Executive Summary

ES.1 Introduction/Background

On October 25, 2013, Southern California Edison (SCE or "the Applicant") submitted Application A.13-10-020 seeking a Certificate of Public Convenience and Necessity (CPCN) from the California Public Utilities Commission (CPUC) for the West of Devers (WOD) Upgrade Project (Proposed Project). Because the proposed transmission line would cross approximately 3.5 miles of federal land managed by the Bureau of Land Management (BLM), the project would also require a Right-of-Way (ROW) Grant from the BLM for the portion of the project across BLM-administered land. SCE submitted a ROW Application to the BLM in March 2013. Since a portion of the Proposed Project would cross Trust Land on the Morongo Indian Reservation, the project would require a ROW grant from the Bureau of Indian Affairs (BIA).

This Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) has been prepared by the CPUC, as lead agency under the California Environmental Quality Act (CEQA), and the U.S. Department of the Interior, BLM, under the National Environmental Policy Act (NEPA), to inform the public and to meet the needs of local, State, and federal permitting agencies to consider the Proposed Project as described by SCE (Applicant) and alternatives to the project. Under NEPA, BIA will be a Cooperating Agency.

CPUC Conclusion Regarding Environmentally Superior Alternative. The CPUC has identified the Environmentally Superior Alternative, as required by CEQA Guidelines Sections 15126.6(d) and (e)(2). The Environmentally Superior Alternative would be the Phased Build Alternative (which incorporates the transmission structure locations defined in the Tower Relocation Alternative). The Environmentally Superior Alternative is illustrated in Figure ES-5, presented at the end of this section. The second preferred alternative would be the combination of the Tower Relocation Alternative, the Iowa Street 66 kV Underground Alternative, and the Proposed Project, for the segments unaffected by these two alternatives. The least environmentally preferred would be the Proposed Project with no modifications.

Conclusion Regarding BLM Agency Preferred Alternative. BLM planning regulations allow definition of BLM's Agency Preferred alternative in either the Draft EIS or 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.

No Project/No Action Alternative. The No Project/No Action Alternative includes two transmission system options that are considered to be the most likely actions that would occur in the absence of the Proposed Project or alternatives to the Proposed Project. Either of the two No Project/No Action Alternative Options would have more severe environmental impacts than either the Proposed Project or the alternatives considered in this EIR/EIS.

ES.1.1 Proposed Project and Historical Background

Description of the Proposed Project

Proposed Project. The Proposed Project would upgrade SCE's existing WOD system in a number of ways. The upgrades to the existing 220 kilovolt (kV) transmission lines would be the most visible components of the project. These upgrades would occur on approximately 30 miles of the Devers–El Casco 220 kV transmission line, 14 miles of the El Casco–San Bernardino line, 43 miles of the Devers–San Bernardino line, 45 miles of the Devers-Vista No. 1 and No. 2 lines, 3.5 miles of the Etiwanda–San Bernardino line, and 3.5 miles of the San Bernardino–Vista line. The Proposed Project would replace or upgrade the existing

220 kV transmission lines and structures between Devers, El Casco, San Bernardino, and Vista Substations to increase the system transfer capacity from 1,600 megawatts (MW) to 4,800 MW (see Figure ES-1, Proposed Project and Project Vicinity). Other components of the Proposed Project include substation equipment upgrades, relocation of 2 miles of 66 kV subtransmission lines and 4 miles of 12 kV distribution lines, and installation of telecommunications lines and equipment for the protection, monitoring, and control of transmission lines and substation equipment.

Morongo Tribal Land. The Proposed Project would cross approximately 8 miles of the Trust Lands (reservation) of the Morongo. SCE and the Morongo entered into a ROW agreement that covers the entire ROW on Morongo lands. Based on the SCE-Morongo ROW agreement, approximately 3 miles of existing WOD ROW would be abandoned and replaced with a new 3-mile alignment nearer Interstate 10. SCE would apply to the BIA for the grant of ROW across the new 3-mile alignment and the Morongo would consent to SCE's application for a new 50-year ROW Agreement.

As part of the ROW agreement, on November 27, 2012, SCE entered into a Development and Coordination Agreement (DCA) with Morongo Transmission LLC[1] that provides Morongo Transmission the option to invest up to $400 million at the time of commercial operation in exchange for 30-year lease rights to a pro rata portion of the proposed facilities. SCE has stated that this investment option was a key factor in the negotiation of a new ROW agreement that allows the Proposed Project to be built across the Morongo tribal-trust lands. However, Morongo Transmission's transmission transfer capability rights lease is contingent upon receipt of regulatory approvals from the Federal Energy Regulatory Commission (FERC)[2] and the CPUC. Under the terms of the ROW agreement, if such FERC and CPUC regulatory approvals are not obtained, the Morongo Tribe would have the right to terminate the ROW agreement.

Therefore, as part of its Application A.13-10-20, SCE has requested an Interim Decision from the CPUC for authority to lease transfer capability rights in a portion of the Proposed Project's upgraded and reconfigured transmission lines to Morongo Transmission. In its Application, SCE stated that approving an Interim Decision early in the process would be important because the ROW agreement is contingent on the CPUC approval of the proposed transaction. Without a ROW agreement, SCE would have to develop a new project that bypasses the Morongo tribal-trust lands. However, in a Prehearing Conference at the CPUC on March 4, 2015, SCE stated that it was no longer requesting an Interim Decision. The terms of the proposed transaction set forth in the DCA and the ROW agreement are included in Appendix J of SCE's Application A.13-10-020 (dated October 25, 2013) and are provided in Appendix 3 to this EIR/EIS.

Connected Actions. The CPUC and BLM have evaluated a range of other projects to determine whether they are so closely related to the Proposed Project as to be considered "connected actions" under the National Environmental Policy Act (NEPA). Projects that are considered "connected actions" under NEPA (40 C.F.R. 1508.25(a)(l)) include actions that:

(i) are automatically triggered by the proposed action,
(ii) cannot or will not proceed unless the proposed action occurs first or simultaneously, or
(iii) are interdependent parts of a larger action and depend upon the larger action for their justification.

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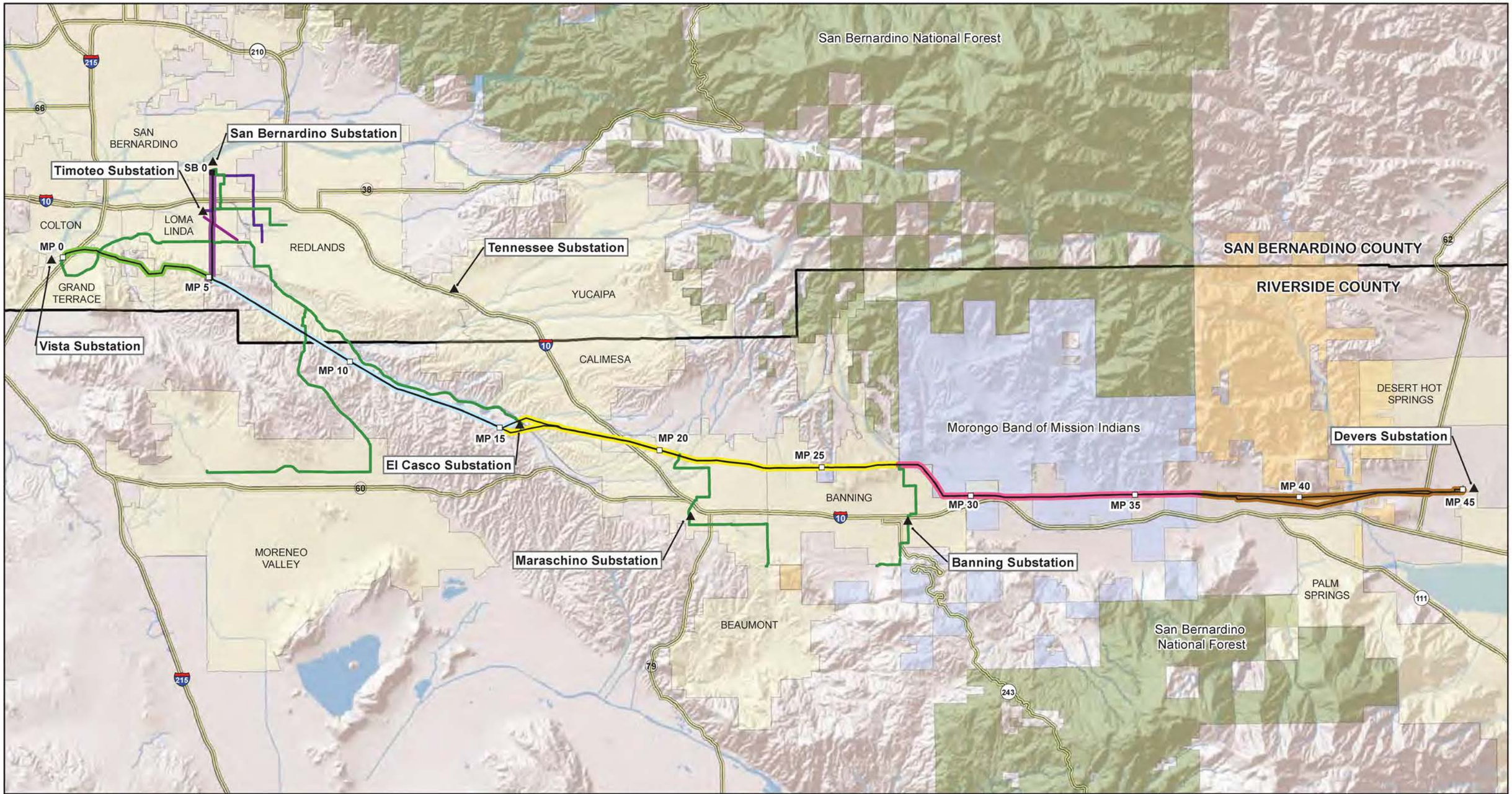
1 Morongo Transmission LLC is a venture between the Morongo Band of Mission Indians and Coachella Partners LLC, a Delaware limited liability company formed for the purposes of the Proposed Transaction, for which the Morongo Tribe owns the majority of interest.

2 On May 31, 2013, SCE and Morongo Transmission filed a joint application at FERC pursuant to Section 203 of the Federal Power Act requesting authorization to lease transfer capability in a portion of the WOD-UP by SCE to Morongo Transmission. On September 3, 2013, FERC issued Order Authorizing Disposition of Jurisdictional Facilities, 144 FERC 61,178 (2013) granting SCE's and Morongo Transmission's joint 203 Application, as being consistent with the public interest.



Sources: SCE 2013

Legend

Components of Proposed Project
- Substation
- Telecommunication Lines
- Distribution Lines
- Subtransmission Lines
- Milepost (e.g. MP 10, SB 0)
- County Line

Proposed Project Segments*
- Segment 1
- Segment 2
- Segment 3
- Segment 4
- Segment 5
- Segment 6

*All segments include both 220 kV conductors and telecommunications lines.

Land Jurisdiction
- City Boundary
- Morongo Band of Mission Indians
- Bureau of Land Management
- U.S. Forest Service

0 1.5 3 6 Miles

West of Devers Upgrade Project

Figure ES-1
Proposed Project and Project Vicinity

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The second category (ii) is relevant for the generation projects considered to be "connected." The approach to identifying connected actions for the Proposed Project has been driven by an analysis of generator interconnection agreements and transmission studies prepared by the California Independent System Operator (CAISO). A number of solar generation projects appear to depend on the WOD Upgrade Project in order to move to construction and operation, because there currently is inadequate transmission capacity west of Devers Substation.

The following generation projects are analyzed as actions connected to the WOD Project:

- Palen Solar Electric Generating System II, LLC (CAISO Queue 365) – 500 MW Solar Power Tower
- Desert Harvest, LLC (CAISO Queue 643AE) – 150 MW Solar Photovoltaic (PV)
- Project 1: Connecting to Blythe-Eagle Mountain 161 kV line (CAISO Queue 421) – 50 MW Solar PV
- Project 2: Connecting at Red Bluff Substation 230 kV (CAISO Queue 1070) – 250 MW Solar PV
- Project 3: Connecting at Colorado River Substation 230 kV (CAISO Queue 576) – 224 MW Solar PV
- Project 4: Connecting at Colorado River Substation 230 kV (CAISO Queue 970) – 150 MW Solar PV
- Project 5: Connecting at Colorado River Substation 230 kV (CAISO Queue 1071) – 150 MW Solar PV

It is important to note that each of these projects will have its own project-level impact analysis under CEQA and/or NEPA. The analysis presented in this EIR/EIS is intended to disclose the range of potential impacts to the public and to decision-makers, since construction of the WOD Upgrade Project would make these generation projects more likely to occur.

Historical Background

The history of the Proposed Project begins with a previous proposal by SCE to upgrade the lines in the WOD system. On April 11, 2005, SCE submitted an application (A.05-04-015) for a CPCN for a 500 kV interstate transmission line project, the Devers–Palo Verde No. 2 (DPV2) Project. The DPV2 project included three major components:

- A 500 kV line from the Palo Verde area in Arizona to a new substation near Blythe, California;
- A 500 kV line from the Blythe area substation to Devers Substation; and
- Upgrades to SCE's lower voltage transmission system west of Devers Substation.

The CPUC approved the DPV2 Project in January 2007 in Decision D.07-01-040. The approved DPV2 Project included the SCE proposal except for the West of Devers upgrades, which were replaced by the Devers to Valley 500 kV No. 2 Transmission Line Alternative. The West of Devers upgrades components, proposed by SCE in 2005 as part of the DPV2 Project, could not be approved by the CPUC and BLM because by the time of agency decisions (January 2007), the Morongo Band of Mission Indians had not reached an agreement with SCE on terms of the ROW renewal for the transmission corridor that crossed tribal land.

On May 14, 2008, SCE filed a Petition for Modification (PFM) of the CPCN granted per Decision D.07-01-040. In the PFM, SCE requested that the CPUC authorize SCE to construct DPV2 facilities in only the California portion of DPV2 and the Midpoint Substation (later re-named as the Colorado River Substation) near Blythe, California. The CPUC approved SCE's PFM on November 20, 2009 in Decision D.09-11-007. The BLM issued its Record of Decision (ROD) approving the project on July 19, 2011. Construction of the modified DPV2 Project began in June 2011 and its 500 kV transmission lines were energized in September 2013.

ES.1.2 Proposed Project Purpose and Need

SCE Project Objectives

SCE's six stated basic objectives for the Proposed Project are:

1. Allow SCE to meet its obligation to integrate and fully deliver the output of new generation projects located in the Blythe and Desert Center areas that have requested to interconnect to the electrical transmission grid.
2. Consistent with prudent transmission planning, maximize the use of existing transmission line rights-of-way to the extent practicable.
3. Meet project need while minimizing environmental impacts.
4. Facilitate progress toward achieving California's RPS [Renewable Portfolio Standard] goals in a timely and cost-effective manner by SCE and other California utilities.
5. Comply with applicable Reliability Standards and Regional Business Practice developed by NERC [North American Electric Reliability Corporation], WECC [Western Electricity Coordinating Council], and the CAISO; and design and construct the project in conformance with SCE's approved engineering, design, and construction standards for substation, transmission, subtransmission, and distribution system projects.
6. Construct facilities in a timely and cost-effective manner by minimizing service interruptions to the extent practicable.

CPUC and BLM Project Objectives

Having taken into consideration the six objectives set forth by SCE above, the CPUC and BLM identified three basic project objectives, described as follows:

Basic Project Objective 1: to upgrade the WOD 220 kV transmission lines between Devers, El Casco, Vista, and San Bernardino Substations to increase system deliverability by at least 2,200 MW.

The first Basic Project Objective reflects the aim to provide increased deliverability of electricity, defined in terms of megawatts (MW), for existing and planned generating facilities that are located far from the utility load centers in the Los Angeles basin. Before the Proposed Project was planned, the transmission transfer capability of the WOD 220 kV corridor was limited to approximately 550 MW. Since then, several generators with plans to be online before the Proposed Project's estimated completion date in 2020 requested interconnection to the system. In order to accommodate and deliver the initial group of 5 solar power generation projects that was planned, totaling 2,200 MW (CAISO, 2010), the minimum total capability that would need to be achieved by the Proposed Project or any alternative is 2,750 MW. Accordingly, the first Basic Project Objective is to increase deliverability by at least 2,200 MW.

Basic Project Objective 2: to support achievement of State and federal renewable energy goals.

The second Basic Project Objective is directly related to the first, because the projects that plan to rely on the Proposed Project for delivering electricity to the Los Angeles basin are primarily solar generation projects. Therefore, an increase in the capacity of the WOD transmission lines would directly improve the ability for numerous renewable generation projects to interconnect. Aside from the resources imported via transmission lines from outside of the SCE territory, all of the interconnecting projects are solar powered, as described in SCE's Application and PEA Sections 1.1 and 1.2.

California's renewable energy goals are defined on the CPUC's website (CPUC, 2015):

> *Established in 2002 under Senate Bill 1078, accelerated in 2006 under Senate Bill 107 and expanded in 2011 under Senate Bill 2, California's Renewables Portfolio Standard (RPS) is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities (IOUs), electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33% of total procurement by 2020.*

The CPUC states that California's three large utilities collectively served 22.7% of their 2013 retail electricity sales with renewable power. The federal government also has prioritized the development of renewable energy, but has not set specific development targets for the country as a whole.

Basic Project Objective 3: to maximize the availability of remaining space in the corridor to the extent practicable, so future use of the corridor for additional transmission line upgrades is not precluded.

This objective reflects the aim to be prudent in the use of land within the existing transmission corridor and to allow adequate space within the ROW for transmission expansion, if needed by SCE in the future. While SCE states that it currently has no specific plans for transmission expansion in the WOD corridor, there are other regional studies that point to the potential for future development. For the purposes of measuring consistency with this objective, 175 feet is used as an acceptable minimum ROW width for a 500 kV double-circuit transmission line.

ES.2 Summary of Public Involvement Activities

ES.2.1 Scoping Process

Notices, Meetings, and Scoping Reports

- The CPUC issued the Notice of Preparation (NOP) of an EIR on May 12, 2014, distributing it to the State Clearinghouse, federal, State, regional, and local agencies, elected officials of affected areas, and the general public. The CPUC mailed approximately 13,300 copies of the NOP to federal, State, regional, and local agencies, and elected officials, community and environmental organizations, Native American groups, and property owners. The 30-day public scoping period extended from the issuance of the NOP to June 12, 2014.
- The NEPA scoping process began with the publication of the Notice of Intent (NOI) to prepare EIS on July 1, 2014 in the Federal Register. A notice of Public Scoping Meeting was mailed to all parties on the EIR/EIS mailing list. The 30-day comment period began on July 1, 2014 and extended to July 31, 2014.
- In May 2014, the CPUC held 4 public scoping meetings in three locations to collect input on the scope and content of the EIR/EIS and on alternatives and mitigation measures to consider. Approximately 40 members of the public and representatives from organizations and government agencies attended the meetings.
- On July 16, 2014, the BLM held a scoping meeting in the City of Banning. Approximately 15 members of the public and representatives from organizations and government agencies attended the meeting.
- The CPUC issued its Scoping Report in July of 2014. The report summarized issues of concern based on 36 written and oral comments from agencies, organizations, and members of the public.
- The BLM Scoping Report was released in October of 2014. The report summarized issues of concern based on 18 written and oral comments from agencies, organizations, and members of the public.

Agency Consultation

During the public scoping period, the CPUC contacted 10 affected public officials and tribal government representatives in an effort to provide information about the Proposed Project, the EIR/EIS process, and to consult with them regarding potential concerns or issues. As a result of this initial consultation, two local agencies (City of Redlands and City of Grand Terrance) and representatives of the Morongo Band of Mission Indians expressed interest in a face-to-face meeting with the CPUC and its environmental consultants to learn more about the WOD project.

During the meetings, the CPUC presented the Proposed Project to the agencies, answered questions, and solicited informal input on any issues and concerns with the project. The CPUC also provided a project factsheet and identified additional information that the agencies requested regarding the project. This information was provided after the meetings by e-mail and mail to the requesting agencies/tribal government.

Native American Consultation

The CPUC and BLM are involved in ongoing tribal consultations regarding the West of Devers Upgrade Project.

The BLM consults with Indian Tribes on a government-to-government basis in accordance with several authorities, including NEPA, the National Historic Preservation Act (NHPA), the American Indian Religious Freedom Act, and Executive Order 13007. Under Section 106 of the NHPA, the BLM consults with Indian Tribes as part of its responsibilities to identify, evaluate, and resolve adverse effects on historic properties affected by BLM undertakings.

- On June 27, 2013, SCE sent contact letters requesting input on the Proposed Project to tribal representatives that were identified by the Native American Heritage Commission as having an interest in or information about the Proposed Project area.
- On May 20, 2014, the BLM sent letters to 14 tribal government representatives to initiate government-to-government consultation for this project. The letters provided initial notification regarding the project, explained the role of the BLM, and invited the tribal governments to enter into government-to-government consultation.
- On August 22, 2014, the BLM sent follow-up letters to tribal government representatives to provide an update on efforts to identify historic properties that may be affected by the Proposed Project, to provide notification of archaeological site testing, and to reiterate the BLM's invitation and request to engage in government-to-government consultation.
- In May 2015, the BLM sent follow-up letters to tribal government representatives to provide copies of all cultural resource documents prepared for the Proposed Project and an update on cultural resource efforts. The tribes were invited to a consultation meeting to discuss identification of historic properties and potential project effects.

Facilitation of Project Information

An EIR/EIS e-mail address list was created, and a telephone hotline and Internet site for project information were established. The Internet site was used to post all the public environmental documents (including this Draft EIR/EIS) and to announce upcoming public meetings. All public notices appeared on the CPUC's project website:

http://www.cpuc.ca.gov/environment/info/aspen/westofdevers/westofdevers.htm

Throughout the process, the EIR/EIS team has been available for questions and comments at (866) 456-0254 or by e-mail at westofdevers@aspeneg.com.

ES.2.2 Areas of Controversy / Public Scoping Issues

A summary of the key issues that were raised during scoping is presented below.

Aesthetics/Visual

Several commenters expressed concern with the height of the new towers and stated that, because of added bulk and height, the towers would be highly visible from residences and public roadways. A number of commenters also suggested that the lines be undergrounded in certain areas to address visual impacts as well as safety concerns. Visual simulations of proposed structures were requested as part of the aesthetics assessment. One commenter requested that the applicant consider the aesthetics of the neighborhood when building towers.

Conflicts with Existing Land Uses

Some municipal officials noted that the WOD project could impact their existing plans for development and could impact anticipated road improvement projects. The project crosses the Colorado River Aqueduct, and there was concern that the project could impact the ongoing operation, maintenance, and repair of the aqueduct. The Metropolitan Water District requested that design plans be reviewed and approved by them and that the EIR/EIS consider potential impacts to the aqueduct.

The project's potential to impact recreational uses in the Cities of Colton and Grand Terrace were identified as key concerns that should be evaluated in the EIR/EIS. The connectivity of recreational areas between the two cities was an issue that city officials requested be evaluated in the EIR/EIS. Several commenters raised a concern with the placement of the new towers closer to existing homes and wanted to know why SCE could not place the towers further away from existing residences. One commenter expressed appreciation that the transmission towers would be placed far from the Interstate 10 freeway and not on the hillsides.

Social/Economic

Commenters expressed concern with the project's impact on property values as a result of towers being closer to homes. Commenters expressed concern with security/safety and general wellbeing when living near an electrical transmission corridor.

Fire Risk, EMF, and Other Hazards

Several commenters expressed concern with the potential of the project to increase fire risk and suggested the requirement of mitigation measures such as an emergency response plan and undergrounding of the transmission line. Southern California Gas noted that the project crosses a number of its pipelines and suggested that SCE contact Underground Service Alert prior to excavating in the project area. Several concerns were raised regarding the use of the transmission corridor easement and whether it was safe for recreational or other uses.

CAL FIRE noted that the area has a history of wildfires and requested to be notified of construction activities and suggested that a plan be put in place to coordinate a response to fires if helicopters will be used in construction. Several concerns were raised regarding the safety of the transmission lines especially if they are placed closer to homes and wanted to know if the lines would increase the potential for exposure to EMF with the new towers. One commenter requested that the EIR/EIS study the potential health risks associated with transmission towers. One commenter was concerned with what measures

would be taken to ensure survival of lines exposed to massive solar flares or terrorist bombs designed to wipe out electrical grids.

Construction-Related (Dust, Noise, Traffic)

Commenters expressed concern with construction dust, especially in high wind areas, and requested that dust suppression measures be included in the EIR/EIS. Local agencies also asked about whether SCE would be required to abide by local requirements with regard to construction hours and noise standards. Some city officials were concerned with the potential for damaging local roads and increasing traffic. More information was requested on anticipated truck routes on the different project segments, and there was a request for requiring SCE to coordinate with local agencies on the construction schedule as well as requiring SCE to repair any damage to local roads. Several commenters requested that the EIR/EIS consider the impact of road closures and limited access to residences, residential streets, and businesses.

Geology/Slope Stability

In the City of Grand Terrace, the Cities of Colton and Grand Terrace expressed concern regarding towers that are currently on unstable soil and near an area where a deck collapsed due to slope failure. The commenters stated that slope stability and erosion should be addressed.

Biological Resources Issues

The California Department of Fish and Wildlife (CDFW) requested a thorough evaluation and mitigation of impacts to sensitive species in the project area and also asked for the EIR/EIS to consider the two Multiple-Species Habitat Conservation Plans that are in place in the project area. Another request was to assess potential impacts to California gnatcatcher and its habitat in Segment 2 and to identify mitigation for habitat impacts. A request was made for the EIR/EIS to evaluate the project's impact on common ravens, red-tailed hawks, and golden eagles. In the evaluation of these species, the commenter asked that other issues be taken into consideration, such as global warming.

Other Comments (Curtailment and Other)

Five comment letters (representing nine energy companies) and one commenter at the public scoping meeting addressed curtailment of existing renewable energy production. These commenters expressed concern with SCE curtailing or reducing existing electrical generation for several years while the WOD project is being constructed. They requested compensation for this anticipated curtailment period and requested that this issue be discussed in the EIR/EIS. One commenter expressed concern with "piecemealing" and stated that the WOD project alignment is one of the alternatives (Northerly Route) identified and rejected in the evaluation of the El Casco Substation EIR.

ES.3 Alternatives

ES.3.1 CEQA and NEPA Requirements for Alternatives

Both CEQA and NEPA provide similar guidance on the selection of a reasonable range of alternatives for evaluation in an EIR and EIS. The alternatives screening and evaluation process in this EIR/EIS satisfies both State and federal requirements. The CEQA and NEPA requirements for selection of alternatives are described below.

Under CEQA, alternatives to the Proposed Project are identified and evaluated in accordance with CEQA Guidelines. CEQA Guidelines (Section 15126(a)) state:

> *An EIR shall describe a reasonable range of alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project.*

CEQA Guidelines (Section 15364) define feasibility as:

> *...capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.*

Under NEPA, according to the Council on Environmental Quality's (CEQ) NEPA Regulations (40 CFR 1502.14), an EIS must present the environmental impacts of the proposed action and alternatives in comparative form, defining the issues and providing a clear basis for choice by decision-makers and the public. As required under CFR 1502.14, the alternatives section shall:

> *(a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.*
>
> *(b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.*
>
> *(c) Include reasonable alternatives not within the jurisdiction of the lead agency.*
>
> *(d) Include the alternative of no action.*
>
> *(e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.*
>
> *(f) Include appropriate mitigation measures not already included in the proposed action or alternatives.*

The CEQ has stated that "[r]easonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense rather than simply desirable from the standpoint of the applicant" (CEQ, 1983).

In addition to the CEQ NEPA regulations, CEQ has issued a variety of general guidance memoranda and reports concerning implementation of NEPA. One of the most frequently cited resources for NEPA practice is CEQ's *Forty Most Asked Questions Concerning CEQ's NEPA Regulations* (Forty Questions). Although a reviewing federal court does not always give the Forty Questions the same deference as it does the CEQ NEPA Regulations, in some situations the Forty Questions have been persuasive to the judiciary. In general, alternatives are discussed in Forty Questions Nos. 1 through 7. Question No. 5b asks if the analysis of the "proposed action" in an EIS is to be treated differently than the analysis of alternatives. The response states:

> *The degree of analysis devoted to each alternative in the EIS is to be substantially similar to that devoted to the "proposed action." Section 1502.14 is titled "Alternatives, including the proposed action" to reflect such comparable treatment. Section 1502.14(b) specifically requires "substantial treatment" in the EIS of each alternative including the proposed action. This regulation does not dictate an amount of information to be provided but rather, prescribes a level of treatment, which may in turn require varying amounts of information, to enable a reviewer to evaluate and compare alternatives.*

Alternatives Screening

Potential alternatives to the Proposed Project were suggested during two scoping periods (May 12 to June 12, 2014 and July 1 to July 31, 2014) by federal, State and local agencies and members of the general public. Other potential alternatives were developed by EIR/EIS preparers or presented by SCE in its Proponent's Environmental Assessment (PEA).

In total, the alternatives screening process identified 14 potential alternatives for screening. These alternatives encompass both the 220 kV and 66 kV lines and range from minor structure location adjustments within SCE's existing ROW to reduced build alternatives for the 220 kV transmission components.

Unlike CEQA's requirements, NEPA does not require screening of alternatives based on their potential to avoid or lessen significant environmental effects. However, to assure that the alternatives considered in the EIR/EIS would meet the requirements of both CEQA and NEPA, the stricter requirements of CEQA have been applied as the screening methodology. As such, a reasonable range of alternatives has been considered and evaluated with regard to: (1) whether they would meet most of the basic project objectives; (2) whether they would be feasible considering legal, regulatory, and technical constraints; and (3) whether they have the potential to substantially lessen any of the significant effects of the Proposed Project. Other factors considered, in accordance with CEQA Guidelines Section 15126.6(f), were site suitability, economic viability, availability of infrastructure, general plan consistency, other regulatory limitations, jurisdictional boundaries, and proponent's control over alternative sites. Economic factors or costs of the alternatives (beyond economically feasible) were not considered in the screening of alternatives, since CEQA Guidelines require consideration of alternatives capable of eliminating or reducing significant environmental effects even though they may "impede to some degree the attainment of project objectives or would be more costly" (CEQA Guidelines Section 16126.6(b)).

The detailed results of the alternatives screening analysis are contained in Appendix 5 of the EIR/EIS (Alternatives Screening Report). A summary description of the alternatives considered and the results of screening are provided below.

ES.3.2 Alternatives Fully Evaluated in the EIR

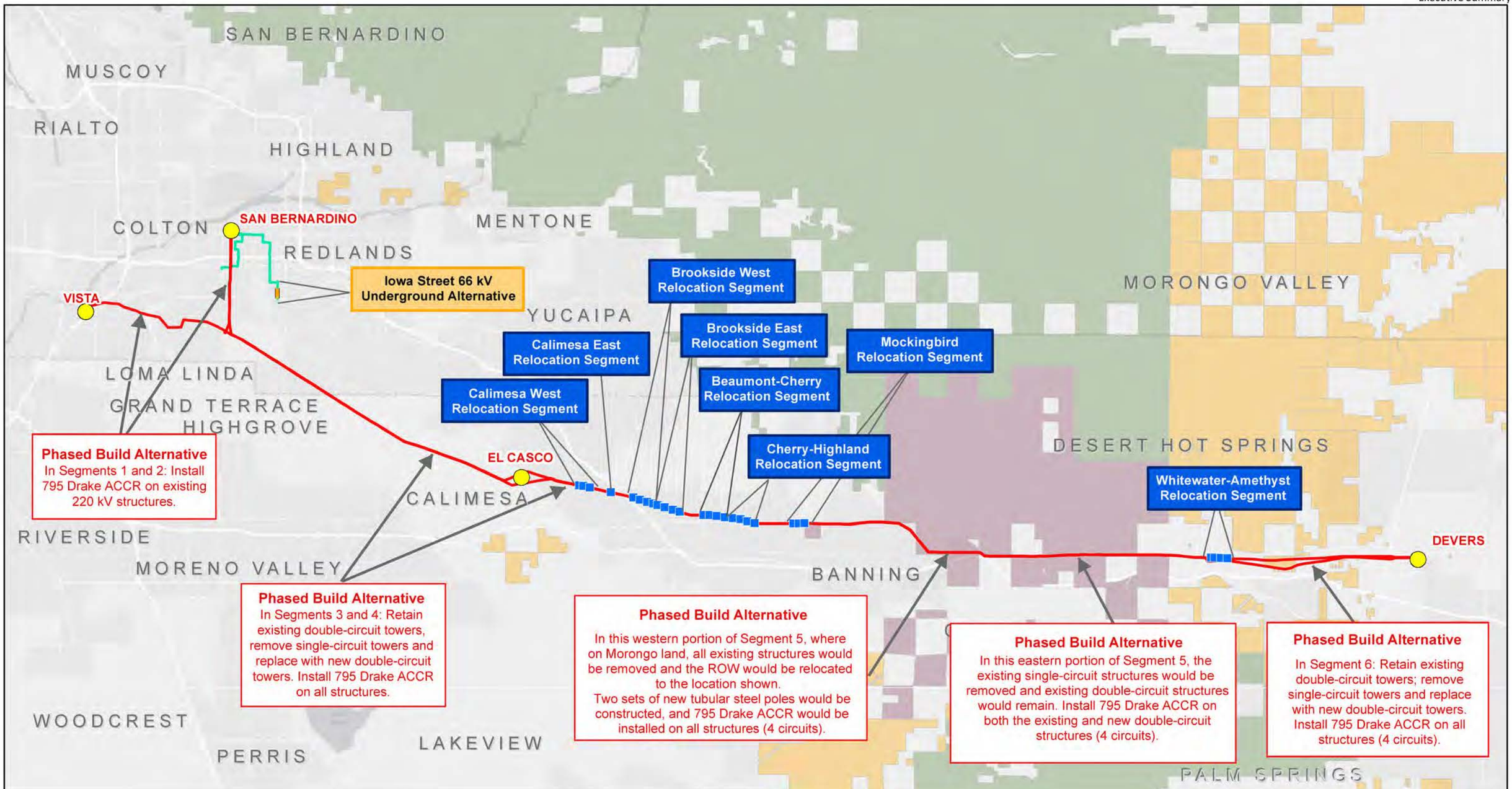
Three alternatives have been retained for detailed analysis in this EIR/EIS as a result of the alternative screening process:

- Tower Relocation Alternative
- Iowa Street 66 kV Underground Alternative
- Phased Build Alternative

These alternatives are briefly described in Section C.4 and in greater detail in Appendix 5. The preliminary conclusions generated during the screening process are presented briefly below and each of these alternatives is evaluated within each environmental issue area of Part D of this EIR/EIS. The three alternatives are illustrated on Figure ES-2.

Tower Relocation Alternative

Description. The Tower Relocation Alternative would place towers about 50 feet farther from adjacent residences in Segment 4 (Beaumont and Banning) and Segment 6 (Whitewater), where potentially significant visual impacts have been identified for the Proposed Project. In general, the alternative would relocate 25 pairs of structures in Segment 4 and 4 individual structures in Segment 6 approximately 50 feet to the north of the proposed tower locations under the Proposed Project. The locations of the relocated towers suggested in this alternative are shown on Figure ES-2.



West of Devers Upgrade Project

Figure ES-2

Alternatives Retained

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Rationale for Full Analysis. The Tower Relocation Alternative would meet all three basic project objectives and it would be feasible with respect to its constructability, reliability, and legal and regulatory factors. In addition, this alternative would reduce significant visual impacts of the Proposed Project and would reduce construction-related disturbance associated with the upgraded 220 kV lines by ensuring that relocated towers would be no closer to residences than the existing structures. Because this alternative would reduce potentially significant impacts of the Proposed Project, it has been retained for full evaluation in this EIR/EIS.

Iowa Street 66 kV Underground Alternative

Description. This 1,600-foot underground alternative was developed by the EIR/EIS team to eliminate significant visual impacts of the proposed 66 kV San Bernardino–Redlands-Tennessee subtransmission line to residences along Iowa Street in the City of Redlands. In the Iowa Street 66 kV Underground Alternative, the 66 kV subtransmission line would transition from overhead to underground just south of the single-lane bridge on Iowa Street, approximately 275 feet north of Iowa Street's intersection with Orange Avenue. The subtransmission line would travel underground in new conduit in Iowa Street for approximately 1,600 feet before transitioning from underground to overhead on the south side of Barton Road, in line with the existing overhead San Bernardino–Redlands-Tennessee 66 kV subtransmission line running east-west along Barton Road. This underground alternative would replace a similar length of proposed new overhead subtransmission line that is part of the Proposed Project. The location of this alternative is shown in Figure ES-2.

Rationale for Full Analysis. This alternative would meet the two project objectives applicable to the 66 kV subtransmission line component of the Proposed Project (Basic Project Objectives 1 and 2). In addition, the Iowa Street 66 kV Alternative would eliminate significant visual impacts associated with the new overhead 66 kV subtransmission line. The alternative would be feasible, since SCE is already proposing approximately 4,800 feet of underground 66 kV subtransmission line as part of the Proposed Project. The alternative is technically feasible; during engineering SCE would evaluate the existing underground utilities in Iowa Street to determine the specific location of the 66 kV line within the roadway.

Phased Build Alternative

This alternative was developed to avoid most of the environmental impacts associated with removal of the existing double-circuit towers and construction of new double-circuit towers, while still allowing import of generation from generation projects that the CAISO has determined to be most realistic.[3]

Description. The alternative is derived from the project proposed by SCE in 2005 as the West of Devers System Upgrades portion of the DPV2 project. The purpose of this alternative is to reduce construction by retaining as many existing tower structures as possible and installing lighter-weight but higher-performance conductors on the retained towers. The high-performance conductors would maximize power transfer and avoid structurally overloading the existing towers. In this alternative, the existing 66 kV subtransmission system would not be affected and the replacement 66 kV line that would move to Iowa Street under the Proposed Project would not be required.

[3] The Phased Build Alternative would have capacity for all the generation included in the CAISO 2024 Reliability Base Case (see EIR/EIS Appendix 5 (Alternatives Screening Report), Attachment 2, pages 5-6 and Table A4). This scenario includes 3,754 MW of Total Generation On-line and 6,901 MW of Total Generation Capacity, as well as the power flow on the system resulting from import of 1,400 MW from the Imperial Irrigation District into the Los Angeles Basin.

The alternative would:

- **Remove and replace existing single-circuit towers.** The two sets of existing single-circuit towers would be removed and one set of new double-circuit towers would be constructed to replace the removed towers. The new set of double-circuit towers would be constructed in the locations defined in the Tower Relocation Alternative (see Section 4.2).
- **Retain existing double-circuit towers.** The existing double-circuit towers would be retained. Prior to reconductoring approximately 20% of the existing structures would be strengthened and their heights increased.
- **Install high-capacity conductors on all four circuits.** Both the new and existing 220 kV double-circuit towers would have the "795 Drake" Aluminum Conductor Composite Reinforced (ACCR) installed.
- **Allow for future capacity expansion within the existing corridor** with several optional future phases. These phases would be implemented as generation projects become certain and capacity is clearly required. Because the Phased Build Alternative would accommodate projects now defined in the CAISO's 2024 Reliability Base Case, it may be 10 years before additional upgrades are needed. The future phases could include:
  - Reconductoring the newly constructed 220 kV structures with higher capacity conductors;
  - Replacing the retained 220 kV structures with new, stronger 220 kV structures in order to carry heavier, higher capacity conductors;
  - Install a single- or double-circuit 500 kV or 220 kV line in the vacant space remaining in the ROW.

The components of this alternative are shown on Figure ES-2. In Segment 5, the Phased Build Alternative on Morongo land would look very much like the Proposed Project, and would incorporate the Morongo relocation of a part of the ROW and the use of tubular steel poles.

The Phased Build Alternative would use a composite reinforced conductor in an appropriate size to allow import from all generation projects that are reasonably foreseeable (i.e., included in the CAISO's 2024 Reliability Base Case, as well as allowing import of an additional 1,400 MW from the Imperial Valley). A high-performance conductor weighs less and has lower thermal expansion than the SCE-standard ACSR conductor, resulting in less sag for an equivalent strength and durability as the ACSR conductor. Therefore, using an alternative conductor would satisfy the basic project objectives while simultaneously avoiding the need to rebuild all existing double-circuit towers in the corridor.

Rationale for Full Analysis. The Phased Build Alternative is retained for analysis because it would reduce the environmental impacts of the Proposed Project by greatly reducing the amount of construction disturbance in comparison with the Proposed Project. This alternative would retain existing 220 kV double-circuit structures where feasible, thereby reducing the amount of tower deconstruction needed and reducing the number of new towers and poles that would be constructed. It also would not require the relocation of the 66 kV subtransmission lines. It would achieve all three Basic Project Objectives. In addition, this alternative is technically feasible, based on data provided by SCE to the EIR/EIS team through formal data requests. The alternative conductor type has been proven and is in use by other utilities.

ES.3.3 Alternatives Eliminated From Further Consideration

This EIR/EIS presents two categories of alternatives eliminated from detailed EIR/EIS consideration. Certain alternatives were eliminated because they clearly did not meet project objectives or were infeasible; these alternatives that were assessed and eliminated after preliminary screening are listed below. Other alternatives required more detailed consideration in order to determine whether they should be eliminated; these are listed below as well and are described briefly herein.

Alternatives Eliminated After Detailed Screening

The 11 alternatives discussed below were evaluated for their potential to meet CEQA and NEPA requirements, but ultimately were eliminated from consideration in the EIR/EIS. A more detailed description of each alternative and the rationale for its consideration and elimination is presented in EIR/EIS Appendix 5, Alternatives Screening Report. Figures ES-3a and ES-3b show the locations of the alternatives eliminated after detailed screening.

500 kV Towers Alternative

Description. The 500 kV Towers Alternative anticipates a future 500 kV line being developed in the ROW, and would erect structures near the center of the ROW now that would be suitable for future use at 500 kV. In contrast to the pairs of 220 kV towers of the Proposed Project, the outer set of towers (i.e., neared edge of ROW) in this alternative would be 220 kV towers, and the set nearer the center of the ROW would be 500 kV structures. Initially, the lines on both structures would be energized at 220 kV, but eventually the 500 kV structure would be energized at 500 kV. This alternative would allow the future 500 kV line to be farther from the edge of the ROW in Segments 2, 3, 4, and 6, between the Devers Substation and the Vista Substation. The 500 kV structure line in this alternative would be located at least 75 feet from the edge of the ROW in the areas where the ROW is split. At some future time when 500 kV service becomes needed in addition to the existing 220 kV service, SCE would presumably construct another set of double-circuit 220 kV towers on the opposite side of the ROW from the initial 220 kV towers, and use the 500 kV towers for a 500 kV circuit.

This alternative would not facilitate adding 500 kV service through Segment 1 (San Bernardino Substation to San Bernardino Junction) where the potential for blow-out (swinging) of lines past the edge of the ROW would preclude using taller and wider-spaced structures.

Similarly, this alternative would not change the proposal for Segment 5 on the Morongo Reservation, where only the Proposed Project has been approved by the Morongo Tribe in a ROW Agreement with SCE (see EIR/EIS Appendix 3). This alternative would proceed on the Morongo Reservation only if it were recommended and approved by the Morongo Band of Mission Indians, and a new ROW Agreement would need to be issued in order for it to move forward. Since the Morongo Tribe has not approved 500 kV service at this time, this alternative is not being contemplated for Segment 5. In the future, 500 kV structures would be constructed in Segment 5 to connect to the 500 kV structures at the western and eastern ends of the reservation. If the Morongo Tribe does not approve construction of a 500 kV line across tribal land in the future, a route around the reservation would need to be constructed.

In Segment 2 (Vista Substation to San Bernardino Junction), existing lower-voltage (115 kV) circuits would need to be relocated to allow placement of the 500 kV structures in the widest portions of the ROW, and existing 220 kV structures in the northern portion of the ROW would need to be retained and used by the relocated lower-voltage circuits.

Rationale for Elimination. This alternative meets all three project objectives. Installation of 500 kV structures and operation at 500 kV in the future would require a new agreement from the Morongo Tribe to be legally feasible. If the Morongo Tribe were to not approve a 500 kV line when it is needed in the future, then it would not be legally feasible to construct a 500 kV line across tribal land. Therefore, SCE would have to construct a 500 kV route around the reservation, which also does not appear to be feasible given the land ownership, land designations, and terrain in the area.

Segment 4 Underground Alternatives in Calimesa, Beaumont, and Banning

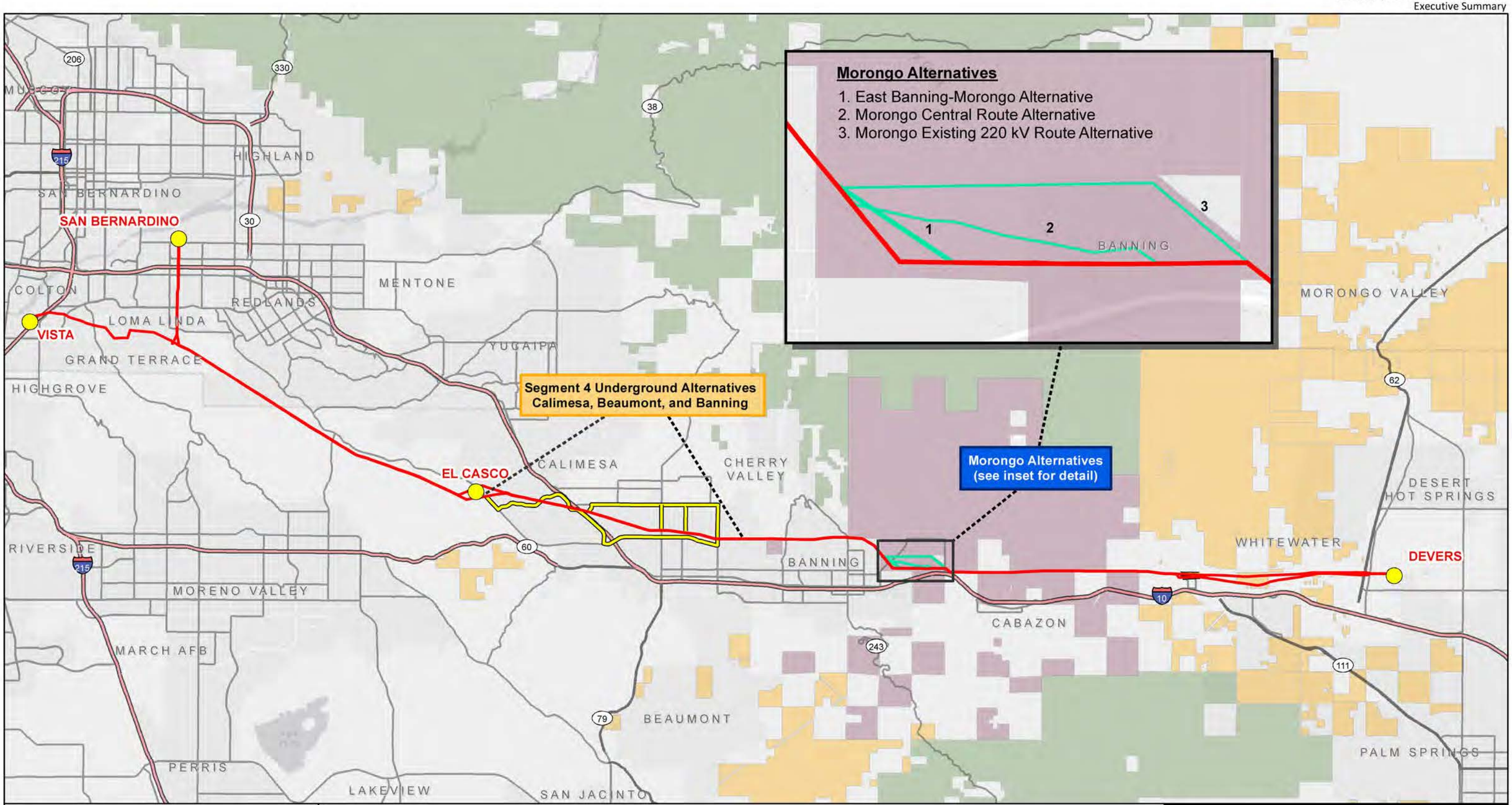
Description. Three underground route options have been considered to reduce visual impacts to residences in these areas.

- **Underground in Transmission Corridor.** Within the vicinity of residences in the Cities of Calimesa, Beaumont, and Banning, the transmission line would transition from overhead to underground and would be installed underground within SCE's existing ROW.
- **Underground North of Transmission Corridor (Beaumont).** This underground route option would transition from overhead to underground at North Deodar Drive near MP 19.2. From there the route would travel north in North Deodar Drive to Brookside Avenue where it would turn east and be installed within Brookside Avenue. At Beaumont Avenue, Cherry Avenue or Highland Springs Avenue the route would turn south within the roadway until it rejoins the proposed transmission corridor. At this point, the line would transition from underground to overhead within the transmission corridor on the eastern side of Beaumont Avenue, Cherry Avenue or Highland Springs Avenue.
- **Underground South of Transmission Corridor (Calimesa and Beaumont).** The alternative route option would transition from overhead to underground near MP 16.0. It would travel southeast in Oak Valley Parkway, east in Palmer Drive and east then southeast in Desert Lawn Drive to Oak Valley Parkway. From Oak Valley Parkway, the lines would be horizontally directional drilled for 800 to 1,200 feet to cross under I-10 to the east. The route would continue for 3.3 miles in Oak Valley Parkway to Highland Springs Avenue. At Highland Springs Avenue the route would turn north for 0.2 miles until it would rejoin the proposed transmission corridor and would transition from underground to overhead just east of Highland Springs Road (MP 23.3).
- Two separate alignments of concrete duct banks would need to be installed in continuous trenches at least 8 feet wide, and underground vaults would be required approximately every 1,500 feet, in order to place the four 220 kV circuits in Segment 4 underground.
- Once the alternative is energized, SCE would remove the conductors from the existing overhead towers and may choose to remove the existing towers, but retain its ROW for future use, or have the towers remain in place for other uses within the ROW.

Rationale for Elimination. This alternative would meet most project objectives and would be feasible considering technical, legal, and regulatory factors. Undergrounding the proposed 220 kV lines would reduce or avoid visual impacts, but it would result in much more severe construction impacts related to dust, ground disturbance, and traffic and would cross by two schools. Maintenance and repair times would also be increased. Furthermore, this segment of the ROW for the Proposed Project is 400 feet wide. Therefore, there is room within the ROW to modify proposed above-ground structure locations to reduce impacts to residences, as has been considered under the Tower Relocation Alternative (see Section C.4.1), which would reduce the significant visual impacts in this area without creating new impacts of its own

Segment 5 Morongo Central Route Alternative (original PEA Proposed Route)

Description. This alternative was proposed by SCE in its PEA (PEA Section 2.2.1.1; SCE, 2013). The Segment 5 Morongo Central Route Alternative would depart from the Proposed Project immediately west of the Morongo Reservation at North Hathaway Street (MP 27.4). The alternative route would continue to the southeast on a diagonal route, south of the existing transmission corridor and approximately 500 to 1,500 feet north of the currently proposed route, for approximately 3 miles. It would rejoin the Proposed Project west of Malki Road on the Morongo Reservation land. The alternative route would be approximately 0.13 miles shorter than the Proposed Project.



Sources: SCE 2014

N
W E
S

0 1.25 2.5 5 Miles

Substation
Proposed 220 kV Transmission Line Route
Aboveground Alternative
Underground Segment
Major Highways
Highways
Major Roads
BLM Land
Forest Service Land
Morongo Reservation

West of Devers Upgrade Project

Figure ES-3a
Route Alternatives Eliminated

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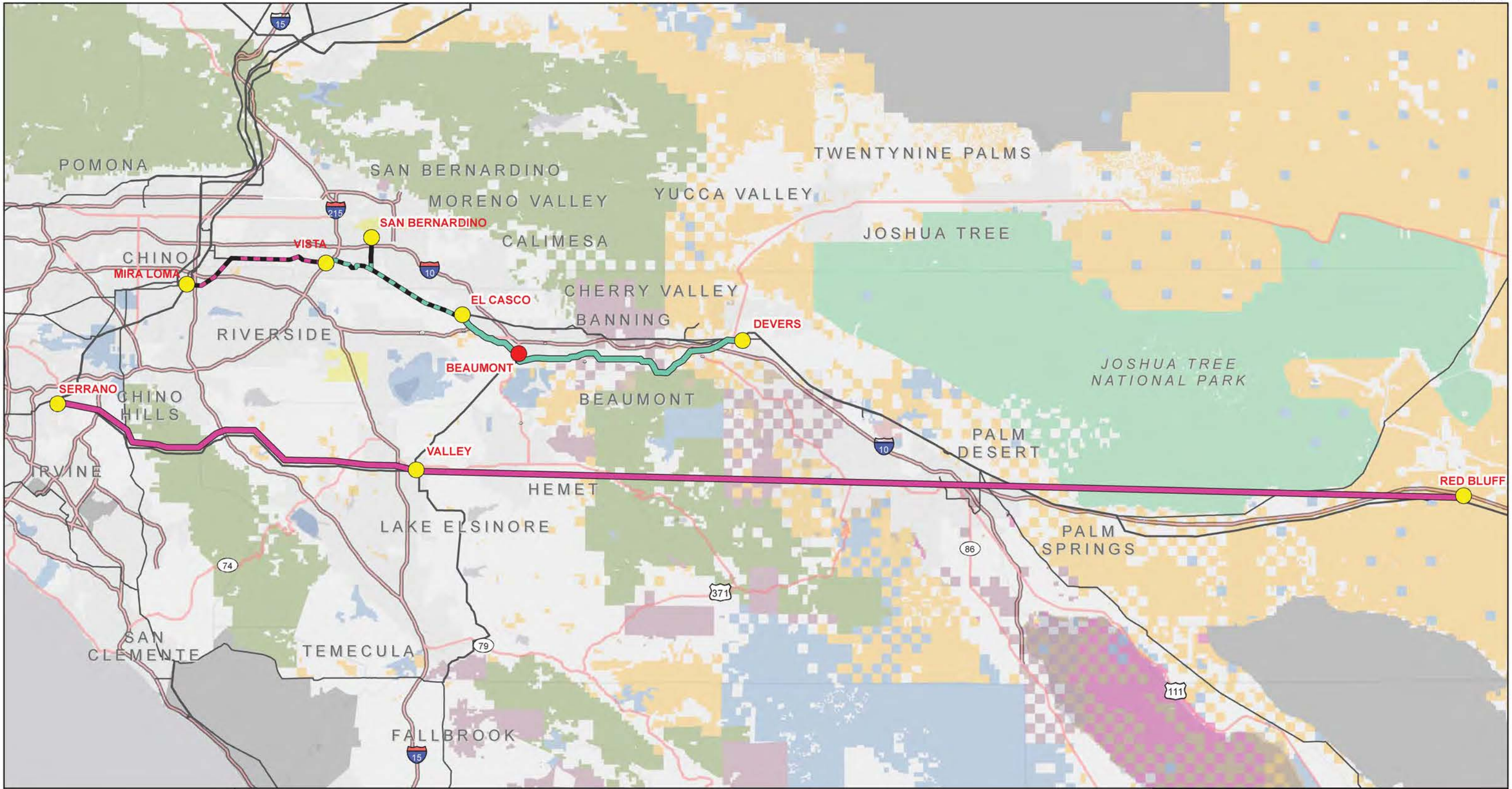

Sources: SCE 2014

0 7.5 15 Miles

SCE System Alternative 1 - 220 kV Rebuild
SCE System Alternative 1 - 500 kV
SCE System Alternative 2 - 220 kV
SCE System Alternative 2 - 500 kV
New Substation in SCE System Alternative 1

Existing Substation

Existing Transmisison Lines (Platts 2013)
230 kV
500 kV
Major Highways
Highways

Federal Land Ownership
March Air Force Base
Tribal Lands
BLM
BOR
USFS
FWS
Local Government
DOD Lands
NPS
State

West of Devers Upgrade Project

Figure ES-3b
System Alternatives Eliminated

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Rationale for Elimination. This alternative would meet most of the stated project objectives and would be feasible, considering technical and regulatory factors. However, this alternative is highly unlikely to be legally feasible, based on the Morongo Tribe's stated preference for and approval of the proposed southern route and given that the Tribe's approval of this alternative in lieu of the Proposed Project would be required.

Segment 5 Morongo Existing 220 kV Route Alternative (Existing ROW)

Description. Under this alternative, SCE's proposed 220 kV transmission upgrades would occur within the existing transmission corridor and SCE's ROW would not be relocated on the Morongo Reservation, as proposed. The Segment 5 Morongo Existing 220 kV Route Alternative would depart from the Proposed Project immediately west of the Morongo Reservation at North Hathaway Street (MP 27.4). The alternative route would continue to the southeast then east for 1.6 miles before turning southeast on a diagonal to rejoin the Proposed Project west of Malki Road on the Morongo Reservation land. The alternative route would be approximately the same length as the Proposed Project.

Rationale for Elimination. This alternative would meet most of the stated project objectives and would be feasible considering technical and regulatory factors. However, based on the Morongo Tribe's stated preference for and approval of the proposed southern route and given that the Tribe's approval of this alternative would be required, this alternative is highly unlikely to be legally feasible.

East Banning/Morongo Alternative

Description. This alternative was developed by the EIR/EIS Team to reduce significant visual impacts of the new tubular steel poles (TSPs) to residences on North Hathaway Street and North Evans Street in the City of Banning. The existing lattice towers are located 2,500 feet away from these residences. The proposed towers would be 1,700 feet away and, at the Morongo Tribe's request, would be TSPs, which have greater bulk and would be much more visible than lattice towers.

This 0.6-mile alternative would replace 0.7 miles of the proposed route and would involve moving the TSPs farther from residences. The alternative would begin at approximately Milepost 28.8 where the route would diverge from the Proposed Project by continuing in a southeast direction to the east and north of the proposed route. The alternative would continue in a straight line rejoin the Proposed Project at MP 29.5 after the proposed route would turn from southeast to east on Morongo land.

Rationale for Elimination. This alternative would meet most of the stated project objectives and would be feasible considering technical and regulatory factors. However, given the stated preference and approval by the Morongo Tribe for the proposed southern route and given that approval of this alternative by the Morongo Tribe would be required; this alternative is highly unlikely to be legally feasible.

Devers-Beaumont 500 kV Alternative (SCE System Alternative 1)

Description. This alternative was proposed by SCE in its PEA as System Alternative 1, New 500/220 kV Substation and New 500 and 220 kV Transmission Lines (PEA Section 2.1.2.2; SCE, 2013). This alternative would include removal of approximately 30 miles of existing 220 kV lines and structures in the WOD corridor between Devers and El Casco Substations, which would eliminate impacts of the existing transmission lines and the Proposed Project to the Morongo Tribe and the cities and communities from Beaumont to the eastern end of the project.

The Devers-Beaumont 500 kV Alternative would require construction of a new 500/220 kV substation near the City of Beaumont, a new 500 kV transmission line in new and existing ROW between Devers Substation and the new 500/220 kV substation, four new 220 kV transmission lines in a new ROW between the new 500/220 kV substation and the existing WOD corridor, and upgrades to the existing

WOD 220 kV transmission lines and associated existing substations between El Casco, San Bernardino, and Vista Substations. The Devers-Beaumont 500 kV Alternative would also require acquisition of property to construct a new 500/220 kV substation near the City of Beaumont. Finally, the Devers-Beaumont 500 kV Alternative would require construction of upgrades to the existing 220 kV transmission lines between the El Casco, San Bernardino, and Vista Substations. Specific components of this alternative are described in Appendix 5 of this EIR/EIS.

Rationale for Elimination. This alternative would meet most project objectives and has the potential to be technically feasible. If the route were proposed through the Potrero Area of Critical Environmental Concern (ACEC) and the San Jacinto Wilderness, the regulatory and legal feasibility of this alternative would be highly questionable. In addition, construction of a new corridor and 500 kV/220 kV substation in the developed areas of Banning and Beaumont would create construction disturbance and greater visual impacts to residences and sensitive receptors in these areas without providing any environmental advantages over the Proposed Project.

Red Bluff-Valley-Serrano 500 kV Alternative (SCE System Alternative 2)

Description. This alternative was proposed by SCE in its PEA as System Alternative 2, New 500 kV Transmission Line (PEA Section 2.1.2.3; SCE, 2013). Under the Red Bluff-Valley-Serrano 500 kV Alternative, a new 500 kV transmission line would be constructed on new ROW between the existing Red Bluff, Valley, and Serrano Substations. The alternative would also require reconfiguration of the existing 220 kV circuits between El Casco, Vista, and San Bernardino Substations. Finally, the Red Bluff-Valley-Serrano 500 kV Alternative would require construction of 220 kV transmission line between Mira Loma and Vista Substations, and would require upgrades to Serrano Substation to increase the substation transfer capability. Specific components of this alternative are described in Appendix 5 of this EIR/EIS.

Rationale for Elimination. This alternative would meet most project objectives and has the potential to be technically feasible. If the route were proposed through the Potrero ACEC and the San Jacinto Wilderness, the regulatory and legal feasibility of this alternative would be highly questionable. In addition, construction of new, much longer corridors especially in the developed areas of the Inland Empire would create greater construction disturbance and visual impacts to residences and sensitive receptors in these areas without providing any environmental advantages over the Proposed Project.

Reduced Build Alternative Option 1

Description. This alternative was developed to consider the feasibility of the West of Devers project as proposed in 2005 under the DPV2 project. The alternative would reduce the impacts of the Proposed Project by retaining the existing double-circuit towers rather than removing and rebuilding them. This alternative is similar to the project proposed by SCE in the 2005 West of Devers System Upgrades and analyzed as the Proposed Project in the DPV2 EIR/EIS (CPUC and BLM, 2006). In this option:

- The two sets of existing single-circuit towers would be removed and one set of new double-circuit towers would replace those towers; and,
- The existing double-circuit towers would be retained and reconductored, with double-bundled 1033.5 kcmil ACSR. Reconductoring the 40 miles of existing double-circuit towers would involve tower replacement and strengthening for 60 percent of existing structures (SCE, 2015).

When compared with the Proposed Project, each of the four circuits would consist of smaller double-bundled 1033.5 kcmil ACSR (2B-1033 ACSR) for their entire length, which was SCE's design for the corridor in 2005.

Rationale for Elimination. The Reduced Build Alternative Option 1 meets all three Basic Project Objectives and is technically and legally feasible. It would achieve Basic Project Objective 1 (exceeding 2,200 MW of increased deliverability) and would result in a corridor system rating of about 3,400 MW. As a result, it would also meet the goal of supporting renewable energy goals because it supports increased import of renewable generation projects from the area east of the Devers Substation. The alternative would also provide adequate space for future transmission expansion within the corridor.

However, the Reduced Build Alternative Option 1 is eliminated because the double-bundled 1033.5 kcmil conductors proposed in 2005 could not now be safely supported on these towers given SCE's updated wind loading criteria. The required replacement of 60 percent of existing towers would not substantially avoid or reduce the environmental impacts of the Proposed Project.

Reduced Build Alternative Option 2a

Description. The Reduced Build Alternative Option 2a was developed to maximize the conventional conductor size that could be installed on the new and existing towers, while minimizing the need for new construction in Segments 3 through 6. Reduced Build Option 2a would reuse the existing double-circuit towers to the extent feasible, reconductoring them with a two-conductor bundle of 1033.5 kcmil ACSR (as proposed in 2005), and install one set of new double-circuit towers with 2B-1590 ACSR, as in the Proposed Project. Specific components and configuration of this alternative are described in Section 5.10 in Appendix 5 of this EIR/EIS.

Rationale for Elimination. The Reduced Build Alternative Option 2a would meet all three Basic Project Objectives and is technically and legally feasible. It would achieve Basic Project Objective 1 (exceeding 2,200 MW of increased deliverability), resulting in a corridor system rating of about 3,400 MW. As a result, it would also meet the goal of supporting renewable energy goals because it supports increased import of renewable generation projects from the area east of the Devers Substation. The alternative would also meet Basic Project Objective 3, providing adequate space for future transmission expansion within the corridor.

It is eliminated from detailed analysis because the requirement to rebuild 60 percent of existing structures results in it being unlikely to avoid or eliminate the significant environmental impacts of the Proposed Project.

Reduced Build Alternative Option 2b

Description. The Reduced Build Alternative Option 2b was developed to maximize the size of conventional conductors that could be installed on the new and existing towers while still staying within SCE's new wind loading guidelines. Reduced Build Alternative Option 2b would retain the existing conductors on existing double-circuit towers without modification, and install one set of new double-circuit towers with 2B-1590 ACSR, as in the Proposed Project.

Rationale for Elimination. The Reduced Build Alternative Option 2b would not achieve Basic Project Objective 1 due to the small conductor size on the retained double-circuit towers. This alternative would result in a corridor system rating of about 2,300 MW. As a result, it would only partially meet Basic Project Objective 2, supporting renewable energy goals. Reduced Build Alternative Option 2b would meet Basic Project Objective 3, providing adequate space for future transmission expansion within the corridor.

The alternative is feasible, and it has the potential to reduce the environmental impacts of the Proposed Project. It is eliminated from detailed analysis because it would not meet the first two Basic Project Objectives.

High-Performance Conductor Alternative

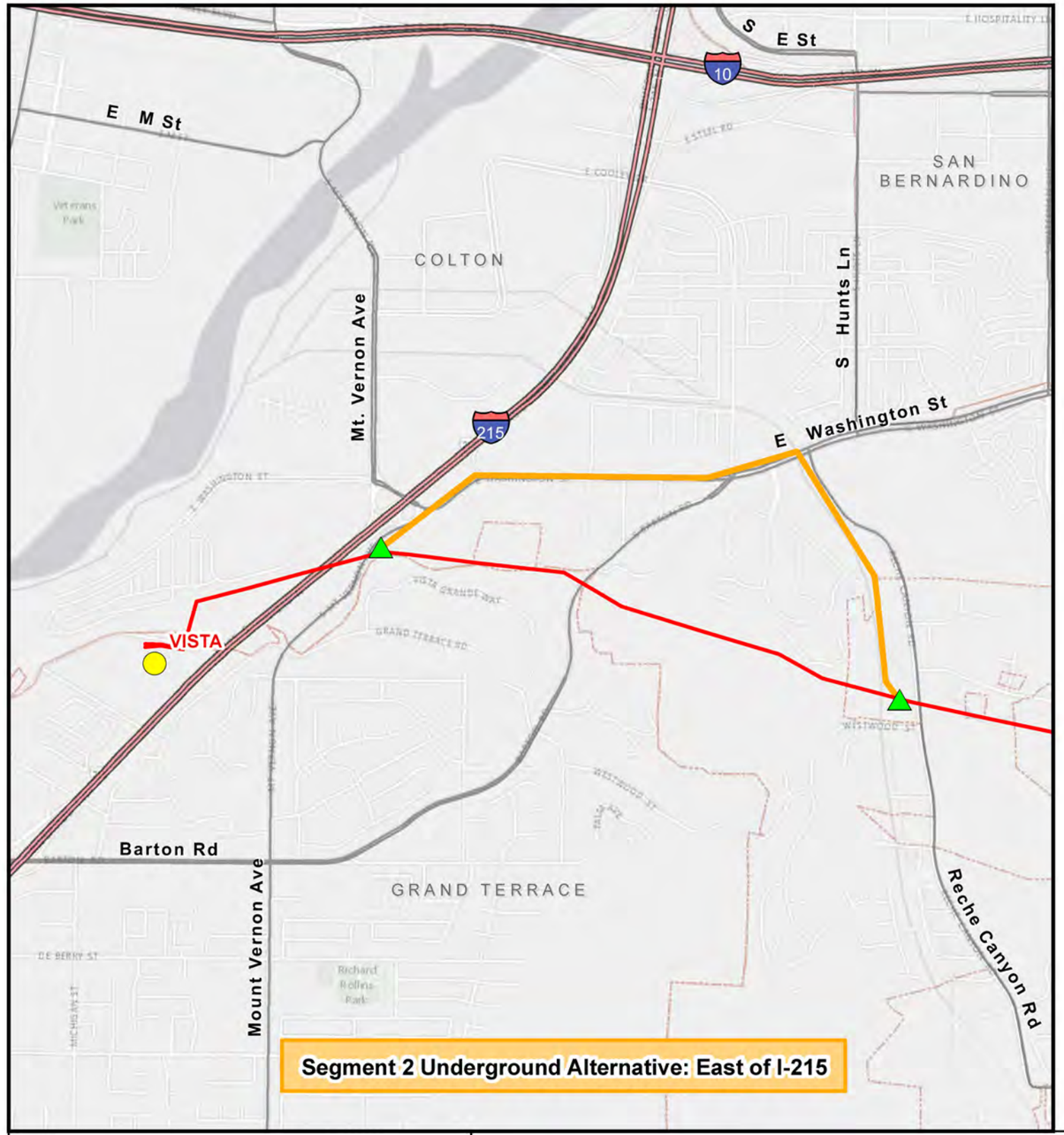
Description. This alternative was developed to evaluate the potential use of 4 circuits of double-bundled high-performance conductors of a similar size to SCE's proposed ACSR conductors. The High-Performance Conductor Alternative would upgrade the 220 kV corridor by replacing the existing towers as proposed and installing aluminum conductor composite reinforced (ACCR) or aluminum conductor composite core (ACCC) conductors instead of the proposed ACSR conductors. The conductors in this alternative would be double-bundled conductors of comparable physical size to those in the Proposed Project. The alternative conductor for the four primary circuits in this case would be 2B-1590 Lapwing ACCR, which would be capable of achieving 158% of Proposed Project electrical capacity. When compared with construction of the Proposed Project, which would upgrade the existing 220 kV transmission lines to carry 5,168 MW under normal conditions (with all lines in service) for the four primary circuits combined, this alternative would carry 8,163 MW.

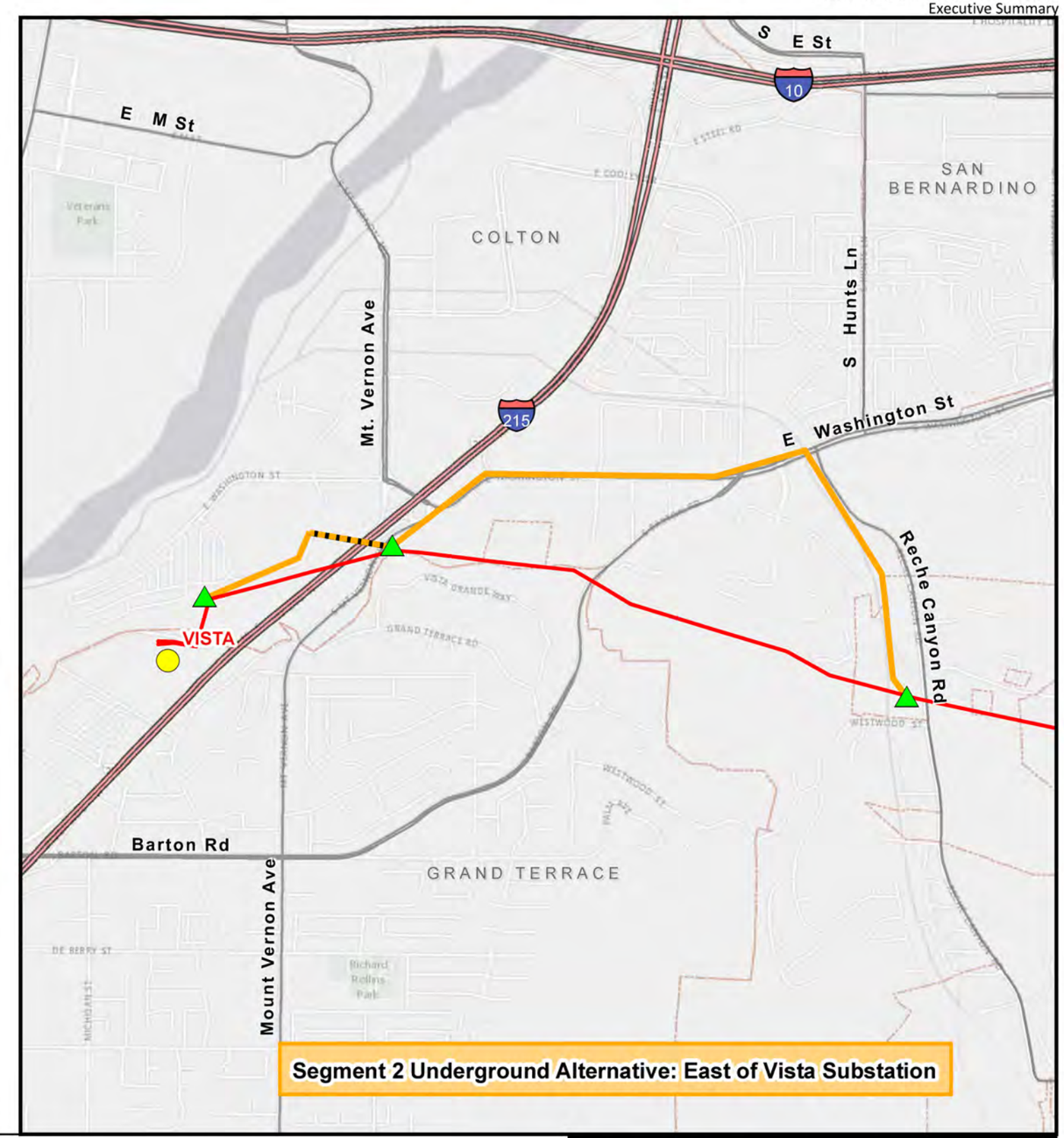
Rationale for Elimination. The High-Performance Conductor Alternative is eliminated from detailed analysis because, like the Proposed Project, it would require replacement of all towers; therefore, it would be unlikely to reduce or avoid any project-related impacts. Additionally, it would incur higher costs than the Proposed Project without having any potential to avoid or substantially lessen the environmental impacts of the Proposed Project.

Alternatives Eliminated After Preliminary Screening

The following 2 potential alternatives were eliminated after a preliminary alternatives screening process. These routes are illustrated on Figure ES-3c.

- **Segment 2 Underground Alternative: East of I-215.** This 1.9-mile underground alternative was considered by the EIR/EIS team, because of the potential for replacement towers in the City of Colton to degrade views from residential properties in the City of Grand Terrace. During 2014, SCE revised its preliminary design to require only minor modifications of these towers, rather than tower replacement. Therefore, the incremental visual change with the Proposed Project would be small and no significant and unmitigable impacts have been identified in this area. Because no significant impacts have been identified along this segment of the Proposed Project, which is a CEQA requirement for alternatives (see Section ES.3.1, CEQA and NEPA Requirements for Alternatives), and because underground construction would create much greater traffic and ground disturbance impacts and would increase maintenance and repair times, this alternative has been eliminated from further analysis.
- **Segment 2 Underground Alternative: East of Vista Substation.** This 2.5-mile underground alternative is similar to the Segment 2 Underground Alternative: East of I-215 (see above), but would continue underground crossing under I-215 as a 800- to 1,200-foot horizontal directional drill to the base of the hill north-northeast of Vista Substation. Similar to the Segment 2 Underground Alternative: East of I-215, development of an alternative in this area would not avoid or substantially lessen any significant effects of the Proposed Project. Because no significant impacts have been identified along this segment of the Proposed Project and because underground construction would create much greater traffic and ground disturbance impacts and would increase maintenance and repair times, this alternative has been eliminated from further analysis.





Sources: SCE 2014

N W E S

0 0.25 0.5 1 Miles

Underground Transition Structures
Substation
City Boundary
Proposed 220 kV Transmission Line Route
Underground Segment
HDD (Horizontal Directional Drill)
Major Highways
Highways
Major Roads
Local Roads

West of Devers Upgrade Project

Figure ES-3c
Alternatives Considered but Not Screened for EIR/EIS Analysis

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ES.3.4 No Project / No Action Alternative

If the Proposed Project or an alternative were not approved, certain events would occur to address the basic project needs. The West of Devers corridor through Morongo land is subject to a recently negotiated agreement. Because it is not known whether the SCE-Morongo ROW agreement could be renegotiated in the absence of the Proposed Project, two options for the No Project/No Action Alternative are defined that assume no new agreement. The two options are considered to be the most likely actions if the Proposed Project or an alternative does not proceed and Morongo land is not available for a ROW. Each is described below. (For brevity, the No Project/No Action Alternative name is shortened to No Project Alternative.)

No Project Alternative Option 1

SCE states that in the absence of a new agreement with the Morongo, it would propose to construct an alternative transmission system upgrade. SCE states that the alternative transmission system upgrade that is most likely would be the alternative SCE identified in its PEA as "System Alternative 1," which would include a new Devers-to-Beaumont 500 kV system (SCE, 2014; Response to ALT-6). No Project Alternative Option 1 is based on SCE's description, but is modified slightly to account for land use or engineering constraints identified by the EIR/EIS team.

The EIR/EIS team completed power flow studies on this No Project Alternative Option 1, and found that it would function in a manner similar to the Proposed Project, and would create no system constraints (see EIR/EIS Appendix 5, Attachment 2). This option would include removal of all SCE facilities from Morongo land and development of an alternate transmission path from the Devers Substation to the El Casco Substation that would not require use of any Morongo land. This option is illustrated on Figure ES-4a.

The major components of No Project Alternative Option 1 would include:

- **Removal of existing 220 kV SCE transmission facilities** between the Devers Substation and the El Casco Substation, on Morongo land and on private land
- **Removal of the WOD Interim Project,** which currently directs power flowing from Devers into the Devers-Valley system to avoid overloading existing WOD circuits.
- **Devers Substation to Beaumont Substation:** SCE would construct a new 500 kV transmission line between Devers Substation and a new Beaumont Substation. The route is assumed to follow the easternmost 25 miles of the existing Devers-Valley corridor, which currently holds 2 single-circuit 500 kV lines. A portion of this new third circuit in the corridor would have to be installed on double-circuit 500 kV towers due to ROW width constraints at some locations.
- **Beaumont Substation:** South and west of Beaumont, SCE would acquire property rights for and construct a new 40-acre 500/220 kV substation in the vicinity of Beaumont Avenue (Highway 79) and Laird Road. The new 500 kV circuit from Devers would terminate at the Beaumont Substation, and the existing Devers–Valley 500 kV No. 2 transmission line would loop into the new substation as well. Four circuits of 220 kV line would exit the substation to the north.
- **Beaumont Substation to El Casco Substation:** Approximately 1.5 miles north of the Beaumont Substation, the new 220 kV lines would reach the existing SCE 115 kV El Casco transmission line, and would follow that corridor for 7 miles to the El Casco Substation. SCE would have to acquire approximately 7 miles of new ROW (assumed to be adjacent to the existing El Casco line), and construct two new double-circuit 220 kV transmission lines from the new Beaumont Substation to the existing El Casco Substation and the 220 kV lines extending northwest from there.

No Project Alternative Option 2

No Project Alternative Option 2 would provide a 500 kV line between Valley and Serrano Substations. Option 2 was defined because power flow modeling identified that there is currently available capacity in the Devers-Valley No. 1 and No. 2 500 kV lines. At present, this capacity cannot be well used because the existing transmission system is constrained west of the Valley Substation. There are the two 500 kV lines into Valley Substation from Devers but only one 500 kV circuit from Valley to Serrano Substation in Orange County. The power flows related to Option 2 were studied in detail by the EIR/EIS team (see EIR/EIS Appendix 5, Attachment 2 (Power Flow Analysis)).

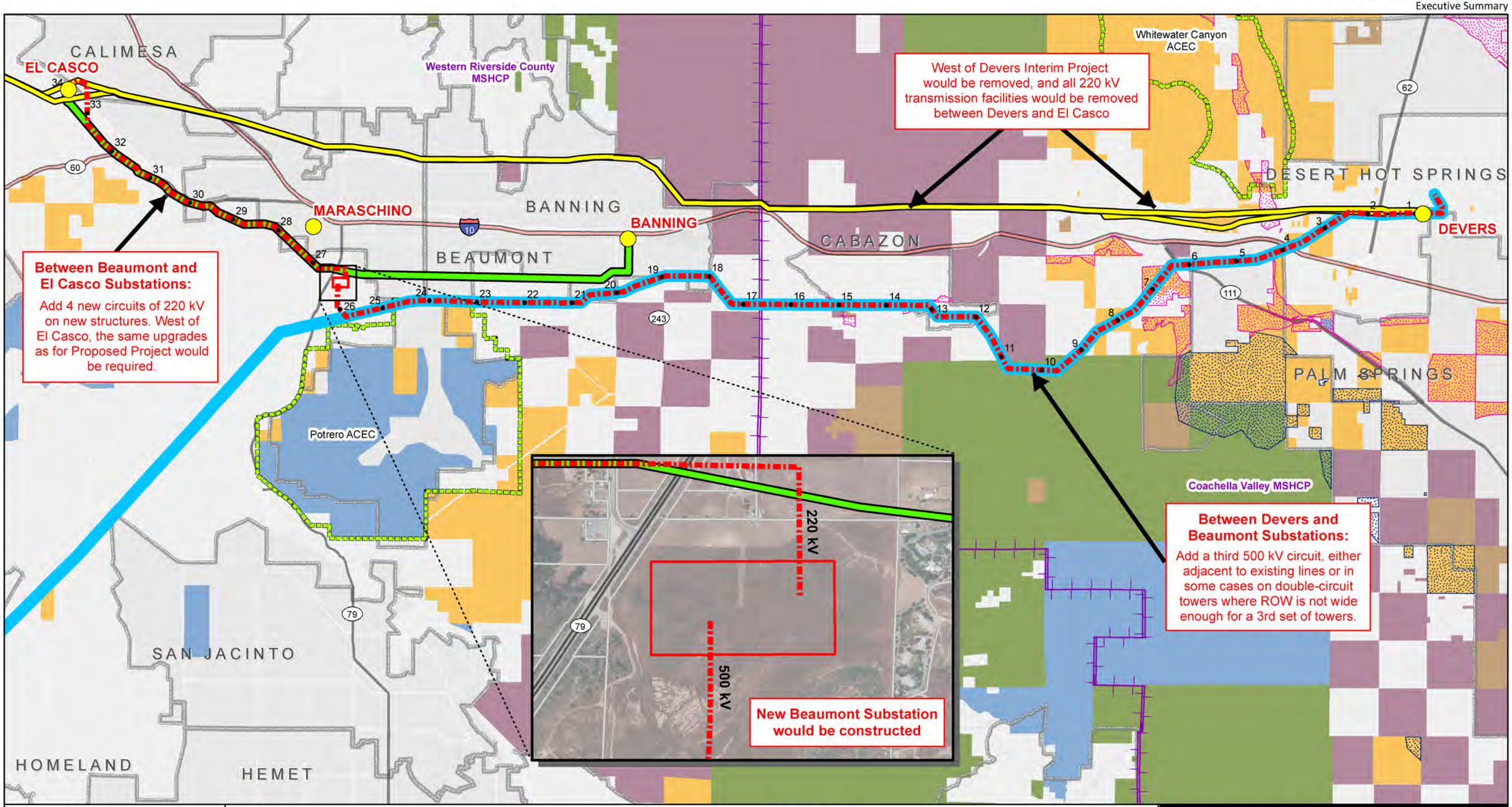
Unlike No Project Alternative Option 1, No Project Alternative Option 2 would not require construction of a new 500 kV line between Devers and Beaumont, a new Beaumont Substation, or 4 new 220 kV lines to El Casco. This option is illustrated on Figure ES-4b, and is described as follows:

- **No Major Upgrades to 220 kV System West of Devers.** The SCE WOD 220 kV system would be retained unchanged from the current system (4 circuits with current capacity; no removal of single-circuit towers; no construction of new towers). Except, as defined in the approved SCE-Morongo ROW agreement, the 220 kV segment between the Outlet Mall and the eastern border of the City of Banning would move south from its current location to be adjacent to I-10 and would be installed on new tubular steel poles (TSPs).
- **Retain the WOD Interim Project.** Just west of the Devers Substation, SCE has installed series reactors on the four existing 220 kV transmission lines that extend west of Devers Substation and a Special Protection System (SPS) to prevent overloading on the WOD transmission lines. This equipment would be retained in No Project Alternative Option 2.
- **No upgrades to 500 kV Devers-Valley System and no new substation.** The existing Devers-Valley No. 1 and No. 2 circuits currently operate well below capacity, as shown in the power flow modeling attached to Appendix 5 (Alternatives Screening Report, Attachment 2). Additional power could be delivered to Valley Substation through these lines by making improvements west of the Valley Substation. As shown in modeled Case 2 (CAISO 2024 Reliability Base Case with an added 1,400 MW imported from the Imperial Irrigation District), each Devers-Valley 500 kV circuit would use only 44% of its capacity, leaving over 2,000 MW available.
- **New 500 kV Line from Valley to Serrano Substation.** A new single-circuit 500 kV transmission line would be constructed along approximately 40.4 miles of existing transmission corridor from SCE's Valley Substation in the City of Romoland to SCE's Serrano Substation in the City of Orange. The existing Valley-Serrano No. 1 transmission line, constructed in 1986, occupies this corridor. The route includes about 9 miles within Cleveland National Forest, in a designated utility corridor where construction would have to be completed via helicopter. Equipment upgrades would be required at the Valley and Serrano Substations to accommodate this option.

ES.4 Summary of Impacts

ES.4.1 Introduction

This section summarizes the environmental impacts of the Proposed Project and alternatives. For each resource area, the analysis first presents a summary of impacts for the Proposed Project and the solar projects (the "connected actions") likely to be constructed if the Proposed Project is completed. The severity of those impacts is described, as well as recommended mitigation measures that would reduce the severity of the impacts. Next, the analysis presents a summary of impacts for each alternative to the Proposed Project, including the No Project/No Action Alternative.



West of Devers Upgrade Project

Figure ES-4a

No Project Alternative Option 1

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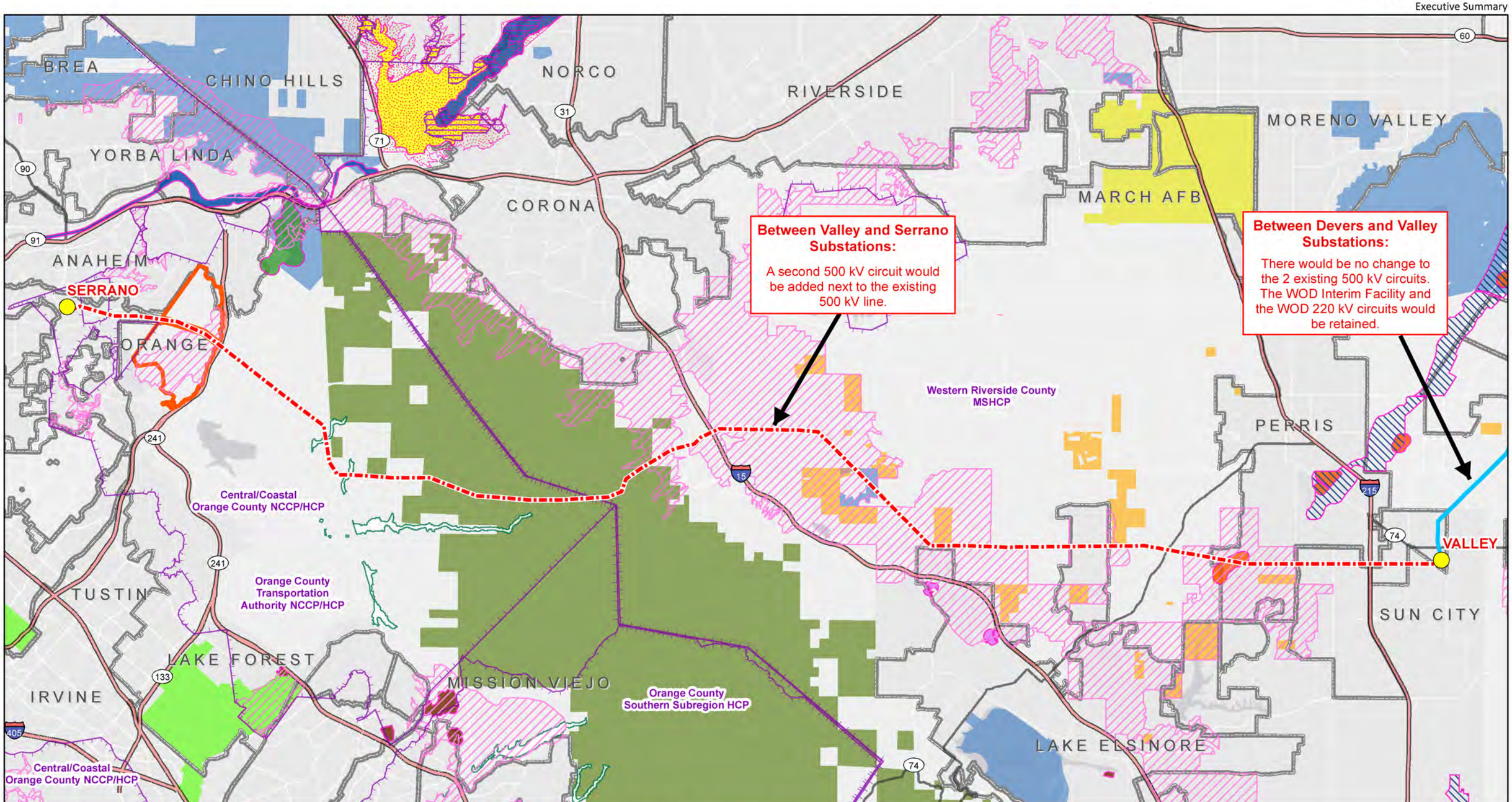

Sources: SCE 2014

N W E S

0 2 4 Miles

Substation
No Project Alternative Option 2
Devers - Valley Transmission Line
Habitat Conservation Plan Boundary

Critical Habitat
Arroyo (=arroyo southwestern) toad
Braunton's milk-vetch
Coastal California gnatcatcher
Least Bell's vireo
Riverside fairy shrimp
San Diego ambrosia
Santa Ana sucker
Southwestern willow flycatcher
Spreading navarretia
Thread-leaved brodiaea
Yellow-billed Cuckoo

City Boundary

Federal Land Ownership
March Air Force Base
BLM
Cleveland National Forest
Local Government
El Toro Marine Corps Air Station
State
Weir Canyon Regional Park

West of Devers Upgrade Project

Figure ES-4b
No Project Alternative Option 2

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ES.4.2 Agriculture

This analysis considers the potential for the Proposed Project and the alternatives to convert Important Farmland to non-agricultural use, conflict with existing zoning for agricultural use, or create other changes in the existing environment that would impair the use of agricultural land.

ES.4.2.1 Effects of the Proposed Project on Agriculture

Proposed Project. Construction and operation of the Proposed Project would result in minor adverse effects to agriculture, including:

- Permanent conversion of 3.5 acres of designated Important Farmland to non-agricultural use
- Temporary disturbance of 31.6 acres of Important Farmland

The severity of the temporary adverse effect on Important Farmland would be reduced through implementation of mitigation measures that would control fugitive dust and off-road equipment emissions; require the preparation of plans for construction notification, hazardous materials management, and soil management; and identify pesticide and herbicide contamination.

Connected Actions. Construction and operation of utility-scale solar projects in the Blythe and Desert Center areas would:

- Result in the conversion of a substantial number of acres of Important Farmland to non-agricultural uses, especially in the Blythe area
- Disturb existing agricultural operations, due primarily to dust from construction activities

Due to the large potential adverse effects of the solar projects on agricultural land, it is likely that solar project developers would be required to implement permanent agricultural conservation easements or participate in an agricultural land mitigation program.

CEQA Significance Determination for the Proposed Project and Connected Actions. The permanent conversion of 3.5 acres of Important Farmland would be a less than significant impact, requiring no mitigation. The temporary disturbance of 31.6 acres of Important Farmland would be less than significant with implementation of the mitigation measures described above.

Construction and operation of the solar projects in the Blythe and Desert Center areas would convert Important Farmland to non-agricultural uses and disturb existing agricultural operations. These impacts would be less than significant with implementation of the types of mitigation measures described above.

ES.4.2.2 Effects of Alternatives on Agriculture

Tower Relocation Alternative. Construction and operation of this alternative with its relocated towers in Segments 4 and 6 would result in the same adverse effects on agriculture as would the Proposed Project.

Iowa Street 66 kV Underground Alternative. The installation of 1,600 feet of the proposed overhead subtransmission line underground would not directly affect agricultural lands or reduce an effect of the replaced segment of the Proposed Project on agricultural lands. The increased ground disturbance would increase indirect adverse effects on adjacent agriculture due to the increased emission of dust.

Phased Build Alternative. Construction of this alternative would result in less ground disturbance and a decreased emission of dust. Therefore, indirect adverse effects on adjacent agriculture would be reduced. Direct adverse effects to agriculture, including the conversion of Important Farmland, would be the same as in the Proposed Project.

No Project/No Action Alternative Option 1. No Williamson Act lands are traversed by this alternative. The transmission line from Devers Substation to Beaumont Substation would traverse 3.7 acres of Grazing Land and Farmland of Local Importance. The 40-acre site for the proposed new Beaumont Substation is located on grassland that is designated as Farmland of Local Importance. This alternative would not result in a substantial loss of Important Farmland or agricultural productivity.

No Project/No Action Alternative Option 2. No Williamson Act lands are traversed by this alternative. The route traverses approximately 5 miles of Important Farmland and 13.5 miles of Grazing Land. Due to the small permanent footprint associated with transmission structures, this alternative would not result in a substantial loss of Important Farmland or agricultural productivity. This route requires no construction along the Devers-Valley corridor or along the West of Devers corridor, and no new substation would be required.

ES.4.3 Air Quality

The analysis of impacts to air quality considers whether the Proposed Project or alternatives would be inconsistent with the current approved Air Quality Management Plan or exceed the federal General Conformity Rule applicability thresholds. Emissions are also evaluated against local, state, and federal air pollutant thresholds. Finally, the analysis considers whether project emissions would expose a substantial number of people to objectionable odors or expose sensitive populations to substantial pollutant concentrations.

ES.4.3.1 Effects of the Proposed Project on Air Quality

Proposed Project. Construction and operation of the Proposed Project would result in several adverse effects to air quality, including:

- Generation of dust and vehicle exhaust emissions
- Emission of toxic air contaminants
- Exceedance of South Coast Air Quality Management District (SCAQMD) thresholds for daily construction emissions of several criteria pollutants

Implementation of mitigation measures to control fugitive dust, helicopter emissions, and off-road equipment emissions would reduce the severity of these adverse effects. However, even with implementation of mitigation, the adverse effect related to the exceedance of regional and local air quality thresholds would remain substantial.

Connected Actions. Construction and operation of several potential future solar projects would:

- Emit criteria pollutants and toxic air contaminants
- Likely exceed federal and State thresholds in some instances

Implementation of typical mitigation measures to reduce pollutant emissions, including control of fugitive dust and equipment emissions would reduce the severity of this adverse effect, although thresholds may be exceeded even with mitigation.

CEQA Significance Determination for the Proposed Project and Connected Actions. Construction of the Proposed Project would result in emissions that would exceed regional and local thresholds for several criteria pollutants. The severity of this impact would be reduced through implementation of the mitigation measures described above, but the impact would remain significant and unavoidable.

Construction of the potential future solar projects would lead to the emission of criteria air pollutants. The severity of this impact would be reduced through the implementation of typical mitigation measures but the impact would remain significant.

ES.4.3.2 Effects of Alternatives on Air Quality

Tower Relocation Alternative. This alternative would result in an overall increase in dust and exhaust emissions because the relocated towers could extend the construction timeframe by as much as one year. Relocation of towers would not cause a greater exceedance of any additional air quality thresholds compared to the Proposed Project. Implementation of the mitigation measures described above for the Proposed Project would reduce the severity of this adverse effect, but the adverse effect would remain substantial.

Iowa Street 66 kV Underground Alternative. Construction of the underground subtransmission line would increase the generation of dust and exhaust emissions compared to the Proposed Project. This alternative would not exceed any additional air quality thresholds compared to the Proposed Project. Implementation of the mitigation measures described above for the Proposed Project would reduce the severity of this adverse effect. However, even with implementation of mitigation, this adverse effect would remain substantial.

Phased Build Alternative. This alternative would retain the existing set of double-circuit towers and therefore would require less ground disturbance and less construction activity. Dust and exhaust emissions would be decreased. Air quality pollutant emissions would not exceed any additional thresholds. Even with the reduction in dust and exhaust emissions and implementation of the mitigation measures described above for the Proposed Project, this adverse effect would remain substantial.

No Project/No Action Alternative Option 1. Air quality impacts for this alternative would be similar to those described for the Proposed Project, including exhaust emissions from vehicle and equipment use and fugitive dust from ground disturbance. Mitigation measures, such control of fugitive dust, control of off-road equipment emissions, and control of helicopter emissions, would reduce these adverse effects, but they would likely remain substantial.

No Project/No Action Alternative Option 2. Emissions of air quality contaminants for this alternative would occur within the South Coast Air District and would be similar to those described for the Proposed Project. Impact severity and typical mitigation measures would be similar to those of Option 1.

ES.4.4 Biological Resources – Vegetation

The vegetation impact analysis evaluates whether the Proposed Project or alternatives would adversely affect sensitive or special-status species, riparian habitat, wetlands, or other sensitive natural communities. Project activities are also evaluated for conflicts with habitat conservation plans and local policies or ordinances that protect biological resources.

ES.4.4.1 Effects of the Proposed Project on Vegetation

Proposed Project. Construction and operation of the Proposed Project would result in adverse effects to vegetation and habitat, including:

- Removal of existing vegetation and habitat, including wetlands, riparian habitat, and vegetation and habitat that may support special-status plants or animals
- Indirect adverse effects to surrounding vegetation and habitat through project-related dust, interruption of windblown sand transport, interruption of surface flows and water or sediment supply to downstream habitat, and the introduction or spread of invasive species
- Degradation of jurisdictional waters that could adversely affect downstream wetlands or riparian habitat
- Potential direct and indirect adverse effects to listed or special-status plants, including the Coachella Valley milk-vetch
- Potential conflicts with applicable Multiple Species Habitat Conservation Plans (MSHCPs)

Adverse effects to vegetation communities would be reduced through implementation of mitigation that would require biological monitoring and reporting, preparation and implementation of a worker environmental awareness program, minimization of native vegetation and habitat loss, restoration or revegetation of temporary disturbance areas, control of fugitive dust, control of off-road equipment emissions, implementation of an erosion control plan and demonstration of compliance with water quality permits, compensation for permanent habitat loss, preparation and implementation of an integrated weed management plan, and minimization of impacts for jurisdictional waters and wetlands. If the Applicant does not obtain Participating Special Entity status for the applicable MSHCPs, recommended mitigation would require preparation and submittal to CPUC and BLM for review and approval an analysis equivalent to the Western Riverside and Coachella Valley MSHCP Consistency Analyses.

Connected Actions. Construction and operation of the potential future solar projects could:

- Cause permanent vegetation and habitat removal or degradation for project facilities and access, and temporary removal or degradation for temporary project work and access areas
- Cause indirect degradation of vegetation and habitat from dust, interrupted sand transport, interruption of surface water flows, or introduction and spread of invasive weeds
- Adversely affect jurisdictional waters and downstream habitat
- Adversely affect native vegetation and special-status plants
- Potentially conflict with applicable MSHCPs, BLM cactus salvage requirements, or other local policies (e.g., tree protection ordinances)

These adverse effects can be minimized through mitigation, including: on-site measures to restrict disturbance to authorized work areas, revegetation of temporarily disturbed areas, participation in an applicable MSHCP, habitat acquisition and protection, weed management, fugitive dust control, implementation of compensatory mitigation for effects on sand transport, avoidance and minimization of impacts to jurisdictional waters, avoidance of special-status plants, and compensation for direct effects to special-status plants.

CEQA Significance Determination for the Proposed Project and Connected Actions. For both the Proposed Project and the future solar projects, all impacts to vegetation from construction and operation of these projects would be less than significant with implementation of the mitigation described above.

ES.4.4.2 Effects of Alternatives on Vegetation

Tower Relocation Alternative. The adverse effect on vegetation and habitat due to land clearing for this alternative would be similar to the Proposed Project. There may be minor differences in total acreages

of habitat types impacted, but they would not exceed the amounts previously analyzed for the Proposed Project. The construction timeframe in this alternative would be extended by as much as one year which would result in additional dust and invasive weed impacts.

Iowa Street 66 kV Underground Alternative. This underground segment would be within or immediately adjacent to an existing paved street (Iowa Street) and would not require any land clearing. No direct adverse effects to vegetation or habitat would occur in this alternative. Trenching and underground construction would involve more extensive ground disturbance and create additional construction-related dust compared to the Proposed Project, which would increase the severity of the indirect adverse effect on surrounding vegetation. This alternative would not affect sand transport, surface water flow, jurisdictional waters, or wetlands. The underground segment is not within the planning area of any Conservation Plan.

Phased Build Alternative. The existing double-circuit set of towers would be retained in this alternative, which would result in less ground disturbance and less overall construction activity. All of the same direct and indirect adverse effects that would occur in the Proposed Project would also occur in this alternative, and all of the same mitigation measures that are described above would be required. However, the severity of all of the construction-related adverse effects to vegetation and habitat would be reduced substantially.

No Project/No Action Alternative Option 1. This alternative is located in the Coachella Valley and Western Riverside MSHCPs. One listed plant species, the Coachella Valley milk-vetch, is known to occur within the ROW for this alternative. Five other listed plant species have a high to moderate potential to occur along the route. Land clearance for construction of this alternative could result in the disturbance or loss of native vegetation communities. Mitigation measures such as conducting surveys for listed plant species, preparation and implementation of a Habitat Restoration/Compensation Plan, and implementation of control measures for invasive and noxious weeds would reduce the severity of this adverse effect.

No Project/No Action Alternative Option 2. The eastern portion of the corridor is located within the Western Riverside County MSHCP. The western portion of the route is located in the Central/Coastal Orange County and Orange County Transportation Authority Natural Community Conservation Planning (NCCP)/Habitat Conservation Plan (HCP) areas. Fifteen special-status plant species (including 3 federally listed threatened or endangered species) have been documented to occur in or near the existing corridor. The disturbance or loss of native vegetation communities would result from the construction of this alternative. Recommended mitigation measures would be the same as in Option 1.

ES.4.5 Biological Resources – Wildlife

The analysis of impacts to wildlife considers whether the Proposed Project or alternatives would adversely affect sensitive or special-status species, riparian habitat, wetlands, or other sensitive natural communities. Project activities are also evaluated for their potential to interfere with fish or wildlife movement, migratory wildlife corridors, or native wildlife nursery sites. Finally, the analysis considers whether project activities would conflict with any local policies or ordinances that protect biological resources or conflict with habitat conservation plans.

ES.4.5.1 Effects of the Proposed Project on Wildlife

Proposed Project. Adverse effects on wildlife from construction and operation of the Proposed Project include:

- Disturbance from noise and vibration, lighting, dust, and vehicle traffic which could interfere with breeding or foraging activities or alter movement patterns
- Loss or degradation of habitat, destruction of burrows or nests, displacement of more mobile species, and mortality of individuals
- Introduction and spread of invasive species that may compete with native species and cause habitat degradation or reduction of available food sources
- Increased predation due to certain habitat alterations
- Potential direct and indirect adverse effects to federally or state-listed threatened or endangered species, including four species documented during pre-construction surveys: desert tortoise, least Bell's vireo, Stephens' kangaroo rat, and Swainson's hawk
- Injury or mortality of large birds during operation due to collision or electrocution

These adverse effects would be reduced through implementation of mitigation described above for vegetation as well as mitigation to conduct pre-construction biological resources surveys, ensure wildlife impact avoidance and minimization, prepare and implement a nesting bird management plan, implement a raven management plan, implement surveys and avoidance measures for threatened or endangered species, and evaluate bird collision risk and implement APLIC design guidelines that would minimize the risk of collision and electrocution.

Connected Actions. Construction and operation of the future solar projects could:

- Adversely affect a suite of wildlife species similar to those occurring in the easternmost segment of the Proposed Project (Segment 6), including the desert tortoise
- Result in the potential take of federally or state listed threatened or endangered wildlife (e.g., desert tortoise and golden eagle)
- Result in injury or mortality of birds through "lake effect" hazards, solar flux hazards, collision, or electrocution
- Restrict wildlife movement and biological connectivity, including for the desert tortoise

These adverse effects can be minimized or avoided by implementing a series of measures to minimize and mitigate impacts, such as biological monitoring and reporting, worker training, offset for habitat loss, and wildlife specific measures similar to those described above in the Proposed Project. Federal incidental take authorization would require mitigation or conservation measures to avoid jeopardizing the listed species, while state authorization would require that adverse impacts to the listed species are "fully mitigated." Adverse effects to golden eagles, if any, may be reduced through a project-specific Eagle Conservation Plan, developed in coordination with the USFWS. If project design presents an electrocution hazard, this would be reduced by implementing APLIC design standards so that energized components are separated far enough to prevent electrocution. Adverse effects to wildlife movement could be reduced through long-term set-aside and management of comparable open space within the same region.

CEQA Significance Determination for the Proposed Project and Connected Actions. For the Proposed Project, all impacts to wildlife from construction and operation would be less than significant with implementation of the recommended mitigation described above. For the solar projects, depending on the specific location and extent of the project, and improved understanding of the panel collision and "lake effect" hazards, the project's effects may be less than significant; less than significant with incorporated mitigation; or significant and unmitigable. In addition, the Palen Project would present a significant and unavoidable solar flux hazard to birds.

ES.4.5.2 Effects of Alternatives on Wildlife

Tower Relocation Alternative. Under the Tower Relocation Alternative, the minor adjustment to the location of affected towers would not increase the amount of project-related disturbance compared to the Proposed Project. However, the longer construction timeframe would extend the duration of project-related disturbances, including localized short-term hindrance of movement by resident or migratory wildlife. Adverse effects to wildlife would be reduced through recommended mitigation described above for the Proposed Project.

Iowa Street 66 kV Underground Alternative. The alternative would create additional ground disturbance and construction-related traffic and noise during the construction phase, as compared to the equivalent Proposed Project segment. The installation of an underground line would also require more time to construct than an equivalent length of overhead line. Adverse effects from construction-related wildlife disturbance would be reduced through implementation of mitigation described above in the Proposed Project. Because this alternative would place an approximately 1,600-foot segment of subtransmission line underground, the collision and electrocution hazard to birds would be reduced somewhat.

Phased Build Alternative. Adverse effects to wildlife would be reduced due to the reduction in construction activity and ground disturbance. The potential for loss of special-status species and their habitat would be similarly reduced in this alternative. Interruptions to wildlife movement and collision and electrocution risks for birds would be similar to the Proposed Project during both construction and operation of this alternative. These adverse effects would be reduced through implementation of mitigation described above for the Proposed Project.

No Project/No Action Alternative Option 1. This alternative is located in the Coachella Valley and Western Riverside MSHCPs. Several special-status species (including invertebrates, reptiles, birds, and mammals) have been documented along this alternative route or have a high to moderate potential to occur in the area. Construction of this alternative could lead to the direct loss of small mammals, reptiles, and other less mobile species that could occur in the undeveloped areas along the alignment as well as the temporary loss of breeding and foraging habitat for wildlife. The removal of habitat or other disturbance during the bird breeding season would likely result in the displacement of breeding birds and the abandonment of active nests. Mitigation measures, such as conducting species-focused surveys and biological monitoring during construction and implementation of a Habitat Restoration/Compensation Plan, would reduce the severity of these adverse effects.

No Project/No Action Alternative Option 2. The eastern portion of the corridor is located within the Western Riverside County MSHCP. The western portion of the route is located in the Central/Coastal Orange County and Orange County Transportation Authority NCCP/HCP areas. Eighteen special-status wildlife species (including 4 federally listed threatened or endangered species) have been documented to occur in or near this alternative route. The same as in Option 1, construction of this alternative could lead to the loss or disturbance of these species. Recommended mitigation measures would be the same as in Option 1. This option would require no construction along the Devers-Valley or West of Devers corridors, and no new substation would be required.

ES.4.6 Climate Change

The impact evaluation for climate change analyzes the generation of greenhouse gas emissions and conflicts with applicable plans, policies, or regulations for reducing the emissions of greenhouse gases that would result from construction and operation of the Proposed Project and alternatives. Also, this analysis evaluates whether greenhouse gas emissions from project construction activities would exceed the South Coast Air Quality Management District significance threshold.

ES.4.6.1 Effects of the Proposed Project on Climate Change

Proposed Project. Construction of the Proposed Project, including the removal of existing transmission line facilities, would:

- Generate greenhouse gas emissions from vehicles and equipment for 36 to 48 months
- Generally lead to a reduction in greenhouse gas emissions due to the increased transmission capacity for renewable energy from the southeastern California desert to the Los Angeles basin

The overall levels of greenhouse gas emissions caused during construction and operations would be adverse, but they would not occur at levels requiring reporting or at levels exceeding any established threshold. No mitigation is required.

Connected Actions. Construction and operation of several potential future solar projects would:

- Emit greenhouse gases from off-road equipment and on-road construction and maintenance vehicles
- Replace or offset greenhouse gas emissions from existing fossil fuel-fired power plants providing generation to California

The future solar projects would contribute to the continued reduction of greenhouse gas emissions in the interconnected California and western United States electricity systems. No mitigation is required.

CEQA Significance Determination for the Proposed Project and Connected Actions. Greenhouse gas emissions from construction and operation of both the Proposed Project and the future solar projects would not exceed any applicable thresholds or conflict with any applicable greenhouse gas management plan, policy, or regulation. This impact would be adverse but less than significant, and no mitigation is required.

ES.4.6.2 Effects of Alternatives on Climate Change

Tower Relocation Alternative. This alternative would result in an overall increase in greenhouse gas emissions because the relocated towers could extend the construction timeframe by as much as one year. However, even with the extended timeframe the greenhouse gas emissions for this alternative would not exceed any applicable threshold or conflict with any applicable management plan.

Iowa Street 66 kV Underground Alternative. The intensity and duration of construction activity would be increased for this approximately 1,600-foot segment of underground subtransmission line compared to the Proposed Project, which would slightly increase the amount of greenhouse gas emissions. However, greenhouse gas emissions for this alternative would not exceed any applicable threshold or conflict with any applicable management plan.

Phased Build Alternative. This alternative would require less construction activity and would generate less greenhouse gas emissions from vehicles and construction equipment. The amortized greenhouse gas emissions from construction of this alternative would be lower than those of the Proposed Project and would be below any applicable threshold. This alternative would not conflict with any greenhouse gas management plan, policy, or regulation and no mitigation is required.

No Project/No Action Alternative Option 1. Construction of this alternative would involve impacts on greenhouse gas similar to those that would occur in the Proposed Project or project alternatives. The overall levels of greenhouse gas emissions caused during construction, operation, and maintenance would be adverse, but they would not occur at levels requiring reporting or at levels exceeding any established threshold.

No Project/No Action Alternative Option 2. The use of construction vehicles and equipment (including helicopters) would result in greenhouse gas emissions similar to those that would occur in the Proposed Project. However, greenhouse gas emissions would be slightly increased compared to those in the Proposed Project due to the need for extensive helicopter use for construction in rugged terrain, including within the Cleveland National Forest. The same as for the Proposed Project and the other alternatives, greenhouse gas emissions would not occur at levels requiring reporting or at levels exceeding any established threshold.

ES.4.7 Cultural Resources

The cultural resources impact analysis considers whether the Proposed Project or alternatives would adversely affect known historic properties or unknown, buried resources. These unknown resources include prehistoric and historical archaeological sites and buried Native American human remains.

ES.4.7.1 Effects of the Proposed Project on Cultural Resources

Proposed Project. Project-related ground disturbance, including vegetation removal, grading, trenching, boring, and excavation could result in:

- Direct adverse effects to known historic properties, historical resources, or previously unknown, buried archaeological sites and human remains
- Indirect adverse effects from inadvertent or malicious vandalism or unauthorized collection of cultural resources near project activity

These adverse effects would be reduced with implementation of mitigation measures to avoid environmentally sensitive areas, train construction personnel about cultural resources, conduct construction monitoring, develop a Cultural Resources Treatment Plan, and properly treat previously unidentified cultural resources and human remains. However, even with implementation of mitigation, this adverse effect would remain substantial.

Connected Actions. The potential future solar projects in the Desert Center and Blythe areas would involve extensive ground disturbance that could:

- Adversely affect known historic properties, historical resources, or previously unknown archaeological sites and human remains
- Lead to inadvertent or malicious vandalism or unauthorized collection of cultural resources within or near solar project development

Implementation of mitigation similar to that described above would reduce the severity of these adverse effects, but adverse effects on previously unknown cultural resources would remain substantial.

CEQA Significance Determination for the Proposed Project and Connected Actions. For both the Proposed Project and the future solar projects, the disturbance of known historic properties or historical resources would be less than significant with implementation of recommended mitigation. The disturbance or destruction of previously unknown, buried archaeological sites or human remains would be a significant and unavoidable impact.

ES.4.7.2 Effects of Alternatives on Cultural Resources

Tower Relocation Alternative. The relocated towers in Segments 4 and 6 would not result in an adverse effect to known historic properties, as no known eligible cultural resources are located near those towers. Excavation and site preparation for construction of the relocated towers could disturb or

destroy previously unidentified, buried archaeological resources or human remains, which would be a substantial adverse effect even with implementation of the mitigation described above.

Iowa Street 66 kV Underground Alternative. The approximately 1,600-foot segment of underground subtransmission line in this alternative is not located near a known historic property and no adverse effect to an eligible cultural resource would occur in this alternative. The greater amount of excavation and trenching would increase the probability that a previously unknown archaeological site or human remains would be disturbed or destroyed. Even with implementation of recommended mitigation, this adverse effect would remain substantial.

Phased Build Alternative. Although ground disturbance would be reduced substantially in this alternative, the same historic properties and eligible cultural resources could be adversely affected as in the Proposed Project. Indirect adverse effects to cultural resources could occur through inadvertent or malicious vandalism or unauthorized collection. The reduction in ground disturbance would result in a lower risk of disturbance or destruction of previously unknown buried cultural resources, including buried Native American human remains. However, even with implementation of the mitigation described above in the Proposed Project, this adverse effect would remain substantial.

No Project/No Action Alternative Option 1. Known and undiscovered cultural resources may occur along the transmission ROW and at the Beaumont Substation site. Also, unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains may be encountered. Mitigation measures to reduce the severity of these impacts would include avoiding culturally sensitive areas, developing a Cultural Resource Management Plan, training construction personnel regarding applicable laws and regulations, conducting monitoring during construction, and properly treating human remains. However, even with implementation of the mitigation, adverse effects would remain substantial.

No Project/No Action Alternative Option 2. Although this alternative would construct a 500 kV circuit within an existing transmission corridor, both known and undiscovered cultural resources may be encountered. Excavation for construction of transmission tower foundations and other subsurface disturbance could damage or destroy unknown buried prehistoric and historical archaeological sites or buried Native American human remains. The disturbance or destruction of Native American human remains would be a substantial adverse effect. Mitigation similar to that described in the Proposed Project would be required to reduce the severity of these impacts. However, as with Option 1 above, even with implementation of the mitigation, adverse effects would remain substantial.

ES.4.8 Socioeconomics and Environmental Justice

The socioeconomics and environmental justice impact analysis considers whether the Proposed Project or alternatives would result in a substantial increase in population growth, displace a substantial amount of people or existing housing, or disproportionately affect minority or low-income populations.

ES.4.8.1 Effects of the Proposed Project on Socioeconomics and Environmental Justice

Proposed Project. Construction of the Proposed Project would:

- Not displace any existing housing or people or result in a perceptible change in property values overall
- Not disproportionately affect minority or low-income populations
- Result in a positive effect on wages and public revenue

All of the Proposed Project's adverse effects related to socioeconomics and environmental justice would be minor and no mitigation is required.

Connected Actions. The potential future solar projects would:

- Result in a minor amount of population growth and would not displace a substantial amount of people or housing
- Not disproportionately affect minority or low-income populations or substantially reduce property values
- Result in a positive effect on wages and public revenue

The solar projects would not result in substantial adverse effects related to socioeconomics and environmental justice and no mitigation is required.

CEQA Significance Determination for the Proposed Project and Connected Actions. The Proposed Project would have no impact on the displacement of existing housing. Induced population growth and the displacement of substantial numbers of people from construction and operation of the Proposed Project would be less than significant and no mitigation is required.

Construction and operation of the future solar projects would have a less than significant impact on population growth and the displacement of people and existing housing. No mitigation is required.

ES.4.8.2 Effects of Alternatives on Socioeconomics and Environmental Justice

Tower Relocation Alternative. This alternative would not displace any people or existing housing. The relocation of several towers in Segments 4 and 6 would not increase the number of workers required compared to the Proposed Project or result in a substantial increase in population growth. The relocated towers would not disproportionally affect minority or low-income populations, nor would they noticeably affect property values. This alternative would have the same positive effect on wages and public revenue as the Proposed Project.

Iowa Street 66 kV Underground Alternative. Undergrounding a segment of the 66 kV transmission line in Iowa Street would have no effect on population growth and would not displace any people or existing housing. The underground segment along Iowa Street under this alternative is not located in a census tract that meets the environmental justice criteria for minority or poverty-level populations of concern. Placing lines underground near some residences may have a nominal positive effect on value, but this is impossible to accurately assess or measure.

Phased Build Alternative. Due to the reduced number of new towers that would be constructed, this alternative would require fewer construction workers and may shorten the construction period. No people or housing would be displaced, and this alternative would not induce substantial population growth. This alternative would affect the same census tracts as the Proposed Project and would not disproportionately affect minority or low-income populations. No measurable effects to property values would occur. Due to the reduction in construction activities and workers, this alternative would have a slightly smaller positive effect on wages and public revenue compared to the Proposed Project.

No Project/No Action Alternative Option 1. The alignment for this alternative would pass through the low-income community of Cabazon, and along the southern border of Banning and Beaumont. The addition of a third 500 kV circuit in these areas could present environmental justice concerns. The Beaumont Substation site is in an area with low population density. Other socioeconomic effects, such as positive effects on wages and public revenues, would be similar to those that would occur under the Proposed Project.

No Project/No Action Alternative Option 2. The new 500 kV circuit would be constructed along 40.4 miles of an existing transmission corridor and would not physically divide an established community. Most of the surrounding land is sparsely populated, with the exception of the western and eastern ends of the corridor. This alternative would not result in a substantial amount of population growth nor would it displace a substantial amount of people or housing. Due to the mostly unpopulated nature of this corridor, adverse effects are not expected to fall disproportionately on minority or low-income populations. Positive effects on wages and public revenue are expected to occur. Unlike Option 1, this route requires no construction along the Devers-Valley or West of Devers corridors, and no new substation would be required.

ES.4.9 Geology and Soils

The geology and soils impact evaluation analyzes the potential for surface fault rupture, groundshaking, landslides, liquefaction, or problematic soils (such as expansive or corrosive soils) to damage structures or components of the Proposed Project or alternatives. Project activities are also evaluated for their potential to trigger or accelerate erosion or slope failure (including landslides).

ES.4.9.1 Effects of the Proposed Project on Geology and Soils

Proposed Project. Project facilities would be subject to several seismic and geologic hazards, including:

- Surface fault rupture at crossings of active and potentially active faults, strong groundshaking, and earthquake-triggered landslides
- Damage from expansive or corrosive soils

Also, project-related construction activities could accelerate erosion or trigger slope instability, including landslides. These adverse effects would be reduced through the completion of a fault evaluation study and the minimization of project structures within active fault zones, the completion of geotechnical surveys for landslides and protection against slope instability, implementation of an erosion control plan, restoration and revegetation of temporary disturbance areas, and design-level geotechnical studies to identify the presence of problematic soils and recommend the modification of structure foundations as needed.

Connected Actions. The solar project facilities could be damaged or project construction workers could be harmed by:

- Surface fault rupture of active and potentially active faults
- Problematic soils, including expansive and corrosive soils

Solar project development could trigger or accelerate erosion, which could be substantial due to the large number of acres that would be disturbed for these projects. These adverse effects would be minimized through implementation of project-specific design recommendations in pre-construction geotechnical investigations, compliance with building code regulations, implementation of a Storm Water Pollution Prevention Plan, and implementation of project mitigation, such as erosion control plans.

CEQA Significance Determination for the Proposed Project and Connected Actions. The impact of surface fault rupture, strong groundshaking, landslides, slope failure, liquefaction, and problematic soils on Proposed Project structures would be reduced to less than significant with implementation of recommended mitigation. The potential for the project to trigger or accelerate erosion, slope failure, or landslides would be reduced to less than significant with implementation of the mitigation described above.

Implementation of the mitigation described above would reduce solar project impacts related to surface fault rupture, erosion, and problematic soils to less than significant. Impacts related to slope instability, landslides, and liquefaction would be less than significant and would not require mitigation.

ES.4.9.2 Effects of Alternatives on Geology and Soils

Tower Relocation Alternative. The relocated structures would be underlain by the same soil types, and would be subject to the same risk of damage by surface fault rupture, strong groundshaking, landslides, liquefaction, and problematic soils as the Proposed Project structures. The ground disturbance associated with the relocated structures would not result in more substantial erosion or a greater potential to trigger landslides than would occur with the Proposed Project towers. Compliance with existing regulations and implementation of mitigation described above would minimize these adverse effects.

Iowa Street 66 kV Underground Alternative. No active or potentially active faults are located along or near the underground segment of subtransmission line, and there would be no risk from surface fault rupture. The underground subtransmission line would not be subject to damage from groundshaking, landslides, or liquefaction. Although this alternative would involve a greater amount of ground disturbance than the Proposed Project structures that it would replace, it would be located in level terrain and would not trigger landslides or substantially accelerate erosion. The underground subtransmission line would be located on the same soil type as the Proposed Project structures that it would be replacing, and would be subject to the same problematic soils. The adverse effects of problematic soils would be reduced through mitigation to assess soil characteristics and modify the underground structures as necessary.

Phased Build Alternative. The structures in this alternative would be located in the same seismically active area as the Proposed Project structures, would be built on the same soil types, and would be subject to the same risk of damage by surface fault rupture, strong groundshaking, landslides, liquefaction, and problematic soils. This alternative would reduce the amount of ground disturbance compared to the Proposed Project, and consequently would reduce the potential to cause or accelerate erosion, siltation, or landslides. Implementation of mitigation described above in the Proposed Project and compliance with existing regulations would reduce the severity of adverse effects.

No Project/No Action Alternative Option 1. Most of the route does not cross areas identified as existing landslide areas; however portions of the route located on moderate to steep slopes could be damaged by landslides, rock avalanches, and rockfalls. Active and potentially active faults intersect the route. Generally, liquefaction is not considered a potential hazard due to the generally deep water table along the ROW, although pockets of locally elevated groundwater may be encountered. Impacts from geologic hazards and adverse soil conditions can be address by such measures as requiring geotechnical surveys for landslides and slope stability, minimizing structures in fault zones, minimizing ground surface disturbance, and requiring runoff and erosion control.

No Project/No Action Alternative Option 2. Just west of the Temescal Wash, the route crosses two adjacent Earthquake Fault Zones of Required Investigation, the Corona South and Lake Matthews fault zones. This area is also subject to liquefaction. The corridor passes through several mapped landslide hazard zones in the Peralta Hills. In addition, potential unmapped landslide hazards may exist along the route where it passes through steep terrain in the foothills surrounding Steele Peak and Estelle Mountain and in the Cleveland National Forest. Impacts from geologic hazards and adverse soil conditions can be addressed by the same mitigation measures described in Option 1.

ES.4.10 Hazards and Hazardous Materials

The analysis of impacts related to hazards and hazardous materials considers whether the Proposed Project or alternatives would harm the public, project workers, or the environment through the improper handling, storage, or accidental release of hazardous materials. The analysis also considers the potential for project construction to mobilize contaminants (including pesticides, herbicides, and other toxic materials) through ground disturbing activities, including grading and excavation.

ES.4.10.1 Effects of the Proposed Project on Hazards and Hazardous Materials

Proposed Project. Construction, operations, and maintenance activities for the Proposed Project could result in:

- Worker exposure or contamination of soil or water resources through accidental releases of hazardous materials or the disturbance and mobilization of unanticipated soil contamination

These adverse effects would be reduced through development and implementation of a Storm Water Pollution Prevention Plan, a Spill Prevention, Control, and Countermeasures Plan, a hazardous material and waste management plan, and a soil management plan and soil testing to identify residual herbicides, pesticides, and other contaminants.

Connected Actions. The potential future solar projects could result in:

- Worker exposure or contamination of soil or water resources through accidental releases of hazardous materials or the disturbance and mobilization of unanticipated soil contamination
- The introduction of other hazardous materials that may be present in photovoltaic solar panels, including cadmium telluride, selenium, and arsenic
- Disturbance of unexploded ordnance in the Desert Center area

These adverse effects would be minimized through the development and implementation of plans to control polluted stormwater, contain and cleanup accidental spills and leaks, properly handle, store, and dispose of hazardous materials, and protect workers from exposure to hazardous materials. Also, preconstruction environmental site assessments would identify existing hazardous materials or deem the sites safe to disturb.

CEQA Significance Determination for the Proposed Project and Connected Actions. The accidental release of hazardous materials and the potential for mobilization of existing contaminants during construction and operation of the Proposed Project would be less than significant with implementation of the mitigation described above.

Hazardous materials could be spilled or leaked during construction and operation of the future solar projects. Ground disturbance associated with the solar projects could encounter and mobilize existing contaminants and hazardous materials, including unexploded ordnance and residual pesticides and herbicides. With implementation of recommended mitigation, these impacts would be less than significant.

ES.4.10.2 Effects of Alternatives on Hazards and Hazardous Materials

Tower Relocation Alternative. The risk of harm to the public, project workers, or the environment through the accidental release of hazardous materials or the mobilization of existing contaminants would be the same for this alternative as for the Proposed Project. All of the mitigation described in the Proposed Project above would also be required in this alternative.

Iowa Street 66 kV Underground Alternative. Construction activity for this approximately 1,600-foot segment of underground subtransmission line would be more intense compared to construction of the overhead poles that it would replace, but this alternative would not result in an increased use of hazardous materials, nor would hazardous materials be handled or stored differently compared to the Proposed Project. The underground subtransmission line is located adjacent to agricultural activities. The likelihod of encountering soil that is contaminated by residual pesticides and herbicides is increased for this alternative due to the increased amount of ground disturbance. The recommended mitigation described for the Proposed Project would also be required in this alternative.

Phased Build Alternative. Although less construction would occur overall, the risk of harm to the public, project workers, or the environment through the accidental release of hazardous materials for this alternative would be similar to the Proposed Project because the same hazardous materials would be used and the risk of spill or accidental release would remain. With fewer areas of ground disturbance under the Phased Build Alternative, there would be fewer opportunities to mobilize existing contaminants (including residual pesticides or herbicides) that may be present in the soil. Implementation of the mitigation described above in the Proposed Project would reduce the severity of these adverse effects.

No Project/No Action Alternative Option 1. Ground disturbance on or near sites of known previous hazardous materials storage or spills may encounter contaminated soil and groundwater. Also, unreported spills or illegal dumping may have occurred, leading to the unanticipated discovery of contamination. In agricultural areas, lands with residual herbicide or pesticide may be encountered. In addition, during project construction, hazardous materials (including fuels, lubricants, solvents, and similar materials) may be stored, used, and spilled. Implementation of hazardous materials and waste management plans would reduce the severity of these impacts. A soil management plan would address the unanticipated discovery of contamination, and soil testing for pesticide and herbicide contamination in agricultural areas would serve to address the issue of residuals in the soil.

No Project/No Action Alternative Option 2. The same as in the Proposed Project and the other alternatives, contaminated soils or groundwater may be encountered or mobilized through ground disturbance on or near sites of known previous hazardous materials storage or spills. Also, unanticipated discovery or mobilization of hazardous materials or residual pesticides and herbicides may occur during ground disturbance. In addition, during project construction, hazardous materials may be stored, used, and spilled. Recommended mitigation measures would be the same as in Option 1.

ES.4.11 Land Use and BLM Realty

The land use and BLM realty impact analysis considers whether the Proposed Project or alternatives would disrupt an established or recently approved land use.

ES.4.11.1 Effects of the Proposed Project on Land Use and BLM Realty

Proposed Project. Construction of the Proposed Project would:

- Generally occur within an existing utility corridor and would not physically divide an existing community
- Result in minor adverse effects to established recreational and agricultural land uses during construction
- Create temporary nuisance impacts (noise, traffic, visibility of activities)

Effects on existing land uses during operations and maintenance would be temporary and would involve very minimal disruption. The preparation of a construction notification plan and implementation of applicable mitigation measures for agriculture, noise, recreation, transportation and traffic, and visual resources would reduce this adverse effect.

Connected Actions. Solar project activities would affect land uses and BLM lands throughout the Desert Center and Blythe Areas. Undeveloped desert land is the dominant characteristic of land uses surrounding the future solar projects. However, in areas where existing land uses occur (such as rural residences, agricultural production, or recreational resources), construction of the solar projects would adversely affect those land uses through the introduction of temporary impacts (e.g., noise, traffic, visibility of activities). These adverse effects would be reduced through preparation of construction notification plans and through mitigation to reduce the effects of noise, traffic, and visibility such as that described in the analysis for those resources.

CEQA Significance Determination for the Proposed Project and Connected Actions. Construction of the Proposed Project would temporarily disrupt some existing land uses, including recreation and agriculture, and would cause temporary nuisance impacts related to traffic, noise, and aesthetics. With implementation of the recommended mitigation measures identified above and in the analyses for agriculture, noise, recreation, transportation & traffic, and visual resources during construction, this impact would be less than significant. Long-term visual impacts would be significant and unavoidable.

The solar projects would temporarily disrupt some existing land uses, including recreation and agriculture, and would cause temporary nuisance impacts related to traffic, noise, and aesthetics. With implementation of the recommended mitigation, construction-period impacts would be less than significant. Long-term visual impacts would be significant and unavoidable.

ES.4.11.2 Effects of Alternatives on Land Use and BLM Realty

Tower Relocation Alternative. Compared to the Proposed Project, construction of this alternative would have slightly greater adverse effects on existing land uses through the creation of temporary nuisance (e.g., noise, traffic, visibility of construction) due to the extended construction timeframe. No existing community would be physically divided. These adverse effects would be reduced through implementation of recommended mitigation described above.

Iowa Street 66 kV Underground Alternative. Temporary nuisance during construction (e.g., noise, traffic, visibility of construction) would be slightly greater for nearby residents in this alternative than in the Proposed Project due to the increased amount of ground disturbance. This section of subtransmission line would be located underground and would not physical divide an existing community. Recommended mitigation described above would reduce this adverse effect.

Phased Build Alternative. No existing community would be physically divided by this alternative. Temporary construction nuisance (e.g., noise, traffic, visibility of construction) would be reduced in severity due to the reduction in construction activity and ground disturbance. The mitigation described above in the Proposed Project would further reduce this adverse effect.

No Project/No Action Alternative Option 1. Much of the land surrounding this alternative is open space and recreation areas, with concentrations of residential, agricultural, and commercial/industrial uses. The Devers-Valley corridor crosses the community of Cabazon, where a third circuit of 500 kV line would be required. Leaving Devers Substation, the route crosses private land and BLM-managed public lands, before entering the Santa Rosa and San Jacinto National Monument and National Forest lands. Adding a new line or circuit in the Devers-Valley corridor would require a Special Use authorization from the USDA Forest Service where it would be on National Forest System lands. Construction disturbance to nearby land uses, particularly residential uses, would require notices to residents and businesses of construction plans and coordination of schedules with public and community facilities. Dust abatement and time of day limitations on work and noise levels may be required.

No Project/No Action Alternative Option 2. The new 500 kV transmission line would be constructed adjacent to an existing transmission line for approximately 40.4 miles. Much of the land is open space and recreation areas, with concentrations of residential land uses at the eastern and western ends of the corridor. Agricultural uses are concentrated in the Perris Valley. Adding a new line or circuit in the existing corridor would require a Special Use authorization from the USDA Forest Service where it would be on National Forest System lands. In addition to temporarily eliminating some recreational and agricultural land uses in the project corridor, construction of this alternative would have adverse effects on existing land uses through increasing the amount of activity along the ROW and creating temporary nuisance impacts (e.g., noise, traffic, visibility of construction). These impacts would be reduced by the preparation of a construction notification plan as well as mitigation measures identified for other specific resource topics, including agriculture, noise, recreation, and traffic. This route requires no construction along the Devers-Valley or West of Devers corridors, and no new substation would be required. As a result, fewer sensitive land uses would likely be affected than with Option 1.

ES.4.12 Mineral Resources

This analysis evaluates the potential for known mineral resources to be rendered inaccessible by construction or operation of the Proposed Project or alternatives.

ES.4.12.1 Effects of the Proposed Project on Mineral Resources

Proposed Project. Segment 5 crosses an active sand and gravel quarry operated by Robertson's Ready Mix at the northeastern edge of the City of Banning. Project construction could potentially interfere with daily ongoing mining operations at the quarry. Construction impacts to known mineral resources would be temporary and would not result in the loss of availability of those resources. Implementation of mitigation that would require coordination with quarry operators would reduce the severity of this adverse effect.

Connected Actions. There are no known mineral resource designations or active mineral operations in the project areas of the known solar projects. However, the USGS's MRDS does show present and past producers throughout the areas surrounding the confidential projects. Therefore, construction and operation activities associated with the confidential projects could interfere with active mining activities. This adverse effect would be reduced through mitigation that would require coordination with quarry operators or parties with mineral claims.

CEQA Significance Determination for the Proposed Project and Connected Actions. Mitigation requiring coordination with quarry operators or mineral claimants would reduce the potential to interfere with quarry operations and render mineral resources temporarily inaccessible. This impact would be less than significant with mitigation.

The potential for the future solar projects to interfere with mineral resource extraction activities would be minimized with implementation of recommended mitigation, which would reduce this impact to less than significant.

ES.4.12.2 Effects of Alternatives on Mineral Resources

Tower Relocation Alternative. None of the relocated towers would be located in an area containing active mining operations. Also, the continuing operational presence of the relocated towers would not render known mineral resources inaccessible.

Iowa Street 66 kV Underground Alternative. The underground portion of the subtransmission line would not be located in an area containing active mining operations. Also, the continuing operational presence of the underground line would not render known mineral resources inaccessible.

Phased Build Alternative. Construction activities for this alternative would occur within an active sand and gravel quarry operated by Robertson's Ready Mix at the northeastern edge of the City of Banning. Although the existing double-circuit structures would be retained, two sets of existing single-circuit structures would be removed and replaced with one set of double-circuit structures. Disruptions to existing mining operations would be reduced compared to the Proposed Project, but would still be an adverse effect requiring the same mitigation described above. The continuing operational presence of transmission structures in this alternative would not render known mineral resources inaccessible.

No Project/No Action Alternative Option 1. No actively mined mineral resources were identified along this alternative route. Because of the relatively small footprint of individual transmission poles or towers, construction of this alternative would have minimal effect on mineral resources and their availability in the future.

No Project/No Action Alternative Option 2. The USGS Mineral Resources Data System shows the presence of mineral resources throughout the lands surrounding the alternative route. Typical mineral resource deposits in the region include aggregate such as sand and gravel. There are no active mining sites within the existing ROW, but several active mining operations are located near the corridor. Because the new 500 kV circuit would be constructed mostly within an existing ROW, it is not anticipated that any of the nearby mining operations would be interrupted during either construction or operation of this alternative. The permanent footprint of the new transmission structures would be small and dispersed along the length of the route, and construction and operation of this alternative would not preclude the long-term availability of mineral resources.

ES.4.13 Noise

The analysis of impacts related to noise considers whether construction of the Proposed Project or alternatives would substantially disturb sensitive receptors, violate local rules, standards, or ordinances, or cause groundborne vibration. Operation and maintenance of the project is evaluated for its potential to increase ambient noise levels due to corona noise or routine inspection and maintenance activities.

ES.4.13.1 Effects of the Proposed Project on Noise

Proposed Project. Noise adverse effects from construction and operation of the Proposed Project include:

- Disturbance of sensitive receptors located within 1,400 feet of active construction
- Exceedance of ambient noise levels and potential violations of local standards due to helicopter overflights and nighttime work
- Minor adverse effects from construction-related vibration
- Corona noise during project operation

The severity of these adverse effects would be reduced through implementation of mitigation to implement a helicopter noise control strategy and best management practices for construction noise. However, the adverse effects from construction noise would remain substantial.

Connected Actions. Construction of the future solar projects would result in adverse noise effects, including:

- Disturbance of nearby sensitive receptors from construction equipment and vehicles
- Potential violations of daytime noise standards

Typical mitigation requirements to reduce temporary noise during construction include implementing best management practices similar to those identified in the Proposed Project and obtaining variances from the applicable jurisdiction when noise levels or work hours are not in compliance with applicable ordinances, regulations, and standards.

CEQA Significance Determination for the Proposed Project and Connected Actions. Although Proposed Project construction noise would be temporary and would be reduced by implementation of the recommended mitigation measures, the level of construction noise would occasionally be substantially higher than ambient noise levels. Mitigation would reduce the impact, but mitigated levels of construction noise would disturb sensitive receptors and could violate local rules, standards, or ordinances, which would result in a significant and unavoidable impact.

For connected actions in the Desert Center and Blythe areas, construction noise would be temporary and would be reduced by implementation of typical mitigation measures. However, the level of construction noise could occasionally be substantially higher than ambient noise levels and could violate local rules, standards, or ordinances. Therefore, this impact is considered significant and unavoidable.

ES.4.13.2 Effects of Alternatives on Noise

Tower Relocation Alternative. The adjustment to the location of the relocated towers would reduce the severity of the substantial adverse noise effect for the nearest sensitive receptors. However, during construction of the relocated towers ambient noise levels would be increased by more than 5 dBA Leq, which represents a substantial adverse effect. Although this alternative would decrease noise levels for several sensitive receptors, the extended construction timeframe for this alternative (up to one year longer than the Proposed Project) would increase the duration of this adverse effect, although it would not be continuous throughout the construction period. The adjustment to the location of the relocated towers would reduce the severity of the operational adverse noise effect due to corona noise for the nearest sensitive receptors. Noise impacts related to construction of this alternative would remain significant even with implementation of recommended mitigation.

Iowa Street 66 kV Underground Alternative. Construction of this short underground subtransmission segment would slightly increase the severity of the substantial adverse noise effect and the severity of groundborne vibration for the nearest sensitive receptors due to the increased ground disturbance, including trenching. For sensitive receptors nearest to this alternative, the corona noise would be eliminated because the conductors would be entirely buried for that 1,600-foot segment. Noise impacts related to construction of this alternative would remain significant even with implementation of recommended mitigation.

Phased Build Alternative. Structures in this alternative would be located further from the edge of the ROW compared to the Proposed Project. In these locations, the severity of the substantial adverse noise effect for the nearest sensitive receptors would be reduced. However, ambient noise levels would be increased by more than 5 dBA Leq, which represents a substantial adverse effect. Operational adverse effects from corona noise would be reduced due to the placement of transmission lines further from the edge of the ROW. Even with implementation of recommended mitigation, noise impacts related to construction of this alternative would remain significant.

No Project/No Action Alternative Option 1. Noise is a concern to nearby sensitive receptors, land uses such as residences, school, nursing homes, parks and hospitals. This alternative route passes through the community of Cabazon and adjacent to residential areas in Banning and Beaumont. The route passes through noise-sensitive natural and wilderness areas, where visitors expect quiet conditions. Compliance with noise ordinances and conditions imposed by agencies having land use jurisdiction would help ensure that this impact is addressed. In areas of sensitivity, time-of-day restrictions on construction would reduce impacts. Use of heavy equipment and helicopters is inherently noisy, but the impacts are short duration, occurring only during active construction and not constantly.

No Project/No Action Alternative Option 2. Noise associated with construction of this alternative could disturb nearby sensitive receptors, including residential areas, schools, hospitals, day care centers, campgrounds, and other outdoor recreation areas. Areas that are particularly sensitive to increases in noise levels include the Lake Mathews–Estelle Mountain Reserve and the Cleveland National Forest. Construction noise would exceed ambient noise levels and could violate local noise standards for nearby receptors. Recommended mitigation measures would be the same as in Option 1. This route requires no construction along the Devers-Valley or West of Devers corridors, and no new substation would be required.

ES.4.14 Paleontological Resources

This analysis considers whether the destruction or disturbance of significant paleontological resources would result from construction of the Proposed Project or alternatives.

ES.4.14.1 Effects of the Proposed Project on Paleontological Resources

Proposed Project. Construction of the Proposed Project has the potential to:

- Destroy valuable paleontological resources, including those within 50 identified vertebrate fossil localities within or near the Proposed Project area

Mitigation measures to minimize or avoid impacts to paleontological resources include conducting an inventory of significant paleontological resources, developing a paleontological resource mitigation and monitoring plan, training construction personnel to recognize and protect paleontological resources, monitoring construction for those resources, reporting monitoring efforts and any discoveries, and properly curating any paleontological finds.

Connected Actions. Construction-related ground disturbances as a result of development of the solar projects in the Desert Center and Blythe areas could result in adverse impacts to paleontological resources, including:

- Disturbance, damage, or destruction of a significant fossil or paleontological site
- Destruction of a unique geologic feature associated with a paleontological site

Should paleontological resources be discovered during construction-related activities associated with the solar projects, they would be subject to legal requirements designed to protect them similar to the mitigation measures described in the Proposed Project. Implementation of mitigation similar to that described in the Proposed Project would minimize any adverse impacts to paleontological resources.

CEQA Significance Determination for the Proposed Project and Connected Actions. Implementation of recommended mitigation measures for the Proposed Project would reduce any adverse impacts to paleontological resources to less than significant levels by ensuring that significant fossils and paleontological resources are preserved, catalogued, and inventoried for future scientific purposes.

Construction of the solar projects would result in less than significant impacts to paleontological resources with implementation of recommended mitigation.

ES.4.14.2 Effects of Alternatives on Paleontological Resources

Tower Relocation Alternative. The relocated towers would not increase the risk of disturbance or destruction of significant paleontological resources compared to the Proposed Project. The same mitigation that is described in the Proposed Project would apply to this alternative, and implementation of this mitigation would minimize or avoid adverse effects to paleontological resources.

Iowa Street 66 kV Underground Alternative. This alternative would increase the amount of subsurface disturbance compared to the Proposed Project, which would increase slightly the risk of disturbance or destruction of significant paleontological resources. The same mitigation that is described in the Proposed Project would apply to this alternative, and implementation of this mitigation would minimize or avoid adverse effects to paleontological resources.

Phased Build Alternative. Construction activity and the associated ground disturbance would be reduced, which would decrease the risk of damage to or destruction of significant paleontological resources. However, the same as in the Proposed Project, construction within areas of moderate to high fossil yield has the potential to destroy valuable resources. Implementation of mitigation described above is required to reduce the severity of this adverse effect.

No Project/No Action Alternative Option 1. Portions of the 500 kV alignment (including within the San Timoteo Formation) are located within areas of high paleontological sensitivity. Ground disturbance and installation of foundations in these and other areas could encounter undiscovered paleontological resources. Provisions for discovery and treatment of significant fossil remains would reduce adverse effects to these resources through implementation of mitigation measures requiring inventory of paleontological resources, developing and implementing a Paleontological Monitoring and Treatment Plan, and training construction personnel to be aware of resources.

No Project/No Action Alternative Option 2. This route passes through several paleontologically sensitive areas, including the Perris Valley and the alluvium surrounding Temescal Wash. Ground disturbance, such as installation of transmission tower foundations, could encounter undiscovered paleontological resources. Recommended mitigation measures would be the same as in Option 1.

ES.4.15 Recreation

This evaluation analyzes whether the Proposed Project or alternatives would temporarily reduce access and visitation to recreation areas, permanently preclude recreational activities, or change the character of a recreation area such that its recreational value would be diminished.

ES.4.15.1 Effects of the Proposed Project on Recreation

Proposed Project. Construction of the Proposed Project would result in:

- Temporary disturbances from noise, dust, and traffic that would diminish the value of nearby recreational facilities
- Temporary closures of recreation areas

Recommended mitigation would reduce the severity of this adverse effect by ensuring that the construction timeframe avoids heavy recreational use periods and by identifying alternative areas for recreation to provide the users recreational options throughout the construction period.

Connected Actions. Construction and operation of the future solar projects could result in:

- Temporary conflicts with access to recreation areas during construction
- Temporary disturbances from noise, dust, and traffic that would diminish the value of nearby recreational facilities
- Introduction of energy infrastructure into a natural and undeveloped landscape that is characterized by its scenic resources

Mitigation measures similar to those described above and in the visual resources analysis would reduce the severity of these adverse effects. However, the long-term adverse effects to the recreational value of the surrounding resources would remain substantial. While BLM-managed recreational opportunities are dispersed across the Desert Center and Blythe areas, any construction of solar generation across BLM lands would require the agency's review and approval, and possible conflicts with recreational resources would occur only with concurrence of the BLM.

CEQA Significance Determination for the Proposed Project and Connected Actions. Temporary disruptions to access and visitation of recreation areas would result from construction of the Proposed Project. This impact would be less than significant with implementation of recommended mitigation.

Construction of the solar projects would result in temporary disruptions to access and visitation of recreation resources that would be less than significant with implementation of mitigation similar to that described for the Proposed Project. The long-term presence of the solar projects would change the character of recreational resources in the area and would result in a significant and unavoidable impact.

ES.4.15.2 Effects of Alternatives on Recreation

Tower Relocation Alternative. Construction of this alternative would result in temporary disturbances from noise, dust, and traffic that would diminish the value of recreational facilities on and near the ROW. Several nearby recreational facilities would be directly or indirectly disturbed by construction of the relocated towers, including temporary closure of several facilities. The direct and indirect adverse effects under this alternative would be greater due to the extended construction timeframe for this alternative, which would be up to one year longer than the Proposed Project. These adverse effects would be reduced through implementation of recommended mitigation described in the Proposed Project.

Iowa Street 66 kV Underground Alternative. The underground subtransmission line portion of this alternative is not located on or within any recreational facilities. The nearest recreational facility, Brookside Park, is located approximately 0.25 miles to the southeast. Recreational use of this park would be temporarily disturbed by construction of the underground subtransmission line due to noise, dust, and traffic. However, this adverse effect would be minor.

Phased Build Alternative. Like the Proposed Project structures, several of the new and existing reconductored structures would be located near or on recreational facilities. Due to the reduction in construction activities, the severity of disturbances to recreational facilities (including noise, dust, traffic, and temporary closures) would be reduced. Development and operation of this alternative would not substantially change the character of any nearby recreation area or permanently preclude recreational activities. Implementation of the recommended mitigation described above would ensure that the potential adverse effects related to disruption of recreational access or visitation would be minor.

No Project/No Action Alternative Option 1. The 500 kV line between Devers Substation and Beaumont would cross over the Pacific Crest National Scenic Trail (PCT) and would pass through Santa Rosa and San Jacinto Mountains National Monument, San Bernardino Nation Forest, and the San Jacinto Wilder-

ness Area. Near the Beaumont Substation the line would traverse by the Potrero ACEC, a designated wildlife habitat managed by the BLM. Recreational use of open space and conservation habitat in the Norton Younglove Preserve occurs for about 2 miles along this alternative route near Highway 60. Users of the public lands through which the Option 1 corridor passes could be temporarily affected during construction. For example, temporary detours may be required where the line would cross the PCT. Coordinating construction scheduling with public and community facilities would reduce this impact.

No Project/No Action Alternative Option 2. Construction activities for this No Project Alternative would create a number of temporary disturbances that would diminish the value of affected areas, including parks, open space/preserves, and backcountry within the Cleveland National Forest (CNF). The noise, dust, and traffic generated during construction would negatively affect a visitor's enjoyment of these recreation areas so the public may be less likely to visit these resources during project construction. In certain instances, for reasons of safety, access to some areas or facilities might be temporarily prohibited. The siting of new structures adjacent to existing structures would avoid the creation of new barriers to recreational uses. Coordinating construction scheduling with public and community facilities would reduce the severity of these impacts.

ES.4.16 Transportation and Traffic

The impact analysis of transportation and traffic considers whether the Proposed Project or alternatives would require the temporary closure of travel lanes or roadways, result in unacceptable levels of service on roadways or the short-term elimination of parking spaces, conflict with planned transportation projects, damage roads, temporarily disrupt rail traffic or operations, or disturb or endanger public safety and wildlife through helicopter use. Project operations are evaluated for their potential to affect aviation safety and activities at public airports.

ES.4.16.1 Effects of the Proposed Project on Transportation and Traffic

Proposed Project. Transportation and traffic adverse effects from construction and operation of the Proposed Project would include:

- Increased traffic volumes on the local and regional road network
- Temporary road or lane closures for conductor stringing and underground subtransmission and telecommunications installation
- Delays and blockages for emergency service vehicles, rail service, public transportation, bicycles, and pedestrians
- Restricted access to adjacent properties and short-term elimination of parking spaces
- Physical damage or deterioration of road surfaces
- Nuisance and safety concerns from helicopter overflights and disruption of local aviation activities due to new transmission structures or tall construction equipment

Mitigation measures that would reduce the severity of these adverse effects include requirements to prepare construction transportation and traffic control plans, obtain encroachment permits, restrict lane closures, minimize disruption of bus and transit service, ensure pedestrian and bicycle safety, provide access to property, repair damage to roadways, prepare a final helicopter use plan, ensure compliance with FAA regulations, notify the public of short-term parking elimination, and prepare a construction notification plan.

Connected Actions. Although connected solar projects are in rural or remote locations, their construction could result in:

- Brief road or lane closures and restricted access to adjacent properties during construction
- Damage to local roadways

Implementation of typical mitigation, such as a construction transportation plan, coordination with regional transportation management agencies, and requirements to repair damage to roadways would reduce these adverse effects.

CEQA Significance Determination for the Proposed Project and Connected Actions. All of the transportation and traffic impacts related to construction and operation of the Proposed Project would be less than significant with implementation of the recommended mitigation described above.

Construction of the solar projects would result in less than significant impacts to transportation and traffic with implementation of recommended mitigation.

ES.4.16.2 Effects of Alternatives on Transportation and Traffic

Tower Relocation Alternative. The tower relocations under this alternative would occur within the existing right-of-way and would not directly affect any roadways. No additional road or travel lane closures would be required by the relocation. The use of and potential damage to roadways in the project area would be the same under both the Proposed Project and the Tower Relocation Alternative. No public parking spaces would be affected by the tower relocations. Helicopters may be used for construction of the relocated towers, and preparation of a final helicopter use plan would be required.

Iowa Street 66 kV Underground Alternative. Undergrounding a segment of the 66 kV line in Iowa Street would increase the total amount of roadway affected by road or lane closures, as compared to the Proposed Project. Construction in Iowa Street is expected to temporarily close one lane; a similar lane closure would be likely during installation of poles and conductor under the Proposed Project, but would be shorter in duration. Trenching to install the underground segment would damage the road surface, and recommended mitigation would require the Applicant to repair the road to its previous condition. Use of helicopters along the Iowa Street portion of the project is not anticipated.

Phased Build Alternative. This alternative would reduce the amount of construction activity compared to the Proposed Project, and consequently would reduce the number and duration of road or travel lane closures, the amount of peak-hour trip generation by workers, and the potential to damage roadways. Conflicts with planned transportation projects, disruptions to rail service, and the short-term elimination of parking spaces would be minor. Nuisance and public safety hazards from helicopter use would be reduced due to construction of fewer new towers. Adverse effects to aviation safety from the operational presence of structures would be the same as in the Proposed Project and would remain minor. Implementation of the mitigation measures described above for the Proposed Project would be required to reduce the severity of these adverse effects.

No Project/No Action Alternative Option 1. This alternative primarily would traverse remote and rural areas south of Interstate 10. The area has relatively few local roads and highways. There would be little or no opportunity for disrupting train and transit routes. During stringing operations across roads and highways, traffic would be controlled. Construction of remote sections of the transmission line likely would involve use of helicopters, as was the case in construction of the Devers-Valley No. 2 500 kV line. To minimize impacts, a traffic control plan, transportation plan, and helicopter use plan would be needed. Also, coordination with Caltrans, local roads departments, transit service providers, and rail roads would be needed to ensure minimal disruption.

No Project/No Action Alternative Option 2. With the exception of the urban areas in the Perris Valley at the eastern end of the route and the City of Orange at the western end of the route, this corridor traverses mostly rural and sparsely populated land. The Option 2 corridor crosses two interstate highways and two state routes. There would be little or no opportunity for disrupting train and transit routes. During stringing operations across roads and highways, traffic would be controlled. Most of the route would be in or adjacent to the existing ROW, and would likely use existing access roads. Recommended mitigation measures would be the same as for Option 1.

ES.4.17 Utilities and Public Services

This analysis considers whether there would be an increase in the need for public services and utilities, a disruption of existing pipelines and utility systems, or a collocation accident due to construction and operation of the Proposed Project or alternatives.

ES.4.17.1 Effects of the Proposed Project on Utilities and Public Services

Proposed Project. Construction of the proposed transmission line would:

- Temporarily increase the need for public services and utilities, including police protection, fire protection, schools, parks, water, and solid waste disposal
- Result in increased response times for emergency services due to road closures and construction traffic
- Increase the risk of a collocation accident with existing pipelines and utility lines

Recommended mitigation measures to reduce the severity of these adverse effects include the use of non-potable water for construction, preparation and implementation of a fire management plan, preparation of traffic control plans, coordination with pipeline and utility owners in the project vicinity, and installation of cathodic protection where necessary.

Connected Actions. Construction and operation of the future solar projects could:

- Require expanded fire protection services
- Result in accidental disruptions to existing underground utilities

Implementation of mitigation similar to that described for the Proposed Project above would reduce the severity of this adverse effect, including preparation and implementation of a fire management and protection plan, payment of impact fees for fire services, notification prior to subsurface excavation, identification of existing subsurface utilities, and coordination with utility owners.

CEQA Significance Determination for the Proposed Project and Connected Actions. For both the Proposed Project and the future solar projects, all impacts to utilities and public services from construction and operation of these projects would be less than significant with implementation of the recommended mitigation described above.

ES.4.17.2 Effects of Alternatives on Utilities and Public Services

Tower Relocation Alternative. The minor adjustment to the location of the relocated towers would not increase the need for public services and utilities or the disruption to existing pipelines and utility systems compared to the Proposed Project, nor would the relocated towers increase the likelihood of a collocation accident. Implementation of the recommended mitigation described above in the Proposed Project would reduce the severity of the adverse effects on utilities and public services.

Iowa Street 66 kV Underground Alternative. The underground subtransmission line would not increase the need for public services and utilities compared to the Proposed Project. This alternative would increase

the amount of subsurface disturbance compared to the Proposed Project, which would increase slightly the risk of disruption to existing pipelines and other underground utility systems. Implementation of the recommended mitigation described above in the Proposed Project would reduce the severity of this adverse effect.

Phased Build Alternative. This alternative would reduce the amount of construction activity, and consequently would reduce the need for public services and utilities compared to the Proposed Project, especially water needed for dust control during construction. This alternative would reduce the amount of subsurface disturbance, and therefore would reduce the potential to cause a disruption to existing pipelines and utility systems. Because fewer transmission lines would be replaced in this alternative compared to the Proposed Project, the potential for a collocation accident would be reduced slightly. Implementation of the recommended mitigation described above would reduce the severity of the adverse effects on utilities and public services.

No Project/No Action Alternative Option 1. This alternative would be located approximately 3 miles south of the Proposed Project alignment. This location would pass fewer sensitive receptors such as schools and hospitals than the Proposed Project. The types of utilities that would be potentially affected and the potential impacts to them would be similar to those for the Proposed Project, or would be fewer, as much of the route is in undeveloped land. Compliance with California Government Code requirements for identification of subsurface utilities would address impacts to utilities below ground. Similarly, this alternative would have similar levels of service needs (fire, public safety, and medical) as the Proposed Project, and would have comparable water and landfill demands. The use of or need for schools, parks, and other community assets would be similar as well.

No Project/No Action Alternative Option 2. The majority of the route is located in a very high fire hazard safety zone, and construction of this alternative would result in an increased potential risk of fire and an increased need for emergency services. Construction of this alternative would require a limited amount of accommodations for workers during construction, and it is unlikely that these individuals would trigger any additional demand for public schools or parks because of the temporary nature of their work. Construction and operation of this alternative would not require the expansion of or construction of new facilities for wastewater, stormwater drainage, or municipal water supply systems. Other public facilities, including hospitals and landfills, have sufficient capacity to accommodate both construction and operation of the new 500 kV circuit. Underground utilities including natural gas pipelines could be disrupted during ground disturbance associated with construction of this alternative. Compliance with California Government Code requirements for identification of subsurface utilities would address impacts to utilities below ground.

ES.4.18 Visual Resources

This analysis considers whether the Proposed Project or alternatives would result in adverse visual effects during construction due to the presence of construction equipment, vehicles, materials, workforce, nighttime lighting, and increased traffic. Also, construction activities are evaluated for their potential to result in visual contrast due to vegetation removal, land scarring and establishment of graveled surfaces, painting or marking of natural features, and the presence of fugitive dust, waste, and trash. Finally, the long-term presence of project structures and lighting are evaluated for their potential to degrade the existing visual character or quality of the landscape.

ES.4.18.1 Effects of the Proposed Project on Visual Resources

Proposed Project. Construction of the Proposed Project would cause both temporary and long-term adverse effects on visual resources. In Segment 6, many of these impacts would be inconsistent with the BLM's VRM Class II Management Objective. Temporary adverse effects to visual resources include the following:

- Visual contrast and degradation of the construction sites and surrounding landscapes due to the presence of construction equipment, materials, and workforce
- Visual contrast at and near construction sites from dust clouds and improperly discarded trash and food-related waste
- Adverse night lighting visual effects during construction

The severity of these temporary adverse effects on visual resources would be reduced through implementation of mitigation measures to screen construction activities from view, control fugitive dust, control trash and food-related waste at all construction sites, and minimize night lighting at project facilities.

Long-term adverse effects to visual resources include the following:

- Long-term visual contrast in color, line, and texture resulting from the removal of vegetation and construction of access roads and retaining walls
- Long-term adverse visual effects from the presence of Proposed Project transmission structures resulting in visual changes at certain public viewing locations, lighting and marker balls required by the Federal Aviation Administration, and nighttime lighting

The severity of these long-term adverse visual effects would be reduced through implementation of mitigation measures to minimize vegetation removal and ground disturbance, restore or revegetate temporary disturbance areas, reduce color contrast of retaining walls, land scars, and graveled surfaces, minimize in-line views of retaining walls and land scars, prohibit construction marking of natural features, minimize night lighting at project facilities, minimize visual contrast in project design, and treat structure surfaces to reduce glare and visual contrast.

Connected Actions. Construction of the future solar projects would cause temporary visual contrast and degradation of the construction sites and yards, staging areas, and surrounding landscapes due to the presence of equipment, vehicles, materials, workforce, and, potentially, night lighting. With implementation of mitigation to screen construction activities from view and minimize night lighting at project facilities, this adverse effect would be minor. Substantial adverse visual effects would occur for the solar projects in the Desert Center area (including the Palen Solar Power Project), especially when viewed from the surrounding mountains, wilderness areas, and Joshua Tree National Park. Minor adverse visual effects would occur for the solar projects in the Blythe area. Mitigation to minimize visual contrast in project design and treat structure surfaces would reduce the severity of these adverse visual effects, though they would remain substantial in the Desert Center area.

CEQA Significance Determination for the Proposed Project and Connected Actions. With implementation of recommended mitigation described above, construction of the Proposed Project would result in less than significant impacts with the exception of vegetation removal, which would result in a significant visual impact. Construction of the solar projects would result in a less than significant visual impact with implementation of recommended mitigation.

The long-term presence of both the Proposed Project and the solar projects would result in significant and unavoidable impacts to the existing visual character and quality of the surrounding landscapes.

ES.4.18.2 Effects of Alternatives on Visual Resources

Tower Relocation Alternative. In this alternative, the significant visual impacts from the long-term presence of project structures in portions of Segments 4 and 6 would be reduced to less than significant levels by moving the towers farther from residences.

Iowa Street 66 kV Underground Alternative. This alternative would place an approximately 1,600-foot section of subtransmission line underground rather than above ground on poles, which would eliminate the visual resource adverse effects that would occur in the Proposed Project along Iowa Street. While construction of the Iowa Street Underground Alternative would cause temporary visual effects due to the presence of equipment and workforce, most long-term visual resource impacts would be eliminated. The visual resource impacts identified in this alternative would be less than significant with implementation of the recommended mitigation.

Phased Build Alternative. In this alternative, the significant visual impacts from the long-term presence of project structures in portions of Segments 4 and 6 would be reduced to less than significant levels by moving the towers farther from residences. All other adverse visual effects would be similar to the Proposed Project or less severe due to the reduction in construction activity and ground disturbance, and the retention of existing double-circuit structures having surfaces that have dulled over time.

No Project/No Action Alternative Option 1. In locations where new double-circuit 500 kV towers would be needed, these may be taller than the existing 500 kV structures that would remain and may not aligned with them. Potential impacts associated with construction of this alternative include the visibility of construction activities and equipment as well as long-term visibility of land scars in arid and semi-arid landscapes. Once installed, the transmission line would introduce contrasting structure color and result in skylining of structures as viewed from locations where the sky would be the backdrop to the structure. The visual impacts of a new line would require application of mitigation such as the use of methods to reduce land scaring and contrast with the natural landscape texture and color, coloring structural steel to reduce its contrast and reflectance, locating structures to minimize skylining and reduce view blockage, and aligning new structures with existing structures.

No Project/No Action Alternative Option 2. Construction activities for this alternative would result in temporary but substantial visual contrast from the presence of construction equipment and vehicles and from dust clouds. Visual contrast could also result from vegetation clearance and land scarring for new and improved access roads. For residents nearest to the ROW, the resulting visual contrast from the presence of the new transmission structures would be high. The resulting visual contrast from the new 500 kV circuit would also be high in remote and visually sensitive areas such as the Lake Mathews-Estelle Mountain Reserve and the Cleveland National Forest. The use of helicopters for construction and the minimization of new or improved access roads in these natural areas would reduce the visual contrast resulting from ground disturbance. Once installed, the transmission line would introduce new structural contrast for nearby viewers. Recommended mitigation measures would be similar to those described in the Proposed Project. This route requires no construction along the Devers-Valley or West of Devers corridors, and no new substation would be required.

ES.4.19 Water Resources and Hydrology

The water resources and hydrology analysis evaluates whether the Proposed Project or alternatives would deplete groundwater supplies or interfere with groundwater recharge, cause erosion, siltation, or flood damage, or degrade water quality or violate a water quality standard or waste discharge requirement.

ES.4.19.1 Effects of the Proposed Project on Water Resources and Hydrology

Proposed Project. Construction of the Proposed Project would:

- Require a substantial amount of water for dust control, soil conditioning, and revegetation
- Require dewatering of shallow groundwater, if encountered
- Result in erosion of disturbed areas during rainfall events
- Alter drainage patterns and result in minor local increases in runoff rate and volume
- Potentially pollute surface waters or groundwater through accidental releases of hazardous materials

Recommended mitigation to reduce the severity of these adverse effects includes the use of non-potable water for dust control and soil compaction whenever feasible, development of an erosion control plan and demonstration of compliance with water quality permits, and implementation of flood, erosion, and scour protection for aboveground and belowground improvements.

Connected Actions. Construction and operation of the future solar projects would:

- Require groundwater extraction, in some cases from basins that are already in an overdraft condition
- Accelerate erosion and sedimentation through ground disturbance
- Place structures in floodplains and potentially divert flood waters or be subject to flood damage
- Potentially pollute surface waters or groundwater through accidental releases of hazardous materials

The severity of these adverse effects would be reduced through implementation of mitigation measures that would require monitoring of drawdown and groundwater overdraft conditions, the provision of alternative sources of water from outside of the basin, drought water management and water conservation programs, development of an erosion control plan and demonstration of compliance with water quality permits, and implementation of flood, erosion, and scour protection for aboveground and belowground improvements.

CEQA Significance Determination for the Proposed Project and Connected Actions. With the exception of groundwater impacts for the solar projects, all impacts to water resources and hydrology from construction and operation of both the Proposed Project and the future solar projects would be less than significant with implementation of the recommended mitigation described above. Although mitigation would reduce the severity of the future solar projects' impact on groundwater, the impact on water levels could be locally significant and unmitigable during several years of construction.

ES.4.19.2 Effects of Alternatives on Water Resources and Hydrology

Tower Relocation Alternative. The minor adjustment to the location of the relocated towers would not increase the amount of construction water that would be required compared to the Proposed Project. The relocated structures would not result in more substantial erosion or an increase in impervious area compared to the Proposed Project. None of the relocated towers would be sited within known floodplains, and therefore would not result in increased diversion or obstruction of flood flows. The relocated towers would not result in an increased risk of water pollution from of hazardous materials. Implementation of mitigation described above would ensure that these adverse effects remain minor.

Iowa Street 66 kV Underground Alternative. More extensive dewatering may be required for the underground portion of this alternative compared to the Proposed Project due to locally elevated groundwater levels that may be encountered near Morey Arroyo and its associated floodplain. Any dewatering that would be required for installation of the underground line would be temporary and minor, and

would not deplete groundwater supplies. Trenching for the underground line would involve more substantial ground disturbance than the foundation excavations for the towers that it would replace, but this disturbance would be temporary and would not occur in an area of high erosion risk. This alternative would involve a greater amount of subsurface disturbance than the Proposed Project, which would increase the risk of hazardous materials infiltrating into the groundwater basin. However, this increased risk of groundwater contamination would be temporary and very minor. The recommended mitigation described above in the Proposed Project would reduce these adverse effects.

Phased Build Alternative. Water demand for dust suppression would be reduced due to the reduction in construction activity and ground disturbance. The reduction in construction activity and ground disturbance also would reduce the potential to trigger erosion and sedimentation, the potential need for dewatering, and the risk of water quality degradation through the accidental release of hazardous materials. Like the Proposed Project, some of the new transmission structures would be located in floodplains and could divert or obstruct flood flows. Implementation of recommended mitigation described above would reduce the severity of these adverse effects.

No Project/No Action Alternative Option 1. Groundwater in the area of this alternative is deep; therefore, groundwater quality degradation is not likely. The route between Devers and Beaumont Substations is particularly sensitive to erosion and sedimentation because of the steep terrain crossed along the lower elevations of the San Jacinto Mountains south of I-10. Construction of this alternative could affect water quality through soil erosion and sedimentation as well as through the spill of harmful materials used during constructions, such as fuels, lubricants, and solvents. Measures to reduce or prevent impacts include implementation of a Storm Water Pollution and Prevention Plan, a Spill Prevention, Countermeasure, and Control Plan, a hazardous materials management and emergency response plan, training of workers, construction monitoring, revegetation of disturbed areas, and installation of permanent erosion control structures as needed.

No Project/No Action Alternative Option 2. Groundwater along this alternative route is generally encountered below the depth of excavation for transmission structures and no required dewatering is expected. Water would be required during construction of this alternative for dust suppression and soil conditioning, but this water demand would be temporary and is not expected to substantially deplete groundwater resources. Mitigation measures such as groundwater monitoring, the use of non-potable water, and the importation of water from outside of the basin would reduce the severity of adverse effects to groundwater levels. Construction and operation of this alternative could lead to water quality degradation or the violation of water quality standards through accelerated erosion and sedimentation or the accidental release of hazardous materials. Portions of the new 500 kV route would be located within 100-year floodplains. Transmission structures that are sited in floodplains would be designed to minimize the diversion of flood flows and damage or collapse from scour. Recommended mitigation measures would be the same as in Option 1.

ES.4.20 Wildland Fire

The analysis of impacts related to wildland fire considers whether construction of the Proposed Project or alternatives would increase the probability of a wildland fire or result in a vegetation fuel mix that increases ignition potential and rate of fire spread. The operational presence of project structures is evaluated for the potential to increase the probability of a wildland fire or interfere with fire suppression efforts.

ES.4.20.1 Effects of the Proposed Project on Wildland Fire

Proposed Project. Construction activities have the potential to:

- Ignite wildland fires through sparks or heat from welding, vehicles parked on dry grass, or improperly discarded smoking materials
- Increase the risk of fire ignition or spread through the introduction of invasive or weedy vegetation

Recommended mitigation to reduce these adverse effects includes preparation and implementation of a fire management plan, a worker environmental awareness program, and an integrated weed management plan.

Connected Actions. For connected actions in the Desert Center and Blythe areas, the increased risk of wildland fire would be minor because of sparse vegetation cover. Mitigation measures to address increased wildfire risks during construction and operation of the facilities are expected to be required by the agencies approving those projects. These would be tailored to the nature of the project and local conditions. This would ensure that adverse effects would be minor.

CEQA Significance Determination for the Proposed Project and Connected Actions. For both the Proposed Project and the future solar projects, all impacts to wildland fire from construction and operation of these projects would be less than significant with implementation of the recommended mitigation described above.

ES.4.20.2 Effects of Alternatives on Wildland Fire

Tower Relocation Alternative. The relocated structures would be located in the same area and same fire environment as the Proposed Project structures and would be subject to the same risk of increased probability of wildland fire from ignition sources such as sparks from welding or metal striking metal or stone, parking vehicles over dry vegetation, and improperly discarding smoking materials. The same mitigation described above would be required.

Iowa Street 66 kV Underground Alternative. Undergrounding the 66 kV line in Iowa Street would not increase the probability of a wildland fire or create obstructions to fire suppression efforts. The underground line would be in a street and would not result in a vegetation fuel mix that increases ignition potential and rate of fire spread.

Phased Build Alternative. The new and existing reconductored structures would be located in the same corridor and same fire environment as the Proposed Project structures and would be subject to the same risk of increased probability of wildland fire from construction-related ignition sources. However, due to the decreased amount of construction activity, this risk of starting a fire would be reduced. For various locations along the West of Devers corridor, structures in this alternative would be located farther from the edge of the ROW compared to the Proposed Project. In these locations, obstructions to fire suppression efforts for adjacent residences would be reduced slightly. The reduction in ground disturbance would lower the probability of colonization by fire-prone invasive vegetation. The recommended mitigation described above would reduce the severity of these adverse effects.

No Project/No Action Alternative Option 1. Large portions of this alternative route are located within High to Very High fire hazard severity zones. Ignition sources related to construction and operation of this alternative have a very high potential to ignite a wildfire in the rugged and often dry land surrounding the corridor. Similar to the Proposed Project, construction of this alternative would require mitigation to reduce fire risks by implementing a comprehensive fire management plan that would require appropriate adequate fire suppression equipment at construction sites, establish fire-prevention protocols for high risk activities such as welding, ban smoking and open flames, require training of workers in fire prevention, prohibit parking outside of designated areas, and restrict work on Red Flag days.

No Project/No Action Alternative Option 2. With the exception of the Perris Valley at the eastern end of this alternative, the entire route is located on land that has a Very High fire hazard severity classification. Ignition sources related to construction and operation of this alternative have a high potential to ignite a wildfire in the rugged and often dry land surrounding the corridor. Recommended mitigation measures would be the same as in the Proposed Project.

ES.4.21 Electrical Interference and Safety

The electrical interference and safety evaluation analyzes whether the Proposed Project or alternatives would interfere with radio, television, communications, electronic equipment, or cardiac pacemakers. Project components are also evaluated for their potential to create public hazards through induced currents or shocks.

ES.4.21.1 Effects of the Proposed Project on Electrical Interference and Safety

Proposed Project. Construction and operation of the Proposed Project could:

- Cause localized and temporary disruptions to radio, television, communications, or electronic equipment
- Expose workers or the public to potential hazards, including shock, through induced currents on conducting objects near the transmission line
- Cause electrical interference with cardiac pacemakers

These adverse effects would be minimized through implementation of mitigation that would limit the conductor surface gradient, require documentation and resolution of electronic interference complaints, and require the implementation of grounding measures. Electrical interference with modern cardiac pacemakers is not a substantial threat to public health because most modern pacemakers are designed to revert to a fixed-rate pacing mode, which is life-sustaining.

Connected Actions. Adverse effects related to electrical interference and safety generally apply to high-voltage transmission lines and would not apply to the future solar projects except along generation tie lines. The remote location of these projects and their gen-tie lines makes these impacts unlikely.

CEQA Significance Determination for the Proposed Project and Connected Actions. All impacts related to electrical interference and safety from construction and operation of the Proposed Project and the connected actions would be less than significant with implementation of the recommended mitigation measures described above.

ES.4.21.2 Effects of Alternatives on Electrical Interference and Safety

Tower Relocation Alternative. The nominal change in distance from the edge of the ROW for the relocated towers is not expected to substantially alter (increase or decrease) the effects of the transmission line with regard to electric interference, although the risk of electric interference would be reduced very slightly for the nearest residents. This alternative would not increase the risk of hazards to the public through project-induced currents or shocks, nor would it increase the risk of interference with cardiac pacemakers. The mitigation described above in the Proposed Project would reduce the severity of these adverse effects.

Iowa Street 66 kV Underground Alternative. This short underground segment would decrease slightly the effects of the subtransmission line with regard to electric interference, project-induced currents or shocks, and the risk of interference with cardiac pacemakers. Still, the mitigation described above would be required.

Phased Build Alternative. In the locations where the structures in this alternative would be farther from the edge of the ROW than the Proposed Project structures, the potential for project-induced electrical interference would be reduced. Also, less power would flow through the transmission lines in this alternative compared to the Proposed Project, and it is assumed that this reduced amount of power flow would also lead to a reduced potential for electrical interference. Hazards associated with project-induced currents and interference with cardiac pacemakers would be substantially the same as in the Proposed Project. The same mitigation measures would be required to reduce the severity of these adverse effects.

No Project/No Action Alternative Option 1. Development of the 500 kV transmission line from Devers to a new Beaumont Substation and the 220 kV lines from Beaumont to El Casco Substation would cause changes in power line field strength at the edge of the ROWs. This could cause interference with radio, television, communications or electronic equipment and induce currents or shocks that would be hazards. The function of some pacemakers could be altered by exposure to electric fields that would be generated in the immediate vicinity of the new 500 kV circuit. Electrical interference with modern cardiac pacemakers is not a substantial threat to public health because most modern pacemakers are designed to revert to a fixed-rate pacing mode, which is life-sustaining. Mitigation measures include limiting the conductor surface gradient as part of the design and construction process, documenting and resolving individual complaints of interference; and implementing grounding measures within and near the ROW.

No Project/No Action Alternative Option 2. This alternative would construct a second 500 kV circuit mostly within an existing ROW between Valley and Serrano Substations. Operation of this new circuit would cause changes in the power line field strength at the edge of the ROW. These changes could cause the same electrical interference and hazards as described in Option 1. Recommended mitigation measures would be the same as in the Proposed Project.

ES.5 Cumulative Scenario and Impacts

ES.5.1 CEQA and NEPA Requirements for Cumulative Impact Analyses

A cumulative impact analysis is called for under both CEQA and NEPA.

Under CEQA Guidelines, “a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts.” 14 Cal Code Regs §15130(a)(1). An EIR must discuss cumulative impacts if the incremental effect of a project, combined with the effects of other projects is “cumulatively considerable.” 14 Cal Code Regs §15130(a). Such incremental effects are to be “viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.” 14 Cal Code Regs §15164(b)(1). Together, these projects comprise the cumulative scenario for the cumulative analysis.

Both the severity of impacts and the likelihood of their occurrence are to be reflected in the discussion, “but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion of cumulative impacts shall be guided by standards of practicality and reasonableness, and shall focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.” 14 Cal Code Regs §15130(b).

NEPA identifies three types of potential impacts: direct, indirect, and cumulative. “Cumulative impact” is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR §1508.7). Under NEPA, both context and intensity are considered in the cumulative analysis. Among other considerations when considering intensity is whether the action is related to other actions with individually insignificant but cumu-

latively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts (40 CFR §1508.27(b)(7)).

ES.5.2 Cumulative Projects

The general study area for cumulative projects is a three-mile radius around project features. However, each discipline's analysis may consider a larger or smaller area appropriate to the potential for impacts to combine. A list of reasonably foreseeable projects that could contribute to the cumulative scenario has been assembled and evaluated, and is presented in EIR/EIS Section E. Collectively, these projects represent known and anticipated activities that may occur in the project vicinity and that have the potential to contribute to a cumulative impact. Most of the projects in the cumulative scenario are located in developed or developing areas in Riverside and San Bernardino Counties, California. Because the West of Devers Upgrade Project would be linear with occasional nodal facilities along it length, most of the projects do not interact with the Proposed Project along its entire route. Many projects in the cumulative scenario are limited in their geographic extent. Others are linear projects that would overlap with segments of the West of Devers Upgrade Project. Projects in the cumulative scenario become more or less relevant along the length of the Proposed Project, based on their changing proximity to the Proposed Project and, therefore, to the potential for cumulative interactions.

The following two linear projects are described in more detail in Section E:

- **North-South Pipeline.** The CPUC determined in September 2014 that it would act as CEQA lead agency for environmental review of the proposed North-South Pipeline Project, which is the subject of an application filed in December 2013 by SoCalGas and SDG&E (Application A.13-12-013). As proposed, the alignment and construction activities would intersect and run parallel to portions of the West of Devers corridor, particularly near Segments 1, 2, and 3. The North-South Pipeline Project would be a pipeline interconnection capable of transporting 800 million cubic feet of natural gas per day.
- **Future 500 kV Transmission Line in WOD Corridor.** In most of Segments 3 through 6 (San Timoteo Canyon to Devers Substation), SCE has designed the Proposed Project to be located very near one edge of its existing ROW, retaining as much as 200 feet of vacant space in the ROW to allow for future expansion of its transmission system. While SCE states that it currently has no specific plans for transmission expansion in the WOD corridor, there are other regional studies that point to the potential for future development. The CPUC and BLM have determined that a future 500 kV transmission line in the WOD corridor is reasonably foreseeable, and therefore should be evaluated as a cumulative project in this EIR/EIS. The line would be built in SCE's existing ROW and include about 40 miles of the 45-mile project ROW. The future 500 kV line could be single-circuit or double-circuit; for the purpose of this study, it is assumed to be a double-circuit line. The endpoints could be at future facilities developed within or near the existing Devers Substation and SCE's Rancho Vista Substation near Etiwanda, in Rancho Cucamonga.

Five additional projects are listed in the "Regional Projects" category because they are energy projects relevant to the Proposed Project. These projects would not require construction of the Proposed Project in order to operate, but their impacts could combine with those of the Proposed Project. In general, these projects are located too far east of the Proposed Project for impacts to combine, but in some disciplines a cumulative effect would occur.

ES.5.3 Cumulative Impacts of the Proposed Project and Alternatives

Proposed Project

A detailed analysis of the cumulative effects of the Proposed Project is presented in EIR/EIS Section E (Cumulative Scenario and Impacts), including discussion for each of 20 disciplines. Following is a summary of the cumulative effects found to be most severe:

- **Air Quality.** Construction and operation of the Proposed Project would result in emissions of air quality pollutants that would combine with the emissions from construction and operation of other projects in the cumulative analysis study area to result in air quality pollutant emissions that would exceed regional and localized thresholds. Implementation of mitigation measures to control fugitive dust, control off-road equipment emissions, and control helicopter emissions would reduce the severity of this adverse effect. However, even with implementation of mitigation, the cumulative emissions would exceed regional and localized thresholds.
- **Noise.** Construction activities associated with the Proposed Project would create temporary elevated noise levels that could affect nearby sensitive receptors. Where construction activities for the Proposed Project and other projects in the cumulative analysis study area overlap both geographically and temporally, the temporarily elevated noise levels would disturb nearby sensitive receptors such as residences, schools, community parks, and other recreational uses. The cumulative elevated noise levels would also exceed some local noise ordinance thresholds. Mitigation measures requiring implementation of best management practices for construction noise and a helicopter noise control strategy would reduce the cumulative noise levels. However, even with implementation of mitigation, the cumulative noise levels would disturb sensitive receptors and exceed local noise thresholds at some locations.
- **Visual Resources.** Construction of the Proposed Project would result in visual contrast due to vegetation removal that would appear prominent from some viewing locations and would violate BLM's visual resource management objectives. Construction of the cumulative projects would also result in visual contrast due to vegetation removal that would combine with the Proposed Project to result in a visually degraded landscape. Mitigation measures to minimize vegetation removal and ground disturbance and restore or revegetate temporary disturbance areas would reduce the severity of this adverse effect, but the visual contrast would remain prominent. The long-term presence of Proposed Project structures would result in negatively perceived landscape changes. The long-term presence of structures associated with the cumulative projects would also result in perceived landscape degradation. Mitigation measures to treat structure surfaces and design project structures to blend into the landscape would reduce the severity of this adverse effect, but long-term degradation of the landscape would persist.

Alternatives

All of the retained alternatives are located in the same ROW as the Proposed Project and would involve similar types of construction activities. The same list of cumulative projects that could potentially combine with the Proposed Project to result in a cumulative adverse effect would also apply to each of the retained alternatives. Therefore, the cumulative analysis for the Proposed Project would also apply to each of the alternatives, and the adverse cumulative effects that are described for the Proposed Project would also occur with each of the alternatives.

ES.6 Summary Comparison of the Proposed Project and Alternatives

This section summarizes and compares the environmental advantages and disadvantages of the Proposed 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 EIR/EIS Sections D, E, and F. The methodology used for comparing alternatives is described in Section ES.6.1. Under CEQA, an "environmentally superior alternative" is designated, and under NEPA an "agency preferred" alternative is designated. In the Final EIR/EIS, Section ES.6.2 will define both the environmentally superior and the agency preferred alternative, based on comparison of each alternative with the Proposed Project. Section

ES.6.3 presents a comparison of the No Project/No Action Alternative with the alternative that is determined in Section ES.6.2 to be environmentally superior.

CEQA Guidelines require that an EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. The Guidelines also state that 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. 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)].

Under NEPA the EIS should identify the environmentally preferable 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. In addition, the BLM NEPA Handbook (H-1790-1, Chapter 5.B.2.b) requires identification of an agency preferred alternative in the Final EIS, if not defined in the Draft EIS.

ES.6.1 Methodology for Alternatives Comparison

The methodology used to compare alternatives in this EIR/EIS consists of 3 steps:

- **Step 1: Identification of Alternatives.** An alternatives screening process was used to identify a number of potential alternatives to the Proposed Project and to identify those to be carried forward for analysis in the EIR/EIS. A No Project/No Action Alternative was also identified.
- **Step 2: Determination of Environmental Impacts.** The environmental impacts of the Proposed Project and alternatives are identified in EIR/EIS Sections D, E, and F, including the potential impacts from the construction and operation of transmission lines, subtransmission lines, distribution lines, telecommunications, and substation upgrades, and potential connected actions.
- **Step 3: Comparison of Proposed Project with Alternatives.** The environmental impacts of the Proposed Project were compared to those of each alternative to determine the environmentally superior alternative. The environmentally superior alternative was then compared to the No Project/No Action Alternative.

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. Although this EIR/EIS identifies an environmentally superior alternative, it is possible that the ultimate decision-makers could balance the importance of each impact area differently and reach a different conclusion.

ES.6.2 Environmentally Superior/Preferred Alternative

The characteristics of the three retained alternatives are summarized in Table ES-1. The alternatives would be in the same ROW as the Proposed Project.

The **Tower Relocation Alternative** is preferred over the Proposed Project because it would result in a less severe visual impact in Segments 4 and 6 by relocating various tower pairs approximately 50 feet north of the project's proposed tower locations. By shifting structures farther away from the closest residences, the Tower Relocation Alternative would result in structure placements within the ROW that would appear more similar to the existing structure locations. As a result, when viewed from residential locations along the south side of the ROW the Tower Relocation Alternative would cause less incremental visual contrast, structure prominence, and view blockage compared to the Proposed Project. The

Tower Relocation Alternative would also reduce construction-related disturbance associated with the upgraded 220 kV lines by ensuring that relocated towers would be no closer to residences than the existing structures.

The **Iowa Street 66 kV Underground Alternative** is preferred over the Proposed Project's 66 kV overhead segment. Although an underground segment would have greater ground disturbance and traffic impacts and a longer construction time, it would eliminate the long-term significant and unmitigable visual impacts associated with a new overhead 66 kV subtransmission line along Iowa Street, adjacent to the Cottage Lane residential subdivision in Redlands.

Table ES-1. Summary of Alternatives Analyzed

Alternative Name	Description	Notes about Combining with Other Alternatives
Tower Relocation Alternative	• Locates certain of SCE's proposed transmission structures further from residences in Segments 4 and 6	• This alternative applies to Segments 4 and 6 and would be implemented in combination with the Proposed Project in Segments 1, 2, 3, and 5 • These alternative tower locations are incorporated into the Phased Build Alternative as well
Iowa Street 66 kV Underground Alternative	• Installs 1,600 feet of proposed overhead 66 kV subtransmission line underground within Iowa Street	• This alternative could be combined with either the Proposed Project or with the Tower Relocation Alternative • This alternative would not be required with the Phased Build Alternative because the 66 kV subtransmission system would not be relocated
Phased Build Alternative	• Retains existing double-circuit 220 kV transmission structures • Removes the two lines of existing single-circuit 220 kV structures and replaces them with one line of new double-circuit structures • All 220 kV conductors would be Drake 795 ACCR • On Morongo land, 220 kV structures would be relocated and rebuilt as TSPs as defined in SCE-Morongo ROW Agreement • Allows for future phased increases in corridor transmission capacity, as required	• This alternative incorporates the structure relocations defined in the Tower Relocation Alternative • This alternative eliminates the need for the Iowa Street 66 kV Underground Alternative because SCE's 66 kV system would not be modified as it would in the Proposed Project

The **Phased Build Alternative** is preferred over the Proposed Project because it would reduce construction impacts by eliminating the need to remove and reconstruct the existing 220 kV structures and relocate the existing 66 kV subtransmission lines. It would also reduce operational impacts, by reducing the visual impacts of the Proposed Project due to the implementation of the Tower Relocation Alternative as part of this alternative. The Phased Build Alternative would not require implementation of the Iowa Street 66 kV Underground Alternative, since the existing 66 kV system would not be affected.

CPUC Conclusion Regarding Environmentally Superior Alternative

The CPUC has identified the Environmentally Superior Alternative, as required by CEQA Guidelines Section 15126.6(d) and (e)(2). The Environmentally Superior Alternative would be the Phased Build Alternative (which incorporates the structure locations defined in the Tower Relocation Alternative). The Environmentally Superior Alternative is illustrated in Figure ES-5.

The second preferred alternative would be the combination of the Tower Relocation Alternative, the Iowa Street 66 kV Underground Alternative, and the Proposed Project for the segments otherwise unaffected by those two alternatives. The least environmentally preferred would be the Proposed Project with no modifications.

BLM Conclusion Regarding Agency Preferred Alternative

BLM planning regulations allow definition of BLM's Agency Preferred alternative in either the Draft EIS or 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.

ES.6.3 Comparison of the Environmentally Superior Alternative with the No Project Alternative

As described in Section ES.3.4, the EIR/EIS considers two No Project Alternative options. In the following discussion, the likely impacts of each are compared with the impacts of the Proposed Project.

Comparison of No Project Alternative Option 1 with Proposed Project

The environmental impacts of the No Project Alternative are presented in Section D for each environmental discipline. Impacts would primarily result from construction of a new Beaumont Substation, construction of a third 500 kV circuit between Devers and Beaumont Substation, in addition to the existing Devers-Valley No. 1 and No. 2 lines in this corridor, and construction of 4 220 kV circuits between Beaumont and El Casco Substation. The most severe impacts would be from the 500 kV line:

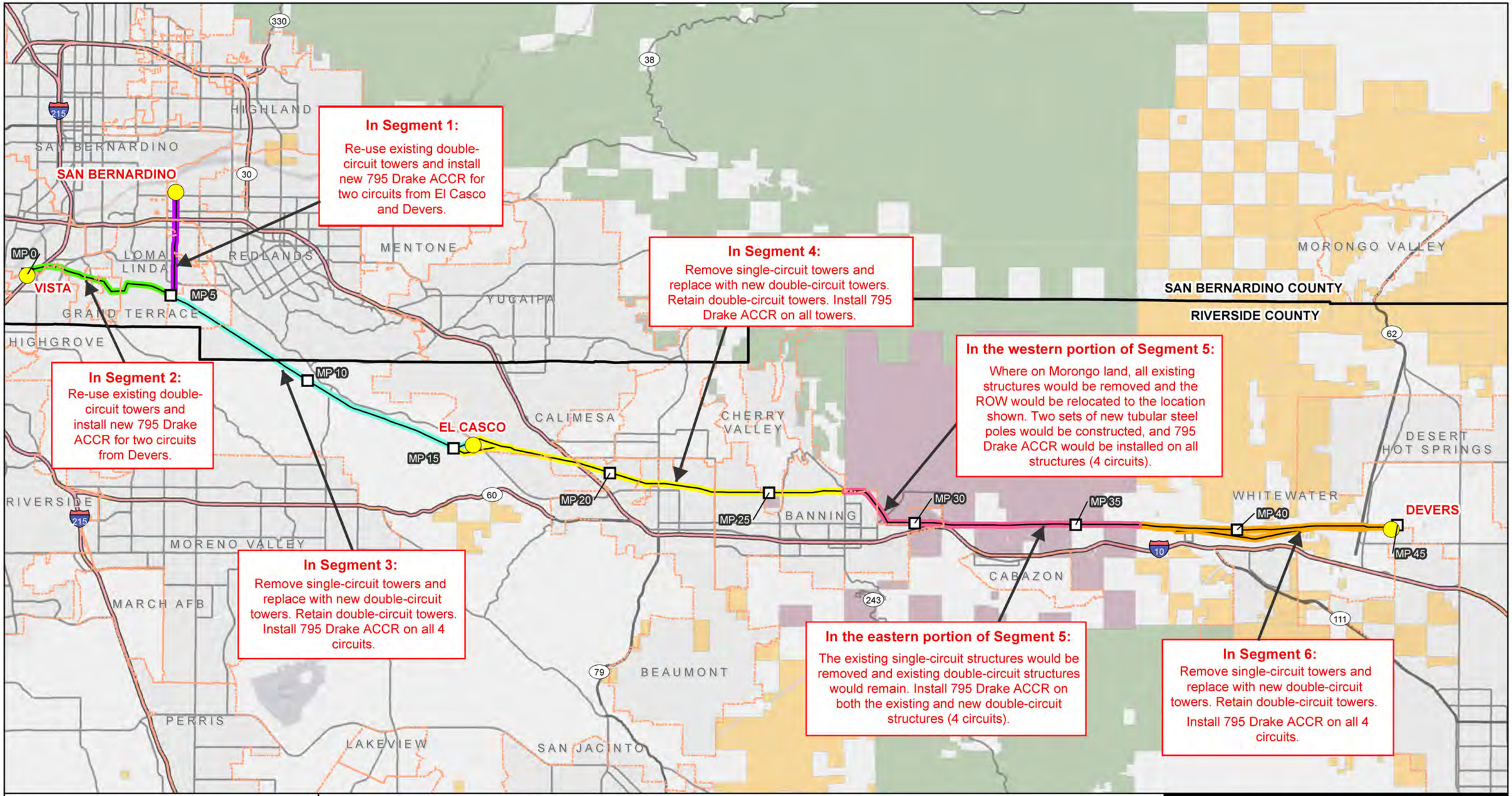
- **Visual Resources.** The 500 kV line would cross the Pacific Crest Trail, pass through the San Jacinto and Santa Rosa National Monument, and pass through the San Bernardino National Forest within a designated wilderness area (in a transmission corridor). On Forest lands, the new circuit would have to be installed on newly constructed double-circuit towers (after removal of one existing single-circuit tower), which would be highly visible due to their height. In addition, the additional circuit would pass through the community of Cabazon, and the Cities of Banning and Beaumont.
- **Biological Resources.** The route passes through sensitive desert, mountain, and inland environments, with potential to affect listed plants, Peninsular bighorn sheep, and Stephens' kangaroo rat, as well as other species.
- **Land Use and Recreation.** As described for visual resources, the new line would be highly visible in several valuable recreation areas. In addition, the proximity of both construction activities and the new circuit itself, to existing residences, would result in significant impacts to sensitive receptors between Cabazon and Beaumont.

Additional significant impacts to visual and biological resources would result from the construction and operation of the new 40-acre Beaumont Substation, just southeast of the city of Beaumont.

In conclusion, No Project Alternative Option 1 would create impacts between Devers and El Casco that would be substantially more severe than those of the Proposed Project between these two points

Comparison of No Project Alternative Option 2 with Proposed Project

The environmental impacts of No Project Alternative Option 2 are presented in Section D for each environmental discipline. Impacts of this option would primarily result from the need to construct a second 500 kV circuit adjacent to the Valley-Serrano No. 1 line. There would be no new impacts between the Devers and Valley Substations. Impacts of this option would occur only between the Valley Substation and Serrano Substation. The most severe impacts would be the following:



Sources: SCE 2014

N
W E
S

0 1.25 2.5 5 Miles

Substation
Milepost
City Boundary
Segment 1
Segment 2
Segment 3
Segment 4
Segment 5
Segment 6
Major Highways
Highways
Major Roads
County Boundary
BLM Land
Forest Service Land
Morongo Reservation

West of Devers Upgrade Project

Figure ES-5

Environmentally Superior Alternative

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- **Visual Resources.** The new 500 kV line would cross a number of parks and recreational areas. On Forest lands, the line would have to be installed on new single-circuit towers. While one circuit already exists in the utility corridor, this area is remote and undeveloped, and the addition of a second high-voltage line would be highly visible. In addition, the new line would pass through Weir Canyon Regional Park, the community of Romoland, and the City of Orange, where visibility of a new 500 kV circuit would likely be significant.
- **Biological Resources.** The route passes through sensitive mountain and inland environments, with potential to affect listed plants, birds, and Stephens' kangaroo rat, as well as other species and their habitats.
- **Land Use and Recreation.** As described for visual resources, the new line would be highly visible in several important recreation areas. In addition, the proximity of both construction activities and the new circuit itself to existing residences would result in significant impacts to sensitive receptors in both Riverside County and the City of Orange.

In conclusion, No Project Alternative Option 2 would create impacts substantially more severe than those of the Proposed Project.

Conclusion Regarding No Project Alternatives

The No Project Alternatives are transmission system options considered to be likely to occur in the absence of the Proposed Project. Both of the No Project Alternatives would require construction of new 500 kV transmission systems and new or upgraded 500/220 kV substations. As a result, both of the No Project/No Action Alternative options would have more severe environmental impacts than either the Proposed Project or the alternatives considered in this EIR/EIS.

ES.7 Impact Summary Tables for CEQA Impact Significance

For CEQA analysis, levels of significance in this EIR/EIS are defined by classification as follows:

- "Class I" is used to identify significant and unavoidable impacts
- "Class II" is used to identify significant impacts that can be mitigated to a less than significant level
- "Class III" is used to identify adverse but less than significant impacts
- "Class IV" is used to identify beneficial impacts.

The tables on the following pages summarize all identified impacts of the Proposed Project using the CEQA conclusions, arranged as follows:

- Table ES-2: Class I Impacts of the Proposed Project
- Table ES-3: Class II Impacts of the Proposed Project
- Table ES-4: Class I Impacts of the Proposed Project's Connected Actions
- Table ES-5: Class II Impacts of the Proposed Project's Connected Actions

Table ES-2. Summary of Significant Unmitigable (Class I) Impacts for the Proposed Project

Impact	Mitigation Measure (if any)
Air Quality	
Impact AQ-1: Construction would generate dust and exhaust emissions of criteria pollutants	**MM AQ-1a:** Control fugitive dust **MM AQ-1b:** Control off-road equipment emissions **MM AQ-1c:** Control helicopter emissions
Cultural Resources	
Impact CL-2: Construction, operation and maintenance, and restoration would cause an adverse change to unknown buried prehistoric and historical archaeological sites or buried Native American human remains	**MM CL-2a:** Treat previously unidentified cultural resources **MM CL-2b:** Properly treat human remains **MM CL-1d:** Conduct construction monitoring
Noise	
Impact N-1: Construction noise could substantially disturb sensitive receptors or violate local rules, standards, and/or ordinances	**MM N-1a:** Implement best management practices for construction noise **MM N-1b:** Implement a helicopter noise control strategy
Visual Resources	
Impact VR-2: Construction would result in visual contrast due to vegetation removal	**MM VR-2a:** Minimize vegetation removal and ground disturbance **MM VEG-1d:** Restore or revegetate temporary disturbance areas
Impact VR-8: Long-term presence of the project would result in landscape changes that degrade existing visual character or quality	**MM VR-8a:** Minimize visual contrast in project design **MM VR-9a:** Treat structure surfaces

Table ES-3. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project

Impact	Mitigation Measure(s)
Agriculture	
Impact AG-3: Project would involve changes in the existing environment which would impair the use of agricultural land	**MM AG-3a:** Establish agreement and coordinate construction activities with agricultural landowners **MM AQ-1a:** Control fugitive dust **MM AQ-1b:** Control off-road equipment emissions **MM LU-2a:** Prepare construction notification plan **MM HH-1a:** Prepare a hazardous materials and waste management plan **MM HH-2a:** Prepare a soil management plan **MM HH-3a:** Identify pesticide/herbicide contamination
Biological Resources – Vegetation	
Impact VEG-1: Land clearing for construction and future operations and maintenance would cause loss or degradation of vegetation and habitat, including sensitive habitats	**MM VEG-1a:** Conduct biological monitoring and reporting **MM VEG-1b:** Prepare and implement a Worker Environmental Awareness Program (WEAP) **MM VEG-1c:** Minimize native vegetation and habitat loss **MM VEG-1d:** Restore or revegetate temporary disturbance areas **MM VEG-1e:** Compensate for permanent habitat loss
Impact VEG-2: Project activities could cause indirect degradation of surrounding vegetation and habitat from dust, interrupted sand transport, interruption of surface water flows, or introduction and spread of invasive weeds	**MM VEG-2a:** Prepare and implement an Integrated Weed Management Plan **MM VEG-1d:** Restore or revegetate temporary disturbance areas **MM VEG-1e:** Compensate for permanent habitat loss **MM VEG-3a:** Minimize impacts and ensure no net loss for jurisdictional waters and wetlands **MM AQ-1a:** Control fugitive dust **MM AQ-1b:** Control off-road equipment emissions **MM WR-2a:** Implement an Erosion Control Plan and demonstrate compliance with water quality permits
Impact VEG-3: Construction, operations, and maintenance activities would affect state or federally jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, or degradation of water quality	**MM VEG-3a:** Minimize impacts and ensure no net loss for jurisdictional waters and wetlands **MM VEG-1d:** Restore or revegetate temporary disturbance areas **MM VEG-1e:** Compensate for permanent habitat loss **MM WR-2a:** Implement an Erosion Control Plan and demonstrate compliance with water quality permits
Impact VEG-4: Construction, operations, and maintenance activities could cause direct or indirect loss of listed and special-status plants and direct or indirect effects to habitat for listed and special-status plants	**MM VEG-4a:** Minimize and mitigate impacts to special-status plants **MM VEG-1a:** Conduct biological monitoring and reporting **MM VEG-1b:** Prepare and implement a Worker Environmental Awareness Program (WEAP) **MM VEG-1c:** Minimize native vegetation and habitat loss **MM VEG-1d:** Restore or revegetate temporary disturbance areas **MM VEG-1e:** Compensate for permanent habitat loss **MM VEG-2a:** Prepare and implement an Integrated Weed Management Plan
Impact VEG-5: Construction, operations, and maintenance activities may conflict with local policies or ordinances protecting biological resources, Habitat Conservation Plans, Natural Communities Conservation Plans, Multiple Species Habitat Conservation Plans, or other approved local, regional, state, or federal conservation plans	**MM VEG-5a:** Comply with local tree removal or resource protection policies **MM VEG-5b:** Ensure MSHCP equivalency and consistency

Table ES-3. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project

Impact	Mitigation Measure(s)
Biological Resources – Wildlife	
Impact WIL-1: Noise, lighting, vehicle traffic on access roads, and other project-related disturbance during construction, operations, and maintenance would affect wildlife including nesting birds, eggs, or chicks occupying surrounding vegetation and habitat, and could cause territory abandonment, behavioral changes, wildlife injury, or mortality	**MM WIL-1a:** Conduct pre-construction biological resources surveys **MM WIL-1b:** Ensure wildlife impact avoidance and minimization **MM WIL-1c:** Prepare and implement a Nesting Bird Management Plan **MM VEG-1a:** Conduct biological monitoring and reporting **MM VEG-1b:** Prepare and implement a Worker Environmental Awareness Program (WEAP) **MM VEG-1c:** Minimize native vegetation and habitat loss **MM VEG-1d:** Restore or revegetate temporary disturbance areas **MM VEG-1e:** Compensate for permanent habitat loss **MM VEG-2a:** Prepare and implement an Integrated Weed Management Plan
Impact WIL-2: Construction, restoration, operations, and maintenance activities could cause direct or indirect loss of listed and special-status wildlife and direct or indirect effects to habitat for listed and special-status wildlife	**MM WIL-2a:** Conduct desert tortoise surveys, monitoring, and avoidance **MM WIL-2b:** Prepare and implement raven monitoring, management, and control plan **MM WIL-2c:** Conduct surveys and avoidance for threatened or endangered riparian birds **MM WIL-2d:** Conduct surveys and avoidance for Stephens' kangaroo rat **MM WIL-2e:** Conduct surveys and avoidance for coastal California gnatcatcher **MM WIL-2f:** Conduct surveys and avoidance for golden eagle **MM WIL-2g:** Conduct surveys and avoidance for burrowing owl **MM WIL-2h:** Conduct surveys and avoidance for special-status herpetofauna **MM WIL-2i:** Conduct surveys and avoidance for bats **MM WIL-2j:** Conduct surveys and avoidance for special-status small mammals **MM WIL-2k:** Conduct surveys and avoidance for American badger, ringtail, and desert kit fox **MM WIL-1a:** Conduct pre-construction biological resources surveys **MM WIL-1b:** Ensure wildlife impact avoidance and minimization **MM WIL-1c:** Prepare and Implement a Nesting Bird Management Plan **MM VEG-1a:** Conduct biological monitoring and reporting **MM VEG-1b:** Prepare and implement a Worker Environmental Awareness Program (WEAP) **MM VEG-1c:** Minimize native vegetation and habitat loss **MM VEG-1d:** Restore or revegetate temporary disturbance areas **MM VEG-1e:** Compensate for permanent habitat loss **MM VEG-2a:** Prepare and implement an Integrated Weed Management Plan
Impact WIL-3: Transmission lines would present a collision or electrocution hazard to birds, including special-status birds	**MM WIL-3a:** Evaluate bird collision risk and implement APLIC design guidelines
Cultural Resources	
Impact CL-1: Construction, operation and maintenance, and restoration would cause an adverse change to known historic properties	**MM CL-1a:** Avoid environmentally sensitive areas **MM CL-1b:** Develop Cultural Resource Management Plan (CRMP) **MM CL-1c:** Train construction personnel **MM CL-1d:** Conduct construction monitoring

Table ES-3. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project

Impact	Mitigation Measure(s)
Geology and Soils	
Impact G-1: Project structures could be damaged by surface fault rupture at crossings of active and potentially active faults	**MM G-1a:** Conduct fault evaluation study and minimize project structures within active fault zones
Impact G-2: Project structures could be damaged by seismically induced groundshaking and/or ground failures, such as landslides and liquefaction-related phenomena, exposing people or structures to hazards	**MM G-2a:** Conduct geological surveys for landslides and unstable slopes
Impact G-3: Erosion could be triggered or accelerated due to construction activities	**MM WR-2a:** Implement an erosion control plan and demonstrate compliance with water quality permits **MM VEG-1d:** Restore or revegetate temporary disturbance areas
Impact G-4: Slope Instability, such as landslides, could be triggered or accelerated due to construction activities	**MM G-2a:** Conduct geotechnical surveys for landslides and unstable slopes
Impact G-5: Project structures could be damaged by problematic soils exposing people or structures to hazards	**MM G-5a:** Assess soil characteristics to aid in appropriate foundation design
Hazards and Hazardous Materials	
Impact HH-1: Improper handling, storage, or accidental spills or releases of hazardous materials could result in harm to the public, project workers, or the environment	**MM HH-1a:** Prepare a hazardous materials and waste management plan
Impact HH-2: Ground disturbance could result in mobilization of contaminants currently existing in the soil, creating potential pathways of exposure to humans or other sensitive receptors	**MM HH-2a:** Prepare a soil management plan
Impact HH-3: Ground disturbance could result in mobilization of pesticides and herbicides in agricultural soils, creating potential pathways of exposure to humans or other sensitive receptors	**MM HH-3a:** Identify pesticide/herbicide contamination

Table ES-3. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project

Impact	Mitigation Measure(s)
Land Use and BLM Realty	
Impact LU-1: Project would disrupt an established or recently approved land use	**MM LU-1a:** Prepare construction notification plan **MM AG-3a:** Establish agreement and coordinate construction activities with agricultural landowners **MM N-1a:** Implement best management practices for construction noise **MM N-1b:** Implement a helicopter noise control strategy **MM R-1a:** Coordinate construction schedule and activities with the authorized officer for the recreation area **MM R-1b:** Coordinate with local agencies to identify alternative recreation areas **MM T-1b:** Prepare Traffic Control Plans **MM T-1c:** Restrict lane closures **MM T-1d:** Minimize disruption of bus and transit service **MM T-1e:** Ensure pedestrian and bicycle circulation and safety **MM T-1f:** Provide access to property **MM T-3a:** Avoid conflicts with planned transportation improvements **MM T-6a:** Notify public of short-term elimination of public parking spaces **MM T-7a:** Prepare and implement a final helicopter use plan **MM VR-1a:** Screen construction activities from view **MM VR-2a:** Minimize vegetation removal and ground disturbance **MM VR-3a:** Reduce color contrast of retaining walls and land scars **MM VR-4a:** Minimize in-line views of retaining walls and land scars **MM VR-5a:** Prohibit construction marking of natural features **MM VR-7a:** Minimize night lighting at project facilities **MM VR-9a:** Minimize visual contrast in project design **MM VR-10a:** Treat structure surfaces
Mineral Resources	
Impact MR-1: Construction activities would render known mineral resources inaccessible	**MM MR-1a:** Coordinate with quarry operations
Paleontological Resources	
Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources	**MM PAL-1a:** Inventory and evaluate paleontological resources **MM PAL-1b:** Develop Paleontological Resource Mitigation and Monitoring Plan **MM PAL-1c:** Train construction personnel **MM PAL-1d:** Monitor construction for paleontological resources **MM PAL-1e:** Final reporting and curation
Recreation	
Impact R-1: Construction activities would temporarily reduce access and visitation to recreation areas	**MM R-1a:** Coordinate construction schedule and activities with the authorized officer for the recreation area **MM R-1b:** Coordinate with local agencies to identify alternative recreation areas **MM R-1c:** Provide a temporary detour for Pacific Crest National Scenic Trail users

Table ES-3. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project

Impact	Mitigation Measure(s)
Transportation and Traffic	
Impact T-1: Road or travel lane closures for construction would adversely affect traffic flow and congestion, emergency vehicle response, pedestrians/ bicyclists routes, and access to adjacent residential and business properties	**MM T-1a:** Prepare Construction Transportation Plan **MM T-1b:** Prepare Traffic Control Plans **MM T-1c:** Restrict lane closures **MM T-1d:** Minimize disruption of bus and transit service **MM T-1e:** Ensure pedestrian and bicycle circulation and safety **MM T-1f:** Provide access to property **MM LU-1a:** Prepare Construction Notification Plan
Impact T-2: Traffic related to project construction and operation would result in unacceptable levels of service on roadways in the project area	**MM T-1a:** Prepare Construction Transportation Plan
Impact T-3: Construction would conflict with planned transportation projects	**MM T-3a:** Avoid conflicts with planned transportation improvements
Impact T-4: Construction vehicles and equipment would potentially damage roads in the project area	**MM T-4a:** Repair roadways damaged by construction activities
Impact T-5: Construction activities would cause a temporary disruption to rail traffic or operations	**MM T-5a:**Obtain required permits or approvals for crossing or working in railroad rights of way
Impact T-6: Construction would result in the short-term elimination of parking spaces	**MM T-6a:** Notify public of short-term elimination of public parking spaces
Impact T-7: Use of helicopters would have potential impacts on public safety and create nuisance conditions	**MM T-7a:** Prepare and implement a final helicopter use plan
Impact T-8: Operations would affect aviation safety and activities associated with public airports	**MM T-8a:** Obtain FAA review and approval of all structures and spans posing potential aircraft safety hazards
Utilities and Public Services	
Impact UPS-1: Project construction and operation would increase the need for public services and utilities	**MM UPS-1a:** Use non-potable water for construction purposes **MM T-1b:** Prepare Traffic Control Plans **MM WF-1a:** Prepare and implement a Fire Management Plan
Impact UPS-2: Construction would disrupt existing pipelines and utility systems or cause a collocation accident	**MM UPS-2a:** Protect pipelines and overhead and underground utilities
Visual Resources	
Impact VR-1: Construction would result in adverse visual effects due to the presence of equipment, vehicles, materials, and workforce	**MM VR-1a:** Screen construction activities from view
Impact VR-3: Construction would result in visual contrast associated with retaining walls, land scarring, and establishment of graveled surfaces	**MM VR-3a:** Reduce color contrast of retaining walls and land scars
Impact VR-4: Construction could result in visual contrast associated with in-line views of retaining walls and land scars	**MM VR-4a:** Minimize in-line views of retaining walls and land scars
Impact VR-5: Construction could result in visual contrast associated with the marking of natural features	**MM VR-5a:** Prohibit construction marking of natural features
Impact VR-6: Construction could result in visual contrast associated with fugitive dust, waste, and trash	**MM AQ-1a:** Control fugitive dust **MM WIL-1b:** Ensure wildlife impact avoidance and minimization

Table ES-3. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project

Impact	Mitigation Measure(s)
Impact VR-7: Construction could result in the use of night lighting or installation of reflective surfaces, which could cause undesirable night light and glare effects	**MM VR-7a:** Minimize night lighting at project facilities **MM VR-10a:** Treat structure surfaces
Impact VR-10: Project operation would create a new source of reflected light and glare	**MM VR-7a:** Minimize night lighting at project facilities **MM VR-10a:** Treat structure surfaces
Water Resources and Hydrology	
Impact WR-1: The project would deplete groundwater supplies or interfere with groundwater recharge	**MM UPS-1a:** Use non-potable water for construction purposes
Impact WR-2: The project would cause erosion and siltation	**MM WR-2a:** Implement an Erosion Control Plan and demonstrate compliance with water quality permits
Impact WR-3: The project would cause flood damage	**MM WR-3a:** Implement flood, erosion, and scour protection for aboveground and belowground improvements
Impact WR-4: The project would degrade water quality, or violate a water quality standard or waste discharge requirement	**MM WR-2a:** Implement an Erosion Control Plan and demonstrate compliance with water quality permits **MM HH-2:** Prepare a hazardous materials and waste management plan
Wildland Fire	
Impact WF-1: Construction or maintenance activities would increase the probability of a wildland fire	**MM WF-1a:** Prepare and implement a Fire Management Plan **MM VEG-1b:** Prepare and implement a Worker Environmental Awareness Program (WEAP)
Impact WF-4: Construction or maintenance activities would result in a vegetation fuel mix that increases ignition potential and rate of fire spread	**MM VEG-2a:** Prepare and implement an Integrated Weed Management Plan
Electrical Interference and Safety	
Impact EIS-1: Project could create interference with radio, television, communications, or electronic equipment	**MM EIS-1a:** Limit the conductor surface gradient **MM EIS-1b:** Document and resolve electronic interference complaints
Impact EIS-2: Project-induced currents or shocks would create hazards to the public	**MM EIS-2a:** Implement grounding measures

Table ES-4. Summary of Significant Unmitigable (Class I) Impacts for the Connected Actions

Impact	Typical Mitigation Measures
Air Quality	
Impact AQ-1: Construction would generate dust and exhaust emissions of criteria pollutants	Control fugitive dust Control off-road equipment emissions
Biological Resources – Wildlife	
Impact WIL-3: Collision, electrocution, or solar flux hazards to birds, including special-status birds	Set aside a $500,000 fund to implement a variety of bird conservation actions intended to offset bird mortality caused by solar flux
Cultural Resources	
Impact CL-2: Construction, operation and maintenance, and restoration would cause an adverse change to unknown buried prehistoric and historical archaeological sites or buried Native American human remains	Treat previously unidentified cultural resources Properly treat human remains
Noise	
Impact N-1: Construction noise could substantially disturb sensitive receptors or violate local rules, standards, and/or ordinances	Implement best management practices for construction noise
Recreation	
Impact R-2: Presence of project facilities would change the character of a recreation area, diminishing its recreational value	Minimize night lighting at project facilities Treat structure surfaces Control fugitive dust Minimize visual contrast in project design Minimize vegetation removal and ground disturbance Restore or revegetate temporary disturbance areas Screen construction activities from view Prohibit construction marking of natural features
Visual Resources	
Impact VR-8C: Long-term presence of the project would result in landscape changes or new sources of light and glare that degrade existing visual character or quality	Minimize night lighting at project facilities Minimize visual contrast in project design Treat structure surfaces
Water Resources and Hydrology	
Impact WR-1: The project would deplete groundwater supplies or interfere with groundwater recharge	Monitor drawdown and groundwater overdraft conditions Provide alternate sources of water from outside the basin Implement drought water management and water conservation programs

Table ES-5. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Connected Actions

Impact	Typical Mitigation Measure(s)
Agriculture	
Impact AG-1: Project would permanently convert Important Farmland to non-agricultural use	Secure an agricultural easement or implement an agricultural land mitigation program
Impact AG-2: Project would conflict with existing zoning for agricultural use	Establish a Williamson Act agricultural preserve Secure an agricultural easement or implement an agricultural land mitigation program
Air Quality	
Impact AQ-2: Construction would generate emissions of toxic air contaminants	Control fugitive dust Control off-road equipment emissions
Impact AQ-3: Operation, maintenance, and inspections would generate dust and exhaust emissions	Control fugitive dust Control off-road equipment emissions
Biological Resources – Vegetation	
Impact VEG-1: Land clearing for construction and future operations and maintenance would cause loss or degradation of vegetation and habitat, including sensitive habitats	Conduct biological monitoring and reporting Restrict disturbance to authorized work areas Restore or revegetate temporary disturbance areas Compensate for permanent habitat loss
Impact VEG-2: Project activities could cause indirect degradation of surrounding vegetation and habitat from dust, interrupted sand transport, interruption of surface water flows, or introduction and spread of invasive weeds	Prepare and implement an Integrated Weed Management Plan Control fugitive dust Implement an Erosion Control Plan and demonstrate compliance with water quality permits Implement compensatory mitigation for effects on sand transport
Impact VEG-3: Construction, operations, and maintenance activities would affect state or federally jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, or degradation of water quality	Conduct biological monitoring and reporting Implement a Habitat Mitigation and Monitoring Plan Minimize impacts and ensure no net loss for jurisdictional waters and wetlands Demonstrate compliance with water quality permits
Impact VEG-4: Construction, operations, and maintenance activities could cause direct or indirect loss of listed and special-status plants and direct or indirect effects to habitat for listed and special-status plants	Minimize and mitigate impacts to special-status plants Minimize project disturbance areas Conduct biological monitoring and reporting Implement a Vegetation Resources Management Plan Compensate for permanent loss of special-status plants Prepare and implement an Integrated Weed Management Plan
Impact VEG-5: Construction, operations, and maintenance activities may conflict with local policies or ordinances protecting biological resources, Habitat Conservation Plans, Natural Communities Conservation Plans, Multiple Species Habitat Conservation Plans, or other approved local, regional, state, or federal conservation plans	Comply with local tree removal or resource protection policies

Table ES-5. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Connected Actions

Impact	Typical Mitigation Measure(s)
Biological Resources – Wildlife	
Impact WIL-1: Noise, lighting, vehicle traffic on access roads, and other project-related disturbance during construction, operations, and maintenance would affect wildlife including nesting birds, eggs, or chicks occupying surrounding vegetation and habitat, and could cause territory abandonment, behavioral changes, wildlife injury, or mortality	Conduct pre-construction biological resources surveys Ensure wildlife impact avoidance and minimization Prepare and implement a Nesting Bird Management Plan Conduct biological monitoring and reporting Prepare and implement a Worker Environmental Awareness Program (WEAP) Minimize and mitigate wildlife disturbance and displacement Compensate for permanent habitat loss
Impact WIL-2: Construction, restoration, operations, and maintenance activities could cause direct or indirect loss of listed and special-status wildlife and direct or indirect effects to habitat for listed and special-status wildlife	Conduct desert tortoise surveys, monitoring, and avoidance Prepare and implement raven monitoring, management, and control plan Conduct surveys and avoidance for threatened or endangered riparian birds Conduct surveys and avoidance for Stephens' kangaroo rat Conduct surveys and avoidance for coastal California gnatcatcher Conduct surveys and avoidance for golden eagle Conduct surveys and avoidance for burrowing owl Conduct surveys and avoidance for special-status herpetofauna Conduct surveys and avoidance for bats Conduct surveys and avoidance for special-status small mammals Conduct surveys and avoidance for American badger, ringtail, and desert kit fox Conduct pre-construction biological resources surveys Ensure wildlife impact avoidance and minimization Prepare and Implement a Nesting Bird Management Plan Conduct biological monitoring and reporting Prepare and implement a Worker Environmental Awareness Program (WEAP) Minimize native vegetation and habitat loss Restore or revegetate temporary disturbance areas Compensate for permanent habitat loss Prepare and implement an Integrated Weed Management Plan
Impact WIL-3: Collision, electrocution, or solar flux hazards to birds, including special-status birds	Evaluate bird collision risk and implement APLIC design guidelines Implement monitoring and adaptive measures to offset bird mortality through habitat restoration off-site and installation of bird collision deflectors on lines
WIL-4: Project activities and facilities could cause adverse effects to habitat linkages or wildlife movement corridors	Implement habitat set-aside and management, including compensation acreage for wildlife movement habitat
Cultural Resources	
Impact CL-1: Construction, operation and maintenance, and restoration would cause an adverse change to known historic properties	Avoid environmentally sensitive areas Develop Cultural Resource Management Plan (CRMP) Train construction personnel Conduct construction monitoring
Geology and Soils	
Impact G-1: Project structures could be damaged by surface fault rupture at crossings of active and potentially active faults	Implement design characteristics that comply with California Building Code standards Implement an Emergency Response Plan

Table ES-5. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Connected Actions

Impact	Typical Mitigation Measure(s)
Impact G-3: Erosion could be triggered or accelerated due to construction activities	Control fugitive dust Implement a Surface Water Protection Plan and drainage design specifications
Impact G-5: Project structures could be damaged by problematic soils exposing people or structures to hazards	Assess soil characteristics to aid in appropriate foundation design
Hazards and Hazardous Materials	
Impact HH-1: Improper handling, storage, or accidental spills or releases of hazardous materials could result in harm to the public, project workers, or the environment	Prepare a hazardous materials and waste management plan
Impact HH-2: Ground disturbance could result in mobilization of contaminants currently existing in the soil, creating potential pathways of exposure to humans or other sensitive receptors	Prepare a soil management plan
Impact HH-3: Ground disturbance could result in mobilization of pesticides and herbicides in agricultural soils, creating potential pathways of exposure to humans or other sensitive receptors	Identify pesticide/herbicide contamination
Land Use and BLM Realty	
Impact LU-1: Project would disrupt an established or recently approved land use	Prepare construction notification plan Establish agreement and coordinate construction activities with agricultural landowners Implement best management practices for construction noise Coordinate construction schedule and activities with the authorized officer for the recreation area Coordinate with local agencies to identify alternative recreation areas Prepare Traffic Control Plans Provide access to property Screen construction activities from view Minimize vegetation removal and ground disturbance Prohibit construction marking of natural features Minimize night lighting at project facilities Minimize visual contrast in project design Treat structure surfaces
Mineral Resources	
Impact MR-1: Construction activities would render known mineral resources inaccessible	Coordinate with quarry operations
Paleontological Resources	
Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources	Inventory and evaluate paleontological resources Develop Paleontological Resource Mitigation and Monitoring Plan Train construction personnel Monitor construction for paleontological resources Final reporting and curation
Recreation	
Impact R-1: Construction activities would temporarily reduce access and visitation to recreation areas	Coordinate construction schedule and activities with the authorized officer for the recreation area Coordinate with local agencies to identify alternative recreation areas

Table ES-5. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Connected Actions

Impact	Typical Mitigation Measure(s)
Impact R-3: Presence of a transmission line would permanently preclude recreational activities	Provide alternate access to recreation areas blocked by solar projects
Transportation and Traffic	
Impact T-1: Road or travel lane closures for construction would adversely affect traffic flow and congestion, emergency vehicle response, pedestrians/ bicyclists routes, and access to adjacent residential and business properties	Prepare Construction Transportation Plan Prepare Traffic Control Plans Provide access to property Prepare Construction Notification Plan
Impact T-2: Traffic related to project construction and operation would result in unacceptable levels of service on roadways in the project area	Prepare Construction Transportation Plan
Impact T-3: Construction would conflict with planned transportation projects	Avoid conflicts with planned transportation improvements
Impact T-4: Construction vehicles and equipment would potentially damage roads in the project area	Repair roadways damaged by construction activities
Utilities and Public Services	
Impact UPS-1: Project construction and operation would increase the need for public services and utilities	Prepare and implement a Fire Management Plan Provide fees to offset increased demand on fire protection services
Impact UPS-2: Construction would disrupt existing pipelines and utility systems or cause a collocation accident	Protect pipelines and overhead and underground utilities
Visual Resources	
Impact VR-1C: Construction would result in adverse visual effects due to the presence of equipment, vehicles, materials, and workforce, or use of night lighting	Screen construction activities from view Minimize night lighting at project facilities
Water Resources and Hydrology	
Impact WR-2: The project would cause erosion and siltation	Implement an Erosion Control Plan and demonstrate compliance with water quality permits
Impact WR-3: The project would cause flood damage	Implement flood, erosion, and scour protection for aboveground and belowground improvements
Impact WR-4: The project would degrade water quality, or violate a water quality standard or waste discharge requirement	Implement an Erosion Control Plan and demonstrate compliance with water quality permits Prepare a hazardous materials and waste management plan
Wildland Fire	
Impact WF-1: Construction or maintenance activities would increase the probability of a wildland fire	Prepare and implement a Fire Management Plan
Impact WF-4: Construction or maintenance activities would result in a vegetation fuel mix that increases ignition potential and rate of fire spread	Prepare and implement an Integrated Weed Management Plan
Electrical Interference and Safety	
Impact EIS-1: Project could create interference with radio, television, communications, or electronic equipment	Limit the conductor surface gradient Document and resolve electronic interference complaints
Impact EIS-2: Project-induced currents or shocks would create hazards to the public	Implement grounding measures