • Construction would result in unavoidable emissions (Class I) • Operation would potentially result in HTF vapor emissions (Class II) • Operation would reduce emissions from fossil fuel plants (Class IV) 	<ul style="list-style-type: none"> • Construction would result in unavoidable emissions (Class III) • Operation would reduce emissions from fossil fuel plants (Class IV) 	<ul style="list-style-type: none"> • Construction would result in unavoidable emissions (Class I) • Operation would contribute to local PM10 and ozone emissions (Class I) 	<ul style="list-style-type: none"> • Construction would result in unavoidable emissions (Class I) • Operation would reduce emissions from fossil fuel plants (Class IV)
Water Resources	<ul style="list-style-type: none"> • Construction could degrade water quality through erosion, sedimentation, accidental spills, disposal of harmful materials (Class II) • Presence of facilities could increase flooding, flood diversions or erosion as plant is located in a floodplain (Class II) • Power plant could deplete local water supply depending on source (approximately 300,000 gallons per year would be needed)(Class II) 	<ul style="list-style-type: none"> • Construction would degrade water quality through accidental spills of harmful materials (Class III) • Operation would create no impacts because it would not be impacted ground surface 	<ul style="list-style-type: none"> • Construction could degrade water quality through erosion, sedimentation, accidental spills, disposal of harmful materials (Class II) • Groundwater quality could be degraded during construction of the facility (Class II) • Presence of facilities could increase flooding, flood diversions or erosion as plant is located in floodplain (Class II) 	<ul style="list-style-type: none"> • Construction could degrade water quality through erosion, sedimentation, accidental spills, disposal of harmful materials (Class II) • Groundwater quality could be degraded during construction of the facility (Class II) • Presence of facilities could increase flooding, flood diversions or erosion as plant is located in floodplain (Class II)
Geology, Mineral Resources, and Soils	<ul style="list-style-type: none"> • Construction could trigger erosion and damage to desert pavement (1,450 acres) (Class II) • Construction could trigger slope failures (Class II) • People or structures could be harmed by groundshaking or landslides (Class II) • Facilities could be damaged by surface fault rupture (crosses Earthquake Valley Fault) (Class II) 	<ul style="list-style-type: none"> • Construction would create no impacts to geological, mineral resources, or soils as it would take place on existing structure in limited areas • Operation would create no impacts to geological, mineral resources, or soils as it would take place on existing structure in limited areas 	<ul style="list-style-type: none"> • Construction could trigger slope failures (Class II) • People or structures could be harmed by groundshaking, landslides, or problematic soils (Class II) 	<ul style="list-style-type: none"> • Construction could trigger erosion (Class II) • People or structures could be harmed by groundshaking, landslides, or problematic soils (Class II)

Table H-27. Summary of Impacts of New In-Area Renewable Generation Alternative

Issue Area	SOLAR THERMAL*	SOLAR PHOTOVOLTAIC	BIOMASS/BIOGAS	WIND
	Also incorporated into New In-Area All-Source Generation Alternative			
Socioeconomics, Public Services, and Utilities	<ul style="list-style-type: none"> • Construction and presence of structure would reduce access and visitation to the ABDSP (Class I) • Power plant could deplete local water supply (Class II) 	<ul style="list-style-type: none"> • Construction would potentially cause a change in revenue (Class III) • Construction could disrupt utilities (Class III) • Construction and operation increase the need for public services (Class III) 	<ul style="list-style-type: none"> • Construction could disrupt utilities (Class II), Miramar landfill facilities only • Construction and operation could increase the need for public services (Class III) 	<ul style="list-style-type: none"> • Construction could disrupt utilities (Class II) • Construction and operation could increase the need for public services and facilities (Class II)
Fire and Fuels Management	<ul style="list-style-type: none"> • Construction and maintenance activities could ignite a wildfire (Class II) • Transmission line would compromise aerial and ground-based firefighting efforts (Class I), Option 2 overhead transmission line only • Presence of project could ignite a wildfire (Class I), Option 2 overhead transmission line only • Project activities could introduce non-native plants (Class II), Option 2 overhead transmission line only 	<ul style="list-style-type: none"> • Construction would have no impacts on wildfire ignition because it would take place on existing structures in primarily urban settings • Operation would have no impacts on wildfire ignition because it would be built on already existing structures in primarily urban settings 	<ul style="list-style-type: none"> • Construction would have no impacts on wildfire ignition because it would take place on an existing orchard and an existing landfill in urban and agricultural environments • Operation biomass facility would introduce invasive plants that would influence fire behavior (Class II), Fallbrook Facility only 	<ul style="list-style-type: none"> • Construction and maintenance activities could ignite a wildfire (Class I) • Wind turbines would compromise aerial and ground-based firefighting efforts (Class I)
Overall Impact of Renewable Components	<ul style="list-style-type: none"> • Would permanently impact ~ 1,450 acres of land in the Borrego Valley. • Transmission line would traverse ABDSP either overhead or underground, resulting in construction disturbances with the Park and visual and recreational operational impacts if the overhead option is used. • Operation requires water for periodic cleaning, which would potentially deplete water sources and/or strain existing public service providers. • Operation would reduce emissions from fossil fuel plants (Class IV). 	<ul style="list-style-type: none"> • All impacts during construction and operation would be less than significant (Classes II and III) due to minor construction activities on existing structures in already disturbed areas. • Operation impacts would be minimal and would reduce emissions from fossil fuel plants (Class IV). 	<ul style="list-style-type: none"> • Construction and operation would introduce a significant noise source (Class I) to the rural setting at Fallbrook. • Transmission line presence would result in collision of migrating bird species on overhead transmission line (Class I), Fallbrook Facility only. • Operation would contribute to local PM10 and ozone emissions (Class I). 	<ul style="list-style-type: none"> • Construction would cause temporary and permanent ground disturbance over the 7,500-acre area. • Operation would reduce emissions from fossil fuel plants • Presence of Wind turbines would result in mortality of birds and bats due to collision (Class I) • Wind turbines would compromise aerial and ground-based firefighting efforts (Class I)

* Applies to New In-Area Renewable Generation Alternative only.

Table H-28. Summary of Impacts of New In-Area All-Source Generation Alternative

ISSUE AREA	RENEWABLE COMPONENT (Solar PV/Wind/ Biomass/Biogas)	CONVENTIONAL GENERATION (Power Plant)	CONVENTIONAL GENERATION (Peakers)
Biological Resources	<ul style="list-style-type: none"> Refer to Solar PV, Wind, Biomass/Biogas components in Table H-27 above. 	<ul style="list-style-type: none"> Construction activities would disrupt sensitive habitat and wildlife (Class II) Construction would impact birds present at sites by impacting their nesting activities and collision with transmission lines (Class I) Increased air pollution from operation would impact biological resources (Class I) 	<ul style="list-style-type: none"> Construction activities would disrupt biological resources (Class II) Construction would impact birds present at sites by impacting their nesting activities and collision with transmission lines (Class I) Noise and lights from operation would impact biological resources (Class II) Increased air pollution from operation would impact biological resources (Class I)
Visual Resources	<ul style="list-style-type: none"> Refer to Solar PV, Wind, Biomass/Biogas components in Table H-27 above. 	<ul style="list-style-type: none"> Construction would create short-term visibility impacts (Class II) Construction would result in long-term land scaring and vegetation clearing (Class II) Operation of power plant facilities would introduce a large industrial structure in an undeveloped parcel (Class I), SDCPP only 	<ul style="list-style-type: none"> Construction would result in short-term visibility or activities, equipment, and night lighting (Class II) Construction would result in long-term land scaring and vegetation clearing (Class II) Operation of power plant facilities would introduce a large industrial structure (Class II and III)
Land Use	<ul style="list-style-type: none"> Refer to Solar PV, Wind, Biomass/Biogas components in Table H-27 above. 	<ul style="list-style-type: none"> Construction would create noise and dust (Class II) Operation would create no impacts because it would not disrupt nearby land uses 	<ul style="list-style-type: none"> Construction of peakers would impact nearby land uses (Class II) Operation would create no impacts because it would not disrupt nearby land uses
Wilderness and Recreation	<ul style="list-style-type: none"> Refer to Solar PV, Wind, Biomass/Biogas components in Table H-27 above. 	<ul style="list-style-type: none"> Construction noise would diminish regional bird watching (Class II), SBRP only Operation would create no impacts because the facilities would not be directly on or adjacent to recreation or wilderness areas 	<ul style="list-style-type: none"> Construction noise would create no significant impacts because the facilities would not be directly on or adjacent to recreation or wilderness areas (Class III) Operation would create no impacts because the facilities would not be directly on or adjacent to recreation or wilderness areas
Agricultural Resources	<ul style="list-style-type: none"> Refer to Solar PV, Wind, Biomass/Biogas components in Table H-27 above. 	<ul style="list-style-type: none"> Construction would cause no impacts because it would not interfere with agricultural lands in the vicinity Operation would permanently convert 60 acres of DOC farmland to non-agricultural use (Class I), SDCPP only 	<ul style="list-style-type: none"> Construction would cause temporary impacts to agricultural lands in the vicinity (Class II), Margarita peaker only Operation would cause no impacts to agricultural lands because it would not interfere with lands in the vicinity

Table H-28. Summary of Impacts of New In-Area All-Source Generation Alternative

ISSUE AREA	RENEWABLE COMPONENT (Solar PV/Wind/ Biomass/Biogas)	CONVENTIONAL GENERATION (Power Plant)	CONVENTIONAL GENERATION (Peakers)
Cultural Resources	<ul style="list-style-type: none"> Refer to Solar PV, Wind, Biomass/Biogas components in Table H-27 above. 	<ul style="list-style-type: none"> Construction could encounter human remains and/or prehistoric and historical archaeological sites (Class I or Class II) Construction could encounter TCPs (Class I or Class II) Operation could impact historic properties within vicinity (Class II) 	<ul style="list-style-type: none"> Construction could encounter human remains and/or prehistoric and historical archaeological sites (Class I or Class II) Construction could encounter TCPs (Class I or Class II) Operation would cause no impacts on historic properties or archaeological sites because they would be on or adjacent to existing sub-station or energy facility sites
Paleontological Resources	<ul style="list-style-type: none"> Refer to Solar PV, Wind, Biomass/Biogas components in Table H-27 above. 	<ul style="list-style-type: none"> Construction would destroy or disturb paleontological resources (Class II) Operation would create no impacts because it would not disturb the subsurface geologic formation 	<ul style="list-style-type: none"> Construction would destroy or disturb paleontological resources (Class II) Operation would create no impacts because it would not disturb the subsurface geologic formation
Noise	<ul style="list-style-type: none"> Refer to Solar PV, Wind, Biomass/Biogas components in Table H-27 above. 	<ul style="list-style-type: none"> Construction noise would impact sensitive receptors (Class II) Permanent operation noise would impact sensitive receptors (Class II) 	<ul style="list-style-type: none"> Construction noise would impact sensitive receptors (Class II) Operation noise would impact sensitive receptors (Class II)
Transportation and Traffic	<ul style="list-style-type: none"> Refer to Solar PV, Wind, Biomass/Biogas components in Table H-27 above. 	<ul style="list-style-type: none"> Construction could cause lane closures and disrupt traffic (Class II) Construction could temporarily disrupt emergency service providers, bus/transit services, pedestrian and bicycle movement (Class II) Construction could potentially damage roads (Class II) Construction could increase traffic on local roadways Operation would create no impacts because it would involve few workers and vehicle trips 	<ul style="list-style-type: none"> Construction could cause lane closures and disrupt traffic (Class II) Construction could impact emergency service providers, bus/transit services, pedestrian and bicycle movement (Class II) Construction could damage roads and eliminate some parking (Class II) Construction could increase traffic on local roadways (Class II) Operation would create no impacts because it would involve few workers and vehicle trips

Table H-28. Summary of Impacts of New In-Area All-Source Generation Alternative

ISSUE AREA	RENEWABLE COMPONENT (Solar PV/Wind/ Biomass/Biogas)	CONVENTIONAL GENERATION (Power Plant)	CONVENTIONAL GENERATION (Peakers)
Public Health and Safety	<ul style="list-style-type: none"> • Refer to Solar PV, Wind, Biomass/Biogas components in Table H-27 above. 	<ul style="list-style-type: none"> • Construction could cause soil or groundwater contamination from hazardous materials (Class II) • Unknown contaminants may be found during construction (Class II) • Soil or groundwater contamination could be moved during construction (Class II) • Unexploded ordnance could be encountered during construction (Class II) • Operation could cause soil or groundwater contamination from hazardous materials (Class II) • Storage of hazardous materials at power plant site could cause public health and safety hazards (Class I) 	<ul style="list-style-type: none"> • Construction could cause soil or groundwater contamination from hazardous materials (Class II) • Residual pesticides and herbicides could be encountered during construction (Class II) • Unknown contaminants may be found during construction (Class II) • Unexploded ordnance could be encountered during construction (Class II) • Operation could cause soil or groundwater contamination from hazardous materials (Class I and Class II)
Air Quality	<ul style="list-style-type: none"> • Refer to Solar PV, Wind, Biomass/Biogas components in Table H-27 above. 	<ul style="list-style-type: none"> • Construction would result in unavoidable emissions (Class I) • Operation would increased overall air quality impacts (GHGs, PM10, ozone) (Class I) 	<ul style="list-style-type: none"> • Construction would result in unavoidable emissions (Class I) • Operation would increased overall air quality impacts (GHGs, PM10, ozone) (Class I)
Water Resources	<ul style="list-style-type: none"> • Refer to Solar PV, Wind, Biomass/Biogas components in Table H-27 above. 	<ul style="list-style-type: none"> • Construction could degrade water quality through erosion, sedimentation, disposal of harmful materials (Class II) • Groundwater quality could be degraded during construction of the facility (Class II) • Presence of facilities could increase flooding, flood diversions or erosion as plant is located in floodplain (Class II), SBRP only • Operation could impact local water supplies due to cooling water use (approximately 115,000 gallons of water would be needed per day) (Class I), SDCPP only 	<ul style="list-style-type: none"> • Construction could degrade water quality through erosion, sedimentation, disposal of harmful materials (Class II) • Groundwater quality could be degraded during construction of the facility (Class II) • Operation could degrade water quality through accidental spills

Table H-28. Summary of Impacts of New In-Area All-Source Generation Alternative

ISSUE AREA	RENEWABLE COMPONENT (Solar PV/Wind/ Biomass/Biogas)	CONVENTIONAL GENERATION (Power Plant)	CONVENTIONAL GENERATION (Peakers)
Geology, Mineral Resources, and Soils	<ul style="list-style-type: none"> • Refer to Solar PV, Wind, Biomass/Biogas components in Table H-27 above. 	<ul style="list-style-type: none"> • Construction could trigger erosion and slope instability causing harm to people and structures (Class III) • People or structures could be harmed by groundshaking, landslides, or problematic soils (Class II) 	<ul style="list-style-type: none"> • Construction could trigger erosion and slope instability causing harm to people and structures (Class III) • Presence of peakers would increase hazards of problematic soils, groundshaking and ground failures (Class II)
Socioeconomics, Public Services, and Utilities	<ul style="list-style-type: none"> • Refer to Solar PV, Wind, Biomass/Biogas components in Table H-27 above. 	<ul style="list-style-type: none"> • Construction could disrupt utilities (Class II) • Construction and operation could increase the need for public services and facilities (Class II) • Operation could increase water demand and could impact local water supply facilities if dry cooling is not used (Class I) 	<ul style="list-style-type: none"> • Construction could disrupt utilities (Class II) • Operation could increase the need for public services and utilities (Class III)
Fire and Fuels Management	<ul style="list-style-type: none"> • Refer to Solar PV, Wind, Biomass/Biogas components in Table H-27 above. 	<ul style="list-style-type: none"> • Construction and operation activities could ignite a wildfire (Class II) • Power plant stacks would present a minor aerial firefighting hazard by presenting a collision obstacle in reduced-visibility conditions associated with wildfires (Class III). • If the SBRP Chula Vista site is utilized there would be low fire risk and minimal impacts. 	<ul style="list-style-type: none"> • Construction and operation activities could ignite a wildfire (Class II) • Power plant stacks and new transmission lines would impact aerial firefighting (Class I)

Table H-28. Summary of Impacts of New In-Area All-Source Generation Alternative

ISSUE AREA	RENEWABLE COMPONENT (Solar PV/Wind/ Biomass/Biogas)	CONVENTIONAL GENERATION (Power Plant)	CONVENTIONAL GENERATION (Peakers)
Overall Impacts of New All-Source Generation Alternative	<ul style="list-style-type: none"> • Solar Thermal component would permanently impact ~1,450 acres of land in the Borrego Valley and transmission line would traverse ABDSP either overhead or underground, resulting in construction disturbances with the Park and visual and recreational operational impacts if the overhead option is used. • Operation requires water for periodic cleaning, which would potentially deplete water sources and/or strain existing public service providers. • Operation of all components would reduce emissions from fossil fuel plants (Class IV). • For PV, all impacts during construction and operation would be less than significant (Classes II and III) due to minor construction activities on existing structures in already disturbed areas. • Construction and operation would introduce a significant noise source (Class I) to the rural setting at Fallbrook and operation would contribute to local PM10 and ozone emissions (Class I). • Construction would cause temporary and permanent ground disturbance over the 7,500-acre area for the Wind component. • Presence of Wind turbines would result in mortality of birds and bats due to collision (Class I) and would compromise aerial and ground-based firefighting efforts (Class I) 	<ul style="list-style-type: none"> • Construction would result in unavoidable emissions (Class I). • Operation would increased overall air quality impacts (GHGs, PM10, ozone) (Class I). • Operation would potentially impact local water supplies and/or local water supply facilities (Class I) due to cooling water use (approximately 115,000 gallons of water would be needed per day) (Class I), SDCPP only. • Storage of hazardous materials at power plant site could cause public health and safety hazards (Class I). • Operation of power plant facilities would introduce a large industrial structure in an undeveloped parcel (Class I visual impact), SDCPP only. • Construction would impact birds present at sites by impacting their nesting activities and collision with transmission lines (Class I). • Increased air pollution from operation would impact biological resources (Class I). 	<ul style="list-style-type: none"> • Construction would result in unavoidable emissions (Class I). • Operation would increased overall air quality impacts (GHGs, PM10, ozone) (Class I). • Power plant stacks and new transmission lines would impact aerial firefighting (Class I). • Construction would impact birds present at sites by impacting their nesting activities and collision with transmission lines (Class I). • Increased air pollution from operation would impact biological resources (Class I).

Table H-29. Comparison of Environmentally Superior Transmission Alternative to Non-Wires Alternatives

Issue Area	Environmentally Superior Transmission Alternative (LEAPS Transmission-Only Alternative)	New In-Area Renewable Generation	New In-Area All-Source Generation
Biological Resources	<ul style="list-style-type: none"> • Ranking = 2 • 39.5 miles of new transmission line (47 miles of adding an additional line to existing poles) • Quino checkerspot butterfly (QCB) Critical Habitat impacts to 8 acres – all surveys were negative • Least Bell's vireo (LBVI) observed at 1 location – noise impacts only • LBVI – assumed present along San Luis Rey (Critical Habitat) – noise impacts only • Southwestern willow flycatcher (WIFL) assumed present along San Luis Rey (Critical Habitat) – noise impacts only • Arroyo toad (ARTO) – present at 3 locations (upland impacts only) and assumed present along San Luis Rey (upland impacts only) • 1 (minimum) golden eagle nest site (Class I) • California gnatcatcher (CAGN) Critical Habitat – impacts to 8 acres along 500 kV line and to 13.3 miles along Talega-Escondido line • CAGN – present at 2 locations (noise impacts only) • Stephens' kangaroo rat (SKR) – assumed present in 58 acres of habitat and at Pendleton Substation • Riverside Fairy Shrimp – potential to occur in road pools and at Camp Pendleton • Munz's onion – close to ROW but not expected to be impacted 	<ul style="list-style-type: none"> • Ranking = 3 • Significant (Class I) impacts from bird collisions and loss of special status plant species with Wind component. • Wind: 7,500 acre site – impacts unknown at this point • Jacumba Substation and associated transmission lines would impact QCB Critical Habitat • Overhead transmission linears with Biogas and Solar Thermal components (only if overhead option used) would create significant (Class I) impacts from bird collisions • Solar Thermal component: 1,450 acre site in desert completely impacted, most of which is sensitive vegetation (Class I) • Peninsular bighorn sheep (PBS) Critical Habitat = 10.5 miles with Solar Thermal component (both overhead and underground construction would disturb sheep within Critical Habitat) • LBVI – noise impacts to at least 19 locations with Solar Thermal component. • WIFL – noise impacts possible near Critical Habitat along S2; at least 24 migrants observed in multiple locations along SR78 and S2 within ROW (Solar Thermal underground transmission line) • Potential impacts to barefoot banded gecko with Solar Thermal component • Potential noise impacts to western yellow-billed cuckoo along S2 (Solar Thermal underground transmission line) 	<ul style="list-style-type: none"> • Preferred • Significant (Class I) impacts from bird collisions and loss of special status plant species with Wind component. • Wind: 7,500-acre site – impacts unknown at this point • Jacumba Substation and associated transmission lines would impact QCB Critical Habitat • Overhead transmission linears with Biogas component would create significant (Class I) impacts from bird collisions • Significant (Class I) impacts to protected birds, such as LBVI, (Impact B-8) at SDCPP site from indirect noise impacts. • SBRP site: Minimal vegetation impacts because within existing facility; however, potential impacts to burrowing owl (BUOW), San Diego fairy shrimp, estuary seablite, wooly seablite. • SBRP: Potential impacts to green sea turtles with loss of warm water outflow • SBRP: Beneficial impacts to plankton and fish species by removal of water intake pipes (Class IV) • SDCPP: 60 acre development • SDCPP: Direct impacts to California gnatcatcher (CAGN) possible • Peakers: 20 acres of impacts across 4 peaker sites • Impacts to CAGN critical habitat at 2 peaker sites and potential impacts to BUOW. • Significant (Class I) impacts to biological resources from increased air emissions from power plants and peakers.

Table H-29. Comparison of Environmentally Superior Transmission Alternative to Non-Wires Alternatives

Issue Area	Environmentally Superior Transmission Alternative (LEAPS Transmission-Only Alternative)	New In-Area Renewable Generation	New In-Area All-Source Generation
Visual Resources	<ul style="list-style-type: none"> • Ranking = 2 • A large portion of the 500 kV line would be located in a natural area with limited development within CNF, but it would pass some scattered residences. • Inconsistency with USFS Scenic Integrity Objectives due to the introduction of transmission line structure contrast, industrial character, view blockage, skylining, and unnatural vegetative clearing (Class I) • Upgrades and relocation would be located within existing transmission corridors. 	<ul style="list-style-type: none"> • Ranking = 3 • Wind component would result in significant (Class I) impacts because constructed on undeveloped arid landscapes that are not easily revegetated and from introduction of prominent industrial features on recreational BLM and Tribal land and visible from nearby residences and public roads. • Solar Thermal component would create significant (Class I) impacts from glare and if the overhead transmission option is utilized. • Solar Thermal Component would change the visual character of the Borrego Valley and significantly impact views from ABDSP including Font's Point and Inspiration Point. 	<ul style="list-style-type: none"> • Preferred • Wind component would result in significant (Class I) impacts because constructed on undeveloped arid landscapes that are not easily revegetated and from introduction of prominent industrial features on recreational BLM and Tribal land and visible from nearby residences and public roads. • SBRP along the Chula Vista shoreline would result in adverse but less than significant (Class III) and beneficial (Class IV) visual impacts. • SDCPP would introduce large structures with industrial character on undeveloped parcel (Class I impact)
Land Use	<ul style="list-style-type: none"> • Ranking = 3 • New 500 kV line passes 253 residences. • All transmission components pass ~1,800 residences and 1 school (name unknown) total. • Potential for some residential and/or business displacement due to the transmission line (Class I), and the proponents propose to purchase certain properties to help offset this effect although specific properties have not yet been identified. • Crosses Back Country Non Motorized (BCNM) land use zones in CNF. 	<ul style="list-style-type: none"> • Preferred • In proximity to 4 residences and 3 agricultural uses. • Solar PV units would be on existing buildings throughout San Diego County, but construction impacts would be less than significant. 	<ul style="list-style-type: none"> • Ranking = 2 • In proximity to 170 residences and 2 apartment complexes (within 1,000 feet). • Solar PV units would be on existing buildings throughout San Diego County, but construction impacts would be less than significant.

Sunrise Powerlink Transmission Line Project
H. COMPARISON OF ALTERNATIVES

Table H-29. Comparison of Environmentally Superior Transmission Alternative to Non-Wires Alternatives

Issue Area	Environmentally Superior Transmission Alternative (LEAPS Transmission-Only Alternative)	New In-Area Renewable Generation	New In-Area All-Source Generation
Wilderness and Recreation	<ul style="list-style-type: none"> • Ranking = 2 • Class I preclusion of use of hang gliding sites • Class I impacts to recreational value of Tenaja Trail, Horse-thief Trail, and San Mateo Canyon Wilderness • Inconsistent with USFS ROS settings (20.5 miles). 	<ul style="list-style-type: none"> • Ranking = 3 • Solar Thermal component would create significant (Class I) impacts during both construction and operation to ABDSP as well as indirect impacts to designated Wilderness. • Operation of Wind component would result in significant (Class I) impacts from Carrizo Overlook • If a substation is built near the Campo Reservation, there would be significant (Class I) impacts because it would be located within lands designated as Open Space (recreation) and would prevent recreational activities. 	<ul style="list-style-type: none"> • Preferred • Operation of Wind component would result in significant (Class I) impacts from Carrizo Overlook • If a substation is built near the Campo Reservation, there would be significant (Class I) impacts because it would be located within lands designated as Open Space (recreation) and would prevent recreational activities. • SBRP site would affect recreational bird watching uses to recreational areas of southern San Diego Bay area, but would be less than significant with mitigation (Class II).
Agricultural Resources	<ul style="list-style-type: none"> • Preferred • Lake-Pendleton 500 kV transmission line would transect two Forest Service-Trabuco Ranger District grazing allotments and construction activities could interfere with Active Agricultural Operations (grazing operations). This impact would be less than significant with mitigation (Class II). 	<ul style="list-style-type: none"> • Ranking = 2 • Biomass/Biogas component would permanently convert 28 acres of DOC farmland and Active Agricultural Operations to non-agricultural use (Class I). 	<ul style="list-style-type: none"> • Ranking = 3 • Biomass/Biogas component would permanently convert 28 acres of DOC farmland and Active Agricultural Operations to non-agricultural use (Class I). • SDCPP would convert approximately 60 acres of DOC Farmland to non-agricultural use (Impact AG-2, Class I).
Cultural Resources	<ul style="list-style-type: none"> • Preferred • Impacts to 2 cultural resources of moderate sensitivity and 2 cultural resources of low sensitivity. 	<ul style="list-style-type: none"> • Ranking = 3 • Impacts to 2 cultural resources of high sensitivity, including one site with human remains and one site with pictographs. • Impacts to 2 cultural resources of low sensitivity. • Potential additional impacts within Native American reservations for Wind Component. 	<ul style="list-style-type: none"> • Ranking = 2 • Impacts to 1 cultural resource of high sensitivity; 2 cultural resources of moderate sensitivity; and 2 cultural resources of low sensitivity. • Potential additional impacts within Native American reservations for Wind Component.
Paleontological Resources	<ul style="list-style-type: none"> • Ranking = 3 • Zero to high potential to impact paleontologically sensitive geologic units. 	<ul style="list-style-type: none"> • Preferred • Zero to low potential to impact paleontologically sensitive geologic units. 	<ul style="list-style-type: none"> • Ranking = 2 • Zero to high potential to impact paleontologically sensitive geologic units • Least amount of anticipated ground disturbance in previously undisturbed areas

Table H-29. Comparison of Environmentally Superior Transmission Alternative to Non-Wires Alternatives

Issue Area	Environmentally Superior Transmission Alternative (LEAPS Transmission-Only Alternative)	New In-Area Renewable Generation	New In-Area All-Source Generation
Noise	<ul style="list-style-type: none"> • Ranking = 3 • Corona noise would cause significant (Class I) noise impacts during line operation to receptors along the route. 	<ul style="list-style-type: none"> • Preferred • If the transmission line for the Solar Thermal component is underground, then there would be no operational corona noise impacts. • Operation of the Fallbrook Renewable Energy Facility would result in significant (Class I) permanent noise impacts to surrounding residences. • Helicopters and other equipment within 200 feet of sensitive receptors would periodically cause a substantial increase in noise over conditions occurring without the Wind component that would be significant (Class I). 	<ul style="list-style-type: none"> • Ranking = 2 • Operation of the Fallbrook Renewable Energy Facility would result in significant (Class I) permanent noise impacts to surrounding residences. • Operation of gas-fired power plants and peakers would have operational noise, though this impact would be reduced to less than significant (Class II). • Helicopters and other equipment within 200 feet of sensitive receptors would periodically cause a substantial increase in noise over conditions occurring without the Wind component that would be significant (Class I).
Transportation and Traffic	<ul style="list-style-type: none"> • Ranking = 3 • New 500 kV line crosses I-15 once and the Talega-Escondido corridor crosses I-15 twice, as well as local roadways and highways 	<ul style="list-style-type: none"> • Ranking = 2 • Similar to All-Source Generation Alternative, except construction of Solar Thermal component transmission line to Warners Substation would cause road closures (especially with the underground option). 	<ul style="list-style-type: none"> • Preferred • No roads would be removed/re-located and there would be relatively low impact to circulation due primarily to traffic generated (deliveries) and most likely no road closures (unless delivery of equipment warrants it).
Public Health and Safety	<ul style="list-style-type: none"> • Ranking = 2 • Would result in most ground disturbance and crosses agricultural lands, but most of the disturbance would be in remote areas of CNF and in existing transmission corridors with reduced potential to encounter contamination. • Several miles of alignment pass through an industrial/commercial area in Escondido with numerous hazardous material sites and many sites with known contamination, resulting in the potential to encounter known and unknown contamination. 	<ul style="list-style-type: none"> • Preferred • Construction at the Solar thermal and Wind sites and associated linears could encounter unknown contamination. • Residual pesticides/herbicides could be encountered on the agricultural land at Fallbrook site. • Biomass/Biogas generation sites at existing landfills could encounter landfill gases during construction and/or landfill gases could accumulate in enclosed spaces during project operation, resulting in suffocation and explosion hazards. 	<ul style="list-style-type: none"> • Ranking = 3 • Residual pesticides/herbicides could be encountered on the agricultural land at Fallbrook site. • Construction at the Wind site and associated linears could encounter unknown contamination • Increased risk from use and storage of hazardous materials at standard power plant sites, including aqueous ammonia (Class I). • Increased risk for encountering contaminated soil and groundwater at the South Bay Power Plant during project construction. • Bio-mass generation sites at existing landfills could encounter landfill gases during construction and/or landfill gases could accumulate in enclosed spaces during project operation, resulting in suffocation and explosion hazards.

Table H-29. Comparison of Environmentally Superior Transmission Alternative to Non-Wires Alternatives

Issue Area	Environmentally Superior Transmission Alternative (LEAPS Transmission-Only Alternative)	New In-Area Renewable Generation	New In-Area All-Source Generation
Air Quality	<ul style="list-style-type: none"> • Preferred • Construction activity generates dust and exhaust emissions. • No operational emissions from transmission line operation. • Results in a net increase of greenhouse gases and a significant climate change impact (Class I), because total construction GHG emissions exceed the GHG reductions achieved due to avoided power plant emissions over 40 years of transmission line operation. 	<ul style="list-style-type: none"> • Preferred • Construction activity generates dust and exhaust emissions. • Operation of biomass/biogas facilities would cause significant (Class I) toxic air contaminant emission impacts to receptors and could contribute to local violations of PM10 and ozone ambient air quality standards. • Results in a net reduction of greenhouse gases during operation, because <i>all</i> generation would be from renewable technologies. 	<ul style="list-style-type: none"> • Ranking = 2 • Construction activity generates dust and exhaust emissions. • Operation of biomass/biogas facilities would cause significant (Class I) impacts. • Any fossil fuel-fired power plant development would result in greenhouse gases, toxic air contaminants that could impact sensitive receptors, and emissions that could result in violations of local air quality standards (Class I).
Water Resources	<ul style="list-style-type: none"> • Preferred • Construction disturbance could result in erosion that would potentially impact water quality. 	<ul style="list-style-type: none"> • Ranking = 2 • Construction disturbance could result in erosion that would potentially impact water quality. • Operation of Solar Thermal component would result in flooding, flood diversions or erosion impacts that would be significant (Class I) • Operation and maintenance/cleaning of Solar Thermal component would potentially deplete local water supplies (Class I) depending on water source. 	<ul style="list-style-type: none"> • Ranking = 3 • Construction disturbance could result in erosion that would potentially impact water quality. • Increased water use by power plants using evaporative cooling would be a significant (Class I) impact unless dry cooling is used.
Geology, Mineral Resources, and Soils	<ul style="list-style-type: none"> • Ranking = 3 • Construction could trigger or accelerate erosion and/or landslides. • Route on mountainous Forest lands and would have greatest potential for erosion and landslides. 	<ul style="list-style-type: none"> • Ranking = 2 • Construction could trigger or accelerate erosion and/or landslides. • Potential damage to areas of desert pavement 	<ul style="list-style-type: none"> • Preferred • Construction could trigger or accelerate erosion and/or landslides. • Potential damage to areas of desert pavement • Would have least ground disturbance.

Table H-29. Comparison of Environmentally Superior Transmission Alternative to Non-Wires Alternatives

Issue Area	Environmentally Superior Transmission Alternative (LEAPS Transmission-Only Alternative)	New In-Area Renewable Generation	New In-Area All-Source Generation
Socio-economics, Public Services, and Utilities	<ul style="list-style-type: none"> • Preferred • Potential for utility disruptions associated with construction upgrades in existing Talega-Escondido corridor and connection into the SCE transmission system. • Least operational demand for water (less than significant). 	<ul style="list-style-type: none"> • Ranking = 2 • Solar Thermal component would create significant recreation impacts during both construction and operation to ABDSP, which could result in a decrease in revenues for businesses related to the tourism industry (Class I). If underground transmission option is used then operational revenue impacts would be less than significant. • Operation of Solar Thermal component would require water for cleaning and potentially would result in a significant impact (Class I) if the applicant was unable to purchase water with IID or VID as it would deplete local supplies. 	<ul style="list-style-type: none"> • Ranking = 3 • Increased water demand for cooling use would create a significant impact on local water supply facilities (Class I).
Fire and Fuels Management	<ul style="list-style-type: none"> • Ranking = 3 • New 500 kV line, upgraded 230 kV line, and relocated 69 kV line would create new firefighting obstacles and would increase the probability of ignitions (Class I) over the 82.8-mile project length during construction and operation. 	<ul style="list-style-type: none"> • Preferred (if Solar Thermal transmission line is underground); Ranking = 2 (if line is overhead) • Fewest new obstacles to firefighting. • Solar Thermal component and its associated transmission line (if overhead) would create significant impacts from new firefighting obstacles (Class I). This impact would not occur with the underground option. • Wind component would create obstacle to aerial and ground-based firefighting (Class I). 	<ul style="list-style-type: none"> • Ranking = 2 (if Solar Thermal transmission line for Renewable Generation Alternative is underground); Preferred (if Solar thermal line with Renewables Alternative is overhead) • Wind component would create obstacle to aerial and ground-based firefighting (Class I). • Associated transmission linears from power plants would create new firefighting obstacles (Class I)

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Figure H-4. Overall Environmentally Superior Alternative (New In-Area All-Source Generation Alternative)

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H.7 No Project Alternative vs. the Environmentally Superior Alternative

The No Project Alternative is described in Section C.6, and although no specific development scenario is envisioned, certain consequences can be identified without undue speculation (see Section E.8). The absence of the Proposed Project may lead SDG&E or other developers to pursue other actions. Although the No Project/No Action Alternative is not a definite single development scenario, it offers a range of predictable actions. The events or actions that are reasonably expected to occur in the foreseeable future without SRPL include the following:

- The existing transmission grid and power generating facilities would continue to operate until other major generation or transmission projects could be developed.
- Continued growth in electricity consumption and peak demand within the SDG&E service territory is expected. To serve this growth, additional electricity would need to be generated within San Diego County or imported by existing or modified facilities.
- Certain demand-side or supply-side actions would be expected to occur beyond the levels currently planned by SDG&E. ***Demand-side actions*** include ongoing energy conservation (energy efficiency) or load management (demand response); see Section C.6.2.1. ***Supply-side actions*** include development of new generation, including conventional, renewable, and distributed generation, or other major transmission projects; see Section C.6.2.2.

The full menu of potential projects that could occur under the No Project/No Action Alternative is shown Table H-30. Section C.6 briefly describes each component of this scenario, but each component is also described in more detail in other sections of this EIR/EIS, as stated in the last column of the table.

The No Project Alternative includes more energy options than would be required to replace the Sunrise Powerlink Project. In the absence of the Proposed Project, these energy options may be implemented in any combination. One configuration of the No Project Alternative would be to include only the components of the In Area All Source Generation Alternative, which is ranked as the Environmentally Superior Alternative. In this configuration, the No Project Alternative would be environmentally equivalent to the Environmentally Superior Alternative (ranked first). The foreseeable energy projects included in the No Project Alternative also include the components of the In Area Renewable Generation Alternative (ranked second) and the LEAPS Transmission Only Alternative (ranked third). Therefore, depending on the actions taken in the absence of the Proposed Project, the No Project Alternative could be ranked as the first, second, or third most environmentally superior alternative. In all cases, the No Project Alternative would have fewer impacts than the Proposed Project.

Sunrise Powerlink Transmission Line Project
H. COMPARISON OF ALTERNATIVES

Table H-30. Summary of the No Project/No Action Alternative

Projects	Sponsors	Status	Described in EIR/EIS
Demand-Side Actions – Section C.6.2.1			
More aggressive solar photovoltaic deployment	Various	Ongoing	As described in New In-Area Renewable Generation Alternative (Section C.4.10.1)
More aggressive distributed generation (DG) deployment	Various	Ongoing	As described in New In-Area All-Source Generation Alternative (Section C.4.10.2)
In-Area Conventional & Renewable Generation – Section C.6.2.2			
Greater and continued use of an older and relatively inefficient In-Area power plant	Port of San Diego & LS Power	Ongoing	Continued operation of South Bay Power Plant
New conventional generation	LS Power, ENPEX, NRG, SDG&E, others	Under CEC and CAISO review	As described in the New In-Area All-Source Generation Alternative(Section C.4.10.2): <ul style="list-style-type: none"> • One new combined cycle power plant • Four new peaking power plants
New renewable generation	None known	Conceptual	As described in the New In-Area Renewable Generation Alternative(Section C.4.10.1): <ul style="list-style-type: none"> • Wind generation in the Crestwood area • Solar thermal generation in the Borrego Springs area • Biomass/biogas projects in San Diego and Fallbrook
Transmission System Enhancements – Section C.6.2.3			
Mexico Light	None known	Conceptual	Mexico Light 230 kV Alternative (as described in Appendix 1, Section 4.9.3)
Path 44 Upgrades	None known	Conceptual	Path 44 Upgrade Alternative (as described in Appendix 1, Section 4.9.4)
LEAPS Project Transmission	Nevada Hydro Company and Elsinore Valley Municipal Water District	Under CPUC, CAISO, and FERC review	LEAPS Project Transmission-Only Alternative (Section C.4.9.2)