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D.7 Cultural and Paleontological Resources

This section discusses the effects of the Proposed Project on cultural and paleontological resources. Sections D.7.1 through D.7.23 discuss cultural resources and Sections D.7.24 through D.7.39 discuss paleontological resources. Background information, applicable regulations, known resources, and potential impacts and mitigation measures are presented for cultural and paleontological resources within their respective sections. A detailed discussion of the pre-contact, ethnographic, and historical background for the region is presented in Appendix 9A. Information about each cultural resource documented for the Proposed Project is compiled in Appendix 9B. Appendix 9C presents copies of letters that document government-to government consultation between the BLM and Native American tribes and individuals who could be affected by or have concerns about the Proposed Project. Appendix 9D presents a series of maps that depict paleontological sensitivity for all components of the Proposed Project.

Cultural Resources

This section discusses the cultural resources affected by the Proposed Project. Background information for the project area is provided (Section D.7.1.2) along with a description of applicable regulations (Section D.7.7). Potential impacts and mitigation measures for the Proposed Project are outlined by segment in Sections D.7.9 through D.7.17. Alternatives along the Proposed Project alignment are addressed in Sections D.7.18 to D.7.23.

D.7.1 Approach to Data Collection

A cultural resource is defined as any object or specific location of past human activity, occupation, or use, identifiable through historical documentation, inventory, or oral evidence. Cultural resources can be separated into three categories: archaeological, building and structural, and traditional resources (DSW EIS, 2005). Groups of cultural resources can potentially constitute a cultural landscape or district.

Archaeological resources include both historic and prehistoric remains of human activity. Historical resources can consist of structures (cement foundations), historic objects (bottles and cans), and sites (refuse deposits or scatters). Prehistoric resources can include lithic scatters, ceramic scatters, quarries, habitation sites, temporary camps, rock shelters, cairns, rock rings, agave roasting pits, ceremonial sites, and trails.

Building and structural sites can vary from historic buildings to canals, historic roads and trails, bridges, ditches, dams, and cemeteries. As a class, these resources are generally called built environment resources.

A traditional cultural resource or traditional cultural property (TCP) can include Native American sacred sites and traditional resources of any ethnic community that are important for maintaining the cultural traditions of any group (National Register of Historic Places, 1990). Examples of TCPs include places such as traditional landscapes, sacred mountains, buildings, or areas where plants are collected for food, medicine, basket weaving, and ceremonial uses.

While this section discusses hundreds of cultural resources that occur along the alignments of the Proposed Project and Project alternatives, only a portion of those will qualify for management consideration under existing laws and regulations. The criteria by which resources are determined legally eligible for further management are detailed later in this section (D.7.7 and D.7.8). This important distinction is denoted by the term “historic properties.” Historic properties are those resources (including historical built environment resources, prehistoric archaeological sites, historical archaeological sites, unique archaeological sites, and traditional cultural properties — regardless of their age) that are determined by a federal, State, or local agency to be eligible for listing on a historic register.

Information for the Proposed Project compiled in the following section is from the *Proponent’s Environmental Assessment* (PEA) (SDG&E, 2006) prepared by SDG&E and Greystone Environmental Consultants, a division of Arcadis G&M, Inc. (Arcadis), for SDG&E. Information included here is also from archaeological survey reports prepared on SDG&E’s behalf for the: (1) portions of the Proposed Project (Gallegos & Associates, 2006a; 2006b; 2006c; 2007); (2) reconductoring of the Sycamore-Elliott transmission line (Jordan, 2006); and (3) Central South Substation (ASM, 2006). These information sources were independently reviewed and verified by EIR/EIS consultants (Applied EarthWorks, Inc. and SWCA Environmental Consultants). Background research and archaeological surveys on other alternatives were conducted by EIR/EIS consultants on the behalf of the CPUC and BLM in early 2007. While this section compiles data about individual cultural resources, and more detailed information about each site is provided in Appendix 9B, the sensitive nature of these resources requires that detailed information about the locations of these resources not be disclosed to the public. Therefore, location data are available in technical reports, but are not provided in this EIS/EIR in order to protect sensitive sites.

Cultural resource investigations are defined along a gradient according to the intensity of research performed (i.e., BLM Class I Inventory – literature search, BLM Class II Inventory – reconnaissance inventory, BLM Class III Inventory – intensive cultural resource inventory [BLM 8100 Manual]). Accordingly, the geographic scope of the investigation reflects the level of research performed as the target area is narrowed; a broad literature search warrants a larger search area than an intensive field inventory. Prior to initiation of fieldwork, a BLM Class I background study was completed by SDG&E’s consultant for a one-mile-wide study area encompassing the full length of the Proposed Project. The purpose of the BLM Class I study was to identify known cultural resources that could be impacted by the Proposed Project. A BLM Class III archaeological inventory (field survey) of the Proposed Project alignment and several SDG&E alternatives was initiated in April 2006, with the goal of identifying previously unrecorded cultural resources, and updating records for previously recorded resources that may be affected by the Proposed Project. The width of the BLM Class III survey corridor varies from 60 to 300 feet (Gallegos & Associates, 2006a, 2006b, 2006c; 2007), the area within which all direct impacts of the Proposed Project could be expected to occur. Due to access restrictions associated with privately owned lands,¹ completion of a BLM Class III survey was not possible. Therefore, this EIR/EIS utilizes the results from BLM Class II sample surveys conducted for the Proposed Project and project alternatives. The methodologies employed for the BLM Class I, Class II, and Class III studies are summarized below.

¹ SDG&E and the Lead Agencies’ environmental consultants’ efforts to access private property included use of right-of-entry consultants, multiple letters and calls to landowners, and meetings with landowners when possible. Areas with SDG&E easements were accessed with a SDG&E representative present.

BLM Class I Study

Proposed Project Analysis. Archaeological site record forms and a bibliography of cultural resource literature addressing the Proposed Project area were obtained from the South Coastal Information Center (SCIC) at San Diego State University and the Southeastern Information Center (SEIC) at the Imperial Valley College Desert Museum in Ocotillo, California. The San Diego Museum of Man, the Begole Archeological Research Center in Anza-Borrego Desert State Park, and the Bureau of Land Management Desert District Office provided additional information. Lists of national, state, and local registered sites were also consulted. Locations of potential cultural resources were obtained from a variety of historic maps covering the two counties (Imperial County and San Diego County). The California Native American Heritage Commission (NAHC) and 51 individuals representing Native American interests were contacted for information pertaining to sacred lands or other cultural resources of concern.

Prior to conducting intensive surveys for the project, the previously recorded cultural resources identified during the BLM Class I study of the one-mile-wide study area were categorized into 19 site types on the basis of information provided on site record forms. The study area was divided into five zones, based primarily on climate zones. A correlation analysis using climate zone and site type as variables identified site differences among climate zones in the relative frequencies of various site types. These differences may be explained in part by shortcomings in the data, including unequal survey coverage and differing survey methodologies employed in various parts of the study area. However, several cultural factors were also identified that may help explain the distribution of sites across the landscape. These factors and other questions pertaining to pre-contact occupation within the study area form the basis of a research orientation that was formulated for use during the BLM Class III archaeological inventory (Gallegos & Associates, 2006a).

Alternatives Analysis. The BLM Class I methodology employed for the alternatives analysis essentially mirrored the approach used for the Proposed Project. The EIR/EIS team conducted multiple records searches at various repositories of cultural resources information for 100 percent of each alternative, including a 0.5-mile radius around each alternative, the standard coverage for BLM Class I inventories. While all available data regarding specific potential impacts to individual cultural resources will be presented in the EIS/EIR, the comparison of the relative sensitivity of each alternative to the sensitivity of the Proposed Project will employ data extrapolated from the 30 percent stratified random BLM Class II survey sample for each alternative.

BLM Class II Study

The Bureau of Land Management (BLM) defines a BLM Class II survey as a probabilistic sample survey, “designed to aid in characterizing the probable density, diversity, and distribution of cultural properties in an area, to develop and test predictive models, and to answer certain kinds of research questions. Within individual sample units, survey aims, methods, and intensity are the same as those applied in class III survey” (BLM, 2004). BLM Class II surveys are useful for comparing the cultural resources sensitivity of alternative project locations.

Proposed Project Analysis. By July 27, 2007, a BLM Class III archaeological inventory for the Sunrise Powerlink project had been completed for approximately 91.05 percent of the Proposed Project. The inventory focused on all areas with legal access, either by permits on publicly owned lands or by virtue of existing SDG&E transmission line easements (Gallegos & Associates, 2006a). As of the time of publication of the Draft EIR/EIS, the BLM Class III survey was still in progress. This document

relies on the results of the BLM Class III survey completed prior to July 27, 2007. The Central Link, at 70.85 percent, was the least surveyed link as of this date. Any portions of the Proposed Project that had not been surveyed prior to July 27, 2007 would be subjected to BLM Class III survey prior to implementation of the project, as defined in the mitigation measures presented in this EIR/EIS. Since the Class III survey data included in this analysis represents a sample of the overall Proposed Project, it is considered to constitute a BLM Class II, or sample survey.

Initially, a 300-foot-wide corridor, an area that would include all anticipated direct effects of project construction, was examined on foot using 15-meter spacing between surveyors. The width of the survey corridor was reduced to 200, 150, 100, or 60 feet in width for segments of the route for which specific project design data were available, and areas of direct impact were refined. The spacing between surveyors was reduced to between 3 and 5 m in areas of previously recorded sites and when new sites were encountered to identify artifacts and site boundaries. In very steep areas and virtually impenetrable zones of climax stage chaparral vegetation, spot surveys of exposed areas were accessed via existing dirt roads (Gallegos & Associates, 2006a).

Throughout the surveyed area, attempts were made to relocate all previously recorded sites within and immediately adjacent to the survey corridor. For the purpose of power pole placement, in selected circumstances, additional survey was conducted outside of the 300-foot-wide corridor (Gallegos & Associates, 2006a).

For the identification of built environment resources (i.e., buildings and structures), Gallegos & Associates reviewed the National Register of Historic Places, California Register of Historical Resources, California Points of Historical Interest, and SCIC's Historic Address (formerly GeoFinder) Database. Gallegos & Associates also surveyed for and identified built environment resources during the BLM Class II survey of portions of the Proposed Project.

Previously recorded historic built environment resources located within 0.5 miles of the Proposed Project, identified through the BLM Class I study, were also analyzed for the potential that the project would create visual intrusions to their historic character. A subset of these resources was visited in the field for formal recording or updates to existing records, as well as a formal evaluation of significance and an assessment of potential indirect impacts.

Alternatives Analysis. Because this EIS/EIR is prepared to comply with both NEPA and CEQA, the analysis of alternatives requires a comparable level of analysis to the Proposed Project. In consultation with BLM, the EIR/EIS team determined that a 30 percent BLM Class II survey sample would be used for analysis of each alternative and for comparison with the Proposed Project. The analysis of the Proposed Project and each alternative has focused on projecting the relative sensitivity of each route. A 30 percent BLM Class II survey sample of each alternative is used to compare its sensitivity for important cultural resources in relation to impacts that would result from the Proposed Project. The 30 percent sample reflects a comparable level of analysis to the Proposed Project because it is based on a stratified random sample which incorporated factors that are strong predictors of cultural resources, including climatic zone, slope, access, land-ownership. The sample also incorporated previously conducted cultural resources studies. In addition, the 30 percent figure was selected because only 35 percent of the Inland Valley Link of the Proposed Project had been surveyed as of October 20, 2006, and 30 percent would ensure a comparable sample for each of the links and alternatives. Limited access to privately held lands also influenced the decision to use a 30 percent sample, as many of the alternatives are located partially within private lands. The goal of the BLM Class II survey sample was to characterize the sensitivity of each alternative for cultural resources, for comparison with the Proposed Project.

Using preliminary alternative alignments, a 300-foot-wide study corridor, centered on the alignment, was generated for each alternative using GIS software; this corridor would include all anticipated direct impacts if the project were built along any of the alternative alignments. Previously conducted studies that overlapped the alternatives' study areas were scrutinized for adequacy. Methodology sections of these previous reports were reviewed to assess survey transect width, ground visibility, and consideration of historic built environment features. Previous cultural resources studies considered to be adequate were incorporated into the 30 percent BLM Class II survey sample for each alternative. In some cases, adequate previous survey coverage of the 300-foot-wide study corridor for a particular alternative exceeded the 30 percent sample. In these cases, no new BLM Class II survey work was undertaken. In most cases, however, the percentage of adequate previous survey coverage was less than 30 percent, requiring new BLM Class II survey work. For alternatives requiring new surveys to achieve the 30 percent sample goal, portions of the 300-foot-wide study corridor were identified as new BLM Class II survey areas. The new survey areas were based on a random stratified sample incorporating the predictors of cultural resources — climatic zone, slope, and access to water — as well as previous work.

The majority of new survey work was conducted on public lands administered by the BLM and on Cleveland National Forest lands; privately held parcels were also surveyed for alternatives on which the 30 percent sample could not be reached using BLM and CNF lands alone. As many of the private parcels crossed by the alternatives represent relatively flat, well-watered, valley floor areas favorable for ranching and farming, the sampling strategy's focus on public lands may inherently exclude or minimize the relative frequency of cultural resources associated with such environments. Prehistoric resources likely to be found in such areas include seasonal camps and village sites. Historical resources in such areas likely include buildings, structures, and sites related to early settlement, agriculture, and transportation in the region.

A 30 percent sample of all alternative routes was surveyed prior to preparation of this Draft EIS/EIR excepting the Campo North Option of the Interstate 8 Alternative. The Campo North Option is located on Native American reservation land to which access was not granted. The specific percentage of each alternative surveyed is detailed in the discussions of impacts.

Upon receipt of preliminary engineering data and revised alignments for all linear alternatives, the study corridors were adjusted to correspond with the revised alignments. Additional Class II survey work was conducted, as necessary, to ensure an approximately 30 percent sample or greater for each alternative. The collected data has been used to predict the sensitivity of each alternative, and therefore, the potential for project effects if sites cannot be avoided.

Underground alternatives (and underground portions of partial underground alternatives) that would be constructed entirely within existing paved roads were not subjected to new Class II survey, as the existing pavement precluded visibility of archaeological resources on the ground surface. For these types of alternatives, "windshield" surveys were conducted for potentially historic built environment resources. Any buildings or structures that appeared to be 50 years old or older were photographed and described, and their locations were noted.

Historic built environment resources were also addressed for overhead alternatives in the same manner as for the Proposed Project. Previously recorded historic built environment resources located within 0.5 miles of the Proposed Project, identified through the Class I study, were assessed to determine if they would be impacted by visual intrusions resulting from the project. Those that could experience visual intrusions were visited in the field for formal recording or updates to existing records, as well as a formal evaluation of significance and an assessment of potential indirect impacts.

Survey Methods for Known Areas of Direct Impact

For the Proposed Project, certain project elements, such as towers, pull sites, temporary construction laydown areas, and trenches would result in direct impact to cultural resources. These areas, as summarized in Table D.7-1, include all acreage that would be affected by Proposed Project development and areas of temporary construction activity. Because additional direct impacts of the project may also occur during construction, data about the cultural resources in a broader corridor were collected during field surveys. The corridors range from 60 feet wide, where undergrounding would occur in narrow trenches, to 300 feet wide, where location of specific project features (towers, laydown areas, roads, etc.) has not yet been precisely engineered.

Table D.7-1. Known Areas of Direct Impact – Proposed Project

Resource/Site	Description	Amount of Potential Land Affected	Duration
Tower Sites	Footings and maintenance area for each new tower site.	1.67 total acres (64 to 79 square feet per tower)	Permanent
Access Roads	Existing and new access roads will be used.	804.5 total acres of disturbance (347.3 acres of proposed access roads and 457.2 acres of existing access roads)	Permanent
Pulling and splicing stations	Activity related to construction of the transmission line	165 pull sites (each pull site is approximately 1 acre) 165 acres in total	Temporary
Staging Areas	Area for construction staging and storage.	Estimated 10 staging areas, totaling 55-65 acres	Temporary
Substations	Modifications to existing facilities and new facilities.	72.61 total acres of disturbance	Permanent

The known area of direct impact for the Proposed Project includes 1643.78 acres. Approximately 9 percent (147.94 acres) of the combined potential impact area had not yet been surveyed for cultural resources as of July 27, 2007 due to access restriction issues. All areas of direct impact would be surveyed in the future to complete a BLM Class III inventory when a route is selected and if the Proposed Project or alternatives is built. The BLM Class III survey would satisfy certain requirements of the National Historic Preservation Act, as discussed later in Section D.7.7. Prior to the availability of preliminary engineering data for the alternatives, a 300-foot-wide study corridor (150-foot buffer on each side of the route centerline) was generated for each linear alternative; substation sites or alternatives were surveyed in their entirety with no buffer. Similar to the methodology employed for the Proposed Project, discussion of the cultural setting for each linear alternative will address known cultural resources within the 300-foot-wide study corridor; including newly recorded resources identified in the portions of the study corridor subjected to new Class III survey. The corridors studied for each alternative are listed in Table D.7-2. The impact analysis, however, will focus on areas of direct impact, as done for the Proposed Project.

Table D.7-2. Study Corridors – Proposed Project and Alternative Routes

Proposed Project	Survey Corridor
Imperial Valley Link	200 ft. width
Anza-Borrego Link	150 ft. width
Central Link	300 ft. width (MP 110.84–91.09) 200 ft. width (MP 90.96–83.52)
Inland Valley Link	100 ft. width (MP 136.34–123.35) 200 ft. width (MP 123.35–121.94, 117.16–110.84) 60 ft. width (MP 121.94–117.16)

Table D.7-2. Study Corridors – Proposed Project and Alternative Routes

Coastal Link	100 ft. width (MP 146.67–146.39) 60 ft. width (MP 146.39–143.87) 150 ft. width (MP 143.87–142.27) 200 ft. width (MP 142.27–136.34)
Alternatives	Survey Corridor
Imperial Valley Link Alternatives	
FTHL Eastern	300 ft. width
SDG&E West of Dunaway	300 ft. width
SDG&E West Main Canal–Huff Road Modification	300 ft. width
Anza-Borrego Link Alternatives	
Partial Underground 230 kV ABDSP SR78 to S2	300 ft. width 60 ft. width in underground portion
All Underground Option	60 ft. width
Overhead 500 kV ADBSP within Existing ROW	150 ft. width
Central Link Alternatives	
Santa Ysabel Existing ROW	300 ft. width
Santa Ysabel Partial Underground	300 ft. width
Santa Ysabel SR79 All Underground	300 ft. width
SDG&E Mesa Grande	300 ft. width
Inland Valley Link Alternatives	
CNF Existing 69 kV Route	300 ft. width
Oak Hollow Road Underground	300 ft. width
San Vicente Road Transition	200 ft. width (Overhead portion only)
Chuck Wagon Road Underground	300 ft. width
Coastal Link Alternatives	
Pomerado Road to Miramar Area North	200 ft. width (Overhead portion only)
Los Peñasquitos Canyon Preserve–Mercy Road	60 ft. width
Black Mountain to Park Village Road Underground	60 ft. width
Coastal Link System Upgrade	N/A
Substation Alternatives	
SDG&E Central South Substation	40 acres (estimated)
Top of the World Substation	40 acres (estimated)
I-8 Substation	40 acres (estimated)
Modified Route D Substation	40 acres (estimated)
Southwest Powerlink Alternatives	
Interstate 8	300 ft. width
BCD	300 ft. width
Route D	300 ft. width
Modified Route D	300 ft. width
Non-Wires Alternatives	
New In-Area Renewable Generation	N/A
New In-Area All-Source Generation	N/A
Resource Bundle 1: In Area All-Source Generation Plus Demand Response	N/A
Resource Bundle 2: In Area All-Source Generation Plus Demand Response, and Renewable Energy Certificates (RECs)	N/A
System Alternatives	
LEAPS Transmission Only	300 ft. width
LEAPS Generation and Transmission	300 ft. width

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Environmental Setting for the Proposed Project – Cultural Resources

A detailed discussion of the pre-contact, ethnographic, and historical background for the region is presented in Appendix 9A. This discussion is excerpted from the *Class I Background Study and Class III Archaeological Inventory for the SDG&E Sunrise Powerlink Project, San Diego and Imperial Counties, California* (Gallegos & Associates, 2006a) and has been independently reviewed and verified as accurate by the EIR/EIS consultants.

D.7.2 Imperial Valley Link

The historic and prehistoric period habitation of Imperial Valley has largely been tied to the availability of water. On numerous occasions during prehistory, and at least once in history the Colorado River has shifted its course to inundate the western Colorado Desert (Moratto, 2004). In recent times, this flooding created the Salton Sea. In the past, much larger inundations occurred that resulted in the creation and refilling of the massive Lake Cahuilla. The predominant evidence of human occupation in Imperial County during the Late Prehistoric Period is located along the ancient shoreline at approximately 12 meters (40 feet) above mean sea level (Gallegos & Associates, 2006a; Moratto, 2004) and is exemplified by ceramic and lithic artifact scatters associated with rock rings and fish traps. Trails used by Native Americans as well as Spanish, Mexican, and American Period explorers are still evident in portions of Imperial Valley and are typically associated with known water sources. During the historic period, agriculture was made possible through the development of a system of canals that directed water from the Colorado River to farmlands. The cultural resources identified during the study for the Proposed Project reflect the range of activities that occurred within Imperial Valley in the past.

The majority of the known and recorded resources in the Imperial Valley Link are prehistoric sites such as ceramic and lithic artifact scatters, bedrock milling features, as well as temporary camp and habitation sites that exhibit features representing an array of past human activities. Lithic artifact scatters indicate that such activities as tool making and sharpening took place in these areas. The presence of pottery suggests that food was prepared, stored and perhaps transported in ceramic vessels. This link also contains the historic Fages–De Anza–Southern Emigrant Road, which is listed in the National Register of Historic Places. This link also contains a prehistoric temporary camp and habitation sites with human remains.

As of late July 2007, the Class I Background Study and Class III Archaeological Inventory and subsequent data submittals prepared by Gallegos & Associates (2006a; 2006b; 2006c; 2007) have been completed for 97.43 percent of the Imperial Valley Link of the Proposed Project.² A total of 159 cultural resources has been identified within the 200-foot-wide survey corridor for the Imperial Valley Link or within the Imperial Valley Substation, 78 of these sites are prehistoric, four are historic, while three are multi-component (see Table Ap.9B-1 in Appendix 9B). Thirty-four of these resources were identified during previous cultural resources surveys; the remaining 125 were newly recorded by Gallegos & Associates (2006a; 2006b; 2006c; 2007).

² As described in Section D.7.1.1, all statements made in this document regarding the percentages of Class III survey coverage for the Proposed Project are based on the status of this work conducted prior to July 27, 2007.

Seventy-four (74) of the 159 resources are isolates, typically defined as three or fewer artifacts not associated with a defined, discrete archaeological site, and therefore not eligible for National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), or any local register inclusion. Two previously recorded prehistoric temporary camps (CA-IMP-7857/7858 and P-13-008364) have been determined NRHP- and/or CRHR-eligible.

One linear resource, the Historical Fages–De Anza Trail–Southern Emigrant Road (no trinomial or primary number is assigned for the Imperial County portion of this resource), is listed on the NRHP and CRHR.

Seventy-eight sites have not been evaluated for listing on the NRHP or CRHR. Formal eligibility determinations would be made by the BLM prior to construction for any resources that would be affected if the Proposed Project is built. Four sites (CA-IMP-7954, CA-IMP-7849, CA-IMP-7857/7858, and D2-S-470) are presumed eligible due to the presence of human remains.

Of the 34 resources identified during previous cultural resources surveys, three sites (CA-IMP-7741; CA-IMP-8005; P-13-005662) and four isolates were not relocated during survey for the Proposed Project.

D.7.3 Anza-Borrego Link

Anza-Borrego Desert State Park (ABDSP) occupies a transitional zone between the peninsular mountains and the Colorado Desert. As such, the valleys leading from the desert into (or out of) the mountains have been used as transportation corridors throughout the prehistoric and historic period occupations of the region. Water sources, including seasonal drainages and springs, were preferred habitation locales, with the entire landscape offering food resources as varied as the juniper and borrego (bighorn sheep) on the ridges, the mescal (agave) on the slopes, and seeds and small game on the valley floor. Archaeological studies within the park have indicated the pre-ceramic (Archaic Period) use of the region, as well as an intensification of use during the Late Prehistoric Period (Moratto, 2004). Evidence of historic period use, similarly, is dominated by transportation routes and the remains of settlement in the fertile transition zone valleys, particularly those with year-round water sources.

The *Class I Background Study and Class III Archaeological Inventory* and subsequent data submittals prepared by Gallegos & Associates (2006a; 2006b; 2006c; 2007) indicated that virtually 100 percent (99.62 percent) of the Anza-Borrego Link of the Proposed Project was intensively surveyed for cultural resources as of July 27, 2007.

The majority of known cultural resources along the Anza-Borrego Link are prehistoric archaeological sites including scatters of flaked stone and/or pottery sherds, temporary camps, bedrock milling locations, and seasonal habitation sites. A total of 109 cultural resources has been identified within the 150-foot-wide survey corridor and locations proposed for removal of existing poles. Of these sites, 74 are prehistoric, five are historic, and three are multi-component, one site is of an unknown age or affiliation (see Table Ap.9B-2 in Appendix 9B).

One newly recorded resource (D2-S-106) is a prehistoric village complex or district that also includes a historical feature at a spring. D2-S-106 encompasses 13 previously recorded sites (see Table Ap.9B-2) and Gallegos & Associates connected those sites and expanded their boundaries through identification of additional features (such as bedrock milling areas, stone circles, tool manufacturing areas, etc.) and, at minimum, a sparse lithic and/or ceramic artifact scatter between features. Native American consultation conducted by Gallegos & Associates, and later, by the BLM and EIS/EIR team, confirmed that local Native Americans continue

to visit the area and are aware of its past occupation. The Tribes have indicated that the site should be considered a TCP, or part of a larger TCP. Portions of the newly recorded part of D2-S-106, as well as two previously recorded sites within D2-S-106, are located within areas of direct impact of the Proposed Project.

The well-watered area that includes site complex D2-S-106 also contains numerous other prehistoric and historic sites. The entire area has been identified as a traditional cultural landscape by some Native Americans and may be considered eligible for the NRHP as a TCP. In addition to the significant physical evidence of past occupation within the area and its adjacent slopes, the landscape remains a largely undisturbed example of a traditional transportation corridor and habitation area for Native Americans. The upper portion of the area provides views to the east and south of connecting corridors and peaks significant to Native Americans.

One site, CA-SDI-440, is a multi-component site consisting of a prehistoric habitation and a historical refuse scatter. Two previously identified sites (CA-SDI-15474; CA-SDI-15475) did not have site records on file at the SCIC but are presumed to be prehistoric in nature as they are located within the boundaries of newly recorded site D2-S-106 and prehistoric cultural materials were identified within those locations during survey. One additional previously recorded resource (P-37-016542) did not have a site record on file and is listed as unknown.

Forty-four (45) of the 109 cultural resources within the Anza-Borrego Link of the Proposed Project were identified during previous cultural surveys; the remaining 64 were newly recorded by Gallegos & Associates (2006a; 2006b; 2006c; 2007). Twenty-six (26) of the resources are isolates, and would not be considered eligible for NRHP or CRHR inclusion. Of the 45 resources identified during previous cultural resources surveys, five sites (CA-SDI-387; P-37-000377; P-37-000406; P-37-000459, SDM-C-141A) and two isolates (P-37-016448; P-37-017367) were not relocated. However, information regarding SDM-C-141A provided by Gallegos & Associates (2006a; 2006b; 2006c; 2007) suggests that this site is likely associated with D2-S-106. However, the site location information is not clear and this site could lie as much as two miles to the southeast, well outside the Proposed Project corridor.

In addition to the 109 cultural resources located within the Anza-Borrego Link of the Proposed Project, there are three (3) historic period buildings at Tamarisk Grove Campground (Allen and Newland, 1998) within 0.5 miles of the Proposed Project (Table Ap.9B-3 in Appendix 9B). SWCA architectural historian James Steely (2007) formally evaluated the Tamarisk Grove Campground, including the three buildings (P-37-017972; P-37-017973; P-37-017974), for NRHP and CRHR eligibility and recommends that the campground is NRHP/CRHR-eligible as a district, with the three buildings as contributing elements.

D.7.4 Central Link

The Central Link of the Proposed Project is located within the San Diego Mountains. Evidence of the prehistoric use of the region is best associated with the bedrock milling features that indicate the processing of acorns and other food resources. Such milling sites are often located adjacent to water sources, with large habitation sites exhibiting hundreds of bedrock mortars. During the historic period, these same valleys were used for cattle ranching with individual ranches occupying large acreage. Historic period resources in this area typically include houses, ranch fences and other structures, and water conveyance and storage systems such as wells, ditches, and dams.

The *Class I Background Study and Class III Archaeological Inventory* and subsequent data submittals prepared by Gallegos & Associates (2006a; 2006b; 2006c; 2007; Van Wormer, 2006) indicated that 70.85 percent of the Central Link of the Proposed Project and 100 percent of the proposed Central East Substa-

tion property was intensively surveyed for cultural resources as of July 27, 2007. ASM Affiliates surveyed corridors within and adjacent to the alternative Central South Substation property that resulted in the identification of cultural resources within the Central Link of the Proposed Project (Appendix D in Gallegos & Associates, 2006a).

The vast majority of cultural resources within the Central Link are prehistoric sites that display types varying from habitation sites to groups of bedrock milling features or scatters of ceramic and lithic artifacts, all of which exhibit evidence of prior human activity. The remote geographic location of many of these locations has proved valuable to the preservation of the sites providing a relatively undisturbed view of past activities and living conditions. Resources of a historical nature are also recorded within the Central Link including adobe buildings and water conveyance and control structures such as reservoirs and dams.

Prehistoric bedrock milling features are the most prominent site type within the Central East Substation Property. These bedrock milling features would have been used for food preparation (including, but not limited to, the processing of acorns), and are often associated with seasonal Native American use. Two historic adobe structures within the former San Felipe Boy Scout Camp and a historic dam are also located within the Central East Substation Property.

The survey corridor for the Central Link varied between 200 and 300 feet in width. A total of 49 cultural resources was identified within the survey corridor or Central East Substation property. All but six resources (H-001; H-003; H-004; P-37-011266; VID-S-031; VID-S-036) have been classified as prehistoric (see Table Ap.9B-4 in Appendix 9B). Eight (8) of the 49 resources were identified during previous cultural resources surveys; the remaining 41 are new sites recorded by Gallegos & Associates or ASM Affiliates (Gallegos & Associates, 2006a; 2006b; 2006c; 2007).

Four of the resources are isolated artifacts, and therefore not eligible for NRHP or CRHR inclusion. Two newly recorded adobe buildings (H-003; H-004) were evaluated for NRHP eligibility by Stephen Van Wormer (2006) with one (H-003) recommended NRHP-eligible on a local level and one (H-004) recommended not eligible for NRHP. No formal determinations of NRHP- and/or CRHR eligibility have been made by the State Historic Preservation Officer (SHPO) for any additional cultural resources within the Central Link.

In addition to the resources within the Central Link, one known historic building complex lies within 0.5 miles of the Proposed Project alignment (Table Ap.9B-5 in Appendix 9B). The Chapel of Santa Ysabel is listed on the California Historic Landmarks as CHL 369. The Chapel of Santa Ysabel has been evaluated by SWCA (2007) for this project and recommended eligible for the NRHP and CRHR.

D.7.5 Inland Valley Link

The Inland Valley Link of the Proposed Project is located on the western slopes of the mountains that descend towards San Diego and adjacent coastal areas. This transition zone between the coastal and mountain resources was occupied and used intensively during prehistoric times; however, the predominantly private ownership of property in this link limited the coverage of cultural resources survey for this Draft EIS/EIR. Nonetheless, predictive modeling used for the BLM Class II survey allows a characterization of the types and densities of cultural resources throughout this link. Typical of a transition zone, transportation corridors and sites exhibiting the exploitation of multiple resource types are found in these inland valleys.

While the number of recorded cultural resources within the Inland Valley Link is less than other links because of private land-ownership that precluded BLM Class III survey on numerous parcels, both prehistoric and historical resources are found here. Examples of prehistoric human habitation within the natural environment are evidenced by bedrock milling features, lithic and ceramic artifact scatters, as well as cremated human remains. There are also examples of both prehistoric and historical activity at the same location. These multi-component sites, within the Inland Valley Link, could have very well had a human presence for centuries. Known historical houses, roads, trails, and barns are also visible here. Dating from the late 1880s to the 1940s, these structures show building methods and architectural styles representative of their unique time periods.

The *Class I Background Study and Class III Archaeological Inventory* and subsequent data submittals prepared by Gallegos & Associates (2006a; 2006b; 2006c; 2007) indicated that 86.81 percent of the Inland Valley Link was intensively surveyed for cultural resources as of July 27, 2007. A total of 23 cultural resources was identified within the 60- to 300-foot-wide survey corridor: 12 prehistoric sites, 5 historic sites, 2 multi-component sites, 1 poorly recorded site of unknown function, and 3 isolated artifacts (Table Ap.9B-6 in Appendix 9B). Seventeen (17) of the 23 cultural resources were identified during previous cultural resources surveys; five were newly recorded by Gallegos & Associates; and one (P-37-027641) was newly recorded by ASM Affiliates (Gallegos & Associates, 2006a; 2006b; 2006c; 2007). One site, SDM-W-278, a habitation site containing human remains, is located on private land and has not been resurveyed for this project. SDM-W-278 is presumed eligible for the NRHP due to the presence of human remains.

A formal evaluation of NRHP or CRHR eligibility has not been undertaken for 16 of the prehistoric sites. Four of the resources are isolates, and would not be considered eligible for inclusion on the NRHP or CRHR. Two sites have been archaeologically tested and recommended not eligible.

Two historic architectural resources, the Cordtz House (P-37-016545) and a historical ranch residence complex (P-37-012820), were identified in the Class I study (records search) (Gallegos & Associates, 2006a) within 0.5 miles of the Inland Valley Link of the Proposed Project (Table Ap.9B-7 in Appendix 9B). However, a subsequent study (JRP Historical Consulting, 2007) discovered that no standing structures remain at the ranch complex and recommended that the Cordtz House is not eligible for the NRHP or CRHR.

D.7.6 Coastal Link

The Coastal Link of the Proposed Project is located within the inland portion of the coastal environmental province. Archeological evidence indicates that this region was occupied throughout the Early/Archaic, Late Prehistoric, and Historic Periods (see Appendix 9A). Prehistoric sites within this region exhibit higher concentrations of marine ecofacts such as shell and fish remains, though not as much as the intensively utilized lagoons along the coast.

Prehistoric sites are the most common sites within the Coastal Link of the Proposed Project. Isolated artifacts, bedrock milling features, lithic artifact scatters are prominent within this link. Prehistoric habitation sites that exhibit evidence of multiple past activities such as tool making and sharpening and food preparation were observed within the Coastal Link. There are also several historical building and building complexes within the Coastal Link, including the Johnson Taylor Ranch Headquarters, which is listed in the NRHP.

The *Class I Background Study and Class III Archaeological Inventory* and subsequent data submittals prepared by Gallegos & Associates (2006a; 2006b; 2006c; 2007) indicated that nearly 100 percent (98.26) of the Coastal Link of the Proposed Project was intensively surveyed for cultural resources. A

total of 15 cultural resources has been identified within the 60- to 300-foot-wide survey corridor or adjacent staging area, all but one (P-37-024244) of which are classified as prehistoric (see Table Ap.9B-8 in Appendix 9B). Eight of these resources were identified during previous cultural resources surveys; the remaining seven were recorded by Gallegos & Associates (2006a; 2006b; 2006c; 2007).

Six of the resources in the Coastal Link are isolated artifacts, and would not be considered eligible for inclusion on the NRHP or CRHR. One prehistoric site (CA-SDI-11910) has been previously tested for CRHR eligibility with negative results. Portions of one site (CA-SDI-5383) within the State Route 56 right-of-way were evaluated pursuant to Section 106 of the National Historic Preservation Act (NHPA). The site was determined not eligible. Site P-37-024244 is mapped as a linear resource but has no record on file at the SCIC; this alignment may represent a previous survey area rather than a cultural resource; however, the lack of information precludes a definitive answer. SCIC staff has suggested it may be an unassigned Primary number, rather than a recorded resource, and will be excluded from further discussion of the Coastal Link.

Formal evaluations of NRHP or CRHR eligibility have not been undertaken for five of the sites in the Coastal Link. Another site (CA-SDI-11910) has undergone archaeological testing for another project (Smith, 1990) but has not yet received a formal SHPO determination of NRHP or CRHR eligibility.

Six known historic built environment resources are located within 0.5 miles of the Coastal Link of the Proposed Project (Table Ap.9B-9 in Appendix 9B). These resources include the Johnson Taylor Ranch Headquarters (P-37-020924; Johnson Taylor Adobe), an NRHP and CRHR-listed historic architectural resource, and five other historical structures that have not yet been evaluated for NRHP or CRHR eligibility.

D.7.7 Applicable Regulations, Plans, and Standards

Federal Regulations and Requirements

National Historic Preservation Act

Because the Proposed Project involves federal action, the basis for determining significance of cultural resources is driven by the National Historic Preservation Act (NHPA), 16 U.S.C. § 470 et seq. In particular, 16 U.S.C. § 470f (Section 106) requires federal agencies to take into account impacts upon resources listed or eligible for listing on the NRHP. Regulations implementing Section 106 provide four criteria which are to be used in evaluating whether resources are NRHP-eligible. (36 C.F.R. Part 60.4.) These criteria involve districts, sites, buildings, structures, or objects that possess integrity of location, design, setting, material, workmanship, feeling, and association, and meet one or more of the following criteria:

- a. Associated with events that have made a significant contribution to the broad pattern of our history
- b. Associated with the lives of persons significant in our past
- c. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
- d. Have yielded, or may be likely to yield, information important in prehistory or history.

Criterion (d) is most frequently applied to both prehistoric and historical archaeological sites. Because of the general nature of the criterion, it is necessary to develop pertinent research themes (also referred to as “historic contexts”) to provide a systematic framework by which each cultural resource can be evalu-

ated. A principal component of each research theme is the delineation of data requirements that can be used as a baseline for evaluating each site. A determination that a particular site possesses significant data and integrity qualifies the site for listing on the NRHP. Consequently, impacts to the site must be considered under the NHPA. Resources that are determined to be eligible for the National Register are called “historic properties” regardless of their age, and can include historical or prehistoric archaeological sites, built environment resources (including buildings and other structures, such as dams, canals, roads, reservoirs, etc.), or traditional cultural properties. Importantly, cultural resources that do not qualify for National Register listing do not come under the NHPA’s scope.

This EIS/EIR is not intended to address all of the requirements of Section 106. Because of the complex nature of the Proposed Project, the lead federal agency (BLM) is conducting Section 106 compliance in accordance with its implementing regulations, 36 C.F.R 800.4 (b)2, which state:

(2) Phased identification and evaluation. Where alternatives under consideration consist of corridors or large land areas, or where access to properties is restricted, the agency official may use a phased process to conduct identification and evaluation efforts. The agency official may also defer final identification and evaluation of historic properties if it is specifically provided for in a memorandum of agreement executed pursuant to § 800.6, a programmatic agreement executed pursuant to § 800.14 (b), or the documents used by an agency official to comply with the National Environmental Policy Act pursuant to § 800.8. The process should establish the likely presence of historic properties within the area of potential effects for each alternative or inaccessible area through background research, consultation and an appropriate level of field investigation, taking into account the number of alternatives under consideration, the magnitude of the undertaking and its likely effects, and the views of the SHPO/THPO and any other consulting parties. As specific aspects or locations of an alternative are refined or access is gained, the agency official shall proceed with the identification and evaluation of historic properties in accordance with paragraphs (b)(1) and (c) of this section.

If and when the Proposed Project or one of the alternatives is approved, the Section 106 process will be completed for the selected route prior to construction.

National Environmental Policy Act of 1969 (NEPA)

Under NEPA, agencies have broad responsibilities concerning the impacts of their activities on the environment, including resources of recognized archaeological or historic value. 42 U.S.C. 4332; 40 C.F.R. §§ 1508.8, 40 C.F.R. 6.108(f). To an extent, NEPA addresses some of the same concerns as the NHPA, for instance regarding identification of irreversible effects to historic properties. Although Section 106 is a totally separate authority from NEPA, and NEPA is not satisfied simply by complying with NHPA, it is perfectly reasonable for agencies to coordinate studies done and documents prepared under Section 106 with those done under NEPA. The Advisory Council on Historic Preservation (ACHP) regulations (36 C.F.R. 800.8.c) provide guidance on how the NEPA and Section 106 processes can be coordinated. They also set forth the manner in which a federal agency can use the NEPA process and documentation to comply with Section 106.

Archeological and Historic Preservation Act of 1974 (AHPA)

If a project will affect historic properties that have archeological value, the Archeological and Historic Preservation Act (AHPA) may impose additional requirements on an agency. Notifying the Department of the Interior of an action under AHPA does not constitute compliance with Section 106.

Archeological Resources Protection Act of 1979 (ARPA)

If federal or Indian lands are involved, the Archeological Resources Protection Act (ARPA) may impose additional requirements on an agency. ARPA: (1) Prohibits unauthorized excavation on federal and Indian lands; (2) Establishes standards for permissible excavation; (3) Prescribes civil and criminal penalties; (4) Requires agencies to identify archeological sites; and (5) Encourages cooperation between federal agencies and private individuals.

American Indian Religious Freedom Act of 1978 (AIRFA)

The American Indian Religious Freedom Act (AIRFA) affirms the right of Native Americans to have access to their sacred places. If a place of religious importance to American Indians may be affected by an undertaking, AIRFA promotes consultation with Indian religious practitioners, which may be coordinated with Section 106 consultation. Amendments to Section 101 of NHPA in 1992 strengthened the interface between AIRFA and NHPA by clarifying that: (1) Properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization may be determined to be eligible for inclusion on the National Register; and (2) In carrying out its responsibilities under Section 106, a federal agency shall consult with any Indian tribe or Native Hawaiian organization that attaches religious and cultural significance to properties described in subparagraph (1).

Native American Graves Protection and Repatriation Act of 1990 (NAGPRA)

For activities on federal lands, the Native American Graves Protection and Repatriation Act (NAGPRA) requires consultation with “appropriate” Indian tribes (including Alaska Native villages) or Native Hawaiian organizations prior to the intentional excavation, or removal after inadvertent discovery, of several kinds of cultural items, including human remains and objects of cultural patrimony. For activities on Native American or Native Hawaiian lands, which are defined in the statute, NAGPRA requires the consent of the Indian tribe or Native Hawaiian organization prior to the removal of cultural items. The law also provides for the repatriation of such items from federal agencies and federally assisted museums and other repositories.

The 1992 amendments to NHPA strengthened NAGPRA by encouraging “protection of Native American cultural items...and of properties of religious or cultural importance to Indian tribes, Native Hawaiians, or other Native American groups” [Section 112(b)(3)] and by stipulating that a federal “...agency's procedures for compliance with Section 106...provide for the disposition of Native American cultural items from federal or tribal land in a manner consistent with Section 3(c) of the Native American Graves Protection and Repatriation Act...”

Executive Order 11593 (1971), Protection and Enhancement of the Cultural Environment

Under Executive Order 11593, the federal government shall provide leadership in preserving, restoring and maintaining the historic and cultural environment of the Nation. This executive order (EO) addresses the NRHP and provides guidance to those involved with federal properties that should be inventoried and nominated for listing on the NRHP.

Executive Order 13007 (1996), Protection and Preservation of Native American Sacred Sites

Executive Order 13007 is meant to improve the management of these sites. The EO strives to protect and preserve Indian religious practices. Section 1 of the EO states that:

(a) In managing Federal lands, each executive branch agency with statutory or administrative responsibility for the management of Federal lands shall, to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions, (1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and (2) avoid adversely affecting the physical integrity of such sacred sites. Where appropriate, agencies shall maintain the confidentiality of sacred sites.

California Desert Conservation Area (CDCA) Plan, 1980, as Amended

The California Desert Conservation Area (CDCA) Plan includes 12 elements for public lands spread within the area we know as the California Desert, which includes the following three deserts: the Mojave, the Sonoran, and a small portion of the Great Basin. Each of the CDCA Plan elements provides a desert-wide perspective of the planning decisions for one major resource or issue of public concern. Each element also provides more specific application, or interpretation, of multiple-use class guidelines for a given resource and its associated activities. Direction is also expressed in certain site-specific CDCA Plan decisions such as Areas of Critical Environmental Concern. In order to complete and carry out the CDCA Plan, the Bureau of Land Management has, under its California State Office, established a California Desert District, which is responsible for maintaining and implementing the CDCA Plan and carrying out the management of the public lands within the CDCA. The CDCA Plan includes an analysis of and a commitment to a level of implementation appropriate to the public resources and management needs of the Desert.

The CDCA Plan originally designated that the area be managed as a Multiple Use Class M; however, the classification was changed to Class L in 1988 by Plan Amendment #8.

The area has been used for competitive vehicle racing events, and many measures outlined in the CDCA Plan were written pertinent to off- and on-road vehicle traffic. Some of those measures, however, apply to the Sunrise project.

Yuha Basin Area of Critical Environmental Concern (ACEC) Management Plan, June 1981

The goal of the Yuha Basin Area of Critical Environmental Concern (ACEC) is to provide for maximum protection for the highly Sensitive Cultural Resources. Under the Purpose and Objectives section:

...the Yuha Basin Area of Critical Environmental Concern (ACEC) Management Plan has been prepared to in order to give additional protection to unique cultural resource and wildlife values within portions of the Yuha Basin.... Located in southwestern Imperial County between State Highway 98 and Interstate Highway 8, the 40,622-acre ACEC contains high density and diversity of cultural resource values, including intaglios, temporary camps, lithic scatters, cremation loci, pottery loci, trails, and shrines.

San Sebastian Marsh Area of Critical Environmental Concern (ACEC) Management Plan and San Felipe Creek Wildlife Habitat Management Plan, October, 1986

In order to guarantee the protection of lands within the San Sebastian Marsh ACEC, coordination will be necessary to ensure that habitat enhancement projects do not adversely affect cultural resource values outlined in the report:

The San Sebastian Marsh/San Felipe Creek is within the California Desert Conservation Area and is covered in a broad way by the Desert Plan.... The desert Plan provides for an Area of Critical Environmental Concern whose management objectives is to protect prehistoric, historic and Native American Values, outstanding scenic quality, vegetation, and wildlife habitat....

The San Sebastian Marsh/San Felipe Creek HMP area boundary is identical to that of the ACEC. The HMP and ACEC area are bounded on the north by State Highway 78, on the east by State Highway 86, on the southeast by the Superstition Hills, on the south and west by Lower Borrego Valley.

Comprehensive Management and Use Plan and Final Environmental Impact Statement, Juan Bautista de Anza National Historic Trail, April 1996

The Proposed Project would cross the Juan Bautista de Anza National Historic Trail near MP 49, south of Highway 78. The National Park Service provides overall administration for the trail. Throughout its length, the trail traverses both public and private land. The "Purpose and Need for the Plan" describes general policies regarding the Juan Bautista de Anza National Historic Trail. The goal of this management plan is to protect the trail right-of-way, to protect cultural and scenic resources along the trail, to foster public appreciation and understanding of the trail, to encourage facilities for resource protection and public information use, and to promote cooperative management of the trail resources and programs.

Federal Land Management Policy Act (FLMPA) of 1976

The designation of BLM's Areas of Critical Environmental Concern (ACECs) was authorized in Section 202 (c)(3) of the Federal Land Policy Management Act (FLPMA) of 1976, and was designed to be used as a process for determining the special management required by certain environmental resources or hazards (BLM, 1999). According to Section 103(a) of the FLPMA, an ACEC is defined as the following:

An area within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards. (BLM, 1999)

Prior to its designation, management prescriptions are developed for each proposed ACEC. These prescriptions are site-specific and include actions that the BLM has authority to carry out, as well as recommendations for actions that the BLM does not have direct authority to implement, such as cooperative agreements with other agencies and mineral withdrawals (BLM, 1999).

State Regulations and Requirements

California Environmental Quality Act (CEQA)

The Proposed Project is subject to CEQA. Sections 21083.2 of the statute, and §15064.5 of the CEQA Guidelines provides instructions for considering the effects of projects on historical and cultural resources. According to §15064.5(a)(3)(A-D) in the revised CEQA guidelines (Association of Environmental Professionals, 2007), a resource is considered *historically significant* under three circumstances: (1) if it is CRHR-listed or determined to be eligible for such listing by the State Historical Resources Commission; (2) if it is included in a local register of historical resources (though this is a presumption that may be rebutted where the agency can prove by a preponderance of the evidence that it is not historically or culturally significant); or (3) if it meets at least one of the following criteria for listing on the CRHR:

- (A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- (B) Is associated with the lives of persons important in our past;
- (C) Embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- (D) Has yielded, or may be likely to yield, information important in prehistory or history.

CEQA also applies to effects on archaeological sites (Pub. Res. Code §21083.2; CEQA Appendix G(V)(b)). Section 15064(c) of the CEQA Guidelines provides the steps an agency must take concerning such sites. When a project will impact an archeological site, the lead agency must determine whether the site qualifies as a historical resource as defined above. If it the site qualifies, then it is entitled to protection under CEQA. If the site does not qualify, the agency must then determine whether the site is a “unique archeological resource.” Section 21083.2 of the Public Resources Code defines a “unique archeological resource” to mean “an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- (1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- (2) Has a special and particular quality such as being the oldest of its type or the best example available of its type.
- (3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Should a site qualify as a “unique archaeological resource,” it is protected under CEQA. If the agency determines the site does not qualify, then the site merits no further consideration. In practice, “unique archaeological resources” always meet the criteria that qualify a resource for inclusion on the CRHR. Therefore, in this EIS/EIR, unique archaeological resources are subsumed as CRHR-eligible properties.

Public Resources Code Section 5024.1 and Title 14 C.C.R., Section 4852

The Proposed Project is subject to California Public Resources Code §§5024.1 and 14 C.C.R. §4852, which requires evaluation of historical resources to determine their eligibility for listing on the California Register of Historical Resources. The purpose of the register is to maintain listings of the State's

historical resources and to indicate which properties are to be protected from substantial adverse change. The criteria for listing resources on the California Register were expressly developed to be in accordance with previously established criteria developed for listing on the NRHP (Office of Archaeology and Historic Preservation, 1997). The criteria were directly incorporated into CEQA in Section 15064.5 of the Guidelines (see Criteria (A)-(D) directly above).

California Health and Safety Code Section 7050.5

This code section requires that further excavation or disturbance of land, upon discovery of human remains outside of a dedicated cemetery, cease until a county coroner makes a report. It requires a county coroner to contact the Native American Heritage Commission (NAHC) within 24 hours if the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the remains to be those of a Native American.

California Public Resources Code Section 5097.98

The Proposed Project is subject to California Public Resources Code §5097.98 which states that if a county coroner notifies the NAHC that human remains are Native American and outside the coroner's jurisdiction per Health and Safety Code Section 7050.5, the NAHC must determine and notify a Most Likely Descendent (MLD). The MLD shall complete the inspection of the site within 24 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

Anza-Borrego Desert State Park (ABDSP) Final General Plan and EIR (2005)

The Proposed Project alignment would pass through Anza-Borrego Desert State Park (ABDSP), potentially affecting wilderness areas including: Vallecito Mountains Wilderness Area, Pinyon Ridge Wilderness Area, and Grapevine Mountain Wilderness Area. The goals and guidelines listed below were obtained from the Final General Plan and Environmental Impact Report (SCH #2002021060) for ABDSP dated February 11, 2005.

The Plan Section establishes the overall long-range purpose and vision for the future on ABDSP. Specific goals and supporting guidelines further clarify the visions of the Park. These goals and guidelines are designed to rectify the currently identified issues described in the Issue Section, while providing a solid foundation for continued resource protection, preservation, rehabilitation, recreational opportunities, as well as facility development and interpretation at the Park. The goals and guidelines provide direction for future park managers and set the parameters for subsequent management and development plans. The primary goal in this management and use plan is to identify, document, and evaluate cultural resources within the ABDSP, as well as to develop a program for archaeological survey, site recordation and evaluation, GPS mapping, and preparation of records and reports for the cultural resources within the Park. In addition, the Plan nominates those cultural resources that may be eligible for inclusion in the National Register of Historic Places and/or the California Register of Historical Resources (either as individual sites, historic districts, or as cultural landscapes). As clearly stated in the California State Parks' Mission Statement, the primary goal for management of cultural resources is preservation (California State Parks, 2005).

Local Codes and Ordinances

Imperial County

The Imperial County General Plan includes policies, goals, and objectives that relate to the preservation of cultural resource sites in its jurisdiction. There are more than 7,000 recorded archaeological sites as well as 200 recorded historic sites in all of Imperial County. An archaeological sensitivity map in the Conservation Element identifies the area near the Fish Creek Mountains (which is near the Proposed Project) as very sensitive for the presence of archaeological resources. Objective 5.3.1 of the Imperial County General Plan states the following: “Protect and preserve sites of archaeological, ecological, historical, and scientific value, and/or cultural significance.” The Conservation and Open Space Element of the General Plan also addresses the importance of identification and documentation of significant historic and prehistoric resources and provides for the preservation of such resources.

San Diego County

Those portions of the project located in unincorporated areas of San Diego County may also be subject to several ordinances specifically dealing with cultural resources. The following San Diego County ordinances apply:

- San Diego County Administrative Code, §396.7 establishes the San Diego County Local Register of Historical Resources; defines eligible properties, sets forth criteria to determine significance, and lists nomination procedures.
- The Resource Protection Ordinance requires a resource protection study to protect “environmentally sensitive lands,” including significant prehistoric and historic sites. The ordinance defines significant cultural resources and prohibits damaging such resources. The ordinance also provides exemptions for essential public facilities, which are defined as “any structure or improvement necessary for the provision of public services, which must be located in the particular location to serve its purpose and for which no less environmentally damaging location, alignment, or non-structural alternative exists.”

Riverside County

One of the System Alternatives (LEAPS) includes a portion within Riverside County. If this alternative is selected for construction, potential effects on cultural resources would be subject to the County of Riverside Planning Department review process. Policies of the Riverside County General Plan relevant to the cultural resources analysis of LEAPS include:

- OS 19.2 Review all proposed development for the possibility of archaeological sensitivity.
- OS 19.3 Employ procedures to protect the confidentiality and prevent inappropriate public exposure of sensitive archaeological resources when soliciting the assistance of public and volunteer organizations.
- OS 19.4 Require a Native American Statement as part of the environmental review process on development projects with identified cultural resources.
- OS 19.5 Transmit significant development proposals to the History Division of the Riverside County Regional Park and Open-Space District for evaluation in relation to the destruction/preservation of potential historical sites. Prior to approval of any development proposal, feasible mitigation shall be incorporated into the design of the project and its conditions of approval.

City of San Diego

Any portions of the Proposed Project located in the City of San Diego are subject to the Historical Resources Guidelines of the City Land Development Code for preserving, avoiding, and mitigating damage to historic resources. The following City of San Diego municipal codes apply:

- Municipal Code Chapter 11, Article 3, Division 1 defines several terms including the following: “Designated historical resource” means any historical resource, important archaeological site, or traditional cultural property which is designated by the Historical Resource Board, is included in the City of San Diego Historical Resources Board Register, or is eligible for listing in the California Register of Historical Resources or the NRHP.
- Municipal Code Chapter 12, Article 3, Division 2 establishes procedures to identify and designate for preservation those historical resources that embody the special elements of the city’s heritage.
- Municipal Code Chapter 14, Article 3, Division 2 establishes regulations to protect, preserve, and restore the historical resources of San Diego.
- Municipal Code Chapter 14, Article 3, Division 2, Section 145.3.0253 requires that important archaeological sites shall be preserved in their natural state. If necessary to achieve a reasonable development area, up to 25 percent encroachment into any important archaeological site is allowed. Under specific conditions, a total encroachment of 40 percent into important archaeological sites is permitted for essential public service projects. Any encroachment into an important archaeological site shall include measures to mitigate for the partial loss of the site. Applicant proposed measures (APMs) shall include preservation through avoidance of the remaining portion of the site and implementation of a research design and excavation program that recovers the scientific value of the portion of the site that would be lost due to encroachment.

City of Poway

The City of Poway General Plan identifies policies for the preservation and protection of archaeological sites and historical sites. Sections relevant to cultural resources include: SS 16.14.050, 17.24.010, 17.24.100A, and Chapter 17.45. These include guidelines for the treatment of archaeological resources during the environmental review process. The city also maintains a list of historic sites that includes a register of locations, photographs, and historically relevant information for each site. Archaeological sites are not included on the list to ensure their integrity from destruction.

D.7.8 Significance Criteria and Approach to Impact Assessment

This section explains how potential effects are assessed for cultural resources. Section D.7.8.1 presents the significance criteria on which effects determinations are based. Section D.7.8.2 lists the Applicant Proposed Measures (APMs) relevant to the Proposed Project, while Section D.8.3 describes all impacts identified for the Proposed Project.

D.7.8.1 Significance Criteria

Cultural resources are places or objects that are important for historical, scientific, and religious reasons and are of concern to cultures, communities, groups, or individuals. These resources may include buildings and architectural remains, archaeological sites and other artifacts that provide evidence of past human activity, human remains, or Traditional Cultural Properties.

In the context of a federally permitted undertaking, such as the Proposed Project, the “significance” of cultural resources must be determined by the Federal Lead Agency under NEPA official in consultation with the SHPO and other interested parties. Any action, as part of an undertaking, that could affect a “significant” cultural resource is subject to review and comment under Section 106 of the NHPA of 1966. Cultural resources that retain integrity and meet one or more of the criteria of significance [36 CFR 60.6] qualify as significant and are eligible for listing on the NRHP; such resources must be managed in compliance with the Advisory Council’s regulations (36 CFR 800).

Within the State of California there are also provisions in CEQA, its Guidelines, and other provisions of the California Public Resources Code for the protection and preservation of significant cultural resources (i.e., “historical resources” and “unique archaeological resources”). The CEQA Guidelines provide three ways in which a resource can be a “historical resource,” and thus a cultural resource meriting analysis: (1) the resource is listed on the CRHR; (2) the resource is included in a local register of historical resources (pursuant to §5020.1(k) of the Public Resources Code), or identified as significant in an historical resources survey (meeting the criteria in §5024.1(g) of the Public Resources Code); or (3) the lead agency determines the resource is “historically significant” by assessing CRHR listing guidelines that parallel the federal criteria. (§15064.5(a)(1)-(3) of the CEQA Guidelines (as amended)). To qualify as a historical resource under (1) or (3), the resource must also retain the integrity of its physical identity that existed during its period of significance. Integrity is evaluated with regard to retention of location, design, setting, materials, workmanship, feeling, and association (14 C.C.R. 4852(c)). CEQA also requires consideration of unique archaeological sites (Public Resources Code §21083.2[h]; §15064.5(c)). Finally, under both federal and California State law, Native American human remains and associated grave goods are granted special consideration. The following significance criteria apply to cultural resources:

- The Proposed Project would cause an adverse effect (substantial adverse change) to the characteristics of a historic property or Traditional Cultural Property as defined by federal guidelines.
- The Proposed Project would cause a substantial adverse change in the significance of a historical resource or unique archaeological site as defined in 14 C.C.R. §15064.5 and Cal. Pub. Res. Code §21083.2.
- The Proposed Project could uncover, expose, and/or damage Native American human remains and associated artifacts.

Cultural resources that do not satisfy any of these criteria do not merit consideration under the NEPA, CEQA, or NHPA.

Although CEQA discusses impacts to “cultural and historical resources” and “unique archaeological sites,” the terms “*significant* cultural resource” and “historic property” frequently arise in the context of the NHPA and federal activities that may impact cultural resources. For expository ease, the term “historic property” is borrowed for purposes of the impacts discussion. However, it is understood to include “cultural and historical resources” and “unique archaeological sites,” and it does not impose any further requirements than those contained in CEQA.

D.7.8.2 Applicant Proposed Measures for Cultural Resources

In SDG&E’s PEA (2006) a series of measures were presented for protection of cultural resources. Applicant Proposed Measures (APMs) were identified by SDG&E in the PEA (2006). Table D.7-3 presents the APMs that are relevant to this section. Impact analysis assumes that all APMs will be implemented as

defined in the table. Additional resource evaluation and mitigation measures are recommended in this section where it has been determined that APMs do not fully address the impacts for which they are presented. Adoption of APMs and mitigation measures to protect or treat effects to historic properties will be determined in consultation with the SHPO. The APMs and adopted mitigation measures would be stipulated in an agreement document (Programmatic Agreement, Historic Properties Treatment Plan, or Management Plan) developed with the SHPO.

Table D.7-3. Applicant Proposed Measures – Cultural Resources

Number	Description
CR-APM-1	Prior to construction, construction personnel shall be instructed on the protection and avoidance of cultural resources. To assist in this effort, the construction contract will address State and federal laws regarding antiquities, fossils, and plants and wildlife, including the collection and removal, as well as the importance of these resources and the purpose and necessity of protecting them.
CR-APM-2	Archaeological sites that are eligible or potentially eligible for the National Register will be flagged in the field and spanned or otherwise avoided through routing during construction activities to the extent feasible. Impact avoidance and APMs for cultural resources developed in consultation with appropriate land managing and regulatory (e.g., park personnel and State Historic Preservation Office) and other interested parties will be implemented prior to and during construction.
CR-APM-3	Any previously unidentified cultural resource (historic or prehistoric site or object) discovered by SDG&E or any person working on its behalf during construction on public or park land shall be immediately reported to the appropriate land manager or authorized park officer within 24 hours of discovery. Operations in the immediate area of the discovery shall be suspended until authorization to proceed is issued by the appropriate land manager or authorized park officer. An evaluation of the discovery will be made by the appropriate land manager, authorized park officer, or SDG&E in consultation with the former to determine appropriate actions to prevent the loss of significant cultural or scientific values. SDG&E shall be responsible for the cost of evaluation. Where avoidance is not feasible, SDG&E will develop a treatment plan to mitigate the impacts.
CR-APM-4	SDG&E will conduct maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation, and reconstruction of a historical resource in a manner consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (Weeks and Grimmer, 1995).
CR-APM-5	<p>SDG&E will use the following as guidance in the implementation of the project:</p> <ul style="list-style-type: none"> • Preservation in-place is the preferred manner of mitigating impacts to archaeological sites. Preservation in-place maintains the relationship between the artifacts and the archaeological context to the extent feasible. Preservation may also avoid conflict with religious or cultural values of groups associated with the site. • Preservation in-place may be accomplished by, but is not limited to, the following: <ul style="list-style-type: none"> a) planning construction to avoid archaeological sites; or b) incorporation of sites within parks, green space, or other open space; or c) deeding the site into a permanent conservation easement. • When data recovery through excavation is the only feasible mitigation, a data recovery plan which makes provisions for adequately recovering the scientifically consequential information from and about the historical resources shall be prepared and adopted prior to any excavation being undertaken. Such study shall be deposited with the California Historical Resources Regional Information Center. Archaeological sites known to contain human remains shall be treated in accordance with the provisions of Section 7050.5, Health and Safety Code. If an artifact must be removed during project excavation or testing, curation may be appropriate. • Data recovery shall not be required for an historical resource if the lead agency through discussion and consultation with Indian Tribes, professional archaeologists and SHPO determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historical resource, provided that the determination is documented in the EIR and that the studies are deposited with the California Historical Resources Regional Information Center.

Table D.7-3. Applicant Proposed Measures – Cultural Resources

Number	Description
CR-APM-6	<ul style="list-style-type: none"> • Historic property will be avoided and fenced or barricaded for protection. • Contributing portions and sensitive features of the historic property will be avoided and fenced or barricaded for protection. • If historic property cannot be avoided, an approved plan for recordation, relocation, or data recovery will be implemented. Recordation of buildings or structures may include Historic American Building Survey (HABS) or Historic American Engineering Record (HAER) documentation.
CR-APM-7	<ul style="list-style-type: none"> • Erosion, sedimentation, or indirect displacement that could indirectly deteriorate historic property will be controlled by limitation of activities near property, stabilization of sediments or structures, and erosion control. • Protective measures will be implemented to minimize erosion and prevent invasion by aggressive weeds near historic property. • Control measures will be implemented to minimize vibration, dust, or fumes affecting property. • Protective barriers or materials will be used to minimize the effects of vibration, dust, fumes, or changes in vegetation. • Buildings or structures will be stabilized or rehabilitated to minimize deterioration that might be accelerated by construction or operations. • If deterioration cannot be avoided, SDG&E will implement an approved plan for recordation, relocation, or data recovery will be implemented.
CR-APM-8	<ul style="list-style-type: none"> • In addition to the historic property itself, those elements of the landscape that are essential to the historic setting of the property will be avoided and protected to the extent feasible. • The location, appearance, or operational procedures of the undertaking will be modified to minimize intrusion on the historic setting (e.g., qualifications on height, color, emissions, or operational noise levels).
CR-APM-9	<ul style="list-style-type: none"> • Permanent fencing or barriers will be installed, or access to the historic property will be controlled as deemed appropriate by the relevant agencies. • Use of access for construction or operation will be restricted. • Construction and maintenance personnel will be instructed in protection of sensitive properties.
CR-APM-10	<ul style="list-style-type: none"> • Project structures will be located so that conductors span linear historic property to the extent feasible. • Pipelines or conductors, placed underground, will bore under linear property to avoid disturbance or intrusion.
CR-APM-11	SDG&E would implement its standard practices for cultural and paleontological resources on private lands
CR-APM-12	SDG&E will conduct cultural surveys for staging areas that have not yet been identified.

Source: Arcadis, 2006.

D.7.8.3 Impacts Identified for Cultural Resources

Construction of the Proposed Project may result in direct impacts to significant cultural resources (including archaeological sites, historic standing structures, and Traditional Cultural Properties) through ground-disturbing activities such as vegetation removal, grading, trenching, boring, and excavation for new tower locations and transmission lines, access roads, pull sites, and substations. Indirect impacts to significant cultural resources may result from adverse effects to the setting and feeling of historic built environment resources, from which the towers, transmission lines, and/or substations may be seen. Other indirect impacts to cultural resources include vandalism and unlawful or unauthorized collection of artifacts, which may result from increased access to remote areas traversed by the Proposed Project.

Impacts to significant cultural resources within the Proposed Project corridor would be eliminated or minimized through implementation of the APMs. In accordance with the Secretary of the Interior's *Standards for Preservation Planning* (National Park Service, 1983) and the CEQA guidelines, the preferred treatment for significant cultural resources is to avoid and protect them. Within overhead segments of transmission corridors, avoidance would be accomplished by siting towers, laydown areas, pull sites, and access roads away from historic properties. Additional protection measures would include fencing,

monitoring and construction restrictions. Such measures to avoid and protect significant resources are addressed in the APMs listed in Table D.7.3. Avoidance and protection of some resources may not be feasible, especially in underground portions of the Proposed Project, at substations, and where cultural resources (such as archaeological village sites or Traditional Cultural Properties) are too large to span or avoid completely. Therefore, this section identifies impacts that may be unavoidable. Through the implementation of recommended mitigation measures, the majority of effects would be reduced to a less than significant level, with the notable exceptions of effects to human remains and effects to Traditional Cultural Properties, which cannot always be mitigated to a less than significant level.

Table D.7-4 lists the impacts to cultural resources identified for the Proposed Project, along with the significance of each type of impact. Impacts are classified as Class I (significant/adverse, cannot be mitigated to a level that is less than significant), Class II (significant, can be mitigated to a level that is less than significant), Class III (less than significant), or Class IV (beneficial). The following sections provide a detailed discussion of the impacts identified and the locations of those impacts.

Table D.7-4. Impacts Identified – Proposed Project – Cultural Resources

Impact No.	Description	Impact Significance
Proposed Project		
C-1	Construction of the project would cause an adverse change to known historic properties.	Class I, II
C-2	Construction of the project would cause an adverse change to sites known to contain human remains.	Class I
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains.	Class I, II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties.	Class I, II
C-5	Operation and long-term presence of the project would cause an adverse change to known historic properties.	Class II
C-6	Long-term presence of the project would cause an adverse change to known historic architectural (built environment) resources.	Class I, II
Proposed Project – Future Transmission System Expansion		
C-1	Construction of the project would cause an adverse change to known historic properties	Class I, II
C-2	Construction of the project would cause an adverse change to sites known to contain human remains	Class I
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains	Class I, II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties	Class I, II
C-5	Operation and long-term presence of the project would cause an adverse change to known historic properties	Class I, II
C-6	Long-term presence of the project would cause an adverse change to known historic architectural (built environment) resources	Class I, II
Proposed Project – Connected Actions		
C-1	Construction of the project would cause an adverse change to known historic properties	Class I, II
C-2	Construction of the project would cause an adverse change to sites known to contain Native American human remains	Class I
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains	Class I, II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties	Class I, II
C-5	Project operation and maintenance would cause an adverse change to known historic properties	Class I, II

Table D.7-4. Impacts Identified – Proposed Project – Cultural Resources

Impact No.	Description	Impact Significance
C-6	Long-term presence of the project would cause an adverse change to known historic architectural (built environment) resources	Class II

Summary of Findings

A total of 355 known cultural resources is located within the survey corridors of the five segments of the Proposed Project (Imperial Valley Link, Anza-Borrego Link, Central Link, Inland Valley Link, and Coastal Link). Included in these 355 resources are two adobe structures [H-003, H-004], Kane Springs Road [P-13-008374], and the Fages–De Anza Trail/Southern Emigrant Road. In addition to the known cultural resources along the Proposed Project route, there are 12 additional built environment resources outside the project corridor, but within the vicinity of the Proposed Project (Johnson Taylor Ranch Headquarters [P-37-020924]; the Cordtz House [P-37-016545]; The Santa Ysabel Chapel [CHL 369], and 9 historical structures [P-37-011256, P-37-014359, P-37-014360, P-37-012820, P-37-014088, P-37-011655, P-37-017972, P-37-017973, P-37-017974]). Traditional Cultural Properties potentially eligible for the NRHP including a large prehistoric and ethnographic site complex/district within the Anza Borrego Link and the Chapel of Santa Ysabel within the Anza-Borrego Link.

Of the 355 known cultural resources, 114 are isolated artifacts (isolates) that do not require mitigation measures, because isolates, by definition, lack immediate cultural context and therefore lack the data potential that would be required to be considered eligible for NRHP or CRHR inclusion and project effects to such isolates would not be considered adverse under NHPA, nor significant impacts under CEQA or NEPA. There are 223 of the remaining 241 cultural resources that have not been evaluated for listing on the NRHP or CRHR. Within the Imperial Valley Link of the Proposed Project, two pre-historic cultural resources have been determined eligible for NRHP and listed on CRHR (CA-IMP-7857/7858; P-13-008364) and one linear resource (Fages–De Anza Trail–Southern Emigrant Road) is listed on the NRHP and CRHR. These resources would require implementation of one or more treatment measures to mitigate project-related adverse effects if they cannot be avoided. One prehistoric site, located within the Coastal Link of the Proposed Project (CA-SDI-5383) has been determined not eligible for NRHP, but has not been considered for the CRHR or Local listing.

It is anticipated that an additional 28 cultural resources would be located within the portions of the Proposed Project that have not been surveyed (see Section D.7.1 for discussion of survey methods). It is expected that similar resource types and densities would be identified during a BLM Class III survey conducted to satisfy requirements of Section 106 of the NHPA in the remaining 9 percent of the Proposed Project corridor. Prehistoric resources are expected to be the dominant resource type and would likely include bed-rock milling sites, lithic and ceramic artifact scatters, temporary camps, and habitation sites. Historic homesteads, buildings, and structures would also be expected to be encountered, as well as numerous isolated artifacts. Finally, additional consultation between the BLM, Native American Tribes, and other interested parties may elicit additional information about other potential resources located within the corridor.

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Environmental Impacts and Mitigation Measures for the Proposed Project – Cultural Resources

The following sections present impacts and mitigation measures for each of the five links of the Proposed Project.

D.7.9 Imperial Valley Link Impacts and Mitigation Measures

As described in Section D.7.2 and Table Ap.9B-1 in Appendix 9B, there are 159 known cultural resources located within the 200-foot-wide survey corridor for this segment of the Proposed Project or the existing Imperial Valley Substation. The potential to encounter undiscovered cultural resources during project construction is considered high, due to the presence of numerous known prehistoric archaeological sites within 100 feet of the proposed route. Seventy-four (74) of the known cultural resources are isolated artifacts (isolates) that would not require mitigation measures. As explained above, isolates, by definition, lack immediate cultural context and therefore lack the data potential that would be required to be considered eligible for NRHP or CRHR inclusion. As a result, project effects to isolates would not be considered adverse under NHPA, nor would they constitute significant impacts under NEPA or CEQA. The remaining 85 resources are listed in Table Ap.9B-10 in Appendix 9B and include many lithic and ceramic artifact scatters, prehistoric rock features such as cairns, and temporary camps. 97.43 percent of the Imperial Valley Link of the Proposed Project was surveyed by July 27, 2007. Based on the number of cultural resources found within this portion, it is estimated that an additional four cultural resources would be identified during the survey of the remaining 2.57 percent. The additional resources would likely be dominated by prehistoric lithic and ceramic artifact scatters complemented by evidence of historical period transportation routes and water control structures. Additional consultation between the BLM, Native American Tribes, and other interested parties (Appendix 9C) may elicit additional information about other potential resources located within the Imperial Valley Link.

As currently mapped, 59 of the sites identified within the Imperial Valley Link are located in areas of direct impact. Three of the sites subject to direct impact (CA-IMP-7857/7858; P-13-008364) have been determined NRHP- and/or CRHR-eligible and one linear resource (Fages-De Anza Trail-Southern Emigrant Road) is listed on the NRHP and CRHR; these resources therefore require data recovery or site treatment to mitigate project-related adverse effects if they cannot be avoided.

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class I or II)

“Historic properties”, as used herein, are those resources (including historical built environment resources, prehistoric archaeological sites, historical archaeological sites, unique archaeological sites, and traditional cultural properties — regardless of their age) that are determined by a federal, State, or local agency to be eligible for listing on a historic register. The Proposed Project would impact historic properties directly during construction activities such as excavating and grading, as well as indirectly through increased access to cultural resources that could result in vandalism or inadvertent impacts.

There are 78 known cultural resources within the Imperial Valley Link potentially eligible for listing on the NRHP or CRHR; two prehistoric temporary camps determined eligible for NRHP and listed on CRHR; and one NRHP and CRHR listed linear resource, the Fages-De Anza Trail-Southern Emigrant

Road. Forty-two (42) of the sites identified within the Imperial Valley Link are located in areas of direct impact, as currently mapped, including all three sites (CA-IMP-7857/7858; P-13-008364; and the Fages-De Anza Trail-Southern Emigrant Road) already determined NRHP-eligible/CRHR-listed or NRHP/CRHR-listed. An additional four resources are expected to be encountered during survey of the remaining 2.57 percent of the Imperial Valley Link. CRHR-listed site CA-IMP-7857/7858 has also been determined eligible for the NRHP and is recorded as containing five cremations; therefore, it is likely that impacts to this site would remain significant (Class I). Four additional sites also contain human remains and are presumed NRHP eligible; impacts to these sites would similarly remain significant (Class I). Temporary camp P-13-008364 is also CRHR-listed and determined NRHP eligible and would be directly impacted. Other prehistoric site types in areas of direct impact include temporary camps, and lithic and ceramic artifact scatters.

When archaeological resources, both historic and prehistoric, are found eligible for the NRHP and CRHR, it is usually because of their potential for containing data that contribute to important research issues (Criterion D). Mitigation through data-recovery excavations would capture those important data values, and apply them to relevant research. However, as data recovery is, in itself, destructive, avoidance is preferred wherever possible. Nonetheless, if the loss of significant archaeological resources is unavoidable, data recovery may be considered adequate mitigation, under NEPA and CEQA, to reduce impacts to a less than significant level (Class II). [36 CFR Part 800]

Generally, data-recovery investigations, alone, are not considered adequate to reduce adverse effects to resources that are considered eligible for the National Register under Criteria A, B, or C [36 CFR 800]. That is because the qualities that contribute to their register eligibility often include such values as setting, feeling, or workmanship that convey a sense of the past. Other types of treatment are generally required to mitigate any loss of those historic qualities, such as detailed mapping, scaled drawings, historical documentation, and public interpretation. Within the Imperial Valley Link, the Fages-De Anza Trail-Southern Emigrant Road has been determined eligible under Criterion A (association with significant events in the past) and Criterion B (association with significant persons in the past). Because the management plan for this resource encourages public knowledge and use of the trail/road, impacts to it would be reduced to Class II through installation of interpretive signage and other mitigation measures consistent with the management plan.

Applicant Proposed Measures CR-APM-1, -2, and -6 outline procedures for the avoidance of cultural resources. However, it likely would not be feasible to avoid all known significant cultural resources during project construction, because of the large extent of many of the cultural resources and challenges of project construction in steep terrain. Therefore, construction of the Proposed Project would result in significant impacts. Implementation of Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f would reduce adverse effects due to project construction to a level that is less than significant (Class II). These measures would reduce impacts through evaluation, avoidance, treatment, and data recovery as presented in the Mitigation Measures below. Evaluation would determine the significance of a resource, and whether impacts to that resource would be potentially significant. It should be noted that archaeological testing for NRHP/CRHR eligibility evaluation is destructive; resource avoidance is always preferred where possible.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

C-1a **Inventory and evaluate cultural resources in Final APE.** Prior to construction and all other surface disturbing activities, the Applicant shall have conducted and submitted for approval by the BLM and CPUC an inventory of cultural resources within the project's final Areas of Poten-

tial Effect.³ This survey will supplement inventories conducted for the EIS/EIR and shall satisfy Section 106 requirements for inventory of historic properties within all Areas of Potential Effect. The nature and extent of this inventory shall be determined by the BLM and CPUC in consultation with the appropriate State Historic Preservation Officer (SHPO) and other land-managing agencies (e.g., Anza-Borrego Desert State Park, U.S. Forest Service, Bureau of Indian Affairs, etc.) and shall be based upon project engineering specifications and in accordance with the Secretary of the Interior's Standards and Guidelines (Secretary's Standards) (36 CFR 61).

A report documenting results of this inventory shall be filed with appropriate State repositories and local governments. As part of the inventory report, the Applicant shall evaluate the significance of all potentially affected cultural resources on the basis of surface observations. Evaluations shall be conducted by professionals meeting the Secretary's Standards and in accordance with those Standards, to provide recommendations with regard to their eligibility for the NRHP, CRHR, or local registers. Preliminary determinations of NRHP eligibility will be made by the BLM, in consultation with the CPUC and other appropriate agencies and local governments, and the SHPO.

As part of the inventory, the Applicant shall conduct field surveys of sufficient nature and extent to identify cultural resources that would be affected by tower pad construction, reconductoring activities, trenching for underground transmission lines, access road installation, and transmission line construction and operation. At a minimum, field surveys shall be conducted along newly proposed access roads, new construction yards, new tower sites, and any other projected areas of potential ground disturbance outside of the previously surveyed potential impact areas. Site-specific field surveys also shall be undertaken at all projected areas of impact within the previously surveyed corridor that coincide with previously recorded resource locations. The selected right-of-way and tower locations shall be staked prior to the cultural resource field surveys.

C-1b Avoid and protect potentially significant resources. Where operationally feasible, regardless of cost, potentially register-eligible resources shall be protected from direct project impacts by project redesign; complete avoidance of impacts to such resources shall be the preferred protection strategy. On the basis of preliminary National Register of Historic Places (NRHP) eligibility assessments (Mitigation Measure C-1a) or previous determinations of resource eligibility, the BLM and CPUC, in consultation with the SHPO, may require the relocation of the line, ancillary facilities, or temporary facilities or work areas, if any, where relocation would avoid or reduce damage to cultural resource values.

Where the BLM and CPUC decide that potentially NRHP- and/or CRHR-eligible cultural resources cannot be protected from direct impacts by project redesign, the Applicant shall undertake additional studies to evaluate the resources' NRHP- and/or CRHR-eligibility and to recommend further mitigative treatment. The nature and extent of this evaluation shall be determined by the BLM in consultation with the CPUC and the SHPO and shall be based upon final project engineering specifications. Evaluations will be based on surface remains, subsurface testing, archival and ethnographic resources, and in the framework of the historic context and important research questions of the project area. Results of those evaluation studies and recommendations for mitigation of project effects shall be incorporated into a Historic Properties Treatment Plan consistent with Mitigation Measure C-1c (Develop and implement Historic Properties Treatment Plan).

³ Area of Potential Effect is the horizontal and vertical extent of anticipated impacts that could affect historic properties. This includes direct impacts (physical disturbance from any project activity during or after construction) and indirect impacts, such as noise, vibration, visual intrusion, or erosion.

All potentially NRHP- and/or CRHR-eligible resources (as determined by the BLM and CPUC, in consultation with the SHPO) that will not be affected by direct impacts, but are within 50 feet of direct impact areas, will be designated as Environmentally Sensitive Areas (ESAs) to ensure that construction activities do not encroach on site peripheries. Protective fencing, or other markers (after approval by CPUC/BLM), shall be erected and maintained to protect ESAs from inadvertent trespass for the duration of construction in the vicinity. ESAs shall not be identified specifically as cultural resources. A monitoring program shall be developed as part of a Historic Properties Treatment Plan and implemented by the Applicant to ensure the effectiveness of ESA protection (as detailed in Mitigation Measure C-1e).

C-1c Develop and implement Historic Properties Treatment Plan. Upon approval of the inventory report and the National Register of Historic Places (NRHP)-eligibility and CRHR-eligibility evaluations consistent with Mitigation Measures C-1a (Inventory and evaluate cultural resources in Final APE) and C-1b (Avoid and protect potentially significant resources), the Applicant shall prepare and submit for approval a Historic Properties Treatment Plan (HPTP) for register-eligible cultural resources to avoid or mitigate identified potential impacts. Treatment of cultural resources shall follow the procedures established by the Advisory Council on Historic Preservation for compliance with Section 106 of the National Historic Preservation Act and other appropriate State and local regulations, as explicated in Section D.7.8. Avoidance, recordation, and data recovery will be used as mitigation alternatives; avoidance and protection shall be the preferred strategy. The HPTP shall be submitted to the BLM and CPUC for review and approval.

As part of the HPTP, the Applicant shall prepare a research design and a scope of work for evaluation of cultural resources and for data recovery or additional treatment of NRHP- and/or CRHR-eligible sites that cannot be avoided. Data recovery on most resources would consist of sample excavation and/or surface artifact collection, and site documentation. A possible exception would be a site where burials, cremations, or sacred features are discovered that cannot be avoided (see Mitigation Measure C-2).

The HPTP shall define and map all known NRHP- and/or CRHR-eligible properties in or within 50 feet of all project APEs and shall identify the cultural values that contribute to their NRHP- and/or CRHR-eligibility. The HPTP shall also detail how NRHP- and/or CRHR-eligible properties will be marked and protected as ESAs (in accordance with Mitigation Measure C-1b) during construction.

The HPTP shall also define any additional areas that are considered to be of high-sensitivity for discovery of buried register-eligible cultural resources, including burials, cremations, or sacred features. This sensitivity evaluation shall be conducted by an archaeologist who meets the Secretary's Standards and who takes into account geomorphic setting and surrounding distributions of archaeological deposits. The HPTP shall detail provisions for monitoring construction in these high-sensitivity areas for proper implementation of Mitigation Measures C-1e and C-3a. It shall also detail procedures for halting construction, making appropriate notifications to agencies, officials, and Native Americans, and assessing register-eligibility in the event that unknown cultural resources are discovered during construction. For all unanticipated cultural resource discoveries, the HPTP shall detail the methods, consultation procedures, and timelines for assessing register-eligibility, formulating a mitigation plan, and implementing treatment. Mitigation and treatment plans for unanticipated discoveries shall be approved by the BLM and CPUC, other appropriate agencies and local governments, appropriate Native Americans, and the SHPO prior to implementation.

The HPTP shall also identify all historic built environment resources (structures, roads, dams, etc.) that would be affected indirectly by visual intrusion of the Proposed Project on qualities that contribute to their register eligibility. Although the current analysis has assessed the potential for indirect visual impacts to previously recorded historic built environment resources within 0.5 miles of the Proposed Project and Alternatives, the HPTP shall include an identification effort focused on identifying any such resources that may not have been previously recorded. The scope of this identification effort shall be in accordance with 36 CFR 800, which requires a reasonable effort to identify potentially NRHP-eligible resources that would be adversely affected by indirect project impacts. The HPTP shall also detail the treatment for each affected resource that will minimize those long-term visual impacts (as detailed in Mitigation Measure C-6a).

The HPTP shall include provisions for analysis of data in a regional context, reporting of results within one year of completion of field studies, curation of artifacts (except from private land) and data (maps, field notes, archival materials, recordings, reports, photographs, and analysts' data) at a facility that is approved by BLM, and dissemination of reports to local and State repositories, libraries, and interested professionals. The BLM will retain ownership of artifacts collected from BLM managed lands. The Applicant shall attempt to gain permission for artifacts from privately held land to be curated with the other project collections. The HPTP shall specify that archaeologists and other discipline specialists conducting the studies meet the Secretary's Standards (per 36 CFR 61).

C-1d **Conduct data recovery to reduce adverse effects.** If NRHP- and/or CRHR-eligible resources, as determined by the BLM and SHPO, cannot be protected from direct impacts of the Proposed Project, data-recovery investigations shall be conducted by the Applicant to reduce adverse effects to the characteristics of each property that contribute to its NRHP- and/or CRHR-eligibility. For sites eligible under Criterion (d), significant data would be recovered through excavation and analysis. For properties eligible under Criteria (a), (b), or (c), data recovery may include historical documentation, photography, collection of oral histories, architectural or engineering documentation, preparation of a scholarly work, or some form of public awareness or interpretation. Data gathered during the evaluation phase studies and the research design element of the Historic Properties Treatment Plan (HPTP) shall guide plans and data thresholds for data recovery; treatment will be based on the resource's research potential beyond that realized during resource recordation and evaluation studies. If data recovery is necessary, sampling for data-recovery excavations will follow standard statistical sampling methods, but sampling will be confined, as much as possible, to the direct impact area. Data-recovery methods, sample sizes, and procedures shall be detailed in the HPTP consistent with Mitigation Measure C-1c (Develop and implement Historic Properties Treatment Plan) and implemented by the Applicant only after approval by the BLM and CPUC. Following any field investigations required for data recovery, the Applicant shall document the field studies and findings, including an assessment of whether adequate data were recovered to reduce adverse project effects, in a brief field closure report. The field closure report shall be submitted to the BLM and CPUC for their review and approval, as well as to appropriate State repositories, local governments, and other appropriate agencies. Construction work within 100 feet of cultural resources that require data-recovery fieldwork shall not begin until authorized by the BLM or CPUC, as appropriate, to ensure that impacts to known significant archaeological deposits are adequately mitigated.

C-1e **Monitor construction at known ESAs.** The Applicant shall implement full-time archaeological monitoring by a professional archaeologist during ground-disturbing activities at all cultural resource Environmentally Sensitive Areas (ESAs). These locations and their protection boundaries shall be defined and mapped in the HPTP.

Archaeological monitoring shall be conducted by a qualified archaeologist familiar with the types of historical and prehistoric resources that could be encountered within the project, and under direct supervision of a principal archaeologist. The qualifications of the principal archaeologist and archaeological monitors shall be approved by the BLM and CPUC.

A Native American monitor may be required at culturally sensitive locations specified by the BLM following government-to-government consultation with Native American tribes. The monitoring plan in the HPTP shall indicate the locations where Native American monitors will be required and shall specify the tribal affiliation of the required Native American monitor for each location. The Applicant shall retain and schedule any required Native American monitors.

Compliance with and effectiveness of any cultural resources monitoring required by an HPTP shall be documented by the Applicant in a monthly report to be submitted to the BLM and CPUC for the duration of project construction. In the event that cultural resources are not properly protected by ESAs, all project work in the immediate vicinity shall be diverted to a buffer distance determined by the archaeological monitor until authorization to resume work has been granted by the BLM and CPUC.

The Applicant shall notify the BLM of any damage to cultural resource ESAs. If such damage occurs, the Applicant shall consult with the BLM and CPUC to mitigate damages and to increase effectiveness of ESAs. At the discretion of the BLM and CPUC, such mitigation may include, but not be limited to, modification of protective measures, refinement of monitoring protocols, data-recovery investigations, or payment of compensatory damages in the form of non-destructive cultural resources studies or protection within or outside the license area, at the discretion of the BLM.

C-1f Train construction personnel. All construction personnel shall be trained regarding the recognition of possible buried cultural remains and protection of all cultural resources, including prehistoric and historic resources during construction, prior to the initiation of construction or ground-disturbing activities. The Applicant shall complete training for all construction personnel and retain documentation showing when training of personnel was completed. Training shall inform all construction personnel of the procedures to be followed upon the discovery of archaeological materials, including Native American burials. Training shall inform all construction personnel that Environmentally Sensitive Areas (ESAs) must be avoided and that travel and construction activity must be confined to designated roads and areas. All personnel shall be instructed that unauthorized collection or disturbance of artifacts or other cultural materials on or off the right-of-way by the Applicant, his representatives, or employees will not be allowed. Violators will be subject to prosecution under the appropriate State and federal laws and violations will be grounds for removal from the project. Unauthorized resource collection or disturbance may constitute grounds for the issuance of a stop work order.

The following issues shall be addressed in training or in preparation for construction:

- All construction contracts shall require construction personnel to attend training so they are aware of the potential for inadvertently exposing buried archaeological deposits, their responsibility to avoid and protect all cultural resources, and the penalties for collection, vandalism, or inadvertent destruction of cultural resources.
- The Applicant shall provide training for supervisory construction personnel describing the potential for exposing cultural resources, the location of any potential ESA, and procedures and notifications required in the event of discoveries by project personnel or archaeological monitors. Supervisors shall also be briefed on the consequences of intentional or inadvertent damage to cultural resources. Supervisory personnel shall enforce restrictions on collection or disturbance of artifacts or other cultural resources.

Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains (Class I)

Four archaeological sites known to contain Native American human remains may be adversely affected by construction of the Imperial Valley Link of the Proposed Project (Table Ap.9B-11 in Appendix 9B). Any adverse effect to human remains is considered a significant Class I impact. CR-APM-3 outlines procedures for the treatment of unanticipated discoveries during construction; however, this APM is superseded by Mitigation Measures C-1b, C-1c, C-1d, C-1e, C-1f, C-2a, and C-2b which would partially compensate for impacts to human remains. However, the impacts would still be considered significant (Class I), in accordance with 36 CFR 800 which considers impacts to human remains an unmitigable adverse effect.

Mitigation Measures for Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**
- C-2a** **Properly treat human remains.** All locations of known Native American human remains shall be avoided through project design and shall be protected by designation as ESAs. If the approved project route will affect sites known to contain human remains that cannot be avoided in their entirety during construction, the Applicant shall contact the California Native American Heritage Commission (NAHC). The NAHC will identify the Most Likely Descendant (MLD), within 48 hours, who will specify the preferred course of treatment in the event that additional human remains are discovered. The Applicant shall also contact the BLM (lead federal agency for the Proposed Project) and any additional land management agencies if the site is located on public lands administered by a State or federal agency other than the BLM. The Applicant shall follow all State and federal laws, statutes, and regulations that govern the treatment of human remains (see Section D.7.7). The Applicant shall assist and support the BLM in all required government-to-government consultations with Native Americans and appropriate agencies and commissions, as requested by the BLM. The Applicant shall comply with and implement all required actions and studies that result from such consultations.

If human remains are discovered during construction, all work shall be diverted from the area of the discovery and the BLM authorized officer shall be informed immediately. The Applicant shall follow all State and federal laws, statutes, and regulations that govern the treatment of human remains. The Applicant shall assist and support the BLM in all required government-to-government consultations with Native Americans and appropriate agencies and commissions, as requested by the BLM. The Applicant shall comply with and implement all required actions and studies that result from such consultations, as directed by the BLM.

Although subject to the recommendations of the MLD, it is likely that the human remains would be respectfully removed by the MLD and/or qualified archaeologists and reinterred in an area not subject to impacts from the Proposed Project. The re-interment location may be identified as a nearby locale within SDG&E ROW, or an off-site location may be selected. The Applicant shall assist and support the MLD in identifying, acquiring, and protecting the re-interment location.

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

The potential for impacts to unknown significant subsurface archaeological resources is considered high due to the number of known archaeological sites along the Imperial Valley Link and the extent of ground-disturbing activities associated with project construction. Types of subsurface features that could be encountered along the Imperial Valley Link include prehistoric resources such as buried living surfaces, trash deposits, hearths, agave roasting pits, burials and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. CR-APM-3 outlines procedures for the treatment of any such resources discovered during construction. Mitigation Measures C-1c, C-1d, C-1f, C-2a, and C-3a would reduce impacts to unknown significant buried prehistoric and historic archaeological sites. After mitigation, impacts to such sites would be less than significant (Class II), with the exception of sites containing human remains, which would remain significant (Class I).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

C-1c Develop and implement Historic Properties Treatment Plan.

C-1d Conduct data recovery to reduce adverse effects.

C-1f Train construction personnel.

C-2a Properly treat human remains.

C-3a Monitor construction in areas of high sensitivity for buried resources. The Applicant shall implement archaeological monitoring by a professional archaeologist during subsurface construction disturbance at all locations identified in the Historic Properties Treatment Plan (HPTP) as highly sensitive for buried prehistoric or historical archaeological sites or Native American human remains. These locations and their protection boundaries shall be defined and mapped in the HPTP. Intermittent monitoring may occur in areas of moderate archaeological sensitivity at the discretion of the BLM and CPUC. Monitoring shall be conducted in accordance with procedures detailed in Mitigation Measure C-1e

Upon discovery of potential buried cultural materials by archaeologists or construction personnel, or damage to an ESA, work in the immediate area of the find shall be diverted and the Applicant's archaeologist notified. Once the find has been inspected and a preliminary assessment made, the Applicant's archaeologist will consult with the BLM or CPUC, as appropriate, to make the necessary plans for evaluation and treatment of the find(s) or mitigation of adverse effects to ESAs, in accordance with the Secretary's Standards, and as specified in the HPTP.

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no specific TCPs have been identified within the Imperial Valley Link of the SRPL Project. However, the Sacred Lands File search conducted for the PEA noted that lands sacred to Native Americans are present in the vicinity of the SRPL Project area, in an undisclosed location. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA, has initiated government-to-government consultation with appropriate Native American groups and notification to other public groups regarding

project effects on traditional cultural values. The ongoing consultation will determine whether there are TCPs that would be affected within this segment. Though impacts to TCPs are often significant (Class I), mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated Native Americans or other Traditional Groups can reduce the impact to less than significant (Class II). Creative approaches to reduce direct impacts to the qualities that make these places culturally, spiritually, or religiously important can help to mitigate impacts. Such mitigation could include avoidance of physical impacts, screening of visual impacts, or even payment of compensatory damages. Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) could reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts to TCPs would remain significant (Class I), even after mitigation.

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

C-4a Complete consultation with Native American and other Traditional Groups. The Applicant shall provide assistance to the BLM, as requested by the BLM, to complete required government-to-government consultation with interested Native American tribes and individuals (Executive Memorandum of April 29, 1994 and Section 106 of the National Historic Preservation Act) and other Traditional Groups to assess the impact of the approved project on Traditional Cultural Properties or other resources of Native American concern, such as sacred sites and landscapes, or areas of traditional plant gathering for food, medicine, basket weaving, or ceremonial uses. As directed by the BLM, the Applicant shall undertake required treatments, studies, or other actions that result from such consultation. Written documentation of the completion of all pre-construction actions shall be submitted by the Applicant and approved by the BLM at least 30 days before commencement of construction activities. Actions that are required during or after construction shall be defined, detailed, and scheduled in the Historic Properties Treatment Plan and implemented by the Applicant, consistent with Mitigation Measure C-1c (Develop and implement Historic Properties Treatment Plan).

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties within and in the vicinity of the project area as a result of operation and long-term presence of the Proposed Project. Direct impacts would result from maintenance or repair activities, while increased erosion and access could result in indirect project impacts. These impacts are significant, but can be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures. The site protection measures in CR-APM-7 partially address Impact C-5; however, Project impacts would be significant absent mitigation. Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1c (Develop and implement Historic Properties Treatment Plan), C-2a (Properly treat human remains), C-4a (Complete consultation with Native American and other Traditional Groups), and C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties would reduce operational impacts to known historic properties less than significant level).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-2a** **Properly treat human remains.**
- C-4a** **Complete consultation with Native American and other Traditional Groups.**
- C-5a** **Protect and monitor NRHP- and/or CRHR-eligible properties.** The Applicant shall design and implement a long-term plan to protect National Register of Historic Places (NRHP- and/or CRHR)-eligible sites from direct impacts of project operation and maintenance and from indirect impacts (such as erosion and access) that could result from the presence of the project. The plan shall be developed in consultation with the BLM to design measures that will be effective against project maintenance impacts, such as vegetation clearing and road and tower maintenance, and project-related vehicular impacts. The plan shall also include protective measures for NRHP- and/or CRHR-eligible properties within the transmission line corridor that will experience operational and access impacts as a result of the Proposed Project. Measures considered shall include restrictive fencing or gates, permanent access road closures, signage, stabilization of potential erosive areas, site capping, site patrols, and interpretive/educational programs, or other measures that will be effective for protecting NRHP- and/or CRHR-eligible properties. The plan shall be property specific and shall include provisions for monitoring and reporting its effectiveness and for addressing inadequacies or failures that result in damage to NRHP- and/or CRHR-eligible properties. The plan shall be submitted to the BLM, CPUC, and other appropriate land-managing agencies for review and approval at least 30 days prior to project operation.

Monitoring of sites selected during consultation with BLM shall be conducted annually by a professional archaeologist for a period of five years. Monitoring shall include inspection of all site loci and defined surface features, documented by photographs from fixed photo monitoring stations and written observations. A monitoring report shall be submitted to the BLM, CPUC, and other appropriate land-managing agencies within one month following the annual resource monitoring. The report shall indicate any properties that have been affected by erosion or vehicle or maintenance impacts. For properties that have been impacted, the Applicant shall provide recommendations for mitigating impacts and for improving protective measures. After the fifth year of resource monitoring, the BLM, CPUC, or other land-managing agency, as appropriate, will evaluate the effectiveness of the protective measures and the monitoring program. Based on that evaluation, the BLM or CPUC may require that the Applicant revise or refine the protective measures, or alter the monitoring protocol or schedule. If the BLM does not authorize alteration of the monitoring protocol or schedule, those shall remain in effect for the duration of project operation.

If the annual monitoring program identifies adverse effects to National Register of Historic Places (NRHP- and/or CRHR)-eligible properties from operation or long-term presence of the project, or if, at any time, the Applicant, BLM, CPUC, or other appropriate land-managing agency become aware of such adverse effects, the Applicant shall notify the BLM and CPUC immediately and implement additional protective measures, as directed by the BLM and CPUC. At the discretion of the BLM and CPUC, such measures may include, but not be limited to, refinement of monitoring protocols, data-recovery investigations, or payment of compensatory damages in the form of non-destructive cultural resources studies or protection.

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

The presence of transmission lines and towers results in indirect visual impacts to historic architectural resources. Indirect visual impacts to potentially NRHP- and/or CRHR-eligible built environment resources such as buildings, structures, and historic districts located near the Proposed Project should be avoided or minimized, where feasible. The Imperial Link of the Proposed Project crosses the NRHP-listed Fages–De Anza Trail–Southern Emigrant Road. If transmission line or tower relocation cannot result in avoidance, then screening this or other built environment resources from the tower/line and/or painting the tower to blend into the landscape would potentially minimize the visual impact. These impacts are significant, but would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measure C-6a and V-3a, which would reduce visual intrusions to historic built environment properties.

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

C-6a Reduce adverse visual intrusions to historic built environment properties. All known historic built environment resources located within 0.5 miles of the Proposed Project shall be inventoried and subjected to a visual analysis to assess which resources would be subject to potential indirect visual intrusions resulting from the project. This inventory will supplement the analysis of built environment resources conducted for the EIS/EIR, and shall meet the requirements of Section 106 to inventory historic properties that could be adversely affected by the Proposed Project. The Applicant shall inventory potentially register-eligible built environment resources within an Area of Potential Indirect Effect established by the BLM and CPUC. A qualified (Secretary of the Interior Standards) Architectural Historian shall assess the potential for visual intrusions on the qualities that qualify any historic properties within the APE for register eligibility. The results of this inventory shall be included in the HPTP. If any historic properties are identified that would be adversely affected by visual intrusions from the Proposed Project, the HPTP shall also specify mitigation measures that would be implemented to reduce adverse effects, such as screening the visual intrusion with vegetation, moving project towers to less conspicuous locations, or altering towers to reduce any identified adverse effects.

V-3a Reduce visual contrast of towers and conductors.

Modifications to Imperial Valley Substation

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

Previous surveys of the Imperial Valley Substation property (Bull, 1980; Schaeffer, 1981) show the presence of two potentially NRHP- and/or CRHR-eligible resources (P-13-004244, P-13-004245) within the fenced portion of the existing substation (See Table Ap.9B-1 in Appendix 9B). P-13-004244 is a prehistoric lithic scatter and P-13-004245 is a historic refuse deposit, which appears less likely to be eligible for the NRHP or CRHR based on the site record. Three isolates are also recorded within the substation that, by definition, are not eligible for NRHP or CRHR inclusion. CR-APM-1, -2, and -6 outline procedures for the avoidance of cultural resources. However, it would not be feasible to avoid all known significant cultural resources during the proposed modifications to the existing Imperial Valley Substation. As such, Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f would be required to reduce adverse effects at the Imperial Valley Substation to a level that is less than significant (Class II). For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

D.7.10 Anza-Borrego Link Impacts and Mitigation Measures

A total of 109 known cultural resources is located within the 150-foot-wide survey corridor for this segment of the Proposed Project. Nearly 100 percent (99.62) of the Anza-Borrego Link was intensively surveyed for cultural resources (see Section D.7.1 for a discussion of survey methods). The vast majority of the resources in the Anza-Borrego Link are prehistoric sites such as bedrock milling stations, agave-roasting pits, and habitation sites that exhibit evidence of multiple past activities. Survey of the remaining 0.38 percent of this link is estimated to result in the discovery of one additional resource, likely prehistoric, based on known site types, densities, and distribution within ABDSP. Due to the presence of ABDSP, many of the sites in this area retain a sense of integrity of setting and feeling for their respective time periods. One large portion of this link contains numerous prehistoric and some historic sites including a large prehistoric site complex (D2-S-106) with human remains.

Native American consultation conducted by both Gallegos & Associates and the BLM has indicated that one extensive portion of the link, or at minimum, the D2-S-106 site complex within it, is likely eligible for the NRHP as a Traditional Cultural Property. Impacts to this resource would still be significant, even after mitigation (Class I), as discussed under Impact C-4, below.

Twenty-six (26) of the known cultural resources are isolated artifacts that do not require mitigation measures, as isolates by nature are not considered eligible for NRHP or CRHR inclusion and project effects would not be considered adverse under NHPA, nor significant impacts under CEQA.

There are three historic era buildings within the Tamarisk Grove Campground within 0.5 miles of the Anza-Borrego Link of the Proposed Project that would be subject to indirect visual impacts. The Tamarisk Grove Campground was updated and formally evaluated by SWCA (2007) for the NRHP or CRHR and recommended eligible, with the three buildings (P-37-017973; P-37-017972; P-37-017974) as contributing elements. This recommendation is consistent with Van Wormer's (1998) original recording of the three buildings on DPR forms. Although those records did not include formal evaluation, each of the records did note that the buildings retained integrity. SWCA has considered the campground as a district and each of the buildings individually. The campground and buildings were found significant under Criteria A and C, as an intact park landscape and contributing resources within the context of California's post-New Deal park system development and facility designs. Also contributing to the NRHP/CRHR eligibility of the campground is its setting and historic landscape, including the tamarisk trees, likely planted by prisoners building the adjacent highway in the 1920s and 30s. Because the campground, including the buildings, setting, and tamarisk trees is recommended eligible for the NRHP or CRHR, indirect visual impacts to these resources would be adverse under NEPA or significant under CEQA (Class II), if the SHPO concurs with SWCA's eligibility recommendation.

There are 27 cultural resources potentially subject to project-related impacts within the Anza-Borrego Link listed in Table AP.9B-12 in Appendix 9B. Prehistoric site types to be impacted include bedrock milling, temporary camps, habitation, and others. Of note, four sites with human remains are in areas of direct impact. Because known cultural resources that are potentially eligible for the NRHP or CRHR exist within areas of proposed direct impact, as well as the potential for encountering undiscovered cultural resources, Impact C-1 (Construction of the project would cause an adverse change to known historic properties) could occur during project construction or operation.

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class I or II)

Twenty-seven (27) of the cultural resources identified within the Anza-Borrego Link are potentially eligible for NRHP listing and located in areas of direct impact, as currently mapped. As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. For the full text of the mitigation measures, please see Appendix 12. However, as noted below under Impact C-2, there are cultural resources within the Anza-Borrego Link known to contain human remains. These resources are too large to be completely avoided during construction. Impacts to these particular register-eligible sites would remain significant (Class I) under both Impact C-1 and C-2, because adverse effects to human remains are unmitigable.

Similarly, as noted below under Impact C-4 (Construction of the project would cause an adverse change to Traditional Cultural Properties), site D2-S-106 or the entire area that includes the site may be eligible for the NRHP as a TCP, TCPs being a subset of historic properties. This potential TCP is too extensive to avoid and would be subject to direct construction impacts and indirect visual intrusion of the Proposed Project. Thus, if a formal determination of NRHP-eligibility deems this resource to be a TCP, even with mitigation, impacts would remain Class I under both Impacts C-1 and C-4.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains (Class I)

Four archaeological sites known to contain human remains would be adversely affected by construction of the Anza-Borrego Link of the Proposed Project (see Table Ap.9B-13 in Appendix 9B). Each of the four sites known to contain human remains within the Anza-Borrego Link would be directly impacted by construction of the Proposed Project; these resources are too large to be spanned between towers. Any adverse effect to human remains is considered significant (Class I). CR-APM-3 outlines procedures for the treatment of unanticipated discoveries during construction, but would not mitigate con-

struction impacts to Native American human remains. Mitigation Measures C-1b, C-1c, C-1d, C-1e, C-1f, and C-2a would partially mitigate impacts to human remains; however, the impacts would still be considered significant (Class I). Impacts to Native American human remains are considered an adverse effect, even after mitigation (36 CFR 800).

Mitigation Measures for Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**
- C-2a** **Properly treat human remains.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the Anza-Borrego Link include prehistoric resources such as buried living surfaces, trash deposits, hearths, agave roasting pits, burials and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. Impacts to most unknown significant prehistoric and historic archaeological sites would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a and C-3a. However, as explained for Impact C-2, effects related to human remains would be significant (Class I) even with mitigation.

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1f** **Train construction personnel.**
- C-2a** **Properly treat human remains.**
- C-3a** **Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

Native American consultation has indicated that one extensive portion of the Anza-Borrego Link, or at least a portion of the area including prehistoric site complex D2-S-106, is likely eligible for the NRHP as a TCP. The BLM, as the Federal Lead Agency under NEPA, is continuing the process of government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are additional TCPs that would be affected within this segment. Though impacts to TCPs are often significant (Class I), mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by

limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated with Native Americans or other Traditional Groups can reduce the impact to less than significant. Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) would reduce impacts to some TCPs to a level that is less than significant (Class I or II), but impacts in this sensitive portion of the Anza-Borrego Link would be significant and unmitigable (Class I) due to the sensitivity and local importance of its Native American resources. Based on initial consultation with Native Americans concerned about this sensitive area, implementation of Mitigation Measure C-4b and V-3a, detailed below, would partially compensate for the impact to significant qualities of the area. Nonetheless, impacts in the traditional landscape and use area would be significant and partially unmitigable (Class I). The sensitive landscape would be bisected by several miles of transmission lines and towers which cannot be relocated or screened from view.

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

C-4a Complete consultation with Native American and other Traditional Groups.

C-4b Conduct cultural resources survey of the entirety of the identified cultural landscape within a portion of the Anza-Borrego Link of the Proposed Project and prepare a report documenting the resources present as well as the ethnographic use of the area. The Applicant shall retain a professional cultural resources consultant who shall conduct a cultural resources survey of the cultural landscape and use area from ridge top to ridge top (generally east-west) and from Tamarisk Grove to the northern terminus at S-22. All identified archaeological resources and Native gathering areas shall be recorded on appropriate DPR forms. In addition, the Applicant shall retain an ethnographer to conduct interviews with Native Americans including members of the Kwaaymii Laguna Band of Indians and the Santa Ysabel Band of Diegueño Indians regarding past and present uses of the area. The results of this survey shall be presented in a technical report that synthesizes the site information with the ethnography to provide the most complete picture possible of Native American use of the area. The surveys shall be coordinated with ABDSP. The distribution of the final report of findings shall be at the discretion of the Kwaaymii Laguna Band of Indians and the Santa Ysabel Band of Diegueño Indians, in consultation with the ABDSP.

V-3a Reduce visual contrast of towers and conductors.

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties within and in the vicinity of the project area during operation and long-term presence of the Proposed Project. Direct impacts would result from maintenance or repair activities, while increased erosion would result as an indirect project impact. These impacts are significant, but would be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-2a (Properly treat human remains) and C-4a (Complete consultation with Native Americans and other Traditional Groups). These measures would protect register-eligible properties from impacts after construction of the Proposed Project.

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-2a** **Properly treat human remains.**
- C-4a** **Complete consultation with Native American and other Traditional Groups.**
- C-5a** **Protect and monitor NRHP- and/or CRHR-eligible properties.**

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

The presence of transmission lines and towers results in indirect visual impacts to historic architectural resources. Indirect visual impacts to potentially NRHP- and/or CRHR-eligible built environment resources such as buildings, structures, and historic districts located near the Proposed Project should be avoided or minimized, where feasible. The Tamarisk Grove Campground as well as the individual buildings previously recorded within it (P-37-017973; P-37-017972; P-37-017974) has been recommended eligible for the NRHP and CRHR (see Table AP.9B-14 in Appendix 9B). As a result, the Proposed Project has the potential to cause indirect adverse visual effects to these resources. These impacts are significant, implementation of Mitigation Measure C-6a, C-6b, and V-3a can reduce these impacts but they would still remain significant (Class I). This conclusion is consistent with the Section D.3 (Visual Resources). Key Viewpoint 9 was selected to generally characterize the existing landscape views available in the immediate vicinity of Tamarisk Grove Campground. Impact V-12 has been presented as a Class I visual impact to this viewpoint, particularly for visitors to the campground who hike the Cactus Loop Trail. Tower location and screening would not completely reduce the visual intrusion of the Proposed Project.

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

- C-6a** **Reduce adverse visual intrusions to historic built environment properties.**
- C-6b** **Reduce adverse visual intrusions at the Tamarisk Grove Campground.** Specifically for the Tamarisk Grove Campground, pole locations shall be selected to offer the maximum screening from the campground by the Tamarisk trees and the number of poles placed in direct view of the campground shall be minimized. Additionally, poles shall be painted to blend into the surrounding landscape, thereby minimizing the visual impact.
- V-3a** **Reduce visual contrast of towers and conductors.**

D.7.11 Central Link Impacts and Mitigation Measures

A total of 49 known cultural resources has been identified within the 200- to 300-foot-wide survey corridor for the Central Link of the Proposed Project or within the proposed Central East Substation property. Thirty-nine of these resources are prehistoric in age and are dominated by evidence of past bedrock milling activities. Six of the 49 sites are historic in age. There is also the potential to encounter undiscovered cultural resources during the remaining cultural resources survey and project construction. An estimated 20 additional resources would be encountered during cultural resources survey of the remaining 29.15 percent of the Central Link, based on known site densities. It is likely that the additional resources would be predominantly bedrock milling sites, based on distribution of known site types. Additional consultation between the BLM, Native American Tribes, and other interested parties may elicit additional information about other potential resources located within the Central Link.

Four of the 49 known cultural resources are isolates (3 artifacts or less) that do not require mitigation measures, as isolates are not considered eligible for NRHP/CRHR inclusion and impacts to these resources would not be considered significant. The remaining 46 resources are presented in Table Ap.9B-15 in Appendix 9B. Because bedrock milling sites are the predominant resource type in this link, it is important to note that milling represents one essentially sedentary activity and that archaeological testing at some of these sites would likely identify associated archaeological deposits thereby increasing their sensitivity and likelihood of eligibility for the NRHP and CRHR.

The historic Chapel of Santa Ysabel building complex is located within 0.5-mile of the Central Link of the Proposed Project. The Chapel of Santa Ysabel is listed on the California Historic Landmarks as CHL 369. The Chapel of Santa Ysabel has been evaluated by SWCA (2007) for this project and recommended eligible for the NRHP and CRHR under eligibility Criterion A (important events in the past) and Criterion C (architecture), and potentially Criterion B (association with persons significant in the past), and as well as satisfying Criteria Considerations A (for religious properties) and D (for cemeteries). The chapel is an example of significant architectural design and construction from the “revival of the missions” movement of the 1920s and is a significant resource of the local community, which has used the swept-ground cemetery for multiple generations. The chapel also appears eligible for the NRHP as a TCP due to its long and continued use by local Native Americans as a cemetery and gathering place for cultural events. The Chapel, itself, would not be directly impacted by the Proposed Project, but would be indirectly impacted by visual intrusion.

The BLM, as the Federal Lead Agency under NEPA is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation has included formal correspondence (Appendix 9C), telephone calls, and face-to-face meetings with groups who have expressed a concern or interest in the Proposed Project. To date, no TCPs other than the Chapel of Santa Ysabel have been identified within the Central Link of the SRPL Project as a result of formal consultation.

Because known cultural resources that are potentially eligible for the NRHP, CRHR, or local registers exist within areas of proposed direct impact, as well as the potential for encountering undiscovered cultural resources, the following impacts would occur during project construction or operation

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

Forty-three (43) cultural resources within the Central Link are potentially eligible for listing on the NRHP or CRHR. Eleven of the resources identified within the Central Link are located in areas of direct impact. All but one of these resources is prehistoric, and two prehistoric habitation sites are among those that would be impacted. If these sites were evaluated and recommended eligible for NRHP and/or CRHR, it would likely be under Criterion D (data potential). As such, impacts to these resources could be mitigated through data recovery; however, avoidance is always preferred. As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** Inventory and evaluate cultural resources in Final APE.
- C-1b** Avoid and protect potentially significant resources.
- C-1c** Develop and implement Historic Properties Treatment Plan.
- C-1d** Conduct data recovery to reduce adverse effects.
- C-1e** Monitor construction at known ESAs.
- C-1f** Train construction personnel.

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the Central Link include prehistoric resources such as buried living surfaces, trash deposits, hearths, burials and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. As discussed in Section D.7.9, impacts to unknown significant prehistoric and historic archaeological sites would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a, and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation.

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c** Develop and implement Historic Properties Treatment Plan.
- C-1d** Conduct data recovery to reduce adverse effects.
- C-1f** Train construction personnel.
- C-2a** Properly treat human remains.
- C-3a** Monitor construction in areas of high sensitivity for buried resources.

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

The Chapel of Santa Ysabel is recommended eligible for the NRHP and CRHR as a historic building complex and TCP. In consultation with the Santa Ysabel Band of Diegueño Indians (Mitigation Measure C-4c), implementation of Mitigation Measure C-6c and V-3a would reduce the visual impacts of the Proposed Project on the Chapel of Santa Ysabel by screening views and reducing visual contrast of the towers, but impacts would remain significant (Class I).

The BLM, as the Federal Lead Agency under NEPA is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are additional TCPs that could be affected within this segment. As explained in Section D.7.9, when properly coordinated with Native Americans or other Traditional Groups, mitigation could be developed that can reduce the impact to less than significant (Class II), but in some cases impacts to TCPs would remain significant (Class I). Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) is required; this consultation may reduce impacts to TCPs to a level that is less than significant (Class I or II).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

- C-4a Complete consultation with Native American and other Traditional Groups.**
- C-4c Consult with the Santa Ysabel Band of Diegueño Indians.**
- C-6c Reduce adverse visual intrusions to the Chapel of Santa Ysabel.** In order to reduce visual intrusions in the vicinity of the Chapel of Santa Ysabel, new tower locations shall be screened through planting of trees, selective tower locating, and painting the towers to match the surrounding landscape.
- V-3a Reduce visual contrast of towers and conductors.**

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties within and in the vicinity of the project area during operation and long-term presence of the Proposed Project. Direct impacts would result from maintenance or repair activities, while increased erosion would result as an indirect project impact. As discussed in Section D.7.9, these impacts are significant, but can be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-2a (Properly treat human remains) and C-4a (Complete consultation with Native Americans and other Traditional Groups).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b Avoid and protect potentially significant resources.**
- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-2a Properly treat human remains.**
- C-4a Complete consultation with Native American and other Traditional Groups.**
- C-5a Protect and monitor NRHP- and/or CRHR-eligible properties.**

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

The presence of transmission lines and towers results in indirect visual impacts to historic architectural resources such as the Chapel of Santa Ysabel (CHL 369). This building complex has been recommended eligible for the NRHP and CRHR (see Table Ap.9B-16 in Appendix 9B). The Proposed Project would construct four towers within approximately 0.4-0.5 miles to the west of the chapel, but would also remove a 69 kV line presently located less than 0.1 miles to the east and behind the chapel when viewed from SR79. The removal of this line would positively offset the construction of the new line with specific regard to this resource. Mitigation Measures C1-b, C-1c, and C-6a could further mitigate indirect visual impact to the setting of this resource to a level that is less than significant (Class II). Indirect visual impacts to potentially NRHP- and/or CRHR-eligible built environment resources such as buildings, structures, and historic districts located near the Proposed Project should be avoided or minimized, where feasible. If transmission line or tower relocation cannot result in avoidance, then screening the resource from the tower/line and/or painting the tower to blend into the landscape would reduce the visual impact. These impacts are significant, and Mitigation Measures C1-b, C-1c, C-6a,

C-6c, and V-3a would reduce these impacts; however, as noted in the Visual Resources section for KVP 33, the impacts would remain significant (Class I).

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

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-6a** **Reduce adverse visual intrusions to historic built environment properties.**
- C-6c** **Reduce adverse visual intrusions to the Chapel of Santa Ysabel.**
- V-3a** **Reduce visual contrast of towers and conductors.**

Proposed Central East Substation

There are 18 known cultural resources within the proposed Central East Substation property. Despite 100 percent survey of the property, there is also the potential to encounter undiscovered cultural resources during project construction (Table Ap.9B-17 in Appendix 9B). Because known cultural resources that are potentially eligible for the NRHP or CRHR exist within areas of proposed direct impact, as well as the potential for encountering undiscovered cultural resources, the following impacts would occur during project construction or operation.

Four prehistoric bedrock milling sites within the proposed Central East Substation property are located in areas of direct impact. The historic San Felipe Boy Scout Camp Adobe (H-003) is located within the Proposed Central East Substation property and is potentially subject to indirect visual impacts by the Proposed Project. The historic abode building has been recommended eligible for the NRHP and CRHR (Van Wormer, 2006); however, a study conducted by JRP Historical Consulting (2007) assessed potential direct and indirect impacts to the adobe and has concluded that the Proposed Project would have no adverse effect on the San Felipe Boy Scout Camp Adobe because it would not alter the character-defining features nor significantly diminish the integrity of setting.

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

A total of 18 cultural resources within the proposed Central East Substation property is potentially eligible for listing on the NRHP or CRHR as well as one deteriorating adobe shed (H-004) that has been evaluated and recommended not eligible for NRHP and CRHR listing. All 16 of the prehistoric sites are bedrock milling sites, including four sites located in areas of direct impact. As discussed in Section D.7.9, if these sites cannot be avoided, evaluation of the sites for NRHP/CRHR eligibility and possible subsequent data recovery efforts could reduce the impacts to these sites to less than significant levels (Class II). As discussed in Section D.7.9, adverse construction impacts would be mitigated by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**

- C-1d Conduct data recovery to reduce adverse effects.**
- C-1e Monitor construction at known ESAs.**
- C-1f Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

The proposed Central East Substation property is within an area intensively used by Native Americans during the prehistoric period. The recorded prehistoric sites within this property are all bedrock milling sites associated with acorn, seed, and/or other food processing. As these surface sites indicate only one aspect of Native American occupation and use of the area, ground-disturbing construction activities have the potential to expose the surviving material evidence of other activities including lithic reduction, habitation, and funerary activities. As discussed in Section D.7.9, impacts to unknown significant prehistoric and historic archaeological sites would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1e, C-2a, and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation.

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties (including prehistoric and historic resources listed or eligible for the NRHP) within and in the vicinity of the project area during operation and long-term presence of the Proposed Project. Direct impacts would result from maintenance or repair activities, while increased erosion would result as an indirect project impact. As discussed in Section D.7.9, these impacts are significant, but can be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-2a (Properly treat human remains) and C-4a (Complete consultation with Native Americans and other Traditional Groups).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b Avoid and protect potentially significant resources.**
- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-2a Properly treat human remains.**
- C-4a Complete consultation with Native American and other Traditional Groups.**
- C-5a Protect and monitor NRHP- and/or CRHR-eligible properties.**

D.7.12 Inland Valley Link Impacts and Mitigation Measures

As noted in Section D.7.2.4, 86.81 percent of the Inland Valley Link had been surveyed for cultural resources as of July 27, 2006. Twenty-three (23) known cultural resources are located within the 60- to 300-foot-wide survey corridor for this segment of the Proposed Project. It is estimated that an additional three cultural resources would be found during survey of the remaining portions of this link, based on known site densities. Such resources will likely be dominated by prehistoric sites including evidence of bedrock milling and other activities. There is also the potential to encounter undiscovered cultural resources during the remaining cultural resources survey and project construction.

Four of the known cultural resources are isolates that do not require mitigation measures, as isolates by nature are not considered eligible for register inclusion and project impacts would not be considered significant. The remaining 19 resources are presented in Table Ap.9B-18 in Appendix 9B. Prehistoric resources include bedrock milling sites, artifact scatters, habitation sites, and a temporary camp. Historical resources include road segments and a habitation site. Because known cultural resources that are potentially eligible for the NRHP or CRHR exist within areas of proposed direct impact, as well as the potential for encountering undiscovered cultural resources, the following impacts could occur during project construction or operation.

Two previously recorded historic architectural resources (the Cordtz House and P-37-012820) within 0.5 miles of the Proposed Project were evaluated and found not eligible for the NRHP or CRHR (see Table Ap.9B-19 in Appendix 9B). As a result, if the SHPO concurs with these eligibility recommendations, indirect project impacts would not be considered significant under CEQA or NEPA, nor adverse effects under NHPA (JRP Historical Consulting, 2007).

Nine of the sites identified within the Inland Valley Link are located in areas of direct impact, as currently mapped; however, one of these resources is not eligible for the NRHP or CRHR and one site is of unknown function or type. The remaining seven resources that would be directly impacted include four prehistoric sites, two historical sites, and one multi-component site with both historic and prehistoric aspects.

The BLM, as the Federal Lead Agency under NEPA, is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation has included formal correspondence (Appendix 9C), telephone calls, and face-to-face meetings with groups who have expressed a concern or interest in the Proposed Project. To date, no TCPs have been identified within the Inland Valley Link of the SRPL Project as a result of formal consultation.

Construction Impacts

The Inland Valley Link of the Proposed Project includes 4.7 miles of underground construction. Though a narrowed construction corridor, owing to construction in a narrow trench, any sites within that portion's corridor would be directly impacted. There are three potentially NRHP/CRHR eligible sites recorded within the underground segment including one prehistoric habitation site (CA-SDI-5188). Other areas of direct impact within the Inland Valley Link include tower locations and tower construction and maintenance pad locations.

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class I or II)

Eighteen (18) cultural resources within the Inland Valley Link are potentially eligible for listing on the NRHP or CRHR. Nine of the resources identified within the Inland Valley Link are located in areas of direct impact. Sites to be impacted include two prehistoric habitation sites, which are likely to be significant. As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. However, as noted below under Impact C-2, there is a cultural resource within the Inland Valley Link known to contain human remains. If this resource cannot be completely avoided during construction, impacts sites would remain significant (Class I), because adverse effects to human remains are unmitigable (36 CFR 800). For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains (Class I)

One archaeological site (SDM-W-278) known to contain human remains would be adversely affected by construction of the Inland Valley Link of the Proposed Project (see Table Ap.9B-20 in Appendix 9B). This site would be directly impacted by construction of the Proposed Project. Any adverse effect to human remains is considered a significant (Class I) impact. CR-APM-3 outlines procedures for the treatment of unanticipated discoveries during construction, but would not mitigate construction impacts to Native American human remains. Mitigation Measures C-1b, C-1c, C-1d, C-1e, C-1f, and C-2a would partially mitigate impacts to human remains; however, the impacts would still be considered significant (Class I). Impacts to Native American human remains are considered an adverse effect, even after mitigation (36 CFR 800).

Mitigation Measures for Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**
- C-2a** **Properly treat human remains.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the Inland Valley Link include prehistoric resources such as buried living surfaces, trash deposits, hearths, burials and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. As discussed in Section D.7.9 impacts to unknown significant prehistoric and historic archaeological sites would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a, and C-3a. As noted above, impacts to human remains would be mitigated by implementing Mitigation Measure C-2a; however, the impact would still be considered significant (Class I).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no TCPs have been identified within the Inland Valley Link of the Proposed Project. However, the Sacred Lands File search conducted for the proposed SRPL noted that lands sacred to Native Americans are present in the vicinity of the SRPL Project area, in an undisclosed location. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA would initiate government-to-government consultation with appropriate Native American groups and notification to other public groups regarding the Inland Valley Link project effects on traditional cultural values. That consultation would determine whether there are TCPs that would be affected by the Inland Valley Link. Though impacts to TCPs are often significant (Class I), mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated Native Americans or other Traditional Groups can reduce the impact to less than significant (Class II). If any TCPs are identified within the impact areas of the Inland Valley Link, implementation of Mitigation Measure C-4a that would require complete consultation with Native Americans and other Traditional Groups could reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts may remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

- C-4a Complete consultation with Native American and other Traditional Groups.**

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties (including prehistoric and historic resources listed or eligible for the NRHP) within and in the vicinity of the project area during operation and long-term presence of the Proposed Project. Direct impacts would result from maintenance or repair activities, while increased erosion would result as an indirect project impact. These impacts are significant, but would be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-2a (Properly treat human remains) and C-4a (Complete consultation with Native Americans and other Traditional Groups).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-2a** **Properly treat human remains.**
- C-4a** **Complete consultation with Native American and other Traditional Groups.**
- C-5a** **Protect and monitor NRHP- and/or CRHR-eligible properties.**

D.7.13 Coastal Link Impacts and Mitigation Measures

Fifteen known cultural resources are located within the 60- to 300-foot-wide survey corridor for this segment of the Proposed Project. There is also the potential to encounter undiscovered cultural resources during project construction, though less than other links due to the higher developed nature of the Proposed Project route in the Coastal Link.

Six of the known cultural resources are isolates that do not require mitigation measures, as isolates by nature are not considered eligible for register inclusion and project effects would not be considered adverse under NHPA, nor impacts significant under CEQA or NEPA. The remaining nine resources are presented in Table Ap.9B-21 in Appendix 9B. A portion of one prehistoric site with multiple loci (CA-SDI-5383) has been determined not eligible for NRHP listing through a Section 106 data recovery process. However, if other unevaluated loci could not be protected from direct impacts for the Proposed Project, the BLM would determine their NRHP-eligibility prior to construction.

Six known historic buildings or building complexes were identified in the Class I study (Gallegos & Associates, 2006a) within 0.5 miles of the Coastal Link of the Proposed Project (Table Ap.9B-22 in Appendix 9B). A study completed by JRP Historical Consulting (2007) discovered that four of these resources are no longer extant and therefore could not be adversely affected by the Proposed Project; the Johnson Taylor Ranch Headquarters is listed on the NRHP but the Proposed Project would not cause adverse effects to the resource due to the considerable distance (approximately 0.5-mile) and developed areas in between; and one building complex (P-37-011655) has not been evaluated, is located on military land that could not be accessed, and is potentially subject to indirect visual impact by the Proposed Project.

Because known cultural resources that are potentially eligible for the NRHP or CRHR exist within areas of proposed direct impact, as well as the potential for encountering undiscovered cultural resources, the following impacts could occur during project construction or operation.

The BLM, as the Federal Lead Agency under NEPA is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation has included formal correspondence (Appendix 9C), telephone calls, and face-to-face meetings with groups who have expressed a concern or interest in the Proposed Project. To date, no TCPs have been identified within the Coastal Link of the SRPL Project as a result of formal consultation.

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

Eight cultural resources within the Coastal Link are potentially eligible for listing on the NRHP or CRHR (Table Ap.9B-21 in Appendix 9B). Five of the sites identified within the Coastal Link are located in areas of direct impact, as currently mapped: three prehistoric sites (C-S-2, CA-SDI-5383, and CA-SDI-8103) are located in an area of proposed undergrounding; one prehistoric lithic scatter (CA-SDI-8106) is located adjacent to an area of proposed undergrounding; and one prehistoric lithic scatter (CA-SDI-11910) is located within an area proposed for a temporary construction and maintenance pad. The sites within areas of undergrounding would be directly impacted by trench excavations and CA-SDI-11910 would be directly impacted by grading and brushing for a tower pad. As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the Coastal Link include prehistoric resources such as buried living surfaces, trash deposits, hearths, shell middens, burials and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, excavation associated with tower construction, or excavation for underground segments of this link. As discussed in Section D.7.9, impacts to unknown significant prehistoric and historic archaeological sites would be mitigated to a level less than significant (Class II) by imple-

menting Mitigation Measures C-1c, C-1d, C-1f, C-2a, and C-3a. As noted previously, impacts to human remains would be mitigated by implementing Mitigation Measure C-2a; however, the impact would still be considered significant (Class I).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1f** **Train construction personnel.**
- C-2a** **Properly treat human remains.**
- C-3a** **Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no TCPs have been identified within the Coastal Link of the Proposed Project. However, the Sacred Lands File search conducted for the proposed SRPL noted that lands sacred to Native Americans are present in the vicinity of the SRPL Project area, in an undisclosed location. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA, would initiate government-to-government consultation with appropriate Native American groups and notification to other public groups regarding the Coastal Link project effects on traditional cultural values. That consultation would determine whether there are TCPs that would be affected by the Coastal Link. Though impacts to TCPs are often significant (Class I), mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated Native Americans or other Traditional Groups can reduce the impact to less than significant (Class II). If any TCPs are identified within the impact areas of the Coastal Link, implementation of Mitigation Measure C-4a that would require complete consultation with Native Americans and other Traditional Groups could reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts may remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

- C-4a** **Complete consultation with Native American and other Traditional Groups.**

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties (including prehistoric and historic resources listed or eligible for the NRHP) within and in the vicinity of the project area during operation and long-term presence of the Proposed Project. Direct impacts would result from maintenance or repair activities, while increased erosion would result as an indirect project impact. These impacts are significant, but can be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-2a (Properly treat human remains) and C-4a (Complete consultation with Native Americans and other Traditional Groups).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-2a** **Properly treat human remains.**
- C-4a** **Complete consultation with Native American and other Traditional Groups.**
- C-5a** **Protect and monitor NRHP- and/or CRHR-eligible properties.**

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

One historic building complex (P-37-011655) within 0.5 miles of the Coastal Link of the Proposed Project was considered by JRP Historical Consulting (2007) for indirect impacts to the visual setting (see Table Ap.9B-22 in Appendix 9B). The complex has not been evaluated for the NRHP, is located on military land that could not be accessed by JRP,⁴ and is potentially subject to indirect visual impact by the Proposed Project. As previously mentioned the Johnson Taylor Ranch Headquarters is also in the vicinity of the Proposed Project but would not be adversely affected by it due to its approximate 0.5-mile distance and visual screening by the dense number of modern houses between the resource and the Proposed Project. Indirect visual impacts to potentially NRHP- and/or CRHR-eligible built environment resources such as buildings, structures, and historic districts located near the Proposed Project should be avoided or minimized, where feasible. If transmission line or tower relocation cannot result in avoidance, then screening the resource from the tower/line and/or painting the tower to blend into the landscape can potentially minimize the visual impact. As discussed in Section D.7.9, these impacts are significant, but would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-6a and V-3a.

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

- C-6a** **Reduce adverse visual intrusions to historic built environment properties.**
- V-3a** **Reduce visual contrast of towers and conductors.**

Modifications to Sycamore Canyon Substation

The Sycamore Canyon Substation has been previously surveyed for cultural resources at least twice (Giacomini and Caudell, 2004; Gross et al., 1992). A portion of CA-SDI-12254 is recorded within the Sycamore Canyon Substation, but not in an area of direct impact for the Proposed Project. In addition, Del James (1995) stated that the site has been “completely obliterated” by development. There are no known cultural resources within the Sycamore Canyon Substation that would be impacted by the Proposed Project. Modifications within the substation would not change the setting of the area and no indirect visual impacts would be caused to nearby historic properties. As a result, the following impact has been identified and mitigation measures are recommended.

⁴ MCAS Miramar did not provide access for inspection of this resource.

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered within the Sycamore Canyon Substation include prehistoric resources such as buried living surfaces, trash deposits, hearths, agave roasting pits, burials and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during grading or excavation work associated with the proposed substation modifications. As detailed in Section D.7.9, if any buried resources are discovered, impacts of project-related modifications to the Sycamore Canyon Substation can be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a, and C-3a. The only exception would be if human remains were uncovered during construction activities; in that event impacts would remain significant (Class I) (36CFR800). For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Modifications to Peñasquitos Substation

No historic properties were identified within the Peñasquitos Substation. Site C-S-1 was identified near Peñasquitos Substation, but has been addressed in the Coastal Link construction impacts section. Though the substation was not surveyed for cultural resources for the Proposed Project, a previous cultural resources survey of the substation has been undertaken with negative results (Westec and Pignoli, 1988). Modifications within the substation would not change the setting of the area and no indirect visual impacts would be caused to nearby historic properties. As a result, Impact C-3 has been identified and mitigation measures have been recommended.

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered within the Peñasquitos Substation include prehistoric resources such as buried living surfaces, trash deposits, hearths, agave roasting pits, burials and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during grading or excavation work associated with the proposed substation modifications. As detailed in Section D.7.5.2, if any buried resources are discovered, impacts of project-related modifications to the Peñasquitos Substation would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a, and C-3a. As explained in Section D.7.5.1, the only exception would be if human remains were uncovered during construction activities; in that event impacts would remain significant (Class I).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

D.7.14 Other System Upgrades – Impacts and Mitigation Measures

Reconductor Sycamore Canyon to Elliot 69 kV Line

Mooney, Jones and Stokes were contracted by San Diego Gas & Electric to conduct a Cultural Resources Survey for the Reconductoring and Maintenance of 86 Poles on the San Diego Gas & Electric TL369, in the City of San Diego, California (Jordan, 2006). The results of that survey have been independently reviewed and verified by the EIR/EIS consultants (SWCA and AE). The project consisted of approximately 60.2 acres and is located on the U.S. Geological Survey (USGS) 7.5-Minute *La Mesa* and *Poway* Quadrangles. Mooney, Jones and Stokes conducted a literature and records search, including all 86 poles and a 30-meter search radius around each pole. Mooney, Jones and Stokes also conducted initial Native American Consultation; they received no responses by the time of their report production. The records and literature search revealed that 79 surveys have been conducted and 181 resources have been recorded within one mile of the reconductor area. Among these cultural resources, a low-density lithic reduction station (CA-SDI-13572) and two isolates were identified within areas of potential impacts. Three previously recorded cultural studies are also located in the survey area. In addition to the cultural resources located within the survey area, one moderately dense lithic reduction site and one isolate are located in the vicinity of proposed reconductoring and maintenance. Due to the presence of known cultural resources, Mooney, Jones and Stokes recommend archaeological monitoring during all construction grading activities to avoid any buried cultural resources.

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

One known cultural resource (CA-SDI-13572), a low-density lithic reduction station, is located within the Sycamore Canyon to Elliot 69 kV reconductoring area that is potentially eligible for listing on the NRHP or CRHR (Table Ap.9B-23 in Appendix 9B). If direct impacts to this site cannot be avoided during construction, owing to the size of the site or engineering constraints, adverse construction impacts would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a Inventory and evaluate cultural resources in Final APE.**
- C-1b Avoid and protect potentially significant resources.**

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1e Monitor construction at known ESAs.**
- C-1f Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered within the Sycamore Canyon to Elliot 69 kV reconductoring area include prehistoric resources such as buried living surfaces, trash deposits, hearths, shell middens, burials and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. As explained in Section D.7.9, impacts to unknown significant prehistoric and historic archaeological sites would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f C-2a, and C-3a. As explained in Section D.7.9 the only exception would be if human remains were uncovered during construction activities; in that event impacts would remain significant (Class I).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties within and in the vicinity of the project area during operation and long-term presence of the Proposed Project. Direct impacts would result from maintenance or repair activities, while increased erosion would result as an indirect project impact. As detailed in Section D.7.9, these impacts are significant, but can be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-2a (Properly treat human remains) and C-4a (Complete consultation with Native Americans and other Traditional Groups).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b Avoid and protect potentially significant resources.**
- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-2a Properly treat human remains.**
- C-4a Complete consultation with Native American and other Traditional Groups.**
- C-5a Protect and monitor NRHP- and/or CRHR-eligible properties.**

Modifications to San Luis Rey Substation

A records search conducted at SCIC indicated that 100 percent of the San Luis Rey Substation property has been previously surveyed for cultural resources. One (1) known cultural resource is located within the 15.14-acre substation property (see Table Ap.9B-24 in Appendix 9B). The prehistoric site identified within the San Luis Rey Substation property is located in an area of direct impact.

The BLM, as the Federal Lead Agency under NEPA is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation has included formal correspondence (Appendix 9C), telephone calls, and face-to-face meetings with groups who have expressed a concern or interest in the Proposed Project. To date, no TCPs have been identified within the South Bay Substation footprint as a result of formal consultation.

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

One (1) cultural resource within the San Luis Rey Substation property is potentially eligible for listing on the NRHP or CRHR, and is located in an area of direct impact. As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered within the San Luis Rey Substation property include prehistoric resources such as buried living surfaces, trash deposits, hearths, shell middens, burials and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. As discussed in Section D.7.9, impacts to unknown significant prehistoric and historic archaeological sites would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a, and C-3a. As noted above, impacts to human remains would be mitigated by implementing Mitigation Measure C-2a; however, the impact would still be considered significant (Class I).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Modifications to South Bay Substation

An estimated 37 percent of the South Bay Substation property had been surveyed for cultural resources in the past. Two (2) known cultural resources are located within the 146.98-acre substation property (see Table Ap.9B-25 in Appendix 9B). There is also the potential to encounter undiscovered cultural resources during the remaining cultural resources survey and project construction. It is estimated that an additional four cultural resources would be found during survey of the remaining 63 percent of the substation, based on known site densities. Such resources would likely be historic era sites.

Both of the sites identified within the South Bay Substation property are located in areas of direct impact; these sites are a historic era salt works and the Coronado Railroad (see Table Ap.9B-26 in Appendix 9B).

The BLM, as the Federal Lead Agency under NEPA is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation has included formal correspondence (Appendix 9C), telephone calls, and face-to-face meetings with groups who have expressed a concern or interest in the Proposed Project. To date, no TCPs have been identified within the South Bay Substation footprint as a result of formal consultation.

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

One (1) cultural resource within the South Bay Substation property is potentially eligible for listing on the NRHP or CRHR, while the WSCSW Salt Ponds and Levees is recommended eligible for NRHP listing under criteria A and C. Both of the resources identified within the South Bay Substation are located in areas of direct impact. As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measure C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a Inventory and evaluate cultural resources in Final APE.**
- C-1b Avoid and protect potentially significant resources.**
- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1e Monitor construction at known ESAs.**
- C-1f Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the South Bay Substation property include historical refuse pits and privies, as well as items related to the Salt Works. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. As discussed in Section D.7.9, impacts to unknown significant prehistoric and historic archaeological sites would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a, and C-3a. Impacts to human remains would be mitigated by implementing Mitigation Measure C-2a; however, the impact would still be considered significant (Class I) (36 CFR 800).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

D.7.15 Future Transmission System Expansion – Cultural Resources

The Proposed Project would facilitate the possible future construction of additional 230 kV and 500 kV transmission lines. These lines are not proposed at this time, but because the construction of the Proposed Project would include a substation and create new transmission corridors that could be used by these additional circuits, impact analysis is presented in this EIR/EIS.

The 230 kV future lines are addressed for cultural resources in Sections D.7.15.1 and D.7.15.2; the 500 kV future line is addressed in Sections D.7.15.3 and D.7.15.4.

D.7.15.1 Environmental Setting – 230 kV Future Transmission System Expansion

As described in Section B.2.7, the Central East Substation that would be built as a part of the Proposed Project would accommodate up to six 230 kV circuits. Only two circuits are proposed by SDG&E at this time, but construction of additional 230 kV circuits out of the Central East Substation may be required within the next 10 years. This section considers the impacts of construction and operation of these potential future transmission lines. Based on information provided by SDG&E, there are four substation endpoints and five routes that would be most likely for these future lines; each is addressed below. Figure B-12a illustrates the potential routes of each of the 230 kV transmission lines.

Central East Substation to Sycamore Canyon or Peñasquitos Substation

The new 230 kV line would most likely follow the proposed SRPL project route from the Central East Substation to Sycamore Canyon or Peñasquitos Substation and would pass through the Central Link, Inland Valley Link and Coastal Link (see Figure B-12a).

Central Link. The Class I Background Study and Class III Archaeological Inventory and subsequent data submittals prepared by Gallegos & Associates (2006a; 2006b; 2006c; 2007; Van Wormer, 2006) indicated that 70.85 percent of the Central Link of the new 230 kV line along the proposed SRPL project and 100 percent of the proposed Central East Substation property was intensively surveyed for cultural resources as of late July 2007. ASM Affiliates surveyed corridors within and adjacent to the alternative Central South Substation property that resulted in the identification of cultural resources within the Central Link of the new 230 kV line along the proposed SRPL project (Appendix D in Gallegos & Associates, 2006a).

The survey corridor for the Central Link varied between 200 and 300 feet in width. A total of 51 cultural resources has been identified within the survey corridor or Central East Substation property. All but six resources (H-001; H-003; H-004; P-37-011266; VID-S-031; VID-S-036) have been identified as prehistoric (see Table Ap.9B-4 in Appendix 9B). Eight (8) of the 51 resources were identified during previous cultural resources surveys; the remaining 43 were newly recorded by Gallegos & Associates or ASM Affiliates (Gallegos & Associates, 2006a; 2006b; 2006c; 2007). Five of the resources are isolates, and would not be considered eligible for inclusion on the NRHP or CRHR. Two of the newly recorded resources (H-003; H-004) were evaluated for NRHP eligibility by Stephen Van Wormer (2006) with one (H-003) recommended NRHP-eligible on a local level and one (H-004) recommended not eligible for NRHP.

No formal determinations of NRHP- and/or CRHR eligibility have been made for any cultural resources within the Central Link.

In addition to the resources within the Central Link, one known historic built environment resource lies within 0.5 miles of the new 230 kV line along the proposed SRPL project alignment (Table Ap.9B-5 I Appendix 9B). The Chapel of Santa Ysabel is listed on the California Historic Landmarks as CHL 369 and comprises a building complex and grounds that is recommended eligible for the NRHP as a historic complex and TCP.

Inland Valley Link. The Class I Background Study and Class III Archaeological Inventory and subsequent data submittals prepared by Gallegos & Associates (2006a; 2006b; 2006c; 2007) indicated that 87.81 percent of the Inland Valley Link was intensively surveyed for cultural resources as of late July 2007. A total of 21 cultural resources has been identified within the 60- to 300-foot-wide survey corridor: 12 prehistoric sites, 3 historic sites, 2 multi-component sites, 1 poorly recorded site of unknown function, and 3 isolates (Table Ap.9B-6 in Appendix 9B). Seventeen (17) of the 21 cultural resources were identified during previous cultural resources surveys; three (CNTY-I-001, CNTY-S-001, and CNTY-S-003) were newly recorded by Gallegos & Associates; and one (P-37-027641) was newly recorded by ASM Affiliates (Gallegos & Associates, 2006a; 2006b; 2006c; 2007). SDM-W-278, a habitation site containing cremated human remains, is located on private land and has not been resurveyed for this project.

A formal evaluation of NRHP or CRHR eligibility has not been undertaken for 13 of the prehistoric sites. Three of the resources are isolates, and would not be considered eligible for inclusion on the NRHP or CRHR.

One unevaluated historic historical structure (P-37-012820) and one architectural resource that has been recommended not eligible for NRHP or CRHR inclusion, the Cordtz House (P-37-016545), are located within 0.5 miles of the Inland Valley Link of the new 230 kV line along the proposed SRPL project corridor (Table Ap.9B-7 in Appendix 9B).

Coastal Link. The Class I Background Study and Class III Archaeological Inventory and subsequent data submittals prepared by Gallegos & Associates (2006a; 2006b; 2006c; 2007) indicated that 98.26 percent of the Coastal Link of the new 230 kV line along the proposed SRPL project was intensively surveyed for cultural resources. A total of 15 cultural resources has been identified within the 60- to 300-foot-wide survey corridor or adjacent staging area, all but one (P-37-024244) of which has been identified as prehistoric (see Table Ap.9B-8 in Appendix 9B). Eight of these resources were identified during previous cultural resources surveys; the remaining seven were recorded by Gallegos & Associates (2006a; 2006b; 2006c; 2007).

Six of the resources in the Coastal Link are isolates, and would not be considered eligible for inclusion on the NRHP or CRHR.

Of the eight cultural resource sites, one (CA-SDI-11910) has been previously tested for CRHR eligibility and portions of another site (CA-SDI-5383) within State Route 56 right-of-way was evaluated under Section 106 as not eligible for NRHP listing.

P-37-024244 is mapped as a linear resource but has no record on file at the SCIC; this alignment may represent a previous survey area rather than a cultural resource; however, the lack of information precludes a definitive answer.

Formal evaluations of NRHP or CRHR eligibility have not been undertaken for five of the sites and an additional site (CA-SDI-11910) has undergone archaeological testing but has not yet received a formal determination of NRHP or CRHR eligibility.

Six known historic built environment resources are located within 0.5 miles of the Coastal Link of the new 230 kV line along the proposed SRPL project corridor (Table Ap.9B-9 in Appendix 9B). These resources include the Johnson Taylor Ranch Headquarters (P-37-020924; Johnson Taylor Adobe), an NRHP and CRHR-listed historic architectural resource, and five other historical structures that have not yet been evaluated for NRHP or CRHR eligibility.

The complete list of sites within the Central East to Sycamore Canyon or Peñasquitos Alternative is presented in Table Ap.9B-27 in Appendix 9B. An approximately 6.25-mile-long option has been developed for a portion of this FTSE within the Inland Valley segment. The resource list for the Central East to Sycamore Canyon or Peñasquitos Alternative Option is presented in Table Ap.9B-28. No significant (Class I) impacts would be avoided or created by this option.

The BLM, as the Federal Lead Agency under NEPA, is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. To date, only one TCP has been identified within the Central Link (Chapel of Santa Ysabel); no TCPs have been identified within the Inland Valley Link or Coastal Link of the proposed SRPL project.

Central East Substation to Mission Substation

The new 230 kV line would most likely follow the proposed SRPL project route from the Central East Substation to the Sycamore Canyon Substation. Therefore, the environmental setting for the future 230 kV line would be the same as for the proposed SRPL project from these locations. At the Sycamore Canyon Substation, the 230 kV line would turn southwest and would most likely follow an existing 69 kV transmission line corridor that runs between Sycamore Canyon and Elliot Substations. Approximately 6.0 miles of the Grazing Land are associated with the existing 69 kV transmission line corridor

between the Sycamore Canyon and Elliot Substations. Installation of a future 230 kV line between the Sycamore Canyon and Elliot Substations would occur entirely on undeveloped land under the jurisdiction of the Department of Defense (i.e., MCAS Miramar). From Elliot Substation, the route would continue southwest for an additional 4.0 miles within the existing 69 kV corridor, through Mission Trails Regional Park, and crossing I-15 to terminate at the existing Mission Substation, located at 9060 Friars Road, which is 0.9 miles north of I-8 and 0.25 miles west of I-805.

Cultural Resources Investigations. Mooney, Jones and Stokes were contracted by San Diego Gas & Electric to conduct a Cultural Resources Survey for the Reconductoring and Maintenance of 86 Poles on the San Diego Gas & Electric TL369, in the City of San Diego, California (Jordan, 2006) between the Sycamore Canyon Substation and the Elliot Substation. The project consisted of approximately 60.2 acres and is located on the U.S. Geological Survey (USGS) 7.5-Minute *La Mesa* and *Poway* Quadrangles. Mooney, Jones and Stokes conducted a literature and records search, including all 86 poles and a 30-meter search radius around each pole. Mooney, Jones and Stokes and the EIR/EIS Team have also conducted Native American Consultation (see Appendix 9C). The records and literature search revealed that 79 surveys have been conducted and 181 resources have been recorded within one mile of the reconductor area. Among these cultural resources, a low-density lithic reduction station (CA-SDI-13572) and two isolates were identified within areas of potential impacts. Three previously recorded cultural studies are also located in the survey area. In addition to the cultural resources located within the survey area, one moderately dense lithic reduction site and one isolate are located in the vicinity of proposed reconductoring and maintenance. Due to the presence of known cultural resources, Mooney, Jones and Stokes recommend archaeological monitoring during all construction grading activities to avoid any buried cultural resources.

A cultural resources records search was conducted for 100 percent of the Central East Substation to Mission Substation FTSE (Future Transmission System Expansion) including a 0.5-mile search radius from the centerline. Cultural resources survey was conducted for some portions of the FTSE within the Proposed Project corridor, as noted previously. A total of 34 cultural resources has been identified within the 300-foot-wide study corridor along the FTSE during previous cultural resources surveys (see Table Ap.9B-29 in Appendix 9B).

Twenty-three of the 34 resources have prehistoric components, and include bedrock milling features, lithic and ceramic artifacts, and temporary camps, as well as rock art. One prehistoric habitation site (SDM-W-278) had human remains (two cremations) removed during excavation in 1939. Seven resources have historic components such as historic era walls, foundations, and trails. Four of the known resources are isolates, defined as three or fewer artifacts not associated with a defined, discrete archaeological site, and would not be considered eligible for inclusion on the NRHP or CRHR.

Central East Substation to Los Coches Substation

The future 230 kV line would most likely follow the proposed SRPL project route from the Central East Substation to 1.0 mile south of the Creelman Substation (MP 122.2) in the Town of Ramona. Therefore, the environmental setting for the future 230 kV transmission line would be the same as for the proposed SRPL project from these locations. At MP 122.2, the future expansion 230 kV line could turn south following the existing Creelman-Lakeside 69 kV corridor through unincorporated San Diego County and then 1.6 miles through largely hilly open space on the Barona Reservation east of the San Vicente Reservoir and west of the Barona Creek Golf Club, the Barona Valley Resort and Casino, and Oak Oasis Open Space Preserve. The route would then pass through or adjacent to Louis A. Stelzer County Park, cross the San Diego River and terminate at the existing Los Coches Substation 0.3 miles northwest of Lake Jennings near Lake Jennings County Park and the community of Lakeside.

Cultural Resources Investigations. The EIS Cultural Team conducted additional records searches for the portion of this FTSE between the Creelman Substation and the Los Coches Substation resulting in cultural resources records search for 100 percent of this segment of the FTSE, including a 0.5-mile search radius from the centerline. Cultural resources survey was conducted for some portions of the FTSE within the Proposed Project corridor, as noted previously. A total of 53 cultural resources has been identified during previous cultural resources surveys, surveys conducted by Gallegos & Associates, or surveys conducted by SWCA and AE within the 300-foot-wide study corridor of this FTSE (see Table Ap.9B-30 in Appendix 9B).

Thirty-nine of the resources have prehistoric components, including bedrock milling features, lithic and ceramic artifact scatters, and temporary camps, rock art, and five isolates. One prehistoric habitation site (SDM-W-278) had human remains (two cremations) removed during excavation in 1939. Two of the 36 resources also have historical components such as historic era stone walls and remnants of housing. An additional 11 resources are historical and one resource is unknown.

An approximately 5.53-mile option has been developed for a portion of this FTSE within the Inland Valley segment. The resource list for the Central East to Los Coches Alternative Option is presented in Table Ap.9B-31. No significant (Class I) impacts would be avoided or created by this option.

Central East Substation to Escondido Substation

Northern Route. From the proposed Central East Substation, the future 230 kV transmission line route would travel west through Vista Irrigation District land paralleling the proposed SRPL route for approximately 6.6 miles to its intersection with SR79. At SR79 the line would diverge from the proposed SRPL route and would head north parallel to SR79 for approximately 1.2 miles to the intersection of Highway S2 with SR79 at the existing Warner Substation. From there, the route would parallel the existing 69 kV corridor west across open space owned by Vista Irrigation District north of Lake Henshaw and then it would turn southwest, following the northwest edge of the lake to SR76.

At SR76 the route would turn west-northwest paralleling SR76 for 13.3 miles following the existing Warners-Rincon 69 kV transmission corridor across and/or bordering parcels of the Cleveland National Forest for approximately 4 miles and across La Jolla Reservation for 6 miles and then into to Rincon Substation, which is just north of the Rincon Reservation at the Highway S6 intersection with SR76. The hilly route along SR76 is primarily agricultural/open space with scattered rural residences.

At Rincon Substation, the route would diverge from SR76 and would follow the existing Rincon-Escondido 69 kV corridor, generally parallel to Highway S6 south, through the Rincon Reservation for 3 miles passing through some medium density single family residential and commercial land uses. South of the Rincon Reservation, the route would turn west in the Valley Center Substation area generally paralleling Highway S6, passing on the west side of Hellhole Canyon County Open Space Preserve (approximately 0.30 miles from the ROW), and then would turn south on the east side of Highway S6 for 1.6 miles before turning southwest, crossing Highway S6, and entering the City of Escondido after approximately 0.75 miles. The new line could run adjacent to or cross Daley Ranch near Escondido. In the City of Escondido, the route would turn south and then southwest for approximately 8 miles following the existing 69 kV corridor into Escondido Substation.

Northern Route – Cultural Resources Investigations. The EIR/EIS Cultural Team conducted cultural resources records searches for 100 percent of the FTSE between the Central East Substation and the Escondido Substation, including a 0.5-mile search radius from the centerline. Cultural resources survey

was conducted for some portions of the FTSE within the Proposed Project corridor, as noted previously. A total of 25 cultural resources has been identified during previous cultural resources surveys within the 300-foot-wide study corridor of this FTSE (see Table Ap.9B-32 in Appendix 9B).

- Twenty-one of the 25 resources have prehistoric components, and include bedrock milling features, lithic and ceramic artifact scatters, and temporary camps, as well as rock art.
- Seven resources have historic components such as the remains of a historic era adobe structure, stone walls, and farm equipment, as well as glass and ceramic fragments.
- Human remains were recovered during excavation from one bedrock milling site (CA-SDI-6804) that is presumed eligible for NRHP or CRHR inclusion.
- Three of the known resources are isolates, defined as three or fewer artifacts not associated with a defined, discrete archaeological site, and would not be considered eligible for inclusion on the NRHP or CRHR.

Southern Route. The EIR/EIS Cultural Team conducted a cultural resources records search for 100 percent of the FTSE Southern Route between the Central East Substation and the Escondido Substation, including a 0.5-mile search radius from the centerline. Cultural resources survey was conducted for some portions of the FTSE within the Proposed Project corridor, as well as areas of overlap with alternative surveys. A total of 91 cultural resources has been identified during previous or newly completed cultural resources surveys within the 300-foot-wide study corridor of this FTSE: Fourteen (14) of the resources were newly recorded by the SWCA/AE survey team; 16 were recorded by Gallegos & Associates during surveys for the Proposed Project; the remaining 61 resources were previously recorded (see Table Ap.9B-33 in Appendix 9B).

- Sixty-three (63) of the 91 resources are prehistoric and include bedrock milling features, lithic and ceramic artifact scatters, and temporary camps, as well as rock art.
- Seven resources are multi-component with both prehistoric and historic elements.
- Nineteen (19) resources are historical and include the remains of a historic era adobe structure, stone walls, and farm equipment, as well as glass and ceramic fragments.
- Two cremations were recovered during excavation of one site (SDM-W-278) that is presumed eligible for NRHP or CRHR inclusion.
- Fourteen (13) of the known resources are isolates, defined as three or fewer artifacts not associated with a defined, discrete archaeological site, and would not be considered eligible for inclusion on the NRHP or CRHR.

An approximately 6.25-mile option has been developed for a portion of the Central East to Escondido Southern Route FTSE within the Inland Valley segment. If the Central East to Escondido Southern Route Option is selected, eight cultural resources would be avoided, but 11 other cultural resources are within the option corridor. The full resource list for the Central East to Escondido Southern Route with Option is presented in Table Ap.9B-34. No significant (Class I) impacts would be avoided or created by this option.

D.7.15.2 Environmental Impacts – 230 kV Future Transmission System Expansion

Environmental Impacts and Mitigation Measures

Impact conclusions for Future Expansion are based on implementation of the same significance criteria and mitigation measures that would apply to the Proposed Project.

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

“Historic properties,” as used herein, are those resources (including historical built environment resources, prehistoric archaeological sites, historical archaeological sites, and traditional cultural properties — regardless of their age) that are determined by a federal, State, or local agency to be eligible for listing on a historic register. The Future Expansion would impact historic properties directly during construction activities such as excavating and grading, as well as indirectly through increased access to cultural resources that could result in vandalism or inadvertent impacts.

When archaeological resources, both historic and prehistoric, are found eligible for the NRHP and CRHR it is usually because of their potential for containing data that contribute to important research issues (Criterion D). Mitigation through data-recovery excavations can salvage a portion of those important data, and apply them to relevant research. However, as data recovery mitigation is, in itself, destructive, avoidance is preferred wherever possible. Nonetheless, if destruction of significant archaeological resources is unavoidable, data recovery is considered adequate mitigation, under NEPA and CEQA, to reduce impacts to a less than significant level (Class II) [36 CFR Part 800]. However, as noted below under Impact C-2 there are two sites within the Central east to Escondido FTSE known to contain human remains; impacts to these sites would remain significant (Class I), even after mitigation. There are also two sites in the Central East to Escondido FTSE and one site in the Central East to Los Coches FTSE known to contain prehistoric or ethnographic period rock art; direct impacts to these sites would, likewise, remain Class I, even after mitigation.

The potential for the Future Expansion projects to cause an adverse change to known historic properties would be mitigable to less than significant levels (Class II), except as noted above and below for human remains and rock art (Class I), by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f (Train construction personnel). For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains (Class I)

SDM-W-278, a habitation site containing cremated human remains, is within each of the FTSE corridors except the Central East to Escondido Northern Route. CA-SDI-6804 contains human remains and is located only within the Central East to Escondido Northern Route corridor. Additional site with human remains could exist within overhead and underground segments of the Future Expansion project. Impacts to human remains are considered an adverse effect, even after mitigation (36 CFR 800) (Class I). Adverse effects would be reduced by implementing, Mitigation Measure C-2a (Properly treat human remains), but would remain significant (Class I).

Mitigation Measures for Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**
- C-2a** **Properly treat human remains.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the Future Expansion include prehistoric resources such as buried living surfaces, trash deposits, hearths, agave roasting pits, burials and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. Impacts to most unknown significant prehistoric and historic archaeological sites would be mitigated to a level that is less than significant (Class II) by implementing the following Mitigation Measures: C-1c, C-1d, C-1f, C-2a, and C-3a. However, as explained for Impact C-2, effects related to human remains would be significant (Class I) even with mitigation.

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1f** **Train construction personnel.**
- C-2a** **Properly treat human remains.**
- C-3a** **Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, one TCP (the Chapel of Santa Ysabel complex) has been identified within the Central Link; no TCPs have been identified within the Inland Valley Link or Coastal Link of the proposed SRPL project. However, the Sacred Lands File search conducted for the PEA noted that lands sacred to Native Americans are present in the vicinity of the proposed SRPL project area, in an undisclosed location. The Chapel of Santa Ysabel (CHL 369) is important to the local community, is recommended eligible for the NRHP as a historic complex and as a TCP. In addition, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of the alternatives, in undisclosed locations. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA, has initiated government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are additional TCPs that would be affected within this segment. Though impacts to TCPs are often Class I, mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated with Native Americans or other Traditional Groups can reduce the impact to Class II. Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) would potentially reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts may remain significant (Class I).

The BLM, as the Federal Lead Agency under NEPA is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation would determine whether there are additional TCPs that would be affected within the Future Expansion project areas. If visual impacts are identified, implementation of Mitigation Measure V-3a (Reduce contrast of towers and conductors) would help reduce the severity of impacts; however, such impacts may remain Class I.

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

C-4a Complete consultation with Native American and other Traditional Groups.

V-3a Reduce visual contrast of towers and conductors.

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class I or II)

Direct and indirect impacts would occur to historic properties within and in the vicinity of the Future Expansion project areas during operation and long-term presence of the project. Some historic properties may be subject to indirect visual impact from the Future Expansion along the proposed SRPL project route. Direct impacts would result from maintenance or repair activities, while increased erosion or visual intrusion could result as an indirect project impact. These impacts are significant, but would potentially be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures as detailed below.

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-2a** **Properly treat human remains.**
- C-4a** **Complete consultation with Native American and other Traditional Groups.**
- C-5a** **Protect and monitor NRHP- and/or CRHR-eligible properties.**
- V-3a** **Reduce visual contrast of towers and conductors.**

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

The presence of transmission lines and towers results in indirect visual impacts to historic architectural resources such as the Chapel of Santa Ysabel (CHL 369). This building complex has been recommended eligible for the NRHP and CRHR and is located approximately 500 feet west of the existing right-of-way. Mitigation Measures C1-b, C-1c, and C-6a could mitigate indirect visual impact to the setting of this resource to a level that is less than significant (Class II). Indirect visual impacts to potentially NRHP- and/or CRHR-eligible built environment resources such as buildings, structures, and historic districts located near the Future Expansion projects should be avoided or minimized, where feasible. If transmission line or tower relocation cannot result in avoidance, then screening built environment resources from the tower/line and/or painting the tower to blend into the landscape would minimize the visual impact.

These impacts are significant, but would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1b, C-1c, C-4c, C-6a, C-6c, and V-3a, which would reduce visual intrusions to historic built environment properties but in some cases would remain Class I.

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

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-4c** **Consult with the Santa Ysabel Band of Diegueño Indians.**
- C-6a** **Reduce adverse visual intrusions to historic built environment properties.**
- C-6c** **Reduce adverse visual intrusions to the Chapel of Santa Ysabel.**
- V-3a** **Reduce visual contrast of towers and conductors.**

D.7.15.3 Environmental Setting – 500 kV Future Transmission System Expansion

As described in Section B.7.2 and illustrated in Figure B-12b, the potential Future 500 kV Circuit would connect the proposed Central East Substation to the Southern California Edison (SCE) transmission system at a new substation north of Interstate 15 (I-15), about 20 miles west of SCE's Valley Substation.

The EIR/EIS Cultural Team conducted cultural resources records searches for 100 percent of the 500 kV FTSE, including a 0.5-mile search radius from the centerline. Cultural resources survey was conducted for some portions of the 500 kV FTSE within the Proposed Project corridor, as well as areas of overlap with alternative surveys, resulting in 12.37 percent adequate previous survey. A total of 30 cul-

tural resources has been identified during previous or newly completed cultural resources surveys within the 300-foot-wide study corridor of this FTSE (see Table Ap.9B-35 in Appendix 9B). Two of the resources were newly recorded by the SWCA/AE survey team; two were recorded by Gallegos & Associates during surveys for the Proposed Project; the remaining 26 resources were previously recorded.

Twenty-five (25) of the resources within the 500 kV FTSE are prehistoric resources including 24 sites and one isolate; four of the resources are historical, and one resource (CA-SDI-218) is unknown, with a blank site record on file at the South Coastal Information Center.

- None of the 24 prehistoric sites has been evaluated for the NRHP or CRHR.
- Two historic buildings within the corridor have been recommended eligible for the NRHP: a historical Quonset (P-37-014082) built in 1946 and a historical house (P-33-7234) constructed circa 1930.

D.7.15.4 Environmental Impacts – 500 kV Future Transmission System Expansion

Environmental Impacts and Mitigation Measures

Impact conclusions for 500 kV Future Expansion are based on implementation of the same mitigation measures that would apply to the Proposed Project, as follow.

Construction Impacts

As currently proposed, the 500 kV FTSE does not appear to have the potential to impact cultural resources. However, if ground-disturbing activity or new tower construction were to occur, the following impacts and mitigation measures would apply.

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class I or II)

“Historic properties,” as used herein, are those resources (including historical built environment resources, prehistoric archaeological sites, historical archaeological sites, and traditional cultural properties — regardless of their age) that are determined by a federal, State, or local agency to be eligible for listing on a historic register. The Future Expansion would impact historic properties directly during construction activities such as excavating and grading, as well as indirectly through increased access to cultural resources that could result in vandalism or inadvertent impacts.

When archaeological resources, both historic and prehistoric, are found eligible for the NRHP and CRHR it is usually because of their potential for containing data that contribute to important research issues (Criterion D). Mitigation through data-recovery excavations can salvage a portion of those important data, and apply them to relevant research. However, as data recovery mitigation is, in itself, destructive, avoidance is preferred wherever possible. Nonetheless, if destruction of significant archaeological resources is unavoidable, data recovery is considered adequate mitigation, under NEPA and CEQA, to reduce impacts to a less than significant level (Class II) [36 CFR Part 800]. However, there is one site in the 500 kV FTSE known to contain prehistoric or ethnographic period rock art; direct impacts to this site would, remain Class I, even after mitigation.

The potential for the Future Expansion projects to cause an adverse change to known historic properties would be mitigable to less than significant levels (Class II), except as noted above for rock art (Class I), by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f (Train construction personnel). For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a Inventory and evaluate cultural resources in Final APE.**
- C-1b Avoid and protect potentially significant resources.**
- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1e Monitor construction at known ESAs.**
- C-1f Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the Future Expansion include prehistoric resources such as buried living surfaces, trash deposits, hearths, agave roasting pits, burials and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. Impacts to most unknown significant prehistoric and historic archaeological sites would be mitigated to a level that is less than significant (Class II) by implementing the following Mitigation Measures: C-1c, C-1d, C-1f, C-2a, and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation.

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no TCPs have been identified within 500 kV FTSE. However, the Sacred Lands File search conducted for the PEA noted that lands sacred to Native Americans are present in the vicinity of the proposed SRPL project area, in an undisclosed location. The BLM, as the Federal Lead Agency under NEPA, is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are additional TCPs that would be affected within the Future Expansion project areas. Though impacts to TCPs are often significant (Class I), mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated with Native Americans or other Traditional Groups can reduce the impact to less than significant (Class II). Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) would potentially reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts may remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

C-4a Complete consultation with Native American and other Traditional Groups.

V-3a Reduce visual contrast of towers and conductors.

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties within and in the vicinity of the Future Expansion project areas during operation and long-term presence of the project. Direct impacts would result from maintenance or repair activities, while increased erosion or visual intrusion could result as an indirect project impact. These impacts are significant, but would potentially be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures as detailed in Mitigation Measure C-5a, as well as implementation of Mitigation Measures C-1b, C-1c, C-2a, and C-4a.

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

C-1b Avoid and protect potentially significant resources.

C-1c Develop and implement Historic Properties Treatment Plan.

C-2a Properly treat human remains.

C-4a Complete consultation with Native American and other Traditional Groups.

C-5a Protect and monitor NRHP- and/or CRHR-eligible properties.

D.7.16 Connected Actions and Indirect Effects – Cultural Resources

Section B.6 describes the other projects that have been found to be related to the Sunrise Powerlink Project. They fall into two categories:

- **Connected Actions.** The four projects found to be connected to the Sunrise Powerlink Project are the Stirling Energy Systems solar facility, two components of the IID 230 kV transmission system upgrades, the Esmeralda–San Felipe Geothermal Project, and the Jacumba Substation. Those projects are addressed in Sections D.7.16.1 through D.7.16.4.
- **Indirect Effects.** One project, the SCE La Rumorosa Wind Project, would create effects as a result of the construction and operation of the Sunrise Powerlink Project. That project is addressed in Section D.7.16.5.

D.7.16.1 Stirling Energy Systems Solar Two LLC Project

As agreed in a Power Purchase Agreement (PPA) approved by the CPUC, SDG&E would purchase up to 900 MW of solar power produced at a proposed 8,000-acre Concentrating Solar Power (CSP) facility in the Imperial Valley (see Section B.6.1). At least 600 MW of this total would be transmitted via the SRPL. Stirling Energy Systems (SES) Solar Two, LLC would construct, own and operate the CSP facility and an associated 230 kV transmission line. The CSP site would be leased by SES from BLM, and additional individual private parcels within the site boundaries would be acquired. The transmission line would be constructed within a new ROW easement just north of and adjacent to the SWPL.

As described in Section B.6, the CPUC and BLM have determined that the Stirling CSP facility and associated 230 kV transmission line are so closely related to the Proposed Project as to be considered “connected actions” under the National Environmental Policy Act (NEPA). Therefore, the Stirling site and transmission line are discussed in this EIR/EIS in order to fully disclose the potential for this project to be constructed as a result of the presence of the SRPL (if it is approved and constructed). Specific mitigation measures that would reduce potentially significant impacts of the Stirling CSP facility and transmission line are included in the environmental impact analysis below. These mitigation measures and others developed by Stirling Energy Systems would be reviewed and approved at the time of project permitting.

Approval of the SRPL would not result in automatic approval of the Stirling CSP facility or transmission line discussed below, and the project would require SES permit applications to CEC and BLM and compliance with CEQA and NEPA, followed by approvals from the CEC and BLM prior to construction on BLM lands.

Environmental Setting

The historic and prehistoric period habitation of Imperial Valley has largely been tied to the availability of water, which is discussed in greater detail in Section D.7.2.1. Based on a database search of the Stirling CSP site and a 300-foot corridor along the 230 kV transmission line route (150 feet on either side of the centerline), a total of 302 recorded resources were identified including:

- Lithic scatter (120 recorded resources)
- Isolates (88 recorded resources)
- Ceramic and Lithic scatter (28 recorded resources)
- Lithic reduction areas (11 recorded resources)
- Rock feature (9 recorded resources)
- Trail segment (8 recorded resources)
- Temporary camps (13 recorded resources)
- Ceramic scatter (6 recorded resources)
- Trail segment and lithic scatter (5 recorded resources)
- Cremations (2 recorded resources)
- Historical refuse scatter (4 recorded resources)
- Historical occupation (1 recorded resource)
- Quarry site and lithic scatter (1 recorded resource)
- Seasonal occupation (1 recorded resource)
- Historical rail road stop and historical refuse scatter (1 recorded resource)
- Multi-component site (1 recorded resource)
- Habitation (1 recorded resource)
- Prehistoric District (1 recorded resource)
- Trail segment (1 recorded resource)

Of the 302 record resources found, 78 contribute to a National Register of Historic Places-listed (NRHP) district, one occurs within an NRHP-nominated district, four others were presumed to be eligible for NRHP listing, 167 had insufficient data, and 52 were found to be ineligible. A complete list of the known resources and associated bibliographic references is included in Table Ap.9B-36 in Appendix 9B. The Stirling CSP site borders the Yuha Basin ACEC. The BLM designated this area an ACEC in order to protect a variety of cultural resources such as rock carvings, village sites, hunting camps, and historic trails (see Section D.7.3).

Environmental Impacts and Mitigation Measures

Project features would not be located in the vicinity of any known historic architectural resources, therefore Impact C-6 (Long-term presence of the project would cause an adverse change to known historic architectural [built environment] resources) would not occur.

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class I or II)

“Historic properties,” as described above, are those resources (including historical built environment resources, prehistoric archaeological sites, historical archaeological sites, and traditional cultural properties — regardless of their age) that are determined by a federal, State, or local agency to be eligible for listing on a historic register. The Stirling CSP project would impact historic properties directly during construction activities such as excavating and grading.

There is one NRHP-listed district that includes 78 contributing resources within the Stirling CSP site and transmission line project area. In addition, there are 167 known cultural resources within the Stirling CSP site and transmission line project area that are potentially eligible for listing on the NRHP or CRHR, including four sites with human remains that are presumed eligible for NRHP listing. When archaeological resources, both historic and prehistoric, are found eligible for the NRHP and CRHR it is usually because of their potential for containing data that contribute to important research issues (Criterion D). Mitigation through data-recovery excavations can salvage a portion of those important data, and apply them to relevant research. However, as data recovery mitigation is, in itself, destructive, avoidance is preferred wherever possible. Nonetheless, if destruction of significant archaeological resources is unavoidable, data recovery is considered adequate mitigation under NEPA and CEQA to reduce impacts to a less than significant level (Class II; 36 CFR Part 800). However, as noted below under Impact C-2, there are four cultural resources known to contain human remains. Impacts to these sites would remain significant (Class I), even after mitigation.

As explained in Section D.7.9 above, isolates, by definition, lack immediate cultural context and therefore lack the data potential that would be required to be considered eligible for NRHP or CRHR inclusion. As a result, project effects to isolates would generally not be considered adverse under NHPA, nor would they constitute significant impacts under NEPA or CEQA. However, portions of an NRHP-listed discontinuous archaeological district (Yuha Basin Discontinuous District) occur within the Stirling CSP site. This district includes many prehistoric sites and isolates. While isolates within discontinuous districts are typically not eligible for listing in the NRHP register, there may be additional management considerations for district areas within the project area if project activities are determined to have adverse impacts to the NRHP-listed district. While it is likely that resources within the Stirling CSP site listed as part of the Yuha Basin Discontinuous District would be directly impacted, impacts could be mitigated to a less than significant level (Class II) through data recovery developed in consultation with the BLM and implemented through a Historic Properties Treatment Plan.

The potential for the Stirling CSP project to cause an adverse change to known historic properties would be mitigable to less than significant levels (Class II), except as noted above and below for human remains (Class I), by implementing Mitigation Measures C-1a (Inventory and evaluate cultural resources in Final Area of Potential Effect (APE), C-1b (Avoid and protect potentially significant resources), C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction at known ESAs), and C-1f (Train construction personnel). For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** Inventory and evaluate cultural resources in Final APE.
- C-1b** Avoid and protect potentially significant resources.
- C-1c** Develop and implement Historic Properties Treatment Plan.
- C-1d** Conduct data recovery to reduce adverse effects.
- C-1e** Monitor construction at known ESAs.
- C-1f** Train construction personnel.

Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains (Class I)

Four archaeological sites known to contain Native American human remains may be adversely affected by construction of the Stirling CSP site and associated transmission line (Table Ap.9B-37 in Appendix 9B). Additional sites with human remains could exist within other portions of the Stirling CSP project. Impacts to human remains are considered an adverse effect, even after mitigation (36 CFR 800) (Class I). Adverse effects would be reduced by implementing Mitigation Measures C-1b, C-1c, C-1d, C-1e, C-1f, and C-2a, but would remain significant.

Mitigation Measures for Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains

- C-1b** Avoid and protect potentially significant resources.
- C-1c** Develop and implement Historic Properties Treatment Plan.
- C-1d** Conduct data recovery to reduce adverse effects.
- C-1e** Monitor construction at known ESAs.
- C-1f** Train construction personnel.
- C-2a** Properly treat human remains.

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

The potential for impacts to unknown significant subsurface archaeological resources is considered high due to the number of known archaeological sites at the project sites and the extent of ground-disturbing activities associated with project construction. Types of subsurface features that could be encountered include prehistoric resources such as buried living surfaces, trash deposits, hearths, burials and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction.

As explained in Section D.7.9, impacts to unknown significant prehistoric and historic archaeological sites would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f C-2a, and C-3a. The only exception would be if human remains were uncovered during construction activities; in that event, as explained in Section D.7.9, impacts would remain significant (Class I) (36 CFR 800).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no TCPs have been identified within the Stirling CSP project areas. However, the Sacred Lands File search conducted for the proposed SRPL noted that lands sacred to Native Americans are present in the vicinity of the SRPL Project area, in an undisclosed location. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA, would initiate government-to-government consultation with appropriate Native American groups and notification to other public groups regarding Stirling CSP project effects on traditional cultural values. That consultation would determine whether there are TCPs that would be affected by the Stirling CSP project. Though impacts to TCPs are often significant (Class I), mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated Native Americans or other Traditional Groups can reduce the impact to less than significant (Class II). If any TCPs are identified within the impact areas of the Stirling CSP project, implementation of Mitigation Measure C-4a that would require complete consultation with Native Americans and other Traditional Groups could reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts may remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

- C-4a Complete consultation with Native American and other Traditional Groups.**

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties within and in the vicinity of the project area as a result of operation and long-term presence of the 230 kV route. Direct impacts would result from maintenance or repair activities, while increased erosion and access could result in indirect project impacts. These impacts are significant, but can be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed below.

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b Avoid and protect potentially significant resources.**
- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-2a Properly treat human remains.**
- C-4a Complete consultation with Native American and other Traditional Groups.**
- C-5a Protect and monitor NRHP- and/or CRHR-eligible properties.**

D.7.16.2 IID Transmission System Upgrades

As part of Phase 2 of the Imperial Valley Study Group’s development plan (see Section A.4.3), IID would construct a new 230 kV line from the Bannister Substation to a new San Felipe 500/230 kV Substation to interconnect to the proposed Imperial Valley to San Diego 500 kV line (i.e., the Sunrise Powerlink line). This San Felipe Substation could potentially provide an additional interconnection between the IID and CAISO systems, and thus another point for the delivery of renewable resources to Southern California loads. IID would construct, own and operate these upgrades.

As described in Section B.6, the CPUC and BLM have determined that these IID Transmission System Upgrades are so closely related to the Proposed Project as to be considered “connected actions” under the National Environmental Policy Act (NEPA). Therefore, IID Transmission System Upgrades are discussed in this EIR/EIS in order to fully disclose the potential for a Bannister–San Felipe 230 kV transmission line and new San Felipe 500/230 kV Substation to be constructed as a result of the presence of the SRPL (if it is approved and constructed). Mitigation measures that would reduce potentially significant impacts of the IID Transmission System Upgrades projects are included in the environmental impact analysis below; however, implementation of specific mitigation measures would be developed and executed by IID at the time of project permitting and approval.

Approval of the SRPL would not result in automatic approval of the IID Transmission System Upgrades discussed below, and the projects would require applications by IID, compliance with CEQA and NEPA, followed by approvals from the BLM prior to construction on BLM lands.

Environmental Setting

The historic and prehistoric period habitation of Imperial Valley has largely been tied to the availability of water, which is discussed in greater detail in Section D.7.9. Based on a database search of a 300-foot corridor along the 230 kV route (150 feet on either side of the centerline) and within San Felipe Substation site, a total of 46 recorded resources was identified including:

- Isolates (19 recorded resources)
- Ceramic and Lithic scatter (13 recorded resources)
- Trail segment (1 recorded resources)
- Historical trail segment (1 recorded resource)
- Lithic scatter (2 recorded resources)
- Temporary camp (3 recorded resources)
- Habitation area (3 recorded resources, with cremations)
- Multi-component (historical and cultural components) (2 recorded resource)
- Historical road segment (1 recorded resource)
- Ceramic scatter (1 recorded resources)

Two of the 46 resources, a roasting pit site and an isolate, were found within the San Felipe Substation area. Of the 46 record resources found, one was listed with the National Register of Historic Places (NRHP), three would be presumed eligible for the NRHP, 23 had insufficient data, and 19 were found to not be eligible. A complete list of the known resources and record sources and dates is included in Table Ap.9B-38 in Appendix 9B.

Environmental Impacts and Mitigation Measures

There are 44 known cultural resources located within the 300-foot-wide corridor for this 26.3-mile 230 kV route. Two additional resources were found within the San Felipe Substation site. The potential to encounter undiscovered cultural resources during project construction is considered high, due to the

presence of numerous known prehistoric archaeological sites within the corridor. Eighteen (18) of the known cultural resources are isolated artifacts (isolates) that do not require mitigation measures. As explained above, isolates, by definition, lack immediate cultural context, and therefore, lack the data potential that would be required to be considered eligible for NRHP or CRHR inclusion. As a result, project effects to isolates would not be considered adverse under NHPA, nor would they constitute significant impacts under NEPA or CEQA. The remaining 22 resources include many lithic and ceramic artifact scatters. One site that would be subject to direct impact (CA-IMP-7858) has been determined NRHP- and/or CRHR-eligible and one linear resource (Fages–De Anza Trail–Southern Emigrant Road) is listed on the NRHP and CRHR; these resources therefore require data recovery or site treatment, as detailed below, to mitigate project-related adverse effects if they cannot be avoided.

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class I or II)

“Historic properties” are those resources (including historical built environment resources, prehistoric archaeological sites, historical archaeological sites, and traditional cultural properties—regardless of their age) that are determined by a federal, State, or local agency to be eligible for listing on a historic register. The IID projects would impact historic properties directly during construction activities such as excavating and grading, as well as indirectly through increased access to cultural resources that could result in vandalism or inadvertent impacts.

There are 23 known cultural resources potentially eligible for listing on the NRHP or CRHR, and three sites presumed eligible for NRHP listing, including two habitation sites with cremations (IMP-7858 and D2-S-470) and a lithic and ceramic scatter with a cremation (IMP-7849). There is one NRHP and CRHR listed linear resource, the Fages–De Anza Trail–Southern Emigrant Road, which would be located in an area of direct impact. When archaeological resources, both historic and prehistoric, are found eligible for the NRHP and CRHR, it is usually because of their potential for containing data that contribute to important research issues (Criterion D). Mitigation through data-recovery excavations can salvage a portion of those important data, and apply them to relevant research. However, as data recovery mitigation is, in itself, destructive, avoidance is preferred wherever possible. Nonetheless, if destruction of significant archaeological resources is unavoidable, data recovery is considered adequate mitigation, under NEPA and CEQA, to reduce impacts to a less than significant level (Class II). However, as noted below under Impact C-2, there are three cultural resources known to contain human remains. Impacts to these sites would remain significant (Class I), even after mitigation.

Generally, data-recovery investigations, alone, are not considered adequate to reduce adverse effects to resources that are considered eligible for the National Register under Criteria A, B, or C. That is because the qualities that contribute to their register eligibility often include such values as setting, feeling, or workmanship that convey a sense of the past. Other types of treatment are required to mitigate any loss of those historic qualities, such as detailed mapping, scaled drawings, historical documentation, and public interpretation. The Fages–De Anza Trail–Southern Emigrant Road has been determined eligible under Criterion A (association with significant events in the past) and Criterion B (association with significant persons in the past). Because the management plan for this resource encourages public knowledge and use of the trail/road, impacts to it would be reduced to Class II through installation of interpretive signage and other mitigation measures consistent with the management plan. These measures would reduce impacts through evaluation, avoidance, treatment, and data recovery as presented in the mitigation measures below. Evaluation would determine the significance of

a resource, and therefore help to define whether impacts to that resource would be potentially significant. It should be noted that archaeological testing for NRHP/CRHR eligibility evaluation is destructive; resource avoidance is always preferred where possible.

The potential for the 230 kV line to cause an adverse change to known historic properties would be mitigable to less than significant levels (Class II), except as noted above and below for human remains (Class I), by implementing Mitigation Measures C-1a (Inventory and evaluate cultural resources in Final Area of Potential Effect (APE), C-1b (Avoid and protect potentially significant resources), C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction at known ESAs), and C-1f (Train construction personnel). For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains (Class I)

Three archaeological sites known to contain Native American human remains (D2-S-470, IMP-7849, and IMP-7858) would be adversely affected by construction of the 230 kV line (see Table Ap.9B-39 in Appendix 9B). Additional sites with human remains could exist within the 230 kV line. Impacts to human remains are considered an adverse effect, even after mitigation (36 CFR 800) (Class I). Adverse effects would be reduced by implementing Mitigation Measures C-1b, C-1c, C-1d, C-1e, C-1f, and C-2a, but would remain significant.

Mitigation Measures for Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**
- C-2a** **Properly treat human remains.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

The potential for impacts to unknown significant subsurface archaeological resources is considered high due to the number of known archaeological sites along the route and the extent of ground-disturbing activities associated with project construction. Types of subsurface features that could be encountered

along the 230 kV route include prehistoric resources such as buried living surfaces, trash deposits, hearths, burials and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. As explained in Section D.7.9, impacts to unknown significant prehistoric and historic archaeological sites would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f C-2a, and C-3a. The only exception would be if human remains were uncovered during construction activities; in that event, impacts would remain significant (Class I) (36 CFR 800).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no TCPs have been identified within the 230 kV study corridor or substation site. However, the Sacred Lands File search conducted for the proposed SRPL noted that lands sacred to Native Americans are present in the vicinity of the SRPL Project area, in an undisclosed location. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA has initiated government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that would be affected within this segment. Though impacts to TCPs are often significant (Class I), mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” “rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated Native Americans or other Traditional Groups can reduce the impact to less than significant (Class II). If any TCPs are identified within the 230 kV line, implementation of Mitigation Measure C-4a that would require complete consultation with Native Americans and other Traditional Groups could reduce impacts to TCPs to a level that is less than significant (Class II).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

- C-4a Complete consultation with Native American and other Traditional Groups.**

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties within and in the vicinity of the project area as a result of operation and long-term presence of the 230 kV route and San Felipe Substation. Direct impacts would result from maintenance or repair activities, while increased erosion and access

could result in indirect project impacts. These impacts are significant, but can be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, detailed below.

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b Avoid and protect potentially significant resources.**
- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-2a Properly treat human remains.**
- C-4a Complete consultation with Native American and other Traditional Groups.**
- C-5a Protect and monitor NRHP- and/or CRHR-eligible properties.**

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

The presence of transmission lines and towers results in indirect visual impacts to historic architectural resources. Indirect visual impacts to potentially NRHP- and/or CRHR-eligible built environment resources such as buildings, structures, and historic districts located near the IID Transmission Upgrades should be avoided or minimized, where feasible. The 230 kV route would cross the NRHP-listed Fages–De Anza Trail–Southern Emigrant Road, but no built environment structures. These impacts are significant, but would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-6a (reduce adverse visual intrusions to historic built environment properties) and V-3a, which would reduce visual intrusions to historic built environment properties.

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

- C-6a Reduce adverse visual intrusions to historic built environment properties.**
- V-3a Reduce visual contrast of towers and conductors.**

D.7.16.3 Esmeralda–San Felipe Geothermal Project

An EIS is currently being prepared by BLM to analyze the leasing of geothermal resources exploration, development, and utilization in the Truckhaven Geothermal Leasing Area (Truckhaven) located in western Imperial County, California (refer to Figure B-46). Currently, BLM has non-competitive geothermal lease applications pending for portions of this land, including lease applications from Esmeralda Energy, LLC (Esmeralda); however, the land must first be assessed under NEPA regulations before granting leases. Under the Proposed Action analyzed in the EIS, BLM would approve the pending non-competitive leases and offer competitive leases for all other available lands at Truckhaven.

The Esmeralda–San Felipe Geothermal Project would develop 20 MW of geothermal resources within the Truckhaven Geothermal Leasing Area; however, Esmeralda is not able to submit a project application to BLM for the Esmeralda–San Felipe Geothermal Project until their pending lease applications with BLM for Truckhaven are approved. In the absence of a formal Project application, it is assumed that roughly half of the components identified under the Reasonably Foreseeable Development (RFD) scenario in BLM’s Truckhaven EIS would apply to the Esmeralda–San Felipe Geothermal Project. Additionally, the description of the environmental setting and likely impacts are partially adapted from the Draft EIS for the Truckhaven Geothermal Leasing Area (February 2007). The RFD describes the

anticipated development that would occur at Truckhaven to facilitate geothermal resources exploration, development and utilization should the leases be approved by BLM and include new wells, a power plant and transmission lines, as described in Section B.6.3. Geothermal energy uses heat from the earth, extracted through geothermal wells in the form of steam or brine, which is then transported via pipeline and used to drive turbines, which drive electricity generation.

As described in Section B.6, the CPUC and BLM have determined that the Esmeralda–San Felipe Geothermal Project is so closely related to the Proposed Project as to be considered a “connected action” under the National Environmental Policy Act (NEPA). Therefore, the Esmeralda–San Felipe Geothermal Project is discussed in this EIR/EIS in order to fully disclose the potential for a new geothermal plant and associated linears to be constructed as a result of the presence of the SRPL (if it is approved and constructed). Mitigation measures that would reduce potentially significant impacts of the Esmeralda–San Felipe Geothermal Project are included in the environmental impact analysis below; however, implementation of specific mitigation measures would be developed and executed by Esmeralda at the time of project permitting and approval.

Approval of the SRPL would not result in automatic approval of the Esmeralda–San Felipe Geothermal Project discussed below, and the project would require applications by Esmeralda Energy, LLC, compliance with CEQA and NEPA, followed by approvals from the BLM prior to construction on BLM lands.

Environmental Setting

Most of the cultural resources in the vicinity of the Truckhaven Geothermal Leasing Area (Truckhaven) date to the Late Prehistoric and Ethnohistoric periods. During this time, the Colorado River inundated the Salton Trough to create ancient Lake Cahuilla. Eventually, the Colorado River would re-establish a route back to the Gulf of California, resulting in repeated infillings of the lake at various depths. The habitats created along the shoreline of Lake Cahuilla were used by Native Americans to hunt, fish, and gather food. Most archaeological sites date to the last four phases of Lake Cahuilla infilling that occurred during the last 1,000 years. The final phase of inundation and recession occurred at the transition between the Late Prehistoric to the Ethnohistoric period (A.D. 1650 and 1700). Historic period resources are also present and include Spanish, Mexican, and American Period sites, trails, and roads. Recurrent themes observed in this area include transportation, mining, and military training uses.

There are 179 recorded archaeological sites located within Truckhaven (see Table Ap.9B-40 in Appendix 9B). Of these 179 sites, 169 are prehistoric and 10 are historic. The prehistoric sites include surface artifact scatters, hearth features, rock features, trails, isolated surface finds, temporary camps and extensive habitation sites containing midden deposits, hearth features, faunal bone, and a variety of artifact types, including ceramics, flaked stone tools, and milling implements, as well as a mineral pigment quarry source. Three of the previously recorded sites contain evidence of human cremations, which bear special significance for local Native American tribes. The historical resources include an exploratory oil well, a military target, a mining claim, and several historical road/trail segments.

In addition to the previously recorded resources within the Truckhaven Geothermal Leasing Area, there is a large ethnographic village site located within 0.5-mile of the leasing area. The presence of this significant site near a surveyed portion of Truckhaven suggests that previously unrecorded cultural resources associated with the village site may exist nearby and possibly within the leasing area boundaries.

Environmental Impacts and Mitigation Measures

As stated in BLM's Draft EIS for the Truckhaven Geothermal Leasing Area, the following BMPs and other mitigation measures would be included/considered in Plans of Operation, which are required for surface-disturbing activities, in order to minimize adverse impacts to resources and uses in the Truckhaven Geothermal Leasing Area, which includes the Esmeralda-San Felipe Geothermal Project area:

- Before any specific permits are issued under leases, treatment of cultural resources will follow the procedures established by the Advisory Council on Historic Preservation for compliance with Section 106 of the National Historic Preservation Act.
- A pedestrian inventory will be undertaken of all portions that have not been previously surveyed or are identified by BLM as requiring inventory to identify properties that are eligible for the NRHP.
- Those sites not already evaluated for NRHP eligibility will be evaluated based on surface remains, subsurface testing, archival, and/or ethnographic sources.
- Subsurface testing will be kept to a minimum whenever possible if sufficient information is available to evaluate the site or if avoidance is an expected mitigation outcome.
- Recommendations regarding the eligibility of sites will be submitted to the BLM, and a treatment plan will be prepared to detail methods for avoidance of impacts or mitigation of effects. The BLM will make determinations of eligibility and effect and consult with SHPO as necessary based on each proposed lease application and project plans.
- Avoidance of impacts through project design will be given priority over data recovery as the preferred mitigation measure.
- Avoidance measures include moving project elements away from site locations or to areas of previous impacts, restricting travel to existing roads, and maintaining barriers and signs in areas of cultural sensitivity.
- Any data recovery will be preceded by approval of a detailed research design, Native American Consultation, and other requirements for BLM issuance of a permit under the Archaeological Resources Protection Act.

Approximately 40 percent of the 179 archeological sites within Truckhaven may be eligible for inclusion in the National Register of Historic Places (NRHP). Some of the largest of these sites, ranging in size from 5 to 80 acres, may be NRHP-eligible due to the presence of subsurface deposits, architectural features, and human remains. According to BLM's Draft EIS, the largest and most sensitive of these sites have been fenced and receive quarterly inspections by the California Department of Parks and Recreation rangers.

A total of 44 archeological sites is recorded within the BLM-owned sections of the Truckhaven Geothermal Leasing Area. Several of these sites are among the largest Lake Cahuilla habitation sites in the area. Many more likely remain unrecorded, particularly in the northernmost 30 sections of Truckhaven. Additional site concentrations occur in the southernmost tier of sections, with infrequent site occurrences in the uplifted sandstone outcrops to the north and heavily deflated areas to the west. Nevertheless, 10 of the 12 competitive leasing sections are ranked as medium to high in sensitivity for impacts to cultural resources. A separate environmental impact assessment will be conducted at the time that Esmeralda submits a project application to BLM. Pursuant to NEPA, this assessment will inventory and analyze impacts to cultural resources within the Esmeralda-San Felipe project area.

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class I or II)

There are 179 known archaeological sites within the Truckhaven Geothermal Leasing Area; as many as 40 percent of these may be eligible for NRHP-listing. When archaeological resources, both historic and prehistoric, are found eligible for the NRHP and CRHR it is usually because of their potential for containing data that contribute to important research issues (Criterion D). Mitigation through data-recovery excavations can salvage a portion of those important data, and apply them to relevant research. However, as data recovery mitigation is, in itself, destructive, avoidance is preferred wherever possible. Nonetheless, if destruction of significant archaeological resources is unavoidable, data recovery is considered adequate mitigation, under NEPA and CEQA, to reduce impacts to a less than significant level (Class II). A separate environmental impact assessment will be conducted at the time a project application is received by BLM. Pursuant to NEPA, this assessment will inventory and analyze impacts to cultural resources within the Esmeralda–San Felipe project area. The potential for the project to cause an adverse change to known historic properties would be mitigable to less than significant levels (Class II), except as noted below for human remains (Class I), by implementing Mitigation Measures C-1a (Inventory and evaluate cultural resources in Final Area of Potential Effect (APE), C-1b (Avoid and protect potentially significant resources), C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction at known ESAs), and C-1f (Train construction personnel). For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains (Class I)

Archaeological sites known to contain Native American human remains would be adversely affected by construction of the Esmeralda–San Felipe Geothermal Project. Five known sites contain documented evidence of human remains (see Table Ap.9B-41 in Appendix 9B). Any adverse effect to human remains is considered a significant, unmitigable impact. A separate environmental impact assessment will be conducted at the time a project application is received by BLM. Pursuant to NEPA, this assessment will inventory and analyze impacts to cultural resources within the Esmeralda–San Felipe project area. Impacts to Native American human remains are considered an adverse effect, even after mitigation (36 CFR 800) (Class I). Adverse effects would be reduced by implementing Mitigation Measures C-1b, C-1c, C-1d, C-1e, C-1f, and C-2a, but would remain significant.

Mitigation Measures for Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**
- C-2a** **Properly treat human remains.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

The potential for occurrence of unknown significant subsurface archaeological resources is considered high due to the number of known archaeological sites within the Truckhaven Geothermal Leasing Area and the extent of ground-disturbing activities associated with project construction. Buried archaeological resources may be encountered during grading of access roads or the power plant site, or excavation associated with well or transmission tower construction. A separate environmental impact assessment will be conducted at the time a project application is received by BLM. Pursuant to NEPA, this assessment will inventory and analyze impacts to cultural resources within the Esmeralda-San Felipe project area.

As explained in Section D.7.9, impacts to unknown significant prehistoric and historic archaeological sites could be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f C-2a, and C-3a. The only exception would be if human remains were uncovered during construction activities; in that event, impacts would remain significant (Class I) (36 CFR 800).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1f** **Train construction personnel.**
- C-2a** **Properly treat human remains.**
- C-3a** **Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

Lands sacred to Native Americans, including the Tipai (Kumeyaay) and Cahuilla Indians, may be present in the Truckhaven area. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA would initiate government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that would be affected by the Esmeralda-San Felipe Geothermal Project. Though impacts to TCPs are often significant (Class I), mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated with Native Americans or other

Traditional Groups can reduce the impact to less than significant (Class II). Implementation of Mitigation Measure C-4a could reduce impacts to TCPs to a level that is less than significant, but in some cases impacts may remain significant (Class I). A separate environmental impact assessment would be conducted at the time a project application is received by BLM. Pursuant to NEPA, this assessment would inventory and analyze impacts to cultural resources within the Esmeralda–San Felipe project area, including TCPs.

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

C-4a Complete consultation with Native American and other Traditional Groups.

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties within and in the vicinity of the project area as a result of operation and long-term presence of the Esmeralda–San Felipe Geothermal Project. Direct impacts would result from maintenance or repair activities, while increased erosion and access could result in indirect project impacts. These impacts are significant, but can be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed below. A separate environmental impact assessment will be conducted at the time a project application is received by BLM. Pursuant to NEPA, this assessment will inventory and analyze impacts to cultural resources within the Esmeralda–San Felipe project area.

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

C-1b Avoid and protect potentially significant resources.

C-1c Develop and implement Historic Properties Treatment Plan.

C-2a Properly treat human remains.

C-4a Complete consultation with Native American and other Traditional Groups.

C-5a Protect and monitor NRHP- and/or CRHR-eligible properties.

D.7.16.4 Jacumba Substation

Environmental Setting

The Jacumba Substation is located in the San Diego Mountains, whose prehistoric sites most frequently include bedrock milling features, and historic sites typically indicate ranching and mining activities; and the inland valleys, a transition zone between the mountains and coast with prehistoric sites bearing appropriate transitional evidence such as bedrock milling, lithic artifact scatters, and temporary camps and habitations, while historic sites contain evidence of settlement and ranching throughout the Mexican and American periods.

SWCA conducted a cultural resources records search for 100 percent of the Jacumba Substation and a 0.5-mile radius around the substation. No survey was conducted for this indirect effect of Sunrise Powerlink; however, a portion of the substation area has been surveyed for the SRPL project. Two previously recorded cultural resources, a lithic scatter CA-SDI-7951 and a historical refuse scatter (and CA-SDI-7030), are recorded within the Jacumba Substation and are subject to potential impacts (see Table Ap.9B-42 in Appendix 9B).

Environmental Impacts and Mitigation Measures

Construction Impacts

Two cultural resources that are potentially eligible for the NRHP listing have been identified within the Jacumba Substation. There is also the potential to encounter undiscovered cultural resources during survey or project construction. Both of the resources within the Jacumba Substation are potentially eligible for NRHP listing. Because known cultural resources that are potentially eligible for the NRHP or CRHR exist within areas of proposed direct impact, as well as the potential for encountering undiscovered cultural resources, the following impacts could occur during project construction or operation.

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

Two prehistoric cultural resources that are potentially eligible for listing on the NRHP or CRHR are located within Jacumba Substation. There is also the potential to encounter undiscovered cultural resources during survey or project construction. Adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered at the Jacumba Substation include prehistoric resources such as buried living surfaces, artifact deposits, hearths, burials, and cremations. Historical resources that could be unearthed during project construction include refuse pits, privies, and structural foundations. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with construction or undergrounding of power lines. Impacts to most unknown significant prehistoric and historic archaeological sites would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation.

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**

- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no TCPs have been identified that would be directly impacted by the Jacumba Substation. However, Native American consultation has indicated that there are prehistoric rock art sites, springs, and sacred mountains in the vicinity of this alternative. Additionally, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of the alternatives, in undisclosed locations. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA, has initiated government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that could be affected within this segment. BLM consultation with Viejas Tribal Government has indicated that Viejas has concerns about cultural resources in its vicinity, but as of August 28, 2007, no areas of specific concern have been identified, nor have these concerns indicated that the Jacumba Substation has the potential to impact TCPs. Though impacts to TCPs are often Class I, mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated with Native Americans or other Traditional Groups can potentially reduce the impact to Class II. Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) could potentially reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts may remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

- C-4a Complete consultation with Native American and other Traditional Groups.**

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class I or II)

Direct and indirect impacts would occur to historic properties within and in the vicinity of the project area during operation and long-term presence of the project. There are two known resources that may be NRHP eligible located within the Jacumba Substation that are potentially subject to long-term and operational impacts. Direct impacts to these resources or other newly identified resources could result from maintenance or repair activities, while increased erosion could result as an indirect project impact. These impacts would be significant, but can be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-2a (Properly treat human remains) and C-4a (Complete consultation with Native Americans and other Traditional Groups). Impacts to human remains would remain significant (Class I).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-2a** **Properly treat human remains.**
- C-4a** **Complete consultation with Native American and other Traditional Groups.**
- C-5a** **Protect and monitor NRHP- and/or CRHR-eligible properties.**

D.7.16.5 SCE La Rumorosa Wind Project

Environmental Setting

United States - Cultural Resources. The “Rumorosa Wind Developers II” (RWD) is located in the San Diego Mountains, whose prehistoric sites most frequently include bedrock milling features, and historic sites typically indicate ranching and mining activities; and the inland valleys, a transition zone between the mountains and coast with prehistoric sites bearing appropriate transitional evidence such as bedrock milling, lithic artifact scatters, and temporary camps and habitations, while historic sites contain evidence of settlement and ranching throughout the Mexican and American periods.

Sites exhibiting a broad range of past human activity have been identified within the nearby Interstate 8 Alternative. These include, but are not limited to, prehistoric artifact scatters, trails, temporary camps, habitation sites, quarries, and isolates, and historic roads, highways, railroads, refuse scatters, quarries, and walls. To date, SWCA and AE archaeologists have completed intensive cultural resources survey for 6.24 percent of the 1.7-mile RWD transmission line located in the United States on behalf of the CPUC and BLM. There are eight known cultural resources located within 150 feet of the proposed centerline. Of the eight resources, two are recommended NRHP-eligible, one of which is also recommended eligible for CRHR, see details below.

- The RWD transmission line crosses the San Diego & Arizona Eastern Railroad, which, as a whole, has been recommended NRHP-eligible under Criteria A, C, and D by SWCA. Features and portions of this railroad outside the RWD transmission line alignment have been determined not eligible in the past; however, it is likely that other portions of this historically significant railroad remain NRHP and CRHR eligible.
- The RWD transmission line is partially located within the historical Old Highway 80. This former intercontinental highway once called the “Broadway of America” has been designated as a County of San Diego “Historic Route” and has been nominated as a “State Historic Route.” A 33-mile portion of the Old Highway 80 route has been recommended eligible for NRHP and CRHR under Criteria A and C, with specific contributing and non-contributing elements (Lortie, 2000).
- The remaining six cultural resources have not been evaluated and are potentially eligible for NRHP/CRHR listing.

Mexico - Cultural Resources. The RWD project would be located east of the town of La Rumorosa, in the Sierra de Juárez Mountains. The Baja California government website provides a general cultural history of the region (GobBC, 2007). The Baja California peninsula is believed to have been inhabited as early as 10,000 -12,000 BC (Gamble et al., 2006). Like the United States Jacumba region, the La Rumorosa region is one of transition between the Sierra de Juárez and the Desierto del Colorado, or the Colorado Desert. Ethnographically, the La Rumorosa region was occupied by the Kumeyaay (often

spelled Kumiai in Mexico). The lifeways of the Kumeyaay inhabitants at the time of European contact are presented in detail in Appendix 9A.

The official website of Baja California Secretary of Tourism highlights the Museum of Archeology at El Vallecito, located approximately 3 miles northeast from the town of La Rumorosa. This archaeoastronomy site hosts prehistoric petroglyphs and pictographs, as well as lithic and ceramic artifacts. This elaborate site with evidence of multiple activities is indicative of the prehistoric occupation and culture of the region.

Environmental Impacts and Mitigation Measures

Construction Impacts

There are eight known cultural resources located within the RWD transmission line area (see Table Ap.9B-43 in Appendix 9B). There is also the potential to encounter undiscovered cultural resources during project construction. Two of the resources are potentially eligible for the NRHP and CRHR. Because known cultural resources that are potentially eligible for the NRHP or CRHR exist within areas of proposed direct impact, as well as the potential for encountering undiscovered cultural resources, the following impacts could occur during project site testing, construction, or operation.

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II for the United States, No Available Data for Mexico)

United States. There are eight known cultural resources located within 150 feet of the 1.7 miles RWD project area. There is also the potential to encounter undiscovered cultural resources during project construction. Because known cultural resources that are potentially eligible for the NRHP or CRHR exist within areas of proposed direct impact, as well as the potential for encountering undiscovered cultural resources, the following impacts could occur during project construction or operation. As discussed in Section D.7.5.1, adverse construction impacts would be mitigated to a level less than significant by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f (Class II).

Mexico. The RWD wind farm and transmission line is located in Baja California, Mexico. No archaeological survey was performed for the area; however, the rich archaeological heritage of the area has been documented on both sides of the border. As such it is probable that known historic properties exist in this region and site survey is recommended before beginning construction of the RWD project. As discussed in Section D.7.5, should cultural resources be located during site survey or during project construction, adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains (No Impact for the United States; No Available Data for Mexico)

United States. The RWD transmission site is not known to contain Native American human remains (Impact C-2); however, it is possible that additional prehistoric archaeological sites identified during pre-construction surveys or discovered during the course of construction could contain human remains. Any adverse effect to human remains is considered significant (Class I).

Mexico. The designation Native American does not exist in Mexico; however, there are many indigenous nations (*naciones o pueblos indígenas*) and persons of indigenous descent within Mexico and within Baja California specifically. As such, Impact C-2 (Construction of the project could cause an adverse change to sites known to contain Native American human remains) will be considered for Mexico as well.

The RWD wind farm and transmission line are located in Baja California, Mexico. No archaeological records search or survey was performed for the area. However, there are known prehistoric sites in the vicinity of La Rumorosa including an archaeoastronomy site with pictographs and petroglyphs (El Vallecito). According to the Baja California Secretary of Tourism, the Archeological Museum at El Vallecito is located 3 miles northwest of La Rumorosa. The La Rumorosa area was ethnographically occupied by the Kumeyaay and related families of Kumeyaay still reside on both sides of the international border. As such there is potential that known human remains exist at the RWD wind farm site. Should human remains be discovered, work in the area of the discovery should be halted in that area and directed away from the discovery, but Mexican laws that may require specific actions are not known. It is assumed that cultural resources studies for the portion of the RWD project within Mexico would be coordinated with the Mexicali office of the *Instituto Nacional de Historia y Antropología* (INAH) to ensure compliance with Mexican law.

Mitigation Measures C-1b, C-1c, C-1d, C-1e, C-1f, C-2a, and C-2b would partially compensate for impacts to human remains and would outline procedures for the treatment of unanticipated discoveries during construction and Mexican laws regarding such matter should be consulted. However, should human remains be discovered, the impacts would still be considered significant (Class I).

Mitigation Measures for Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**
- C-2a** **Properly treat human remains.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

United States and Mexico. Types of subsurface features that could be encountered along the RWD project include prehistoric resources such as buried living surfaces, refuse deposits, hearths, burials, and cremations. Historical resources that could be unearthed during project construction include refuse

pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. Impacts to most unknown significant prehistoric and historic archaeological sites would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation.

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II for the United States; No Available Data for Mexico)

United States. To date, no TCPs have been identified within the RWD project area in the U.S. However, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of Jacumba, in undisclosed locations. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA has initiated government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that could be affected within this segment. Though impacts to TCPs are often significant (Class I), mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated Native Americans or other Traditional Groups can reduce the impact to less than significant (Class II). Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) could potentially reduce impacts to TCPs to a level that is less than significant (Class II); however, in some cases impacts may remain significant (Class I).

Mexico. Similar efforts shall be made for the RWD project area in Mexico. TCPs have been recorded by cultural resources practitioners in northern Baja (e.g., Gamble et al., 2006); however, it is unknown if any have been recorded in the vicinity of the RWD project area.

Mitigation Measure for Impact C-4: Construction of the project could cause an adverse change to Traditional Cultural Properties

- C-4a Complete consultation with Native American and other Traditional Groups.**

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II for the United States; No Available Data for Mexico)

United States. Direct and indirect impacts may occur to historic properties within and in the vicinity of the project area during operation and long-term presence of the project. There are two linear historical

resources (Old Highway 80 and the San Diego & Arizona Eastern Railroad) recommended eligible for NRHP, and six other known resources that may be register eligible located within the RWD transmission line site region that are potentially subject to long-term and operational impacts. Direct impacts could result from maintenance or repair activities, while increased erosion and access could result in indirect project impacts. These impacts are potentially significant, but can be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP and/or CRHR-eligible properties), as well as implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups).

Mexico. The RWD wind farm and transmission line are located in Baja California, Mexico. No archaeological survey was performed for the area; however, based on the known site density to the north of the border as well as the site at El Vallecito, it is likely that prehistoric and historic period resources are present. Because it is probable that historic properties exist in this region, site survey is recommended before beginning construction of the RWD project. Direct and indirect impacts may occur to known historic properties within and in the vicinity of the project area during operation and long-term presence of the project. These impacts are potentially significant, but can be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP and/or CRHR-eligible properties), as well as implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-2a** **Properly treat human remains.**
- C-4a** **Complete consultation with Native American and other Traditional Groups.**
- C-5a** **Protect and monitor NRHP- and/or CRHR-eligible properties.**

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

United States. The presence of the transmission line may result in indirect visual impacts to historic architectural resources. Indirect visual impacts to potentially NRHP and/or CRHR-eligible built environment resources such as the Old Highway 80 and the San Diego & Arizona Eastern Railroad located near the project should be avoided or minimized, where feasible. If the resource cannot be avoided, then screening this or other built environment resources from the project could minimize the visual impact. These impacts are potentially significant, but can be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measure C-6a, which would reduce visual intrusions to historic built environment properties.

Mexico. The presence of the wind turbines may result in indirect visual impacts to historic architectural resources. One such structure is the “Casa de Piedra” or stone house, built 40 to 50 years ago. While the stone house is not officially recognized by the Mexican government as an architectural resource, it is recognized on the Tecate government website as a source of tourism (Tecate Government, 2007). If the resource cannot be avoided, then screening this or other built environment resources from the project could minimize the visual impact. Similar resources are likely present and may also be subject to

visual impacts. These impacts are potentially significant, but can be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measure C-6a, which would reduce visual intrusions to historic built environment properties.

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

C-6a Reduce adverse visual intrusions to historic built environment properties.

D.7.17 Overall Impacts of Proposed Project – Cultural Resources

Many of the Applicant's Proposed Measures will ensure that most of the historic properties along the corridor of the Proposed Project, Future Transmission System Expansion, and Connected Actions are protected from direct impacts during project construction and operation. Potentially destructive features, including towers, pull sites, trenches, access roads, laydown areas, and substations would be located outside of known cultural resources sites, or would be redesigned to avoid newly discovered sites. Nonetheless, there are several known sites where complete avoidance would be operationally infeasible. Impacts to most of those cultural resources that cannot be avoided and protected can be mitigated to a level to less than significant levels (Class II), by virtue of the fact that their register eligibility hinges on archaeological data that can be recovered. However, there are notable and serious exceptions within the Proposed Project. Direct impacts to sites with Native American human remains cannot be mitigated to a level that is less than significant and would remain significant (Class I), even after mitigation. Impacts to Traditional Cultural Properties can potentially be reduced to Class II with creative approaches to reduce direct impacts to the qualities that make these places culturally, spiritually, or religiously important. Such mitigation could include avoidance of direct physical impacts, screening of visual impacts, or even payment of compensatory damages. Nonetheless, impacts to TCPs normally will result in significant impacts even after mitigation (Class I).

Environmental Impacts and Mitigation Measures

Construction Impacts

Construction of the Proposed Project would cause adverse changes to known historic properties

There are 241 cultural resources that are potentially NRHP/CRHR-eligible, NRHP/CRHR-eligible and/or NRHP/CRHR-listed within the Proposed Project transmission corridors. Of these 241 cultural resources, 223 are potentially eligible for listing on the NRHP or CRHR. Among the anticipated 28 resources to be encountered during surveys of the remaining portions of the Imperial, Anza-Borrego, Central, and Inland Valley Links, it is expected that many of them would be considered eligible for the NRHP and CRHR. As currently mapped, 94 of the sites identified within the five links of the Proposed Project are located in areas of direct impact.

There are 25 known cultural resources located within the property of the four substations of the Proposed Project. Of these known cultural resources 21 sites within substation properties are potentially eligible for listing on the NRHP- and/or CRHR (two are located within the fenced portion of the existing Imperial Valley Substation, one is located within the San Felipe Substation, and 18 are located within the Central East Substation property). Four prehistoric bedrock milling sites within the proposed Central East Substation property will be directly impacted by the Proposed Project.

The FTSE corridors primarily follow the Proposed Project corridor and generally have the potential to impact many of the same resources. There are two sites within the Central East to Escondido Northern Route FTSE and one site in the Central East to Los Coches FTSE known to contain prehistoric or ethnographic period rock art; direct impacts to these sites would remain significant (Class I), even after mitigation. One site (SDM-W-278) known to contain human remains is present within the Central East to Los Coches FTSE, Central East to Mission FTSE, and Central East to Escondido Southern Route FTSE. A different site (CA-SDI-6804) known to contain human remains is present within the Central East to Escondido Northern Route FTSE.

Within the Connected Actions and Indirect Effects, there is one NRHP-listed district that includes 78 contributing resources within the Stirling CSP site and transmission line project area. In addition, there are 167 known cultural resources within the Stirling CSP site and transmission line project area that are potentially eligible for listing on the NRHP or CRHR.

Within the IID site, there are 27 known cultural resources potentially eligible for listing on the NRHP or CRHR, and three sites presumed eligible for NRHP listing. There is one NRHP and CRHR listed linear resource, the Fages-De Anza Trail-Southern Emigrant Road, which would be located in an area of direct impact.

The Esmeralda-San Felipe Geothermal Project contains at least 179 recorded archaeological sites. As many as 40 percent of these may qualify for NRHP listing.

There are eight known cultural resources located within the RWD transmission line area in the United States. There is also the potential to discover cultural resources during pre-construction surveys or project construction. Two of the resources are potentially eligible for the NRHP and CRHR.

Impacts to significant archaeological sites would be mitigated through data recovery programs. The adverse impact to the Fages-De Anza Trail-Southern Emigrant Road would be mitigated through creation of interpretive signage or other measures developed in the Historic Properties Treatment Plan. Adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. However, impacts to archaeological sites that contain rock art or human remains (see below) would remain significant (Class I), even after mitigation measures are implemented.

Construction of the Proposed Project would cause adverse changes to sites known to contain Native American human remains. Eight archaeological sites known to contain Native American human remains may be adversely and directly affected by construction of the Proposed Project transmission lines. These sites include two of the three sites known to contain human remains within the Imperial Valley Link and all four sites known to contain human remains within the Anza-Borrego Link. Any adverse effect to human remains is considered a significant (Class I) impact.

Within the Central East to Escondido FTSE there are two sites known to contain human remains.

For all five of the project considered as Connected Actions and Indirect Effects, five archaeological sites known to contain Native American human remains may be adversely affected by construction of the Stirling CSP site and associated transmission line. Additional sites with human remains could exist within other portions of the Stirling CSP project. Three archaeological sites known to contain Native American human remains within the IID project area and would be adversely affected by construction of the 230 kV line. There are five sites within the Esmeralda-San Felipe Geothermal Project area that are known to contain human remains.

Impacts to human remains would be partially mitigated by implementing Mitigation Measure C-2a; however, the impact would still be considered significant (Class I).

Construction of the Proposed Project, Substations, Future Transmission Systems, and Connected Actions and Indirect Effects would cause adverse changes to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains. There is potential for impacts to unknown significant subsurface archaeological resources within all components of the Proposed Project. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, excavation associated with tower construction, or excavation for underground segments or substations for the Proposed Project. Impacts to unknown significant buried prehistoric and historic archaeological sites would be mitigated by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a, and C-3a. After mitigation, the final impact level to such sites would be Class II, with the exception of sites containing human remains, which would remain significant (Class I).

Construction of the Proposed Project would cause adverse changes to Traditional Cultural Properties. To date, one TCP potentially eligible for listing on the NRHP has been identified within the Anza-Borrego Link of the Proposed Project. A second TCP, the Chapel of Santa Ysabel, has been identified within 0.5-mile of the Central Link of the Proposed Project. However, because the Sacred Lands File search conducted for the PEA noted that lands sacred to Native Americans are present in the vicinity of the Proposed Project in undisclosed locations, the potential remains to identify additional TCPs within all components of the Proposed Project. The BLM, as the Federal Lead Agency under NEPA, is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are additional TCPs that would be affected within the Proposed Project. Though impacts to TCPs are often significant (Class I), mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated Native Americans or other Traditional Groups can reduce the impact to less than significant (Class II). Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) would possibly reduce impacts to TCPs to a level that is less than significant (Class II). While Mitigation Measure C-4b and V-3a would partially compensate for impacts to the cultural landscape within the Anza-Borrego Link, those impacts would still be significant (Class I). Mitigation Measures C-6c and V-3a would reduce impacts to a less than significant level (Class II) at the Chapel of Santa Ysabel because the visual impacts from the Proposed Project would be at a greater distance than those from the existing 69 kV line that would be replaced.

To date, no TCPs have been identified within the Connected Actions and Indirect Effects corridors, substation site, or wind farm areas. However, the Sacred Lands File search conducted for the proposed SRPL noted that lands sacred to Native Americans are present in the vicinity of the SRPL Project area, in an undisclosed location. If any TCPs are identified within Connected Actions and Indirect Effects areas, implementation of Mitigation Measure C-4a that would require complete consultation with Native Americans and other Traditional Groups could reduce impacts to TCPs to a level that is less than significant (Class II); some impacts to TCPs could remain significant (Class I), even after mitigation.

Operational Impacts

Operation of the Proposed Project, Future Transmission Systems, and Connected Actions and Indirect Effects would cause adverse changes to known historic properties. Direct and indirect

impacts would occur to historic properties within and in the vicinity of the project area during operation and long-term presence of the Proposed Project. Direct impacts would result from maintenance or repair activities, while increased erosion and access could result in indirect project impacts. These impacts are significant, but can be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-2a (Properly treat human remains) and C-4a (Complete consultation with Native Americans and other Traditional Groups). CR-APM-7 partially addresses Impact C-5; however, Mitigation Measures C-2a, C-4a, and C-5a supersede this APM.

Operation of the Proposed Project could cause adverse changes to known historic architectural (built environment) resources. There are seven historic architectural (or built environment) resources located within 0.5 miles of the five links of the Proposed Project that may be subject to project-related indirect visual impacts (Table Ap.9B-30 in Appendix 9B): the Fages-De Anza Trail-Southern Emigrant Road is NRHP-listed and within the Imperial Link; the Tamarisk Grove Campground (counted as three), which includes three previously recorded historic buildings located within 0.5 miles of the Anza-Borrogo Link of the Proposed Project has been recommended eligible for the NRHP and CRHR; the Chapel of Santa Ysabel (California Historical Landmark 369) is located within 0.5 miles of the Central Link and has been recommend eligible for the NRHP and CRHR; and one historical ranch complex is located within 0.5 miles of the Inland Valley Link but has not been evaluated and is located on Marine Corps Air Station Miramar property. These properties are not in areas of direct impact; however, the resources would be subject to project-related indirect adverse visual effects. These impacts may be significant, but in some cases can be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1b, C-1c, C-6a, C-6b, C-6c, and V-3a. Indirect visual impacts to the Tamarisk Grove Campground would remain significant (Class I) after mitigation. Additional historic architectural resources may be encountered during completion of cultural surveys, particularly in the Central Link where private property has prevented access to the Proposed Project route and surrounding properties. Any historic architectural resources identified in these areas could, likewise, have visual impacts mitigated to a less than significant level (Class II) by implementing Mitigation Measures C-6a and V-3a, but some impacts could still remain significant (Class I).

Indirect visual impacts to potentially NRHP- and/or CRHR-eligible built environment resources such as buildings, structures, and historic districts located near the IID Transmission Upgrades should be avoided or minimized, where feasible. The 230 kV route would cross the NRHP-listed Fages-De Anza Trail-Southern Emigrant Road, but no built environment structures. These impacts are significant, but would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-6a (reduce adverse visual intrusions to historic built environment properties) and V-3a, which would reduce visual intrusions to historic built environment properties.

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Environmental Impacts and Mitigation Measures for Alternatives along Proposed Project Route – Cultural Resources

Table D.7-6 summarizes the impacts that have been identified for the alternatives along the Proposed Project route.

Table D.7-6. Impacts Identified – Alternatives – Cultural Resources

Impact No.	Description	Impact Significance
FTHL Eastern Alternative		
C-1	Construction of the project would cause an adverse change to known historic properties.	Class II
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains.	Class I, II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties.	Class I, II
C-5	Operation and long-term presence of the project would cause an adverse change to known historic properties.	Class II
SDG&E West of Dunaway Alternative		
C-1	Construction of the project would cause an adverse change to known historic properties.	Class II
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains.	Class I, II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties.	Class I or II
C-5	Operation and long-term presence of the project would cause an adverse change to known historic properties.	Class II
SDG&E West Main Canal–Huff Road Modification Alternative		
C-1	Construction of the project would cause an adverse change to known historic properties.	Class II
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains.	Class I, II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties.	Class I, II
C-5	Operation and long-term presence of the project would cause an adverse change to known historic properties.	Class II
Partial Underground 230 kV ABDSP SR78 to S2 Alternative (including San Felipe Substation)		
C-1	Construction of the project would cause an adverse change to known historic properties.	Class II
C-2	Construction of the project would cause an adverse change to sites known to contain human remains.	Class I
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains.	Class I, II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties.	Class I, II
C-5	Operation and long-term presence of the project would cause an adverse change to known historic properties.	Class II
C-6	Long-term presence of the project would cause an adverse change to known historic architectural (built environment) resources.	Class II
Overhead 500 kV ABDSP within Existing ROW Alternative		
C-1	Construction of the project would cause an adverse change to known historic properties.	Class I, II
C-2	Construction of the project would cause an adverse change to sites known to contain human remains.	Class I
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains.	Class I, II

Sunrise Powerlink Project

D.7 CULTURAL AND PALEONTOLOGICAL RESOURCES

Table D.7-6. Impacts Identified – Alternatives – Cultural Resources

Impact No.	Description	Impact Significance
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties.	Class I, II
C-5	Operation and long-term presence of the project would cause an adverse change to known historic properties.	Class II
C-6	Long-term presence of the project would cause an adverse change to known historic architectural (built environment) resources.	Class I
Santa Ysabel Existing ROW Alternative		
C-1	Construction of the project would cause an adverse change to known historic properties.	Class II
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains.	Class I, II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties.	Class I, II
C-5	Operation and long-term presence of the project would cause an adverse change to known historic properties.	Class II
C-6	Long-term presence of the project would cause an adverse change to known historic architectural (built environment) resources.	Class I, II
Santa Ysabel Partial Underground Alternative		
C-1	Construction of the project would cause an adverse change to known historic properties.	Class II
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains.	Class I, II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties.	Class I, II
C-5	Operation and long-term presence of the project would cause an adverse change to known historic properties.	Class II
C-6	Long-term presence of the project would cause an adverse change to known historic architectural (built environment) resources.	Class II
Santa Ysabel SR79 All Underground Alternative		
C-1	Construction of the project would cause an adverse change to known historic properties.	Class II
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains.	Class I, II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties.	Class I, II
SDG&E Mesa Grande Alternative		
C-1	Construction of the project would cause an adverse change to known historic properties.	Class II
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains.	Class I, II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties.	Class I, II
C-5	Operation and long-term presence of the project would cause an adverse change to known historic properties.	Class II
CNF Existing 69 kV Route Alternative		
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains.	Class I, II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties.	Class I, II
Oak Hollow Road Underground Alternative		
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains.	Class I, II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties.	Class I, II
San Vicente Road Transition Alternative		
C-1	Construction of the project would cause an adverse change to known historic properties.	Class II

Table D.7-6. Impacts Identified – Alternatives – Cultural Resources

Impact No.	Description	Impact Significance
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains.	Class I, II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties.	Class I, II
Chuck Wagon Road Transition Alternative		
C-1	Construction of the project would cause an adverse change to known historic properties.	Class II
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains.	Class I, II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties.	Class I, II
C-5	Operation and long-term presence of the project would cause an adverse change to known historic properties.	Class II
Pomerado Road to Miramar Area North		
C-1	Construction of the project would cause an adverse change to known historic properties.	Class II
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains.	Class I, II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties.	Class I, II
C-5	Operation and long-term presence of the project would cause an adverse change to known historic properties.	Class II
Los Peñasquitos Canyon Preserve–Mercy Road Alternative		
C-1	Construction of the project would cause an adverse change to known historic properties.	Class II
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains.	Class I, II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties.	Class I, II
C-5	Operation and long-term presence of the project would cause an adverse change to known historic properties.	Class II
Black Mountain to Park Village Road Underground Alternative		
C-1	Construction of the project would cause an adverse change to known historic properties.	Class II
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains.	Class I, II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties.	Class I, II
C-5	Operation and long-term presence of the project would cause an adverse change to known historic properties.	Class II
Coastal Link System Upgrade Alternative		
C-1	Construction of the project would cause an adverse change to known historic properties.	Class II
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains.	Class I, II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties.	Class I, II
Top of the World Substation Alternative		
C-1	Construction of the project would cause an adverse change to known historic properties.	Class II
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains.	Class I, II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties.	Class I, II
C-5	Operation and long-term presence of the project would cause an adverse change to known historic properties.	Class II

D.7.18 Imperial Valley Link Alternatives Impacts and Mitigation Measures

There are three alternatives analyzed in the Imperial Valley Link, the FTHL Eastern Alternative, the SDG&E West of Dunaway Alternative, and the SDG&E West Main Canal–Huff Road Modification Alternative.

D.7.18.1 FTHL Eastern Alternative

This alternative was developed by the EIR/EIS team as a way to avoid almost 2 miles within the Flat-Tailed Horned Lizard (FTHL) Management Area. Instead the 500 kV overhead route would follow section lines within agricultural lands and would be approximately 1.5 miles shorter than the proposed route.

Environmental Setting

The historic and prehistoric period habitation of Imperial Valley has largely been tied to the availability of water. On numerous occasions during prehistory, and at least once in history, the Colorado River has shifted its course to inundate the western Colorado Desert (Moratto, 2004). In recent times, this flooding created the Salton Sea. In the past, much larger inundations occurred that resulted in the creation and refilling of the massive Lake Cahuilla. The predominant evidence of human occupation in Imperial County during the Late Prehistoric Period is located along the ancient shoreline at approximately 12 meters (40 feet) above mean sea level (Gallegos & Associates, 2006a; Moratto, 2004) and is exemplified by ceramic and lithic artifact scatters associated with rock rings and fish traps. Trails used by Native Americans as well as Spanish, Mexican, and American Period explorers are still evident in portions of Imperial Valley and are typically associated with known water sources. During the historic period, agriculture was made possible through the development of a system of canals that directed water from the Colorado River to farmlands. The cultural resources identified during the study of alternatives for the Sunrise Powerlink reflect the range of activities that occurred within Imperial Valley in the past; however, only six resources were identified within the FTHL Eastern Alternative.

One cultural resource including two discrete features within the FTHL Eastern Alternative is presumed eligible for NRHP inclusion. The Westside Main Canal, one of the largest irrigation canals within Imperial County, was constructed in the 1920s, later incorporated into the All American Canal system, and remains as a functioning testament to the county's long history of water control for agricultural development. The San Diego & Arizona Railway has also been recommended eligible for NRHP inclusion during the study for this project, despite contrary assertions by previous researchers.

The FTHL Eastern Alternative is 4.58 miles long. SWCA and AE archaeologists completed intensive cultural resources survey for approximately 36 percent (1.65 miles) of the FTHL Eastern Alternative. A cultural resources records search was conducted for the entire alternative as well as a 0.5-mile search radius around it. These results include all known cultural resources within the 300-foot-wide alternative corridor including previously recorded resources and those recorded during the SWCA/AE survey. A total of six cultural resources has been identified within the 300-foot-wide corridor for the FTHL Eastern Alternative.

- One isolated artifact was newly recorded by the SWCA/AE team (2007a), while one was previously recorded; isolates are typically defined as three or fewer artifacts not associated with a defined, discrete archaeological site, and are not be considered eligible for inclusion on the NRHP or CRHR.

- The Westside Main Canal, a historic period resource, is presumed eligible for NRHP inclusion because it is a part of the All American Canal system, which is part of the Boulder Dam Project, an NRHP-listed resource recorded in Nevada. Two features of this canal, the Fox Glove Canal, and the Dixie Drain are also located within the FTHL Eastern Alternative.
- The San Diego and Arizona Railroad is also partially located within the FTHL Eastern Alternative. This resource has been recommended eligible for the NRHP despite contrary assertions by previous researchers.

The BLM, as the Federal Lead Agency under NEPA, is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation has included formal correspondence (Appendix 9C), telephone calls, and face-to-face meetings with groups who have expressed a concern or interest in the Proposed Project. To date, no TCPs have been identified within the FTHL Eastern Alternative of the SRPL Project as a result of formal consultation.

Environmental Impacts and Mitigation Measures

There are six known cultural resources located within the 300-foot-wide survey corridor for the FTHL Eastern Alternative (Table Ap.9B-44 in Appendix 9B). There is also the potential to encounter undiscovered cultural resources during additional surveys or project construction. Two of the cultural resources within the FTHL Eastern Alternative are isolates, and would not be considered eligible for inclusion on the NRHP or CRHR. Three previously recorded resources, the Westside Main Canal, the Fox Glove Canal, and the Dixie Drains, are historic built environment resources presumed eligible for the NRHP, located within the 300-foot-wide survey corridor of the FTHL Eastern Alternative and, as such, may be potentially subject to project-related adverse effects (see Table Ap.9B-45 in Appendix 9B). These built environment resources were also considered for indirect visual effects, but due to the presence of other power lines in the immediate vicinity of the canal, the construction and presence of the FTHL Eastern Alternative would not cause an adverse change to the setting of these resources. The San Diego and Arizona Railroad is recommended eligible for listing on the NRHP; however, the FTHL Eastern Alternative would not cause significant impact to the railroad because the existing setting already contains power lines and other modern disturbances.

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

Four linear cultural resources, the Westside Main Canal (CA-IMP-7834), the Fox Glove Canal, the Dixie Drain and the San Diego and Arizona Railroad, are crossed by the FTHL Eastern Alternative. Two of these resources (the Westside Main Canal, and the San Diego and Arizona Railroad) have been recommended eligible for listing on the NRHP and CRHR. These resources would be spanned by the alternative because the transmission line would be perpendicular to the linear resources. As many as three additional sites could be encountered during surveys conducted prior to construction. These might include canals, lithic or ceramic scatters, or trails. Some of these may be eligible for NRHP or CRHR listing, and could be impacted by the alternative if they cannot be avoided during construction. As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a Inventory and evaluate cultural resources in Final APE.**
- C-1b Avoid and protect potentially significant resources.**
- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1e Monitor construction at known ESAs.**
- C-1f Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the FTHL Eastern Alternative include prehistoric resources such as buried living surfaces, refuse deposits, hearths, and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies, especially those associated with levee and canal construction. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. Impacts to most unknown significant prehistoric and historic archaeological sites would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a and C-3a. However, as described in Section D.7.9, effects related to Native American human remains would be significant (Class I) even with mitigation.

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no TCPs have been identified within the FTHL Eastern Alternative. However, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of the alternatives, in undisclosed locations. The BLM, as the Federal Lead Agency under NEPA is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that would be affected within this segment. Though impacts to TCPs are often Class I, mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated with Native Americans or other Traditional Groups can reduce the impact to Class II. Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) would reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts may remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

C-4a Complete consultation with Native American and other Traditional Groups.

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties within and in the vicinity of the project area during operation and long-term presence of the project. There are three canals and a railroad located within the FTHL Eastern Alternative that are potentially subject to long-term and operational impacts. Direct impacts to the canal or other newly identified resources would result from maintenance or repair activities, while increased erosion would result as an indirect project impact. These impacts may be significant, but can be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-2a (Properly treat human remains) and C-4a (Complete consultation with Native Americans and other Traditional Groups).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b Avoid and protect potentially significant resources.**
- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-2a Properly treat human remains.**
- C-4a Complete consultation with Native American and other Traditional Groups.**
- C-5a Protect and monitor NRHP- and/or CRHR-eligible properties.**

D.7.18.2 SDG&E West of Dunaway Alternative

This 6.1-mile alternative was suggested by SDG&E and approved by the proposed land use developer in the area. It would be an overhead 500 kV line, and would be 2.2 miles longer than the Proposed Project.

Environmental Setting

A general cultural setting for this alternative is provided in Section D.7.2; a full prehistoric and historic setting is provided in Appendix 9A. Prehistoric sites are the most common sites within the SDG&E West of Dunaway Alternative. Temporary camps and lithic artifact scatters are identified throughout this alternative and exhibit evidence of multiple past activities such as tool making and sharpening and food preparation. One multi-component site within this alternative illustrates the area's rich mineral resources and resultant historic period mining.

The SDG&E West of Dunaway Alternative is 6.12 miles long and a cultural resources records search was conducted for its entire length and a 0.5-mile search radius around the alternative. SWCA and AE archaeologists completed intensive cultural resources survey for 41 percent (2.51 miles) of the 300-foot-wide alternative corridor. A total of 21 cultural resources has been identified within the 300-foot-wide survey corridor for the SDG&E West of Dunaway Alternative (see Table Ap.9B-46 in Appendix 9B).

Two of the 21 resources are isolates, typically defined as three or fewer artifacts not associated with a defined, discrete archaeological site, and are not be considered eligible for inclusion on the NRHP or CRHR. All of the resources are prehistoric in age; one also includes a historical component.

Of the 21 resources within this alternative alignment, six were identified during previous cultural surveys; ten were recorded by Gallegos & Associated during surveys for the Proposed Project yet also fall within the 300-foot-wide survey corridor of this alternative; and three resources were newly recorded by SWCA and AE (2007a).

The BLM, as the Federal Lead Agency under NEPA, is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation has included formal correspondence (Appendix 9C), telephone calls, and face-to-face meetings with groups who have expressed a concern or interest in the Proposed Project. To date, no TCPs have been identified within the SDG&E West of Dunaway Alternative of the SRPL Project as a result of formal consultation.

Environmental Impacts and Mitigation Measures

There are 21 known cultural resources located within the 300-foot-wide corridor for the SDG&E West of Dunaway Alternative. These resources are primarily prehistoric in nature, comprising temporary camps, scatters of lithic and ceramic artifacts, and isolated resources. One multi-component site featuring lithic debitage and a historical mining claim is also present. There is also the potential to encounter undiscovered cultural resources during additional surveys or project construction. Two of the known resources are isolates that do not require mitigation measures, as isolates by nature are not considered eligible for NRHP or CRHR inclusion and project effects would not be considered adverse under NHPA, nor impacts significant under CEQA. Because known cultural resources that are potentially eligible for the NRHP or CRHR exist within areas of proposed direct impact, as well as the potential for encountering undiscovered cultural resources, the following impacts would potentially occur during project construction or operation.

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

Eighteen cultural resources within the SDG&E West of Dunaway Alternative are potentially eligible for listing on the NRHP or CRHR (Table Ap.9B-46 in Appendix 9B). It is anticipated that an additional 30 sites of similar types could be encountered during surveys conducted prior to construction. Five (5) of the sites identified within the SDG&E West of Dunaway Alternative are located in areas of direct impact: One temporary camp would be impacted by two temporary construction and maintenance pads, two access roads as well as two pull sites, while an additional temporary camp would be impacted by one pull site and one access road. One lithic scatter would be impacted by 13 temporary construction and maintenance pads, one access road as well as seven pull sites; one additional lithic scatter would be impacted by an access road. One multi-component site would be impacted by a temporary construction and maintenance pad (Table Ap.9B-47 in Appendix 9B). As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a Inventory and evaluate cultural resources in Final APE.**
- C-1b Avoid and protect potentially significant resources.**
- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1e Monitor construction at known ESAs.**
- C-1f Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the SDG&E West of Dunaway Alternative include prehistoric resources such as buried living surfaces, artifact deposits, hearths, burials, and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, excavation associated with tower construction. Impacts to unknown significant prehistoric and historic archaeological sites would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a, and C-3a. As noted previously, impacts to human remains would be mitigated by implementing Mitigation Measure C-2a; however, the impact would still be considered significant (Class I) (36 CFR 800).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no TCPs have been identified within the SDG&E West of Dunaway Alternative. However, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of the alternatives, in undisclosed locations. The BLM, as the Federal Lead Agency under NEPA is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that would be affected within this segment. Though impacts to TCPs are often Class I, mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated with Native Americans or other Traditional Groups can reduce the impact to Class II. Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) would reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts may remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

C-4a Complete consultation with Native American and other Traditional Groups.

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties within and in the vicinity of the project area during operation and long-term presence of the project. There are 21 known resources, with another possible 30 sites that could be encountered during additional surveys of the SDG&E West of Dunaway Alternative that would potentially be subject to long-term and operational impacts. Direct impacts to the 21 known or other newly identified resources would result from maintenance or repair activities, while increased erosion would result as an indirect project impact. These impacts are significant, but can be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-2a (Properly treat human remains) and C-4a (Complete consultation with Native Americans and other Traditional Groups).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b Avoid and protect potentially significant resources.**
- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-2a Properly treat human remains.**
- C-4a Complete consultation with Native American and other Traditional Groups.**
- C-5a Protect and monitor NRHP- and/or CRHR-eligible properties.**

D.7.18.3 SDG&E West Main Canal–Huff Road Modification Alternative

This 4.9-mile alternative would follow the IID Westside Main Canal to the east-northeast, and then turn north on Huff Road. Existing IID 92 kV transmission lines are located on the west side of Huff Road along most of this segment; however, where the IID line would turn northwest, this alternative would continue straight along Huff Road to reconnect with the Proposed Project 0.2 miles south of Wheeler Road (MP 15.9). The lengths of the alternative and the proposed routes would be essentially the same; however, this route would avoid direct effects to the Bullfrog Farms and also to the Raceway development.

Environmental Setting

A general cultural setting for this alternative is provided in Section D.7.2; a full prehistoric and historic setting is provided in Appendix 9A.

The SDG&E West Main Canal–Huff Road Modification Alternative is 4.87 miles long and a cultural resources records search was conducted for its entire length and a 0.5-mile search radius around the alternative. SWCA and AE archaeologists completed intensive cultural resources survey for 69.2 percent (3.37 miles) of the SDG&E West Main Canal–Huff Road Modification Alternative; the remaining 1.5 miles were subjected to a windshield reconnaissance survey. One cultural resource has been identified within the SDG&E West Main Canal–Huff Road Modification Alternative: the Westside Main Canal.

- The Westside Main Canal, a historic period resource, is presumed eligible for NRHP inclusion because it is a part of the All American Canal system, which is part of the Boulder Dam Project, an NRHP-listed resource recorded in Nevada.
- Potential visual impacts to the Westside Main Canal have been considered; however, because the setting does not retain integrity for the resource's period of significance, additional visual impacts to the resource would not be considered significant (or effects adverse).

The BLM, as the Federal Lead Agency under NEPA, is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation has included formal correspondence (Appendix 9C), telephone calls, and face-to-face meetings with groups who have expressed a concern or interest in the Proposed Project. To date, no TCPs have been identified within the SDG&E West Main Canal–Huff Road Modification Alternative as a result of formal consultation.

Environmental Impacts and Mitigation Measures

One cultural resource, the Westside Main Canal, is located within the 300-foot-wide survey corridor for this alternative. Based on preliminary engineering specifications, the canal would be directly impacted by a pull site. There also remains the potential to encounter undiscovered cultural resources during project construction. Because the Westside Main Canal would be directly impacted and there is the potential for encountering undiscovered cultural resources, the following impacts could occur during project construction or operation.

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

One linear cultural resource, the Westside Main Canal (CA-IMP-7834), is located adjacent to the SDG&E West Main Canal–Huff Road Modification Alternative and is presumed eligible for listing on the NRHP and CRHR (see Table AP.9B-48 in Appendix 9B). Based on current preliminary engineering for this alternative, this resource is located within an area of direct impact, specifically a pull site. If this alternative is selected, the pull site should be relocated. If relocation is not possible, as discussed in Section D.7.9, adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the SDG&E West Main Canal–Huff Road Modification Alternative include prehistoric resources such as buried living surfaces, artifact deposits, hearths, burials, and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, and excavation associated with tower construction. Impacts to unknown significant prehistoric and historic archaeological sites would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a, and C-3a. As noted previously, impacts to human remains would be mitigated by implementing Mitigation Measure C-2a; however, the impact would still be considered significant (Class I) (36 CFR 800).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no TCPs have been identified within the SDG&E West of Dunaway Alternative. However, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of the alternatives, in undisclosed locations. The BLM, as the Federal Lead Agency under NEPA is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that would be affected within this segment. Though impacts to TCPs are often Class I, mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated with Native Americans or other Traditional Groups, can reduce the impact to Class II. Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) would reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts may remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

- C-4a Complete consultation with Native American and other Traditional Groups.**

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties within and in the vicinity of the project area during operation and long-term presence of the project. The Westside Main Canal (CA-IMP-7834) and any additional resources discovered during pre-construction surveys of the SDG&E West Main Canal-Huff Road Modification Alternative would potentially be subject to long-term and operational impacts. Direct impacts to the canal or other newly identified resources would result from maintenance or repair activities, while increased erosion would result as an indirect project impact. These impacts are significant, but can be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-2a (Properly treat human remains) and C-4a (Complete consultation with Native Americans and other Traditional Groups).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-2a** **Properly treat human remains.**
- C-4a** **Complete consultation with Native American and other Traditional Groups.**
- C-5a** **Protect and monitor NRHP- and/or CRHR-eligible properties.**

D.7.19 Anza-Borrego Link Alternatives Impacts and Mitigation Measures

Two alternatives are considered in the Anza-Borrego Link: the Partial Underground 230 kV ABDSP SR78 to S2 Alternative (also considered with an All Underground Option) and the Overhead 500 kV ABDSP within Existing ROW Alternative.

D.7.19.1 Partial Underground 230 kV ABDSP SR78 to S2 Alternative

This alternative was developed by the EIR/EIS team and would include installation of a double-circuit bundled 230 kV line (as opposed to an overhead 500 kV with the Proposed Project) that would be installed underground in SR78 through ABDSP. The proposed Central East Substation would not be constructed with this alternative and approximately 2 miles of transmission line (one mile of 500 kV and one mile of 230 kV) to and from that substation would be eliminated. Instead a new 500 kV/230 kV substation would be constructed adjacent to the existing IID San Felipe Substation to accommodate the new transmission line.

There is also an All Underground Option considered for this alternative, in which the entire length of the 230 kV transmission line between the San Felipe Substation and the connection to the Proposed Project would be installed underground in Highways SR78 and S2.

Environmental Setting

Anza-Borrego Desert State Park (ABDSP) occupies a transitional zone between the peninsular mountains and the Colorado Desert. As such, the valleys leading from the desert into (or out of) the mountains have been used as transportation corridors throughout the prehistoric and historic period occupations of the region. Water sources including seasonal drainages and springs were preferred habitation locales, with the entire landscape offering food resources as varied as the juniper and borrego (bighorn sheep) on the ridges, the mescal (agave) on the slopes, and seeds and small game on the valley floor. Archaeological studies within the park have indicated the pre-ceramic (Archaic Period) use of the region, as well as an intensification of use during the Late Prehistoric Period (Moratto, 2004). Evidence of historic period use, similarly, is dominated by transportation routes and the remains of settlement in the fertile transition zone valleys, particularly those with year-round water sources.

The Partial Underground 230 kV ABDSP SR78 to S2 Alternative traverses the San Felipe Valley. San Felipe Valley is recognized as an important transportation corridor in the prehistoric, ethnographic, and historic periods (Hector, 2005). The valley was also occupied during each of these periods, with a large quantity of ethnographic data recorded and cultural resources throughout the valley that substantiate this assertion.

The majority of known cultural resources along the Partial Underground 230 kV ABDSP SR78 to S2 Alternative are prehistoric archaeological sites including scatters of flaked stone and/or pottery sherds, temporary camps, bedrock milling locations, and seasonal habitation sites. This alternative also contains numerous historic sites such as the San Felipe Valley and Stage Station and the Julian–Kane Springs Road. Based on initial Native American consultation (Lucas, 2007) the entire San Felipe Valley is likely to be eligible for NRHP listing as a traditional cultural property (TCP), due to the ties members of the Native American community have to the known ethnographic period occupation and forced abandonment of the valley in 1903. The Wewitsch Cultural Preserve is located within San Felipe Valley, just south of a portion of the alternative alignment; this preserve is considered a traditional cultural landscape potentially eligible for NRHP listing. Other locations within San Felipe Valley that may qualify as individual TCPs include the historic “San Felipe Graveyard” or Paroli Cemetery, which is still in use by local families and the *Ewinally* village site (appears to be same as site D2-D-041), both located west of and adjacent to the Partial Underground 230 kV ABDSP SR78 to S2 Alternative, and traditional Native resource gathering areas throughout the valley.

A cultural resources records search was conducted for the entire 38.13-mile Partial Underground 230 kV ABDSP SR78 to S2 Alternative corridor and a 0.5-mile radius around it. SWCA and AE archaeologists completed intensive cultural resources survey for 30 percent (11.44 miles) of the Partial Underground 230 kV ABDSP SR78 to S2 Alternative. A total of 81 cultural resources has been identified within the 300-foot-wide survey corridor for the Partial Underground 230 kV ABDSP SR78 to S2 Alternative.

- Thirty-five (35) of these resources were identified during previous cultural resources surveys; 45 resources were recorded by Gallegos & Associates during cultural resources surveys for the Proposed Project yet fall within the 300-foot-wide survey corridor for this alignment. The remaining resource was newly recorded by SWCA and AE (2007a).
- Thirty-nine (39) of the 81 cultural resources have prehistoric components, while five are multi-component, and contain both historic and prehistoric artifacts; the remaining 14 resources are historic and include historical walls, rock alignments, rock cairns, and rock quarries. The prehistoric elements include temporary camps, rock rings, lithic and ceramic artifact scatters, and isolated resources.
- Twenty-two (22) of these resources are isolated artifacts and not considered eligible for inclusion on the NRHP or CRHR.

In addition to the 81 cultural resources within the Partial Underground 230 kV ABDSP SR78 to S2 Alternative (see Table Ap.9B-49 in Appendix 9B), there are two historic built environment resources located within 0.5 miles of the alternative. The San Felipe Valley and Stage Station is NRHP-eligible and is recorded as California Historical Landmark #793. The Julian–Kane Springs Road is potentially eligible for NRHP listing.

Environmental Impacts and Mitigation Measures

Eighty-one (81) known cultural resources are located within the 300-foot-wide study corridor for the alternative alignment. With a total length of 38.13 miles, the Partial Underground 230 kV ABDSP SR78 to S2 Alternative includes 10.46 miles of overhead transmission line and 27.67 miles of underground segments. The majority (72.56 %) of the alternative would be constructed underground, with two short overhead segments spanning a fault zone. In addition to the 81 known resources, there is also the potential to encounter undiscovered cultural resources during additional surveys or project construction. Twenty-two (22) of the known cultural resources are isolates that do not require mitigation measures, as isolates by nature are not considered eligible for NRHP or CRHR inclusion and project effects would not be considered adverse under NHPA, nor impacts significant under CEQA. The San Felipe Valley and Stage Station is recorded as California Historical Landmark 793 and is NRHP/CRHR-eligible; the mapped location for this resource represents a monument on the side of Highway S2. The monument, erected to educate the public about both the San Felipe Valley in general, as well as the Stage Station in particular, notes that the Stage Station itself was located further south, along San Felipe Creek.

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

Seventeen potentially NRHP-eligible cultural resources identified within the Partial Underground 230 kV ABDSP SR78 to S2 Alternative are located in areas of direct impact (see Table Ap.9B-50 in Appendix 9B). One ceramic scatter would be impacted by a temporary construction and maintenance pad, and a prehistoric rock feature would be impacted by a laydown area as well as a temporary construction and maintenance pad. The remaining 15 cultural resources would be directly impacted by construction of the underground portion of the transmission line. Three isolates would also be directly impacted by the underground portion of the transmission line; however, impacts to these isolates would not be significant. As many as 189 additional resources could be encountered during surveys conducted prior to construction, nearly 100 of which could be located along underground portions of the alternative. These might include lithic or ceramic scatters, temporary camps, bedrock milling locations, seasonal habitation sites, and prehistoric or historic transportation features. Of the types of resources that could be encountered along this alternative, seasonal habitation sites would likely have the greatest potential for significance. As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**

C-1f Train construction personnel.

Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains (Class I)

One archaeological site (CA-SDI-17252) known to contain human remains would be adversely affected by construction of the Partial Underground 230 kV ABDSP SR78 to S2 Alternative (see Table Ap.9B-51 in Appendix 9B). Site CA-SDI-17252 would be located within or directly adjacent to an underground portion of the alternative. Any adverse effect to human remains is considered a significant (Class I) impact. CR-APM-3 outlines procedures for the treatment of unanticipated discoveries during construction, but would not mitigate construction impacts to Native American human remains. Mitigation Measures C-1b, C-1c, C-1d, C-1e, C-1f, and C-2a would partially mitigate impacts to human remains; however, the impacts would still be considered significant (Class I). Impacts to Native American human remains are considered an adverse effect, even after mitigation (36 CFR 800).

Mitigation Measures for Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains

- C-1b Avoid and protect potentially significant resources.**
- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1e Monitor construction at known ESAs.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the Partial Underground 230 kV ABDSP SR78 to S2 Alternative include prehistoric resources such as buried living surfaces, refuse deposits, hearths, agave roasting pits, burials and cremations. Although no human remains are recorded within the Partial Underground 230 kV ABDSP SR78 to S2 Alternative, the site record for the Julian-Kane Springs Road notes that human remains had been found in the vicinity. Historical resources that could be unearthed during project construction include refuse pits, privies, and structural remains. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. Construction of underground segments of the alternative has the potential to damage and destroy buried archaeological resources, as large trenches will be required for underground segments. Impacts to most unknown significant prehistoric and historic archaeological sites would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation (36 CFR 800).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**

C-2a Properly treat human remains.

C-3a Monitor construction in areas of high sensitivity for buried resources.

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

Three or more portions of San Felipe Valley are likely NRHP-eligible as a TCP. The Wenelesch Cultural Preserve is a traditional cultural landscape presumed NRHP-eligible; the Paroli Family Cemetery is still in use and may qualify as a NRHP-eligible TCP, and the ethnographic village site of *Ewiinally* village site (appears to be same as site D2-D-041) is a resource reputed to possess burials and cremated human remains that is important to local Native Americans including the Santa Ysabel Band of Diegueño Indians. In addition, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of the alternatives, in undisclosed locations. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA, is conducting government-to-government consultation with appropriate Native American groups and has notified other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are additional TCPs that would be affected within this segment. Though impacts to TCPs are often Class I, mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated Native Americans or other Traditional Groups can reduce the impact to Class II. Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) would reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts would remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

C-4a Complete consultation with Native American and other Traditional Groups.

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties within and in the vicinity of the project area during operation and long-term presence of the project. Direct impacts would result from maintenance or repair activities, while increased erosion and access could result in indirect project impacts. These impacts are significant, but would be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-3a (Consult agencies and Native Americans) and C-4a (Complete consultation with Native Americans and other Traditional Groups).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

C-1b Avoid and protect potentially significant resources.

C-1c Develop and implement Historic Properties Treatment Plan.

C-2a Properly treat human remains.

- C-4a Complete consultation with Native American and other Traditional Groups.**
- C-5a Protect and monitor NRHP- and/or CRHR-eligible properties.**

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

The presence of transmission lines and towers results in indirect visual impacts to historic architectural resources. Indirect visual impacts to potentially NRHP- and/or CRHR-eligible built environment resources such as buildings, structures, and historic districts located near the Alternative Alignment should be avoided or minimized, where feasible. The Partial Underground 230 kV ABDSP SR78 to S2 Alternative intersects the San Felipe Valley and Stage Station (California Historical Landmark #793) as well as the Julian-Kane Springs Road (see Table Ap.9B-52 in Appendix 9B). The portion of the alternative that intersects these two resources would be constructed underground; however, no direct impacts to these two resources are anticipated from the construction of the underground segment, as this would be contained entirely within existing paved Highway S2. These resources are potentially subject to indirect visual impacts, as an overhead portion of the alternative would lie within approximately 3000 feet of the San Felipe Valley and Stage Station and within roughly 1500 feet of the Julian-Kane Springs Road. If transmission line or tower relocation cannot result in avoidance, then screening this or other built environment resources from the tower/line and/or painting the tower to blend into the landscape can potentially minimize the visual impact. These impacts are significant, but can be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-6a, C-6d, and V-3a.

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

- C-1b Avoid and protect potentially significant resources.**
- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-6a Reduce adverse visual intrusions to historic built environment properties.**
- C-6d Reduce adverse visual intrusion to the San Felipe Valley and Stage Station.** For the San Felipe Valley and Stage Station visual intrusion by the aboveground portion of this alternative shall be minimized by a combination of following the existing transmission line corridor, minimizing tower height, screening, and painting towers to match the surroundings.
- V-3a Reduce visual contrast of towers and conductors.**

San Felipe Substation Alternative

The San Felipe Substation Expansion Alternative is 35.9 acres in size and a cultural resources records search was conducted for the substation footprint and a 0.5-mile radius around it. SWCA and AE archaeologists conducted intensive cultural resources survey of 100 percent of the San Felipe Substation Expansion Alternative. Preliminary engineering data indicated that one additional 15.2-acre area would also be developed in the vicinity of the San Felipe Substation Expansion Alternative if it is selected. This additional area was also 100 percent surveyed by SWCA and AE. Two cultural resources, a roasting pit site with multiple loci and an isolate, have been identified within the San Felipe Substation Expansion Alternative.

Environmental Impacts and Mitigation Measures

Two known cultural resources are located within the San Felipe Substation Expansion Alternative (Table Ap.9B-53 in Appendix 9B). One resource (SPL-CB-S-1) is potentially eligible for NRHP or CRHR inclusion. Isolate SPL-CB-I-1 is not eligible for NRHP or CRHR inclusion. There also remains the potential to encounter undiscovered cultural resources during project construction. These resources

might include prehistoric lithic and ceramic artifact scatters, temporary camps, rock features, and historical refuse scatters. Because there is the potential for encountering undiscovered cultural resources, the impacts discussed below could occur during project construction or operation.

The BLM, as the Federal Lead Agency under NEPA, is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation has included formal correspondence (Appendix 9C), telephone calls, and face-to-face meetings with groups who have expressed a concern or interest in the Proposed Project. To date, no TCPs have been identified within the San Felipe Substation Expansion Alternative of the SRPL Project as a result of formal consultation.

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

One cultural resource potentially eligible for NRHP or CRHR inclusion has been identified within the San Felipe Substation Expansion Alternative. As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

There is the potential to encounter unknown significant buried cultural resources during substation construction. Types of subsurface features that could be encountered within the San Felipe Substation Expansion Alternative include prehistoric resources such as buried living surfaces, trash deposits, hearths, and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. Impacts to most unknown significant prehistoric and historic archaeological sites would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation (36 CFR 800).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**

- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Partial Underground 230 kV ABDSP SR78 to S2 Alternative: All Underground Option

A cultural resources records search was conducted for the entire 10.12-mile All Underground Option of Partial Underground 230 kV ABDSP SR78 to S2 Alternative corridor and a 0.5-mile radius around it. SWCA and AE archaeologists completed no intensive cultural resources survey for this option; however, because this option is virtually entirely within existing roadbed, a windshield reconnaissance survey was conducted for its entire 10.12-mile length. A total of four cultural resources has been identified within the 60-foot-wide study corridor for the underground portion of the Partial Underground 230 kV ABDSP SR78 to S2 Alternative: All Underground Option, or within the 300-foot-wide study corridor for the short overhead portion of the option (Table Ap.9B-54 in Appendix 9B).

- The San Felipe Valley and Stage Station (CHL 793; P-37-018301) is CRHR-listed and NRHP-eligible. The marker for this resource is located adjacent to San Felipe Road.
- D2-S-160 is a bedrock milling site that is potentially eligible for NRHP or CRHR inclusion.
- SDM-W-204 is an unknown resource mapped by the San Diego Museum of Man but lacking a site record. This resource is potentially eligible for NRHP or CRHR inclusion.
- One of the resources (VID-I-040) is an isolate, typically defined as three or fewer artifacts not associated with a defined, discrete archaeological site, and not considered eligible for inclusion on the NRHP or CRHR.

Environmental Impacts and Mitigation Measures

There are four known cultural resources located within the primarily 60-foot-wide corridor for the Partial Underground 230 kV ABDSP SR78 to S2 Alternative: All Underground Option: One resource is CRHR-listed and NRHP-eligible; two resources are potentially eligible for NRHP or CRHR inclusion; and one of the known resources is an isolate that does not require mitigation measures, as isolates by nature are not considered eligible for NRHP or CRHR inclusion and project effects would not be considered adverse under NHPA, nor impacts significant under CEQA. Long term visual impacts to the San Felipe Valley and Stage Station would not occur because the option would be constructed nearly entirely underground. There is also the potential to encounter undiscovered cultural resources during intensive surveys or project construction. Because known cultural resources that are potentially eligible for the NRHP or CRHR exist within areas of proposed direct impact, as well as the potential for encountering undiscovered cultural resources, the following impacts would potentially occur during project construction or operation.

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

Two cultural resources within the Partial Underground 230 kV ABDSP SR78 to S2 Alternative: All Underground Option are potentially eligible for listing on the NRHP or CRHR and one resource is listed on the CRHR and eligible for NRHP inclusion. It is estimated that an additional 10 sites of similar types could be encountered during surveys conducted prior to construction. As discussed in Section D.7.9,

adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the Partial Underground 230 kV ABDSP SR78 to S2 Alternative: All Underground Option include prehistoric resources such as buried living surfaces, artifact deposits, hearths, burials, and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal, grading of access roads, or excavation associated with undergrounding or tower construction. Impacts to unknown significant prehistoric and historic archaeological sites would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a, and C-3a. As noted previously, impacts to human remains would be mitigated by implementing Mitigation Measure C-2a; however, the impact would still be considered significant (Class I) (36 CFR 800).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1f** **Train construction personnel.**
- C-2a** **Properly treat human remains.**
- C-3a** **Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no TCPs have been identified within the Partial Underground 230 kV ABDSP SR78 to S2 Alternative: All Underground Option. However, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of the alternatives, in undisclosed locations. Specifically, Native Americans noted the sensitivity of San Felipe Valley in general and the presence of large sites important to Native Americans within the valley. The BLM, as the Federal Lead Agency under NEPA is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that would be affected within this segment. Though impacts to TCPs are

often Class I, mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated with Native Americans or other Traditional Groups can reduce the impact to Class II. Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) could reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts may remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

C-4a Complete consultation with Native American and other Traditional Groups.

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties within and in the vicinity of the project area during operation and long-term presence of the project. There are three known resources, with another possible 10 sites that could be encountered during additional surveys of the Partial Underground 230 kV ABDSP SR78 to S2 Alternative: All Underground Option that would potentially be subject to long-term and operational impacts. Direct impacts to the three known or other newly identified resources would result from maintenance or repair activities, while increased erosion would result as an indirect project impact. These impacts are significant, but can be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-2a (Properly treat human remains) and C-4a (Complete consultation with Native Americans and other Traditional Groups).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b Avoid and protect potentially significant resources.**
- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-2a Properly treat human remains.**
- C-4a Complete consultation with Native American and other Traditional Groups.**
- C-5a Protect and monitor NRHP- and/or CRHR-eligible properties.**

D.7.19.2 Overhead 500 kV ABDSP within Existing ROW Alternative

The alternative would differ from the proposed route in the Grapevine Canyon area (in the Angelina Springs Cultural District), in the vicinity of Tamarisk Grove Campground, and in a few areas east of Tamarisk Grove Campground along SR78. The alternative would remain within the existing SDG&E 69 kV ROW/easement. This alternative would eliminate towers within State-designated Wilderness. Undergrounding of the existing 69 kV and 92 kV lines would not occur with this alternative; those lines would be underbuilt on Delta lattice towers.

The *East of Tamarisk Grove Campground 150-Foot Option* was suggested by SDG&E in which the alternative would follow the Proposed Project route in the 150-foot proposed alignment, and not the existing

ROW, between the eastern Park boundary (MP 60.9) to Tamarisk Grove Campground (MP 74.8) near the SR78/Highway S3 intersection. Similar to the Proposed Project described in Section B.2.2, SDG&E would underbuild and underground the existing 92 kV and 69 kV lines.

Environmental Setting

Anza-Borrego Desert State Park (ABDSP) occupies a transitional zone between the peninsular mountains and the Colorado Desert. As such, the valleys leading from the desert into (or out of) the mountains have been used as transportation corridors throughout the prehistoric and historic period occupations of the region. Water sources, including seasonal drainages and springs were preferred habitation locales, with the entire landscape offering food resources as varied as the juniper and borrego (bighorn sheep) on the ridges, the mescal (agave) on the slopes, and seeds and small game on the valley floor. Archaeological studies within the park have indicated the pre-ceramic (Archaic Period) use of the region, as well as an intensification of use during the Late Prehistoric Period (Moratto, 2004). Evidence of historic period use, similarly, is dominated by transportation routes and the remains of settlement in the fertile transition zone valleys, particularly those with year-round water sources.

A general description of the cultural setting for the ABDSP Alternatives is provided in Section D.7.3; the full cultural setting is provided in Appendix 9A.

The majority of known cultural resources along the Overhead 500 kV ABDSP within Existing ROW Alternative are prehistoric archaeological sites including scatters of flaked stone and/or pottery sherds, temporary camps, bedrock milling locations, and habitation sites.

A cultural resources records search was conducted for a 300-foot-wide study corridor of the entire 22.48-mile length of the Overhead 500 kV ABDSP within the Existing ROW Alternative. Intensive cultural resources survey conducted by SWCA and AE archaeologists, as well as adequate previous cultural resources survey conducted by Gallegos & Associates and others resulted in survey of 72.76 percent (16.36 miles) of the Overhead 500 kV ABDSP within Existing ROW Alternative.

A total of 136 cultural resources has been identified within the 100-foot-wide construction corridor for the Overhead 500 kV ABDSP within Existing ROW Alternative. Due to the presence of ABDSP, many of the sites in this area retain a sense of integrity of setting and feeling for their respective time periods. The Grapevine Canyon portion of this link contains numerous prehistoric and some historic sites including a large prehistoric site complex (D2-S-106) with human remains.

- Forty-three (43) of these resources were identified during previous cultural resources surveys; 93 resources were recorded by Gallegos & Associates during cultural resources surveys for the Proposed Project yet fall within the 300-foot-wide study corridor for this alternative alignment.
- Eighty-one (81) resources have prehistoric components. Four of the previously recorded resources are multi-component, while five are historic (Table Ap.9B-55 in Appendix 9B). Two prehistoric sites contain human remains. Forty-four of the 136 resources are isolates, typically defined as three or fewer artifacts not associated with a defined, discrete archaeological site, and not considered eligible for inclusion on the NRHP or CRHR.

Native American consultation conducted by both Gallegos & Associates and the BLM has indicated that one extensive portion of the link, or at minimum, the D2-S-106 site complex within it, is likely eligible for the NRHP as a Traditional Cultural Property. As such, impacts to this resource would still be significant, even after mitigation (Class I)

In addition to the 136 cultural resources located within 150 feet of the centerline of the Overhead 500 kV ABDSP within Existing ROW, there are three (3) historic period buildings at Tamarisk Grove Campground (within 0.5 miles of the Alternative) that would be subject to indirect visual impacts (Table Ap.9B-56 in Appendix 9B). The Tamarisk Grove Campground was formally evaluated by SWCA (2007) for the NRHP or CRHR and recommended eligible as a complex, with the three buildings (P-37-017973; P-37-017972; P-37-017974) as contributing elements. SWCA considered the campground as a district and each of the buildings individually. The campground and buildings were found significant under Criteria A and C, as an intact park landscape and contributing resources within the context of California's post-New Deal park system development and facility designs. Also contributing to the NRHP/CRHR-eligibility of the campground is its setting and historic landscape, including the tamarisk trees, likely planted by prisoners building the adjacent highway in the 1920s and 30s. Because the campground, including its setting, is recommended eligible for the NRHP or CRHR, indirect visual impacts to these resources would be adverse under NEPA or significant under CEQA (Class III), if the SHPO concurs with SWCA's eligibility recommendation.

Environmental Impacts and Mitigation Measures

There are 136 known cultural resources within the 100-foot-wide construction corridor for this segment of the Overhead 500 kV ABDSP within Existing ROW Alternative. Included among these resources are both prehistoric and historical resources. The prehistoric resources include habitation sites, temporary camps, lithic and ceramic scatters, rock rings, bedrock milling features, rock shelters, roasting pits, and isolated resources. Historical resources within 100 feet of the alternative centerline include artifact scatters, roads, automobiles and parts, and isolated resources. There is also the potential to encounter undiscovered cultural resources during additional survey or project construction. An additional 51 cultural resources would be expected to be encountered during survey of the remaining 27.24 percent of this alternative. Forty-four (44) of the known cultural resources are isolates that do not require mitigation measures, as isolates by nature are not considered eligible for NRHP or CRHR inclusion and project effects would not be considered adverse under NHPA, nor impacts significant under CEQA.

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class I or II)

One cultural resource within the Overhead 500 kV ABDSP within Existing ROW Alternative is potentially eligible for listing on the NRHP or CRHR. Of the resources identified within the Overhead 500 kV ABDSP within Existing ROW Alternative, 53 are located in areas of direct impact. Sites to be impacted include prehistoric habitation sites, temporary camps, bedrock milling features, ceramic and lithic scatters as well as rock features. D2-S-106, a Prehistoric District or Complex which contains human remains is presumed significant and as currently mapped would be impacted by 12 temporary construction and maintenance pads, seven access roads, and two pull sites (Table Ap.9B-57 in Appendix 9B). As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. However, as noted below under Impact C-2, there are two cultural resources within the Overhead 500 kV ABDSP within Existing ROW Alternative known to contain human remains. Impacts to these sites would remain significant (Class I). For the full text of the mitigation measures, please see Appendix 12.

Similarly, as noted below under Impact C-4 (Construction of the project would cause an adverse change to Traditional Cultural Properties), site D2-S-106 or the entire area that includes the site may be eligible for the NRHP as a TCP, TCPs being a subset of historic properties. This potential TCP is too extensive to be spared from direct construction impacts and indirect visual intrusion of the Proposed Project.

Thus, if a formal determination of NRHP-eligibility deems this resource to be a TCP, even with mitigation, impacts would remain Class I under Impacts C-1 and C-4.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains (Class I)

Two archaeological sites (D2-S-106 and CA-SDI-4153 / 15204) known to contain human remains would be adversely affected by construction of the Overhead 500 kV ABDSP within Existing ROW Alternative (see Table Ap.9B-58 in Appendix 9B). Site D2-S-106 would be directly impacted by 12 temporary construction and maintenance pads, two pull sites, and seven access roads, while CA-SDI04153 / 15204 would be directly impacted by five temporary construction and maintenance pads, three pull sites, and five access roads. Any adverse effect to human remains is considered a significant (Class I) impact. CR-APM-3 outlines procedures for the treatment of unanticipated discoveries during construction, but would not mitigate construction impacts to Native American human remains. Mitigation Measures C-1b, C-1c, C-1d, C-1e, C-1f, and C-2a would partially mitigate impacts to human remains; however, the impacts would still be considered significant (Class I). Impacts to Native American human remains are considered an adverse effect, even after mitigation (36 CFR 800).

Mitigation Measures for Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**
- C-2a** **Properly treat human remains.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that would be encountered along the Overhead 500 kV ABDSP within Existing 100-Foot ROW Alternative include prehistoric resources such as buried living surfaces, refuse deposits, hearths, agave roasting pits, burials and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. Impacts to most unknown significant prehistoric and historic archaeological sites would be mitigated to a level that is less than significant (Class II) by implementing

Mitigation Measures C-1c, C-1d, C-1f, C-2a and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation (36 CFR 800).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

Native American consultation has indicated that one extensive portion of the Overhead 500 V ABDSP within Existing ROW Alternative, or at least a portion of the area including prehistoric site complex D2-S-106, is likely eligible for the NRHP as a TCP. The BLM, as the Federal Lead Agency under NEPA, is continuing the process of government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are additional TCPs that would be affected within this segment. Though impacts to TCPs are often significant (Class I), mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated with Native Americans or other Traditional Groups, can reduce the impact to less than significant. Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) could potentially reduce impacts to some TCPs to a level that is less than significant (Class I or II), but impacts in this sensitive portion of Anza-Borrego would be significant and partially unmitigable (Class I) due to the sensitivity and local importance of its Native American resources. Based on initial consultation with Native Americans concerned about this sensitive area, implementation of Mitigation Measure C-4b and V-3a, detailed below, would partially compensate for the impact to significant qualities of the area. Nonetheless, impacts to this traditional landscape and use area would be significant and partially unmitigable (Class I). The sensitive landscape would be bisected by several miles of transmission lines and towers which cannot be relocated or screened from view.

Mitigation Measures for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

- C-4a Complete consultation with Native American and other Traditional Groups.**
- C-4b Conduct cultural resources survey of the entirety of the identified cultural landscape within a portion of the Anza-Borrego Link of the Proposed Project and prepare a report documenting the resources present as well as the ethnographic use of the area.**
- V-3a Reduce visual contrast of towers and conductors.**

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties within and in the vicinity of the project area during operation and long-term presence of the project. Direct impacts would result from maintenance or repair activities, while increased erosion and access could result in indirect project impacts. These impacts are significant, but can be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-2a (Properly treat human remains) and C-4a (Complete consultation with Native Americans and other Traditional Groups).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-2a** **Properly treat human remains.**
- C-4a** **Complete consultation with Native American and other Traditional Groups.**
- C-5a** **Protect and monitor NRHP- and/or CRHR-eligible properties.**

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

The presence of transmission lines and towers results in indirect visual impacts to historic architectural resources. Indirect visual impacts to potentially NRHP- and/or CRHR-eligible built environment resources such as buildings, structures, and historic districts located near the Proposed Project should be avoided or minimized, where feasible. The Tamarisk Grove Campground as well as the individual buildings previously recorded within it (P-37-017973; P-37-017972; P-37-017974) has been recommended eligible for the NRHP and CRHR. Yaqui Well has been altered since its period of significance, but is likely still eligible for the NRHP and CRHR. As a result, the Overhead 500 kV ABDSP within Existing ROW Alternative would cause indirect adverse visual effects to these resources. These impacts are significant, and implementation of Mitigation Measure C-6a, C-6b, and V-3a would reduce impacts, but the impacts would remain significant (Class I). This conclusion is consistent with those reached in the Visual Resources section of the EIR. Key Viewpoint (KVP) 9 and KVP 32 would be impacted by Impact V-12 and Impact V-39, respectively. Tower location and screening would not completely reduce the visual intrusion of the Proposed Project.

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

- C-6a** **Reduce adverse visual intrusions to historic built environment properties.**
- C-6b** **Reduce adverse visual intrusions at the Tamarisk Grove Campground.**
- V-3a** **Reduce visual contrast of towers and conductors.**

D.7.20 Central Link Alternatives Impacts and Mitigation Measures

Four Central Link Alternatives are considered in this section: the Santa Ysabel Existing ROW Alternative, the Santa Ysabel Partial Underground Alternative, the Santa Ysabel SR79 All Underground Alternative, and the Mesa Grande Alternative.

D.7.20.1 Santa Ysabel Existing ROW Alternative

This alternative would follow an existing 69 kV transmission line ROW on the west side of SR79 in the northern half and east of SR79, along the toe of the hill slope in the southern portion of the alternative. This route would pass east of the existing Santa Ysabel Substation and continue to follow the existing 69 kV line south of SR78 until it rejoins the proposed corridor.

Environmental Setting

The Santa Ysabel Existing Right-of-Way (ROW) Alternative is located within the San Diego Mountains. Evidence of the prehistoric use of the region is best associated with the bedrock milling features that indicate the processing of acorns and other food resources. Such milling sites are often located adjacent to water sources, with large habitation sites exhibiting hundreds of bedrock mortars. During the historic period, these same valleys were used for cattle ranching with individual ranches occupying large acreage. Historic period resources in this area typically include houses, ranch fences and other structures, and water conveyance and storage systems such as wells, ditches, and dams.

Nearly all of the cultural resources recorded within the Santa Ysabel Existing ROW Alternative are prehistoric sites containing bedrock milling features. The remote geographic location of many of these locations has proved valuable to the preservation of the sites providing a relatively undisturbed view of past activities and living conditions. Resources of a historical nature are also recorded within the Santa Ysabel Existing Row Alternative including domestic refuse scatters and evidence of water control and a lumber mill.

A cultural resources records search was completed for 100 percent of the 9-mile Santa Ysabel Existing ROW Alternative. SWCA and AE archaeologists completed intensive cultural resources survey for 36.38 percent (3.27 miles) of the Santa Ysabel Existing ROW Alternative. A total of ten cultural resources has been identified within the 300-foot-wide study corridor for the Santa Ysabel Existing ROW Alternative during the records searches and survey (Table AP.9B-59 in Appendix 9B).

- Two of these resources were identified during previous cultural resources surveys; the remaining eight were newly recorded by SWCA and AE (2007a) during cultural resources surveys for the alternative alignment.
- Prehistoric sites identified within this alternative include five bedrock milling sites, and one temporary camp.
- One multi-component site with bedrock milling, historic and prehistoric artifacts, and a historic wall and foundation was identified within this alternative study corridor.
- The remains of a historical lumber mill and a historical wall segment were identified within this alternative.

- One resource, a prehistoric quartzite mano, is an isolate, typically defined as three or fewer artifacts not associated with a defined, discrete archaeological site, and would not be considered eligible for inclusion on the NRHP or CRHR.
- The Chapel of Santa Ysabel, a California Historical Landmark consisting of a historical building complex and cemetery that has been recommended NRHP-eligible as a historic resource and also appears NRHP-eligible as a TCP, is located approximately 500 feet west of the existing right-of-way.

The BLM, as the Federal Lead Agency under NEPA, is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation has included formal correspondence (Appendix 9C), telephone calls, and face-to-face meetings with groups who have expressed a concern or interest in the Proposed Project. To date, no TCPs have been formally identified within the Santa Ysabel Existing ROW Alternative of the SRPL Project as a result of formal consultation.

Environmental Impacts and Mitigation Measures

Ten known cultural resources are located within the 300-foot-wide study corridor for this alternative. There is also the potential to encounter undiscovered cultural resources during additional survey or project construction. One of the known cultural resources is an isolate that does not require mitigation measures, as isolates by nature are not considered eligible for NRHP or CRHR inclusion and project effects would not be considered adverse under NHPA, nor impacts significant under CEQA. The remaining eight resources are potentially eligible for NRHP listing. Because known cultural resources that are potentially eligible for the NRHP or CRHR exist within areas of proposed direct impact, as well as the potential for encountering undiscovered cultural resources, the following impacts could occur during project construction or operation.

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

Nine (9) cultural resources within the Santa Ysabel Existing ROW Alternative are potentially eligible for listing on the NRHP or CRHR; none of these sites are located in areas of direct impact. An additional 17 cultural resources would be expected to be encountered during survey of the remaining 63.62 percent of this alternative. Nearly all of these resources are likely to be prehistoric; if they were evaluated and recommended eligible for NRHP- and/or CRHR, it would likely be under Criterion D (data potential). Sites likely to be recommended NRHP-eligible include prehistoric habitation sites or other sites with an intact subsurface deposit. As such, impacts to these resources could be mitigated through data recovery; however, avoidance is always preferred. As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**

- C-1d Conduct data recovery to reduce adverse effects.**
- C-1e Monitor construction at known ESAs.**
- C-1f Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the Santa Ysabel Existing ROW Alternative include prehistoric resources such as buried living surfaces, refuse deposits, hearths, burials and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. Impacts to unknown significant prehistoric and historic archaeological sites would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a, and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation (36 CFR 800).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

The Chapel of Santa Ysabel (CHL 369), which is important to the local community, is recommended eligible for the NRHP as a historic complex and as a TCP. In addition, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of the alternatives, in undisclosed locations. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA, has initiated government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are additional TCPs that would be affected within this segment. Though impacts to TCPs are often Class I, mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated Native Americans or other Traditional Groups can reduce the impact to Class II. Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) would reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts may remain significant (Class I). Visual intrusions to the Chapel of Santa Ysabel would be reduced by Mitigation Measures C-6c and V-3a, but would remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

- C-4a Complete consultation with Native American and other Traditional Groups.**
- C-4c Consult with the Santa Ysabel Band of Diegueño Indians.**
- C-6c Reduce adverse visual intrusions to the Chapel of Santa Ysabel.**
- V-3a Reduce visual contrast of towers and conductors.**

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties within and in the vicinity of the project area during operation and long-term presence of the Alternative Alignment. Direct impacts would result from maintenance or repair activities, while increased erosion would result as an indirect project impact. These impacts are significant, but can be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-2a (Properly treat human remains) and C-4a (Complete consultation with Native Americans and other Traditional Groups).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b Avoid and protect potentially significant resources.**
- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-2a Properly treat human remains.**
- C-4a Complete consultation with Native American and other Traditional Groups.**
- C-5a Protect and monitor NRHP- and/or CRHR-eligible properties.**

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

The presence of transmission lines and towers results in indirect visual impacts to historic architectural resources such as the Chapel of Santa Ysabel (CHL 369). This building complex has been recommended eligible for the NRHP and CRHR and is located approximately 500 feet west of the existing right-of-way (see Table 9B-59 in Appendix 9B). Mitigation Measures C1-b, C-1c, and C-6c would mitigate indirect visual impact to the setting of this resource to a level that is less than significant (Class II). Indirect visual impacts to potentially NRHP- and/or CRHR-eligible built environment resources such as buildings, structures, and historic districts located near the Proposed Project should be avoided or minimized, where feasible. If transmission line or tower relocation cannot result in avoidance, then screening the resource from the tower/line and/or painting the tower to blend into the landscape can potentially minimize the visual impact. These impacts are significant, and Mitigation Measures C1-b, C-1c, C-6c, and V-3a would reduce these impacts; however, as noted in the Visual Resources section for KVP 33, the impacts would remain significant (Class I).

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

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-6c** **Reduce adverse visual intrusions to the Chapel of Santa Ysabel.**
- V-3a** **Reduce visual contrast of towers and conductors.**

D.7.20.2 Santa Ysabel Partial Underground Alternative

This 230 kV alternative would begin at MP 105.5 where the proposed route would join Mesa Grande Road at the base of the hills at the western side of the Santa Ysabel Valley. The alternative would transition underground at the southern side of Mesa Grande Road and would travel underground in Mesa Grande Road, SR79 and then, south of SR78, following property lines for approximately one mile to rejoin the proposed route at approximately MP 109.5 where it would transition overhead. The route would be 0.7 miles longer than the proposed route.

Environmental Setting

A general description of the cultural setting for the Central Link Alternatives is provided in Section D.7.4; the full cultural setting is provided in Appendix 9. The majority of the resources in the Santa Ysabel Partial Underground Alternative have prehistoric components. Sites such as bedrock milling features, as well as temporary campsites, are common and exhibit evidence of multiple past activities such as tool making and sharpening. Bedrock milling features would have been used for food preparation (including, but not limited to the processing of acorns), and are often associated with seasonal Native American use.

A cultural resources records search was conducted for 100 percent of the 5.36-mile Santa Ysabel Partial Underground Alternative. SWCA and AE archaeologists completed intensive cultural resources survey for approximately 32 percent (1.72 miles) of the Santa Ysabel Partial Underground Alternative. A total of eight cultural resources has been identified within the 300-foot-wide study corridor for the Santa Ysabel Partial Underground Alternative (Table Ap.9B-61 in Appendix 9B).

- Three of these resources were identified during previous cultural resources surveys; the remaining five were newly recorded by SWCA and AE (2007a) during cultural resources surveys for the alternatives.
- Four of the resources are prehistoric in age; one is multi-component, while two of the resources are historic including the remains of historic water conveyance and mill structures.
- Two of the newly recorded resources, both prehistoric lithic tools, are isolates, typically defined as three or fewer artifacts not associated with a defined, discrete archaeological site, and would not be considered eligible for inclusion on the NRHP or CRHR.

In addition to the resources within the Santa Ysabel Partial Underground Alternative, one known historic building complex, the Chapel of Santa Ysabel, lies within 0.5 miles of the Santa Ysabel Partial Underground Alternative (Table Ap.9B-62 in Appendix 9B). The Chapel of Santa Ysabel is listed on the California Historic Landmarks as CHL 369, with a status code of 7L (evaluated for a Resister other than the National Register). The Chapel of Santa Ysabel has been evaluated by SWCA (2007) for this project and recommended eligible for the NRHP and CRHR under eligibility Criterion A (important events

in the past) and Criterion C (architecture), and potentially Criterion B (association with persons significant in the past), and as well as satisfying Criteria Considerations A (for religious properties) and D (for cemeteries). The chapel is an example of significant architectural design and construction from the “revival of the missions” movement of the 1920s and is a significant resource of the local community, which has used the swept-ground cemetery for multiple generations. It should also be noted that local Santa Ysabel community members have stated during scoping meetings for this project that the complete cemetery boundaries are ill-defined and there is likelihood to encounter human remains during excavations of SR79 in the immediate vicinity of the cemetery. The Chapel is important to the local community, and is recommended as eligible the NRHP as a historic complex, and as a TCP.

The BLM, as the Federal Lead Agency under NEPA, is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation has included formal correspondence (Appendix 9C), telephone calls, and face-to-face meetings with groups who have expressed a concern or interest in the Proposed Project. To date, no additional TCPs have been identified within the Santa Ysabel Partial Underground Alternative of the SRPL Project as a result of formal consultation.

Because known cultural resources that are potentially eligible for the NRHP or CRHR exist within areas of proposed direct impact, as well as the potential for encountering undiscovered cultural resources, the following impacts could occur during project construction or operation.

Environmental Impacts and Mitigation Measures

Eight known cultural resources are located within the 300-foot-wide survey corridor for this alternative. There is also the potential to encounter undiscovered cultural resources during additional survey or project construction. Two of the known cultural resources are isolated artifacts that do not require mitigation measures, as isolates by nature are not considered eligible for NRHP or CRHR inclusion and project effects would not be considered adverse under NHPA, nor impacts significant under CEQA. Because known cultural resources that are potentially eligible for the NRHP or CRHR exist within areas of proposed direct impact, as well as the potential for encountering undiscovered cultural resources, the following impacts could occur during project construction or operation.

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

Six (6) cultural resources within the Santa Ysabel Partial Underground Alternative are potentially eligible for listing on the NRHP or CRHR. These resources include four bedrock milling sites, a temporary camp, a multi-component site with prehistoric ceramic and lithic artifacts and historical glass, and the remains of a historical lumber mill. An additional 17 resources such as prehistoric bedrock milling sites, temporary camps and historical refuse scatters are expected to be encountered during survey of the remaining 68 percent of the alternative. There is also the possibility to encounter historic period human remains; however, this Class I impact is addressed below in Impact C-2. If these sites were evaluated and recommended eligible for NRHP- and/or CRHR, it would likely be under Criterion D (data potential). As such, impacts to these resources could be mitigated through data recovery; however, avoidance is always preferred. Four (4) of the sites identified within the Santa Ysabel Partial Underground Alternative are located in areas of direct impact: One temporary camp, two bedrock milling sites, and the remains of a historical structure would be impacted by areas of undergrounding

(see Table Ap.9B-63 in Appendix 9B). As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a Inventory and evaluate cultural resources in Final APE.**
- C-1b Avoid and protect potentially significant resources.**
- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1e Monitor construction at known ESAs.**
- C-1f Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

There is a moderate potential to find historic period human remains in the vicinity of the Chapel of Santa Ysabel near but outside the recorded cemetery boundaries. The underground portion of the Santa Ysabel Partial Underground Alternative would pass directly in front of the roadside cemetery at the chapel, within SR79. Other types of subsurface features that could be encountered along the Santa Ysabel Partial Underground Alternative include prehistoric resources such as buried living surfaces, refuse deposits, hearths, burials and cremations. Additional historical resources that could be unearthed during project construction include refuse pits, and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower or underground construction. Construction of underground segments of the alternative has the potential to damage and destroy buried archaeological resources, as large trenches would be required for underground segments. Impacts to unknown significant prehistoric and historic archaeological sites would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a, and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation (36 CFR 800).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

The Chapel of Santa Ysabel is located just east of the Santa Ysabel Partial Underground Alternative, has been recommended NRHP-eligible as a building complex (SWCA, 2007a), and may also be NRHP-eligible as a TCP. In addition, the Sacred Lands File search conducted for the PEA noted that lands sacred

to Native Americans are present in the vicinity of the alternative alignment, in an undisclosed location. The BLM, as the Federal Lead Agency under NEPA, is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are additional TCPs that would be affected within this segment. When properly coordinated with Native Americans or other Traditional Groups, mitigation could be developed that can reduce the impact to less than significant (Class II), but in some cases impacts to TCPs would remain significant (Class I). Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) is required; this consultation would reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts would remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

C-4a Complete consultation with Native American and other Traditional Groups.

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties such as the Chapel of Santa Ysabel or archaeological sites within and in the vicinity of the project area during operation and long-term presence of the Proposed Project. Direct impacts would result from maintenance or repair activities, while increased erosion would result in an indirect project impact. These impacts are significant, but can be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-2a (Properly treat human remains) and C-4a (Complete consultation with Native Americans and other Traditional Groups).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b Avoid and protect potentially significant resources.**
- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-2a Properly treat human remains.**
- C-4a Complete consultation with Native American and other Traditional Groups.**
- C-5a Protect and monitor NRHP- and/or CRHR-eligible properties.**

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

The presence of transmission lines and towers results in indirect visual impacts to historic architectural resources such as the Chapel of Santa Ysabel (CHL 369). The Santa Ysabel Partial Underground Alternative is underground in the vicinity of the chapel and therefore, should not cause visual impacts to the resource. If visual impacts to historic properties are identified for this alternative, Mitigation Measures C1-b, C-1c, and C-6a could mitigate indirect visual impact to the setting of this resource to a level that is less than significant (Class II). Indirect visual impacts to potentially NRHP- and/or CRHR-eligible built environment resources such as buildings, structures, and historic districts located near the Proposed Project should be avoided or minimized, where feasible. If transmission line or tower relocation cannot

result in avoidance, then screening the resource from the tower/line and/or painting the tower to blend into the landscape can potentially minimize the visual impact. These impacts are significant, but would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C1-b, C-1c, C-6a, and V-3a.

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

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-6a** **Reduce adverse visual intrusions to historic built environment properties.**
- V-3a** **Reduce visual contrast of towers and conductors.**

D.7.20.3 Santa Ysabel SR79 All Underground Alternative

This alternative would diverge from the Proposed Project at MP 100, just south of the crossing of SR78. It would start as an overhead 230 kV line, which would then transition to an underground route on private property, west of SR79. It would be underground along existing dirt roads and within hay fields and SR79 through the Santa Ysabel Valley, rejoining the proposed route south of SR78.

Environmental Setting

A general description of the cultural setting for the Central Link Alternatives is provided in Section D.7.4; the full cultural setting is provided in Appendix 9A. The majority of the resources in the Santa Ysabel SR79 All Underground Alternative have prehistoric components. Sites such as bedrock milling features, as well as temporary campsites, are common and exhibit evidence of multiple past activities such as tool making and sharpening. Bedrock milling features would have been used for food preparation (including, but not limited to the processing of acorns), and are often associated with seasonal Native American use.

A cultural resources records search was conducted for 100 percent of the 5.18-mile Santa Ysabel SR79 All Underground Alternative. SWCA and AE archaeologists completed intensive cultural resources survey for 100 percent of the Santa Ysabel SR79 All Underground Alternative. Sixteen (16) cultural resources have been identified within this alternative (see Table Ap.9B-64 in Appendix 9B). Four of the resources were previously recorded, one was recorded by Gallegos & Associates during surveys for the Proposed Project, and the remaining 11 resources were newly recorded by SWCA and AE (2007a) during cultural resources surveys for the alternatives, and primarily consist of bedrock milling sites. The Chapel of Santa Ysabel (CHL-369) is located within the study corridor but the building, itself, is outside proposed direct impact areas.

Environmental Impacts and Mitigation Measures

Five known cultural resources are located within the 300-foot-wide survey corridor for this alternative, none of which are located in areas of direct impact (see Table Ap.9B-65 in Appendix 9B) There is also the potential to encounter undiscovered cultural resources during additional survey or project construction. All of the resources within the Santa Ysabel SR79 All Underground Alternative are potentially eligible for NRHP listing. Because known cultural resources that are potentially eligible for the NRHP or CRHR exist within areas of proposed direct impact, as well as the potential for encountering undiscovered cultural resources, the following impacts could occur during project construction or operation.

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

Four cultural resources located within the Santa Ysabel SR79 All Underground Alternative are potentially eligible for listing on the NRHP and CRHR. The Chapel of Santa Ysabel is CRHR-listed and recommended eligible for NRHP inclusion. As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. However, due to the nature of discoveries within construction of underground transmission lines, avoidance of all sites within the Santa Ysabel SR79 All Underground Alternative is unlikely. For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

There is a moderate potential to find historic period human remains in the vicinity of the Chapel of Santa Ysabel near but outside the recorded cemetery boundaries. The underground portion of the Santa Ysabel All Underground Alternative would pass directly in front of the roadside cemetery at the chapel, within SR79. Other types of subsurface features that could be encountered along the Santa Ysabel All Underground Alternative include prehistoric resources such as buried living surfaces, refuse deposits, hearths, and cremations. Historical resources that could be unearthed during project construction include refuse pits, cisterns, and privies, especially those associated with settlement and ranching. Buried archaeological resources may be encountered during vegetation removal along the project alignment, grading of access roads, or trench excavation associated with underground construction. Impacts to most unknown significant prehistoric and historic archaeological sites would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation (36 CFR 800).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1f** **Train construction personnel.**
- C-2a** **Properly treat human remains.**
- C-3a** **Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

The Chapel of Santa Ysabel is located directly east of the Santa Ysabel SR79 All Underground Alternative and is likely NRHP-eligible as a TCP in addition to its recommended eligibility as a historic complex. There would be no direct or visual impacts to this resource by construction of this alternative but it is possible that additional human remains associated with the cemetery of this resource could be identified during construction. Additionally, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of the alternatives, in undisclosed locations. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA, has initiated government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are additional TCPs that would be affected within this segment. Though impacts to TCPs are often Class I, mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated Native Americans or other Traditional Groups can reduce the impact to Class II. Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) would reduce impacts to TCPs to a level that is less than significant (Class II), but if burials were discovered at the Chapel of Santa Ysabel, impacts would remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

C-4a Complete consultation with Native American and other Traditional Groups.

D.7.20.4 SDG&E Mesa Grande Alternative

This alternative to a one-mile portion of the proposed overhead 230 kV route was proposed by the landowner and also by SDG&E in order to reduce the visibility of the overhead line west of Mesa Grande Road. It would diverge from the proposed route at MP 102.2, and rejoin it before MP 104.

Environmental Setting

A general description of the cultural setting for the Central Link Alternatives is provided in Section D.7.4; the full cultural setting is provided in Appendix 9.

A cultural resources records search was completed for 100 percent of the 1.84-mile SDG&E Mesa Grande Alternative. SWCA and AE archaeologists completed intensive cultural surveys for 100 percent of the Mesa Grande Alternative. Two cultural resources have been identified within the 300-foot-wide survey corridor for the Mesa Grande Alternative (Table AP.9B-66 in Appendix 9B).

- Both of these resources are prehistoric in age; including one temporary camp, and a bedrock milling site.
- The bedrock milling feature was newly recorded by SWCA and AE (2007a) during cultural resources surveys for the alternatives, while the temporary camp was recorded by Gallegos & Associates during surveys for the Proposed Project that also fall within the 300-foot-wide survey corridor of this alternative.

The BLM, as the Federal Lead Agency under NEPA, is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation has included formal correspondence (Appendix 9C), tele-

phone calls, and face-to-face meetings with groups who have expressed a concern or interest in the Proposed Project. To date, no TCPs have been identified within the SDG&E Mesa Grande Alternative of the SRPL Project as a result of formal consultation.

Environmental Impacts and Mitigation Measures

Two known cultural resources are located within the 300-foot-wide survey corridor for this alternative. There is also the potential to encounter undiscovered cultural resources during project construction. Because known cultural resources that are potentially eligible for the NRHP or CRHR exist within areas of proposed direct impact, as well as the potential for encountering undiscovered cultural resources, the following impacts could occur during project construction or operation.

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

Two cultural resources within the Mesa Grande Alternative are potentially eligible for listing on the NRHP or CRHR. These resources include one bedrock milling site and a temporary camp, both of which are located in areas of direct impact. The bedrock milling site is located in areas where access roads are to be constructed, while the temporary camp is located in a pull site area. If these sites were evaluated and recommended eligible for NRHP- and/or CRHR, it would likely be under Criterion D (data potential). As such, impacts to these resources could be mitigated through data recovery; however, avoidance is always preferred. Two (2) of the sites identified within the Mesa Grande Alternative are located in areas of direct impact: One temporary camp and a bedrock milling feature would be impacted by the construction of access roads (Table AP.9B-67 in Appendix 9B). As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a Inventory and evaluate cultural resources in Final APE.**
- C-1b Avoid and protect potentially significant resources.**
- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1e Monitor construction at known ESAs.**
- C-1f Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of cultural resources that could be encountered along the SDG&E Mesa Grande Alternative include prehistoric bedrock milling features and habitation sites and historic sites containing evidence of ranching and water control. Subsurface features to be expected include prehistoric resources such as buried living surfaces, refuse deposits, hearths, and cremations. Historical resources that could be unearthed during project construction include refuse pits, cisterns, and privies associated with settlement and ranching. Buried archaeological resources may be encountered during vegetation removal at tower and

pull site locations, grading of access roads, or excavation associated with tower construction. Impacts to most unknown significant prehistoric and historic archaeological sites would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C1-a, C-1b, C-1c, C-1d, C-1f, C-2a and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation (36 CFR 800).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1f** **Train construction personnel.**
- C-2a** **Properly treat human remains.**
- C-3a** **Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no TCPs have been identified within the SDG&E Mesa Grande Alternative. However, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of the alternatives, in undisclosed locations. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA, has initiated government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that would be affected within this segment. Though impacts to TCPs are often Class I, mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated Native Americans or other Traditional Groups can reduce the impact to Class II. Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) would reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts may remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

- C-4a** **Complete consultation with Native American and other Traditional Groups.**

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties within and in the vicinity of the project area during operation and long-term presence of the Alternative Alignment. Direct impacts could result from maintenance or repair activities, while increased erosion could result as an indirect project impact. These impacts are potentially significant, but can be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation

Measure C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-2a (Properly treat human remains) and C-4a (Complete consultation with Native Americans and other Traditional Groups).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b Avoid and protect potentially significant resources.**
- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-2a Properly treat human remains.**
- C-4a Complete consultation with Native American and other Traditional Groups.**
- C-5a Protect and monitor NRHP- and/or CRHR-eligible properties.**

D.7.21 Inland Valley Link Alternatives Impacts and Mitigation Measures

Four alternatives are considered within the Inland Valley Link: the CNF Existing 69 kV Route Alternative, the Oak Hollow Road Underground Alternative, the San Vicente Road Transition Station Alternative, and the Chuck Wagon Road Alternative.

D.7.21.1 CNF Existing 69 kV Route Alternative

This 0.5-mile alternative segment would start at MP 111.3 where the proposed 230 kV and existing 69 kV transmission lines would be routed west for 0.5 miles and then south for approximately 0.5 miles to avoid Cleveland National Forest (CNF). The alternative would remain in the existing 69 kV ROW heading southwest through Cleveland National Forest to rejoin the proposed route at MP 111.8. This alternative would be 0.5 miles shorter than the Proposed Project and the existing 69 kV transmission line would not need to be relocated out of the existing ROW.

Environmental Setting

The CNF (Cleveland National Forest) Existing 69 kV Route Alternative is located in the vicinity of the Inland Valley Link of the Proposed Project. This alternative is located on the western slopes of the mountains that descend towards San Diego and adjacent coastal areas. This transition zone between the coastal and mountain resources was occupied and used intensively during prehistoric times. Typical of a transition zone, transportation corridors and sites exhibiting the exploitation of multiple resource types are found in these inland valleys. Examples of prehistoric human habitation within the natural environment of this general area are evidenced by bedrock milling features, lithic and ceramic artifact scatters, as well as human remains. There are also examples of both prehistoric and historical activity at the same desirable locations. Known historical houses, roads, trails, and barns are also visible in the vicinity.

A cultural resources records search was conducted for 100 percent of the 1.28-mile CNF Existing 69 kV Alternative using records on file at the SCIC and Cleveland National Forest (CNF). SWCA and AE archaeologists completed intensive cultural resources survey for 100 percent of the 1.28-mile CNF Existing 69 kV Alternative. No cultural resources have been identified within the 300-foot-wide study corridor for the CNF Existing 69 kV Alternative.

The BLM, as the Federal Lead Agency under NEPA, is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation has included formal correspondence (Appendix 9C), tele-

phone calls, and face-to-face meetings with groups who have expressed a concern or interest in the Proposed Project. To date, no TCPs have been identified within the CNF Existing 69 kV Alternative of the SRPL Project as a result of formal consultation.

Environmental Impacts and Mitigation Measures

No known cultural resources are located within the 300-foot-wide study corridor for this alternative. There remains, however, the potential to encounter undiscovered cultural resources, most likely prehistoric artifact scatters, during additional survey or project construction. If undiscovered cultural resources are encountered during construction, the following impacts would occur during project construction or operation.

Construction Impacts

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the CNF Existing 69 kV Alternative include prehistoric resources such as buried living surfaces, refuse deposits, hearths, and cremations. Historical resources that could be unearthed during project construction include refuse pits, cisterns, and privies, especially those associated with settlement and ranching. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. Impacts to most unknown significant prehistoric and historic archaeological sites would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation (36 CFR 800). For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no TCPs have been identified within the CNF Existing 69 kV Alternative. However, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of the alternatives, in undisclosed locations. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA, has initiated government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that would be affected within this segment. Though impacts to TCPs are often Class I, mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or

reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated Native Americans or other Traditional Groups can reduce the impact to Class II. Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) would reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts may remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

C-4a Complete consultation with Native American and other Traditional Groups.

D.7.21.2 Oak Hollow Road Underground Alternative

The purpose of this alternative would be to extend the proposed underground to the east of Mount Gower County Open Space Preserve so the line would be underground through the valley area. The alternative would require 0.6 miles of additional underground 230 kV transmission line, and the existing 69 kV would remain overhead.

Environmental Setting

A general description of the cultural setting for the Inland Valley Link Alternatives is provided in Section D.7.5; the full cultural setting is provided in Appendix 9A.

A cultural resources records search was conducted for 100 percent of the 0.64-mile Oak Hollow Road Alternative. SWCA and AE archaeologists completed intensive cultural resources survey for 69.72 percent (0.45 miles) of the Oak Hollow Road.

- No cultural resources have been identified within the 300-foot-wide study corridor for the Oak Hollow Road Alternative.

Environmental Impacts and Mitigation Measures

No known cultural resources are located within the 300-foot-wide study corridor for this alternative. There remains, however, the potential to encounter undiscovered cultural resources during project construction. Because there is the potential for encountering undiscovered cultural resources, the following impacts could occur during project construction or operation.

Construction Impacts

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered within the Oak Hollow Road Alternative include prehistoric resources such as buried living surfaces, refuse deposits, hearths, and cremations. Historical resources that could be unearthed during project construction include refuse pits, cisterns, and privies, especially those associated with settlement and ranching. Buried archaeological resources may be encountered during grading of access roads, or trench excavation associated with underground construction. Impacts to most unknown significant prehistoric and historic archaeological sites would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation (36 CFR 800). For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no TCPs have been identified within the Oak Hollow Road Alternative. However, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of the alternatives, in undisclosed locations. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA, has initiated government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that would be affected within this segment. Though impacts to TCPs are often Class I, mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated Native Americans or other Traditional Groups can reduce the impact to Class II. Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) would reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts may remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

- C-4a Complete consultation with Native American and other Traditional Groups.**

D.7.21.3 San Vicente Road Transition Alternative

The alternative would move the transition structure from its proposed location along San Vicente Road (MP 121.9) approximately 0.3 miles west to MP 122.2. The underground line would follow San Vicente Road within a 60-foot ROW for an additional 2,100 feet and would cross under an existing Creelman–Los Coches 69 kV transmission line, before it would turn north and would travel through open space for approximately 200 feet to the overhead transition point.

Environmental Setting

A general description of the cultural setting for the Inland Valley Link Alternatives is provided in Section D.7.5; the full cultural setting is provided in Appendix 9A.

A cultural resources records search was conducted for 100 percent of the 0.7-mile San Vicente Road Transition Alternative. SWCA and AE archaeologists completed intensive cultural resources survey for 67.4 percent (0.47 miles) of the 0.7-mile San Vicente Road Transition Alternative.

One cultural resource has been identified within the 300-foot-wide study corridor for the San Vicente Road Transition Alternative (see Table Ap.9B-68 in Appendix 9B); CA-SDI-15026 is a prehistoric site with lithic and ceramic artifacts, possible midden soil, and a “yoni” petroglyph feature possibly associated with female fertility ceremonies. Due to the location of the San Vicente Road Transition Alternative and the density of sites in previously surveyed portions of its vicinity, it is estimated that approximately 1-3 additional cultural resources would be encountered during survey of the alternative; such resources would likely include prehistoric bedrock milling features.

The BLM, as the Federal Lead Agency under NEPA, is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation has included formal correspondence (Appendix 9C), telephone calls, and face-to-face meetings with groups who have expressed a concern or interest in the Proposed Project. To date, no TCPs have been identified within the San Vicente Road Transition Alternative of the SRPL Project as a result of formal consultation.

Environmental Impacts and Mitigation Measures

One known cultural resource, CA-SDI-15026, is located within the 300-foot-wide study corridor for this alternative. This resource would be directly impacted by an access road and construction and maintenance pad (see Table Ap.9B-69 in Appendix 9B). There remains, however, the potential to encounter undiscovered cultural resources during additional survey or project construction. Because there is the potential for encountering undiscovered cultural resources, the following impacts would occur during project construction or operation if any are uncovered.

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

Site CA-SDI-15026 is potentially eligible for NRHP or CRHR inclusion and would be directly impacted by the San Vicente Road Transition Alternative. Additionally, during the remaining survey there is the potential to encounter cultural resources within the San Vicente Road Transition Alternative that are potentially eligible for listing on the NRHP or CRHR. As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the San Vicente Road Transition Alternative include prehistoric resources such as buried living surfaces, refuse deposits, hearths, and cremations. Historical resources that could be unearthed during project construction include refuse pits, cisterns, and privies, especially those associated with settlement and ranching. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. Impacts to most unknown significant prehistoric and historic archaeological sites would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation (36 CFR 800).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no TCPs have been identified within the San Vicente Road Transition. However, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of the alternatives, in undisclosed locations. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA, has initiated government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that would be affected within this segment. Though impacts to TCPs are often Class I, mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated Native Americans or other Traditional Groups can reduce the impact to Class II. Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) would reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts may remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

- C-4a Complete consultation with Native American and other Traditional Groups.**

D.7.21.4 Chuck Wagon Road Alternative

This alternative would diverge from the proposed route in San Vicente Boulevard, turning south in Chuck Wagon Road approximately 0.2 miles east of the proposed transition point at MP 121.7. It would continue south for approximately 1.6 miles before passing under the existing Creelman–Los Cochés 69 kV transmission line ROW. At this point, the route would transition to overhead and turn west for approximately 1.2 miles to rejoin the proposed route at MP 125.6.

Environmental Setting

A general description of the cultural setting for the Inland Valley Link Alternatives is provided in Section D.7.5; the full cultural setting is provided in Appendix 9A. Approximately 57 percent (1.88 miles) of the Chuck Wagon Road Alternative would be constructed underground; the remaining 43 percent (1.42 miles) would be constructed using towers and overhead lines.

A cultural resources records search was conducted for 100 percent of the 3.30-mile Chuck Wagon Road Alternative. SWCA and AE archaeologists completed intensive cultural resources survey for 66.55 percent (2.19 miles) of the Chuck Wagon Road Alternative. A total of 11 cultural resources has been identified within the 300-foot-wide study corridor for the Chuck Wagon Road Alternative (Table AP.9B-70 in Appendix 9B). All of these resources were identified within the study corridor for the underground portion of this alternative.

Five of the previously recorded resources are prehistoric sites; four bedrock milling sites and one ceramic and lithic artifact scatter. Two bedrock milling features were newly recorded by SWCA and AE (2007a). The Monte Vista Ranch includes six historic period resources within the study corridor of the underground portion of the Chuck Wagon Road Alternative (Table Ap.9B-71 in Appendix 9B). These historical resources include four houses, a shed, and a reservoir feature, all of which were evaluated by Van Wormer and Wade (2002) and recommended not eligible for NRHP or CRHR listing. SWCA architectural historian James Steely conducted a field visit to the ranch (2007) and, likewise, recommends that the buildings and structures recorded at Monte Vista Ranch are not NRHP or CRHR eligible.

The BLM, as the Federal Lead Agency under NEPA, is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation has included formal correspondence (Appendix 9C), telephone calls, and face-to-face meetings with groups who have expressed a concern or interest in the Proposed Project. To date, no TCPs have been identified within the Chuck Wagon Road Alternative of the SRPL Project as a result of formal consultation.

Environmental Impacts and Mitigation Measures

Eleven known cultural resources are located within the 300-foot-wide study corridor for the Chuck Wagon Road Alternative. There is also the potential to encounter undiscovered cultural resources during additional surveys or project construction. The six historical resources at the Monte Vista Ranch have been recommended not eligible for the NRHP or CRHR; nonetheless, it is assumed that these still-occupied buildings would be avoided if this alternative is selected because the area of disturbance for the underground segment of this alternative should be much narrower than the 300-foot-wide study corridor. Because known cultural resources that are potentially eligible for the NRHP or CRHR exist within areas of proposed direct impact, as well as the potential for encountering undiscovered cultural resources, the following impacts could occur during project construction or operation.

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

Five (5) cultural resources within the Chuck Wagon Road Alternative are potentially eligible for listing on the NRHP or CRHR. These resources include four bedrock milling sites and a ceramic and lithic scatter. Two (2) of the sites identified within the Chuck Wagon Road Alternative are located in areas of direct impact: One bedrock milling feature would be impacted by a temporary construction and maintenance pad, while an additional bedrock milling feature would be impacted by proposed undergrounding (Table Ap.9B-72 in Appendix 9B). As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the Chuck Wagon Road Alternative include prehistoric resources such as buried living surfaces, refuse deposits, hearths, and cremations. Historical resources that could be unearthed during project construction include refuse pits, cisterns, and privies, especially those associated with settlement and ranching. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with underground construction or tower construction. Impacts to most unknown significant prehistoric and historic archaeological sites would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation (36 CFR 800).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1f** **Train construction personnel.**
- C-2a** **Properly treat human remains.**
- C-3a** **Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no TCPs have been identified within the Chuck Wagon Road Alternative. However, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of the alternatives, in undisclosed locations. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA, has initiated government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that would be affected within this segment. Though impacts to TCPs are often Class I, mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated Native Americans or other Traditional Groups can reduce the impact to Class II. Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) would reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts may remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

C-4a Complete consultation with Native American and other Traditional Groups.

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties within and in the vicinity of the project area during operation and long-term presence of the project. Direct impacts would result from maintenance or repair activities, while increased erosion would result as an indirect project impact. These impacts are significant, but would be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-2a (Properly treat human remains) and C-4a (Complete consultation with Native Americans and other Traditional Groups).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b Avoid and protect potentially significant resources.**
- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-2a Properly treat human remains.**
- C-4a Complete consultation with Native American and other Traditional Groups.**
- C-5a Protect and monitor NRHP- and/or CRHR-eligible properties.**

D.7.22 Coastal Link Alternatives Impacts and Mitigation Measures

Four alternatives are considered within the Coastal Link: the Pomerado Road to Miramar Area North Alternative, the Los Peñasquitos Canyon Preserve and Mercy Road Alternative, the Black Mountain to Park Village Road Underground Alternative, and the Coastal Link System Upgrade Alternative.

D.7.22.1 Pomerado Road to Miramar Area North Alternative

This alternative would be underground with the exception of the east and west ends where the line is overhead within existing SDG&E transmission ROWs. This alternative would exit the Sycamore Substation at MCAS Miramar overhead westerly within an existing ROW toward Pomerado Road. The line would transition to underground beneath Pomerado Road in the vicinity of Legacy Road, then continuing underground in Miramar Road, Kearny Villa Road, Black Mountain Road, Activity Road, Camino Ruiz, Miralani Drive, Arjons Drive, Trade Place, Camino Santa Fe, Carroll Road/Carroll Canyon Road and Scranton Road. At the western end, the line would transition to overhead and would be located within the existing 230 kV ROW heading northward into the Peñasquitos Substation.

The Pomerado Road to Miramar Area North Alternative would replace a portion of the Coastal Link of the Proposed Project. The Coastal Link (including this alternative) is located within the inland portion of the coastal environmental province. Archeological evidence indicates that this region was occupied throughout the Early/Archaic, Late Prehistoric, and Historic Periods (see Appendix 9A). Prehistoric sites within this region exhibit higher concentrations of marine ecofacts such as shell and fish remains, though not as much as the intensively utilized lagoons along the coast.

Prehistoric sites are the most common sites within the Coastal Link of the Proposed Project. Isolated artifacts, bedrock milling features, and lithic artifact scatters are prominent within this link. Prehistoric habitation sites that exhibit evidence of multiple past activities, such as tool making and sharpening and food preparation, were observed within the Coastal Link. There are also several historical building and building complexes within the vicinity of the Coastal Link.

Environmental Setting

The Pomerado Road to Miramar Area North Alternative is 12.75 miles long and a cultural resources records search was conducted for its entire length and a 0.5-mile search radius around the alternative. To date, adequate previous surveys combined with survey conducted by SWCA and AE archaeologists have resulted in intensive cultural resources for 14.32 percent (1.83 miles) of the 300-foot-wide study corridor of the Pomerado Road to Miramar Area North Alternative. Approximately 83.28 percent (10.62 miles) of the alternative would be constructed underground in existing paved roads. For this portion, an SWCA archaeologist conducted a reconnaissance “windshield” survey, inspecting and noting all buildings and structures that appeared historic in age located adjacent to the alignment. The remaining 2.4 percent (0.31 miles) of the aboveground portion of the alternative has not been surveyed. Seven cultural resources have been identified within the Pomerado Road to Miramar Area North Alternative (see Table Ap.9B-73 in Appendix 9B). Prehistoric sites are the most common sites within the Pomerado Road to Miramar Area North Alternative. Lithic artifact scatters and temporary camps are prominent in this alternative and exhibit evidence of multiple past activities such as tool making and sharpening and food preparation.

Four of the resources are prehistoric lithic artifact scatters, of which two have reportedly been destroyed by the construction of Carroll Canyon Road and are therefore presumed not eligible for the NRHP or CRHR. One prehistoric temporary camp, the remains of a historical foundation, dam and cistern, and one resource that comprises the remains of two historic period adobes and includes prehistoric or ethnographic period artifacts are also located within the study corridor for the Pomerado Road to Miramar Area North Alternative. All of the resources within the Pomerado Road to Miramar Area North Alternative were recorded during previous cultural resource surveys.

The BLM, as the Federal Lead Agency under NEPA, is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation has included formal correspondence (Appendix 9C), telephone calls, and face-to-face meetings with groups who have expressed a concern or interest in the Proposed Project. To date, no TCPs have been identified within the Pomerado Road to Miramar Area North Alternative of the SRPL Project as a result of formal consultation.

Environmental Impacts and Mitigation Measures

Seven known cultural resources are located within the 300-foot-wide survey corridor for this alternative. There is also the potential to encounter undiscovered cultural resources during project construction. Five of the resources are potentially eligible for NRHP listing. Because known cultural resources that are potentially eligible for the NRHP or CRHR exist within the alternative corridor, as well as the potential for encountering undiscovered cultural resources, the following impacts could occur during project construction or operation.

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

Four cultural resources located within the Pomerado Road to Miramar Area North Alternative are potentially eligible for listing on the NRHP and CRHR. These include a prehistoric temporary camp, and the remains of a historic structure and dam. Two of the sites identified within the Pomerado Road to Miramar Area North Alternative are located in areas of direct impact: Two lithic scatters would be impacted by proposed undergrounding (see Table Ap.9B-74 in Appendix 9B). As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the Pomerado Road to Miramar Area North Alternative include prehistoric resources such as buried living surfaces, refuse deposits, hearths, and human remains. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during excavation for underground portions of this alternative, vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. Impacts to most unknown significant

prehistoric and historic archaeological sites would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation (36 CFR 800).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1f** **Train construction personnel.**
- C-2a** **Properly treat human remains.**
- C-3a** **Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no TCPs have been identified within the Pomerado Road to Miramar Area North Alternative. However, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of the alternatives, in undisclosed locations. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA, has initiated government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that would be affected within this segment. Though impacts to TCPs are often significant (Class I), mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated with Native Americans or other Traditional Groups can reduce the impact to less than significant (Class II). Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) would reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts may remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

- C-4a** **Complete consultation with Native American and other Traditional Groups.**

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties such as any register-eligible archaeological sites within and in the vicinity of the project area during operation and long-term presence of the project. Direct impacts would result from maintenance or repair activities, while increased erosion and access could result in indirect project impacts. These impacts are significant, but would be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-3a (Consult agencies and Native Americans) and C-4a (Complete consultation with Native Americans and other Traditional Groups).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-2a** **Properly treat human remains.**
- C-4a** **Complete consultation with Native American and other Traditional Groups.**
- C-5a** **Protect and monitor NRHP- and/or CRHR-eligible properties.**

D.7.22.2 Los Peñasquitos Canyon Preserve–Mercy Road Alternative

This alternative route would bypass the Chicarita Substation and connect to existing ROW along Scripps Poway Parkway in the vicinity of Ivy Hill Drive. The line would then transition to underground and follow Scripps Poway Parkway/Mercy Road, Mercy Road, Black Mountain Road, and finally Park Village Drive, where the alternative route would rejoin the proposed route.

A general description of the cultural setting for the Coastal Link Alternatives is provided in Section D.7.6; the full cultural setting is provided in Appendix 9A.

Environmental Setting

The Los Peñasquitos Canyon Preserve–Mercy Road Alternative is 3.64 miles long and a cultural resources records search was conducted for its entire length and a 0.5-mile search radius around the alternative. To date, adequate previous surveys combined with survey conducted by SWCA and AE archaeologists have resulted in intensive cultural resources for 4 percent (0.15 miles) of the 300-foot-wide study corridor of the Los Peñasquitos Canyon Preserve–Mercy Road Alternative. The remaining 96 percent (3.49 miles) of the alternative would be constructed underground in existing paved roads. For this portion, an SWCA archaeologist conducted a reconnaissance “windshield” survey, inspecting and noting all buildings and structures that appeared historic in age located adjacent to the alignment. A total of ten (10) cultural resources has been identified within the 300-foot-wide study corridor for the Los Peñasquitos Canyon Preserve–Mercy Road Alternative (see Table Ap.9B-75 in Appendix 9B).

The Mohnike (or Mohnique) Adobe (CA-SDI-8124; P-37-019003), a single story house, is NRHP-listed under status code 1S (individual property), and four additional features at the residence including three sheds, a cistern, and a barn are listed as contributors (1D). An SWCA archaeologist inspected this resource during reconnaissance survey and verified its presence and integrity. Three prehistoric lithic artifact scatters have not been evaluated for NRHP eligibility. Six prehistoric isolates were identified during previous cultural resources surveys. Isolates are typically defined as three or fewer artifacts not associated with a defined, discrete archaeological site, and not considered eligible for inclusion on the NRHP or CRHR. All of these resources were identified during previous cultural resources surveys.

The BLM, as the Federal Lead Agency under NEPA, is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation has included formal correspondence (Appendix 9C), telephone calls, and face-to-face meetings with groups who have expressed a concern or interest in the Proposed Project. To date, no TCPs have been identified within the Los Peñasquitos Canyon Preserve–Mercy Road Alternative of the SRPL Project as a result of formal consultation.

Environmental Impacts and Mitigation Measures

There are ten known cultural resources located within the 300-foot-wide survey corridor for the Los Peñasquitos Canyon Preserve–Mercy Road Alternative. There is also the potential to encounter undiscovered cultural resources during project construction. Six of the known cultural resources are isolates that do not require mitigation measures; isolates by nature are not considered eligible for NRHP or CRHR inclusion and project effects would not be considered adverse under NHPA, nor impacts significant under CEQA. Three prehistoric lithic scatters have not been evaluated for eligibility to the NRHP and CRHR. The NRHP-listed Mohnike Adobe complex is located within the study corridor for the Los Peñasquitos Canyon Preserve–Mercy Road Alternative. Direct impacts to this resource would be adverse; however, it is expected that because this portion of the alternative would be constructed underground, the impact area can be constricted to avoid impacting the resource. Similarly, this underground portion of the Los Peñasquitos Canyon Preserve–Mercy Road Alternative would not result in long-term indirect visual impacts to the Mohnike Adobe (see Table Ap.9B-76 in Appendix 9B).

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

The Mohnike Adobe complex is located within the Los Peñasquitos Canyon–Mercy Road Alternative study corridor and is listed on the NRHP and CRHR. Three potentially NRHP-eligible prehistoric lithic scatters are also within this alternative corridor. Three (3) of the sites identified within the Los Peñasquitos Canyon–Mercy Road Alternative are located in areas of direct impact: three lithic scatters would be impacted by proposed undergrounding (see Table Ap.9B-77 in Appendix 9B). Adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.** The Mohnike Adobe and its associated features shall be avoided. Constriction of the impact area for the underground portion of this alternative in the vicinity of the adobe shall be undertaken to avoid direct impact.
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the Los Peñasquitos Canyon Preserve–Mercy Road Alternative include prehistoric resources such as buried living surfaces, refuse deposits, hearths, burials, and cremations. Historical resources that could be unearthed during project construction include refuse pits, structural foundations, and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or

excavation associated with tower construction. Impacts to most unknown significant prehistoric and historic archaeological sites would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation (36 CFR 800).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no TCPs have been identified within the Los Peñasquitos Canyon Preserve–Mercy Road Alternative. However, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of the alternatives, in undisclosed locations. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA, has initiated government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that would be affected within this segment. Though impacts to TCPs are often significant (Class I), mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated Native Americans or other Traditional Groups can reduce the impact to less than significant (Class II). Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) would reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts may remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

- C-4a Complete consultation with Native American and other Traditional Groups.**

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties such as any register-eligible archaeological sites within and in the vicinity of the project area during operation and long-term presence of the project. Direct impacts would result from maintenance or repair activities, while increased erosion and access could result in indirect project impacts. These impacts are significant, but would be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-3a (Consult agencies and Native Americans) and C-4a (Complete consultation with Native Americans and other Traditional Groups).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-2a** **Properly treat human remains.**
- C-4a** **Complete consultation with Native American and other Traditional Groups.**
- C-5a** **Protect and monitor NRHP- and/or CRHR-eligible properties.**

D.7.22.3 Black Mountain to Park Village Road Underground Alternative

This alternative would deviate from the Proposed Project alignment where the route approaches Black Mountain Road. Under this alternative, the line would remain underground but would be located underneath Black Mountain Road and would turn west onto Park Village Drive, following the project alignment into the Peñasquitos Substation via the Los Peñasquitos Canyon Preserve.

A general description of the cultural setting for the Coastal Link Alternatives is provided in Section D.7.6; the full cultural setting is provided in Appendix 9A.

Environmental Setting

The Black Mountain to Park Village Road Underground Alternative is 1.06 miles long and a cultural resources records search was conducted for its entire length and a 0.5-mile search radius around the alternative. To date, adequate previous surveys have resulted in intensive cultural resources for 6.7 percent (0.07 miles) of the 300-foot-wide study corridor of the Black Mountain to Park Village Road Underground Alternative. This entire alternative would be constructed underground in existing paved roads. As a result, for the remaining 93.3 percent (0.99 miles), an SWCA archaeologist conducted a reconnaissance “windshield” survey, inspecting and noting all buildings and structures that appeared historic in age located adjacent to the alignment. One previously recorded prehistoric lithic artifact scatter is the only cultural resource identified within the Black Mountain to Park Village Road Underground Alternative.

Environmental Impacts and Mitigation Measures

There is one known cultural resource, a prehistoric lithic artifact scatter, located within the 300-foot-wide study corridor for the Black Mountain to Park Village Road Underground Alternative (see Table Ap.9B-78 in Appendix 9B). There is also the potential to encounter undiscovered cultural resources during project construction.

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

The prehistoric lithic artifact scatter located within the Black Mountain to Park Village Road Underground Alternative is potentially eligible for listing on the NRHP and CRHR. This resource would be directly impacted by the proposed underground construction (see Table Ap.9B-79 in Appendix 9B). As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the Black Mountain to Park Village Road Underground Alternative include prehistoric resources such as buried living surfaces, refuse deposits, hearths, and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. Impacts to most unknown significant prehistoric and historic archaeological sites would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation (36 CFR 800).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1f** **Train construction personnel.**
- C-2a** **Properly treat human remains.**
- C-3a** **Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no TCPs have been identified within the Black Mountain to Park Village Road Underground Alternative. However, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of the alternatives, in undisclosed locations. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA, has initiated government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that would be affected within this segment. Though impacts to TCPs are often significant (Class I), mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated Native Americans or other Traditional Groups can reduce the impact to less than significant (Class II). Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) would reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts may remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

C-4a Complete consultation with Native American and other Traditional Groups.

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties such as any register-eligible archaeological sites within and in the vicinity of the project area during operation and long-term presence of the project. Direct impacts would result from maintenance or repair activities, while increased erosion and access could result in indirect project impacts. These impacts are significant, but would be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-3a (Consult agencies and Native Americans) and C-4a (Complete consultation with Native Americans and other Traditional Groups).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

C-1b Avoid and protect potentially significant resources.

C-1c Develop and implement Historic Properties Treatment Plan.

C-2a Properly treat human remains.

D.7.22.4 Coastal Link System Upgrade Alternative

The Coastal Link System Upgrade Alternative would be a system modification to install a third 230/69 kV transformer at the existing Sycamore Canyon Substation. Expansion of the Sycamore Canyon Substation would occur within the existing substation easement. Additionally, SDG&E would either (a) install a new 230/138 kV transformer at the existing Encina Substation or (b) upgrade (reconductor) the existing Sycamore Canyon-Chicarita 138 kV circuit using 34 existing wood frame structures.

Environmental Setting

A general description of the cultural setting for the Coastal Link Alternatives is provided in Section D.7.6; the full cultural setting is provided in Appendix 9A. The Coastal Link System Upgrade Alternative would occur on the existing Sycamore Canyon–Pomerado–Poway route, Sycamore Canyon–Chicarita route, and lines between Sycamore Canyon and Mission where cultural resources records searches were not conducted. These routes and the Sycamore Canyon Substation, the Miguel Substation, the Mission Substation, and the Escondido Substation are previously disturbed with low potential for unknown cultural resources.

Environmental Impacts and Mitigation Measures

The Coastal Link System Upgrade Alternative would eliminate the impacts associated with the Proposed Project segment between Sycamore Canyon and Peñasquitos Substations. There are four known cultural resources within the Coastal Link System Upgrade Alternative (see Table Ap.9B-80 in Appendix 9B). One of the resources does not have a site record and may be a misidentified survey area; this resource is presumed to be not eligible for NRHP or CRHR inclusion. One isolate is similarly considered not eligible for NRHP or CRHR inclusion. The remaining two resources, both prehistoric lithic scatters, are potentially

eligible for NRHP or CRHR inclusion. Supplemental records searches and surveys would be needed to identify any additional cultural resources within the Coastal Link System Upgrade Alternative. There is also the potential to encounter undiscovered cultural resources during construction of this alternative. Because there are known cultural resources as well as the potential for encountering undiscovered cultural resources, the following impacts could occur during construction or operation.

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

There are two known cultural resources within the Coastal Link System Upgrade Alternative that are potentially eligible for the NRHP or CRHR (see Table Ap.9B-80 in Appendix 9B). As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the Coastal Link System Upgrade Alternative include prehistoric resources such as buried living surfaces, refuse deposits, hearths, and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. Impacts to most unknown significant prehistoric and historic archaeological sites would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation (36 CFR 800).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1f** **Train construction personnel.**
- C-2a** **Properly treat human remains.**
- C-3a** **Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no TCPs have been identified within the Coastal Link System Upgrade Alternative. However, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of the alternatives, in undisclosed locations. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA, has initiated government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that would be affected within this segment. Though impacts to TCPs are often significant (Class I), mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated Native Americans or other Traditional Groups can reduce the impact to less than significant (Class II). Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) would reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts may remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

C-4a Complete consultation with Native American and other Traditional Groups.

D.7.23 Top of the World Substation Alternative Impacts and Mitigation Measures

The substation site would be located approximately one mile west of the proposed Central East Substation on Vista Irrigation District land. The transmission line routes into the substation would follow the Proposed Project route to approximately MP 92.7, then the alternative 500 kV route would turn west for 1.1 miles to enter the alternative site. Exiting the substation, the line would travel southwest for 400 feet and then west and north-northwest to rejoin the Proposed Project around MP 95.

Environmental Setting

The Top of the World Substation Alternative is located on property owned by Vista Irrigation District on the east side of the San Diego Mountains, east of SR79, and west of San Felipe Road (S 2). Evidence of the prehistoric use of this region is best associated with the bedrock milling features that indicate the processing of acorns and other food resources. Such milling sites are often located adjacent to water sources, with large habitation sites exhibiting hundreds of bedrock mortars. During the historic period, these same valleys were used for cattle ranching with individual ranches occupying large acreage. Historic period resources in this area typically include houses, ranch fences and other structures, and water conveyance and storage systems such as wells, ditches, and dams.

The Top of the World Substation Alternative is 37.2 acres in size and a cultural resources records search was conducted for the substation footprint and a 0.5-mile radius around it. SWCA and AE archaeologists completed intensive cultural resources survey for 100 percent of the Top of the World Substation Alternative. Preliminary engineering data indicated that two additional areas (6.78 and 3.79 acres) would also be developed in the vicinity of the Top of the World Substation if it is selected. These two additional areas were surveyed by Gallegos & Associates during survey of the Central East Substation property.

No cultural resources have been identified within the 37.2-acre footprint for the Top of the World Substation or either of the two additional areas; however, it is possible that final engineering of access roads, slope stabilization, and construction pad areas could directly impact nearby prehistoric resources. One cultural resource (temporary number TOTW-1), a bedrock milling station, was identified just outside the substation footprint in an area to be impacted by grading and/or slope stabilization (see Table Ap.9B-81 in Appendix 9B).

The Top of the World Substation Alternative is also located within 0.5 miles of the Mataguay Historic District, which includes the ethnographic village site of *Mataahway* or *Mataguay* (this site is not specifically within 0.5 miles).

Environmental Impacts and Mitigation Measures

There are two known cultural resources, a bedrock milling site and a ceramic scatter, located within the Top of the World Substation Alternative that would be impacted by construction of then substation as proposed (see Table Ap.9B-82 in Appendix 9B). There is also the potential to encounter undiscovered cultural resources during project construction.

Construction Impacts

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

The bedrock milling site and ceramic scatter site within the Top of the World Substation Alternative are potentially eligible for listing on the NRHP and CRHR. These resources are located in impact areas based on preliminary engineering data. As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f. For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a** **Inventory and evaluate cultural resources in Final APE.**
- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-1d** **Conduct data recovery to reduce adverse effects.**
- C-1e** **Monitor construction at known ESAs.**
- C-1f** **Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the Top of the World Substation Alternative include prehistoric resources such as buried living surfaces, refuse deposits, hearths, and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. Impacts to most unknown significant prehistoric and historic archaeological sites would be mitigated to

a level that is less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation (36 CFR 800).

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no TCPs have been identified within the Top of the World Substation Alternative. However, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of the alternatives, in undisclosed locations. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA, has initiated government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that would be affected within this segment. Though impacts to TCPs are often significant (Class I), mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated Native Americans or other Traditional Groups can reduce the impact to less than significant (Class II). Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) would reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases impacts may remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

- C-4a Complete consultation with Native American and other Traditional Groups.**

Operational Impacts

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts may occur to historic properties such as any register-eligible archaeological sites within and in the vicinity of the project area during operation and long-term presence of the project. Direct impacts could result from maintenance or repair activities, while increased erosion and access could result in indirect project impacts. These impacts are potentially significant, but would be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP- and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-3a (Consult agencies and Native Americans) and C-4a (Complete consultation with Native Americans and other Traditional Groups). CR-APM-7 partially addresses Impact C-5; however, Mitigation Measures C-3a, C-4a, and C-5a supersede this APM.

Mitigation Measures for Impact C-5: Project operation and maintenance could cause an adverse change to known historic properties

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-2a** **Properly treat human remains.**
- V-3a** **Reduce visual contrast of towers and conductors.**

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Paleontological Resources – Proposed Route and Northern Alternatives

D.7.24 Regional Setting and Approach to Data Collection

This section discusses paleontological resources located in the Proposed Project area and general vicinity. Background information is provided (Section D.7.24 and D.7.25) as well as a list of laws, ordinances, regulations, and standards applicable to paleontological resources (Section D.7.26), and significance criteria (Section D.7.27). Potential impacts and mitigation measures for paleontological resources specific to the project are described below in Sections D.7.28-32 for the Proposed Project. Other System Upgrades, Future Transmission System Expansion, and Connected Actions are discussed in Sections D.7.33-35, respectively, while Alternatives are analyzed in Sections D.7.37-45.

Paleontology is a multidisciplinary science that combines elements of geology, biology, chemistry, and physics in an effort to understand the history of life on earth. Paleontological resources, or fossils, are the remains, imprints, or traces of once-living organisms preserved in rocks and sediments. These include mineralized, partially mineralized, or unmineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains. The fossil record is the only evidence that life on earth has existed for more than 3.6 billion years. Fossils are considered non-renewable resources because the organisms from which they derive no longer exist. Thus, once destroyed, a fossil can never be replaced. Fossils are important scientific and educational resources because they are used to:

- Study the phylogenetic relationships between extinct organisms, as well as their relationships to modern groups.
- Elucidate the taphonomic, behavioral, temporal, and diagenetic pathways responsible for fossil preservation, including biases in the fossil record.
- Reconstruct ancient environments, climate change, and paleoecological relationships.
- Provide a measure of relative geologic dating which forms the basis for biochronology and biostratigraphy, and which is an independent and supporting line of evidence for isotopic dating.
- Study the geographic distribution of organisms and tectonic movements of land masses and ocean basins through time.
- Study patterns and processes of evolution, extinction, and speciation.

Data Collection Methodology

Due to the nature of the fossil record, paleontologists cannot know either the quality or quantity of fossils present in a given geologic unit prior to natural erosion or human-caused exposure. No field surveys were conducted for the Proposed Project; therefore, it is necessary to assess the sensitivity of rock units based on their known potential to produce scientifically significant fossils elsewhere within the same geologic unit (both within and outside of the project area) or a unit representative of the same depositional environment. For the Proposed Project, paleontological collections records searches were conducted by SWCA at the following museum repositories:

- The San Bernardino County Museum (SBCM), Division of Geological Sciences, Regional Paleontological Locality Inventory
- The San Diego Natural History Museum (SDNHM), Department of Paleontology
- Colorado Desert District Stout Research Center (DSRC), Anza-Borrego Desert State Park.

A detailed review of museum collections records was performed for the purposes of determining whether there are any known fossil localities within one mile of the Proposed Project. This led to identification of the units underlying the proposed route, and a determination of the paleontological sensitivity ratings of those geologic units in order to assess the Proposed Project's potential impacts to nonrenewable paleontological resources.

Geologic units underlying the Proposed Project and Alternatives were identified using the following published maps:

- Geology and Mineral Resources of San Diego County, California 1:125,000 (Weber, 1963)
- Geologic Map of Imperial County, California 1:125,000 (Morton, 1977)
- Geologic Map of California, San Diego–El Centro Sheet 1:250,000 (Strand, 1962)
- Geologic Map of California, Santa Ana Sheet 1:250,000 (Rogers, 1965)
- Geology of the Poway Quadrangle, San Diego County, California 1:24,000 (Kennedy, 1975)
- Geology of the Del Mar Quadrangle, San Diego, California 1:24,000 (Kennedy, 1975)
- Geology of the La Mesa Quadrangle, San Diego, California 1:24,000 (Kennedy, 1975)
- Geologic Map of the Boucher Hill 7.5' Quadrangle (Kennedy, 2006)
- Geologic Map of the El Cajon 30' x 60' Quadrangle (Todd, 2004)
- Geologic Map of the El Cajon 7.5' Quadrangle (Tan, 2002a)
- Geologic Map of the Margarita Peak 7.5' Quadrangle (Tan, 2001)
- Geologic Map of the Pala 7.5' Quadrangle (Kennedy, 2000a)
- Geologic Map of the Pechanga 7.5' Quadrangle (Kennedy, 2000b)
- Geologic Map of the San Clemente 7.5' Quadrangle (Tan, 1999)
- Geologic Map of the San Vicente Reservoir 7.5' Quadrangle (Tan, 2002b)
- Geologic Map of the Temecula 7.5' Quadrangle (Tan and Kennedy, 2000)
- Geologic Map of the Valley Center 7.5' Quadrangle (Kennedy, 1999)

Areas of Direct Impact

The areas of direct impacts for paleontological resources is defined as all areas that will be subject to ground disturbing activity associated with project development. This includes all proposed right-of-way (ROW), tower locations, access roads, pull sites, and substations.

The criteria for establishing the potential productivity of a geologic formation are as follows:

- **High Potential.** Geologic formations known to contain paleontological localities with rare, well-preserved, and/or critical fossil materials for stratigraphic or paleoenvironmental interpretation, and fossils providing important information about the paleobiology and evolutionary history (phylogeny) of animal and plant groups. Generally speaking, highly sensitive formations are known to produce vertebrate fossil remains or are considered to have the potential to produce such remains.
- **Moderate Potential.** Geologic formations known to contain paleontological localities with moderately preserved, common elsewhere, or stratigraphically long-ranging fossil material. The moderate sensitivity category is also applied to geologic formations that are judged to have a strong but unproven potential for producing important fossil remains (e.g., Pre-Holocene sedimentary units representing low to moderate energy, marine to non-marine depositional settings.)

- **Low Potential.** Geologic formations that, based on their relative youthful age and/or high-energy depositional history, are judged unlikely to produce important fossil remains. Typically, low sensitivity formations may produce invertebrate fossil remains in low abundance.
- **Marginal Potential.** Geologic formations that are composed either of pyroclastic volcanic rocks or metasedimentary rocks, but which nevertheless have a limited probability for producing fossil remains from certain sedimentary lithologies at localized outcrops.
- **Zero Potential.** Geologic formations that are entirely plutonic in origin and therefore have no potential for producing fossil remains.

Findings Summary

The results of the paleontological resources records searches revealed previously recorded localities within one mile of the Proposed Project. All previously recorded localities identified are located within one mile of the Coastal Link and are detailed in Section D.7.25.5.

All five links of the Proposed Project traverse geologic units with known paleontological resource sensitivity. Table D.7-7 summarizes these geologic units and their paleontological resources potential (paleontological sensitivity).

Table D.7-7. Paleontologically Sensitive Geologic Units – Proposed Project Route

Geologic Unit	Age	Sensitivity	Link
Santiago Peak Volcanics	Upper Jurassic to Lower Cretaceous	Marginal to High ¹	Coastal
Mount Soledad Formation	Late to Early Middle Eocene	Moderate	Coastal
Delmar Formation	Late Early to Early Middle Eocene	High	Coastal
Torrey Sandstone	Early Middle Eocene	Moderate	Coastal
Ardath Shale	Early Middle Eocene	High	Coastal
Scripps Formation	Early Middle Eocene	High	Coastal
Friars Formation	Early Middle Eocene	High	Coastal, Inland Valley
Stadium Conglomerate	Middle Eocene	High	Coastal, Inland Valley
Mission Valley Formation	Late Middle Eocene	High	Coastal, Inland Valley
Pomerado Conglomerate	Late Middle Eocene	High	Coastal, Inland Valley
Palm Spring Group	Late Pliocene to Early Pleistocene	High	Anza-Borrego
Lindavista Formation	Early Pleistocene	Moderate	Coastal
Ocotillo Formation	Middle Pleistocene	High	Anza-Borrego
Brawley Formation	Early to Late Pleistocene	Moderate to High ²	Imperial Valley
Older Alluvium	Late Pleistocene	High	Imperial Valley, Anza-Borrego, Central
Quaternary Terraces	Late Pleistocene	High	Central
Cahuilla Lake Beds	Late Pleistocene to Holocene	High	Imperial Valley

¹ Metasedimentary units within this geologic unit are determined to have a high paleontological sensitivity.

² The Brawley Formation is determined to have a moderate paleontological sensitivity in San Diego County and a high paleontological sensitivity in Imperial County.

D.7.25 Environmental Setting for the Proposed Project

The Proposed Project route traverses two of California's 12 geomorphic provinces: the Peninsular Ranges and the Salton Trough (historically known as the Colorado Desert). A geomorphic province is a naturally occurring region that has unique geologic features and distinct topography. This section discusses the geologic and depositional history of the rock formations that underlie the Proposed Project route and an overview of their paleontological sensitivity. The discussion is divided into each of the five links. The geologic descriptions and paleontological resources potential ratings were taken from Demere and Walsh (2003) and Scott (2006).

D.7.25.1 Imperial Valley Link

The Imperial Valley Link of the Proposed Project is located within the Salton Trough geomorphic province. The Coachella Valley and San Geronio Pass mark the northernmost extent of the Salton Trough. To the southeast, the Salton Trough also includes the Imperial Valley in California, and the western half of the Mexicali Valley and the Colorado River delta in Mexico. Formed by rifting along the East Pacific Rise, the structure of the Salton Trough today is largely a product of the ongoing tectonic activity within the San Andreas Fault system (Alles, 2004; Buckles et al., 2002). The strike-slip fault system runs from central to southern California and forms the eastern wall of the Salton Trough. The San Andreas Fault system terminates at the Brawley seismic zone, a spreading center in the southeastern corner of the Salton Sea. Forming the western wall of the Salton Trough are the highly active San Jacinto and the Elsinore fault zones. Crustal extension and subsidence of the Salton Trough have resulted in the accumulation of sediments more than 5 miles thick (Alles, 2004).

The following geologic units underlie the Imperial Valley Link and are listed in order from youngest to oldest.

- **Cahuilla Lake Beds.** The Cahuilla Lake Beds are generally composed of thinly bedded, poorly sorted, fine-grained, light grayish-brown fluvial sediments intervening with a lacustrine sequence of tan and gray fossiliferous clay, silt, sand, and gravel. These sediments are widespread and were deposited during the last seven high stands of the ancient Lake Cahuilla, believed to have existed intermittently from 270 years ago to at least 6,000 years ago. Fossil remains discovered in Cahuilla Lake Beds include freshwater diatoms, sponges, terrestrial plants, mollusks, fish, ostracodes, and small terrestrial vertebrates. Cahuilla Lake Beds are determined to have a high potential for paleontological resources.
- **Quaternary alluvium.** Quaternary alluvium consists of partly dissected, mostly unconsolidated, poorly sorted sand, silt, clay, and gravel located at the margins of canyons and within valley floors. "Younger" alluvium is Holocene (10,000 years ago to Recent) in age and "Older alluvium" is Pleistocene (1.8 million years ago to 10,000 years ago) in age. Fossil localities in older alluvium deposits throughout southern California have yielded terrestrial vertebrates such as mammoths, mastodons, ground sloths, dire wolves, short-faced bears, saber-toothed cats, horses, camels, and bison. Younger alluvium is determined to have a low potential for paleontological resources but is often underlain by older alluvium, which is determined to have a high potential for paleontological resources.
- **Brawley Formation.** The Brawley Formation is composed of light gray clay, sandstone, and pebble gravel of both lacustrine and terrestrial origin. It outcrops discontinuously from the southern end of the Salton Sea to the area surrounding the Superstition Hills and Superstition Mountain. Demere and Walsh (1993) assign the Brawley Formation an early to late Pleistocene age (0.4 to 1.2 million years ago). Several fossil localities in Imperial County have yielded significant aquatic and terrestrial vertebrate fossil remains of deer, horse, camel, and bison as well as razorback sucker, bonytail, western pond turtle, teleost fish, and iguanid lizards. In Imperial County, the Brawley Formation is determined to have a high potential for paleontological resources (Scott, 2006).

D.7.25.2 Anza-Borrego Link

The Anza-Borrego Link is located at the western margin of the Salton Trough. The Link begins northwest of the Grapevine Mountains and traverses the Pinyon Wash and the Lower Borrego Valley. Strike-slip and dip-slip faulting related to the western Salton Trough detachment in the Cenozoic resulted in the formation of two paleobasins that are present in Anza-Borrego Desert State Park, the Borrego–San Felipe Basin and the Vallecito–Fish Creek Basin (Remeika, 1995). From the late Miocene through the Pleistocene, both marine and terrestrial paleoecologic systems occupied these basins resulting in the deposition of marine, deltaic, and lacustrine sediments. These sediments contain abundant and well-preserved fossils that are known worldwide (Dorsey, 2006).

More than 500 different invertebrate, vertebrate, and plant taxa have been discovered within Anza-Borrego Desert State Park that range in age from Ordovician to Recent (488 million years old to present day). Fossilized remains are diverse, and include microscopic recovery such as plant pollen, algal spores, and conodonts, to macrofossils such as baleen whales and mammoths. At least 213 vertebrate taxa have been recorded and include rodents, amphibians, aquatic mammals, reptiles, and fish (Jefferson, 2002).

The following geologic units underlie the Anza-Borrego Link and are listed in order from youngest to oldest.

- **Quaternary Alluvium** is described above under “Imperial Valley Link.” Younger alluvium is determined to have a low potential for paleontological resources but is often underlain by older alluvium, which is determined to have a high potential for paleontological resources.
- **Ocotillo Formation.** The Ocotillo Formation consists of gray granitic-pebble conglomerate of early Pleistocene age. This formation has proven to yield numerous vertebrate fossils including mammoths, saber-toothed cats, ground sloths, short-faced bears, horses, camels, birds, reptiles, and fish and is determined to have a high potential for paleontological resources.
- **The Palm Spring Group.** The Palm Spring Group includes the Diablo, Olla, and Hueso Formations, the Canebrake Conglomerate, and the Tapiado Claystone. These nonmarine units generally consist of interbedded conglomerates and arkosic sandstones and red to gray siltstones and claystones of late Pliocene to early Pleistocene age (0.9 to 3.2 million years ago). The Tapiado Claystone consists of olive-green, blue-grey, and grey claystone and limited interbeds of siltstones, sandstones, limestone, and tuff of late Pliocene to early Pleistocene age. It has been proven to be fossiliferous, yielding numerous vertebrate specimens, as well as fresh-water ostracodes and gastropods. The Tapiado Claystone has a high potential for paleontological resources. The Hueso Formation consists of tan and buff micaceous sandstone and silty sandstone, brown and buff micaceous siltstone, grey and buff very coarse-grained sandstone, and rare interbeds of olive-green, grey, and tan claystone. This formation is late Pliocene to early Pleistocene in age and has yielded the majority of the terrestrial vertebrate assemblage recovered from the Borrego Badlands region. Fossils uncovered include mostly mammals, but also reptiles and birds. This formation is determined to have a high potential for paleontological resources. The Olla Formation is laterally equivalent to the Diablo Formation and is composed of a coarse-grained basin-margin sedimentary facies. The Diablo Formation consists of 1- to 2-kilometer-thick fluvial and deltaic sandstones and mudstones of late Pliocene to early Pleistocene age. Both the Olla and the Diablo Formations are fossiliferous and are determined to have a high potential for paleontological resources. The Canebrake Conglomerate is composed of gray conglomerates and granitic fanglomerates and is late Pliocene to early Pleistocene in age (1 to 2 million years ago). This unit has not yet yielded fossil resources; however, its depositional history and gradational association with fossil producing units suggests that it has a moderate potential for paleontological resources.
- **Hybrid Gneiss.** This rock unit is composed of gneiss, granodiorite and quartz diorite of Cretaceous age. Hybrid gneiss has no potential for paleontological resources.

D.7.25.3 Central Link

Many of the geologic formations underlying the Central Link are Cretaceous in age. The Cretaceous Period lasted from approximately 142 to 65 million years ago, during a time when the greatest volume of plutonic rocks in San Diego County and elsewhere in the Peninsular Ranges province formed. During much of this period, an eastward-moving oceanic plate was subducting beneath the western border of North America creating massive amounts of magma that are now observed as the plutonic igneous rocks comprising mountains in San Diego such as the Laguna, In-Ko-Pah, and Jacumba mountains. The undivided granitic rocks are mostly composed of Cretaceous tonalite, a light gray coarse-grained hornblende and biotite intrusive igneous rock. In San Diego County, there is a series of north-northwest trending mountain ranges that are a part of the larger Peninsular Ranges Batholith. The Peninsular Ranges Batholith consists of a 125 million year old mixture of igneous and metamorphic rocks, about 100 kilometers wide and 1,000 kilometers in length. Tonalite underlies approximately 50 to 60 percent of the western zone of the Peninsular Ranges Batholith, therefore making it the most abundant component of the batholith. In general, tonalite consists of 70 percent plagioclase and quartz and 30 percent biotite, hornblende, and pyroxene. The radiometric ages of San Diego County's tonalite plutons have been determined utilizing the zircon U-Pb radiometric dating. They range in age from 102 Ma to 109 million years old, plus or minus one million years (Walawender, 2000).

The following geologic units underlie the Central Link and are listed in order from youngest to oldest.

- **Quaternary Alluvium** is described above under "Imperial Valley Link." Younger alluvium is determined to have a low potential for paleontological resources but is often underlain by older alluvium, which is determined to have a high potential for paleontological resources.
- **Quaternary Terraces.** Quaternary terraces are composed of sand, gravel, and minor amounts of cobbles and boulders that were deposited by ancient river systems and are generally located above active stream channels. The exact age of these sediments is unknown, but they are likely associated with climatic events of the late Pleistocene (10,000 to 500,000 years ago). The coarse-grained nature of these sediments suggest that fossil preservation would be limited; however, fossils recovered from a few scattered localities include mammoths, ground sloths, mice, pond turtles, hawks, camel, deer, moles, wolves, horses, and rabbit. Quaternary terraces are determined to have a moderate potential for paleontological resources
- **Metasedimentary Rocks.** Metasedimentary rocks in the central part of San Diego County are referred to as Julian Schist, which is composed of quartz-mica schist and quartzite, with minor amounts of marble and amphibolite. These rocks have been intruded and deformed by plutonic rocks associated with the Peninsular Ranges Batholith. The age of these metasedimentary rocks is not well defined; however, microfossils indicate that they are much older than Triassic in age. No fossils have been discovered in this unit within San Diego County; however, correlative units in Riverside and Orange County have yielded marine mollusks. Metasedimentary rocks in San Diego County are determined to have a marginal potential for paleontological resources.
- **Granitic Rocks.** Granitic rocks are composed of quartz diorite (tonalite) with minor amounts of granodiorite and granite and are Cretaceous in age. Since granitic rocks are plutonic in origin, this geologic unit is determined to have no potential for paleontological resources.
- **Hybrid Gneiss.** This rock unit is composed of hybrid gneisses and associated granodiorite and quartz diorite of Cretaceous age. Hybrid gneiss has no potential for paleontological resources.

D.7.25.4 Inland Valley Link

The Inland Valley Link of the Proposed Project is located within the Mountain section of the Peninsular Ranges geomorphic province and is underlain by many of the same geologic units as the Central Link. The westernmost portion of the Inland Valley Link traverses the Poway Group, comprising the Stadium Conglomerate, the Mission Valley Formation, the Pomerado Conglomerate, and Friars Formation.

The following geologic units underlie the Inland Valley Link and are listed in order from youngest to oldest.

- **The Pomerado Conglomerate.** The Pomerado Conglomerate is composed of a thin lower conglomerate member overlain by a sandstone member (referred to as the Miramar Sandstone Member) overlain by an upper conglomerate member. The unit is middle Eocene in age (41 to 42 million years old) and overlies the Mission Valley Formation. Fossils recovered from this formation include marine mollusks and terrestrial mammals. The Pomerado Conglomerate is determined to have a high potential for paleontological resources.
- **Mission Valley Formation.** The Mission Valley Formation is a light olive gray, fine- to medium-grained marine sandstone that is middle Eocene in age (42 to 43 million years old). This formation contains interbedded brackish water claystone that constitutes approximately 20 percent of the formation (Kennedy, 1975) and has yielded scientifically significant marine invertebrates and both marine and terrestrial vertebrates. The Mission Valley Formation is determined to have a high potential for paleontological resources.
- **Stadium Conglomerate.** The Stadium Conglomerate is composed of a massive cobble conglomerate within a dark yellowish brown coarse-grained sandstone matrix of terrestrial origin. The sandstone portion of this rock unit constitutes approximately 20 percent of the total formation. The Stadium Conglomerate is divided into an upper member and a lower member and is middle to late Eocene in age (42 to 44 million years old). Both members of the Stadium Conglomerate have yielded fossil resources. The lower member has yielded sparse but scientifically significant fossilized specimens of opossums, insectivores, primates, rodents, carnivores, rhinoceros, artiodactyls, as well as foraminifers and marine mollusks. The upper member has yielded a scientifically important assemblage of terrestrial mammals. The upper member of the Stadium Conglomerate is determined to have a high potential for paleontological resources in its western extent and a moderate potential in its easternmost outcrops. The lower member of the Stadium Conglomerate is determined to have a high potential for paleontological resources.
- **The Friars Formation.** The Friars Formation is composed predominantly of yellowish-gray nonmarine and lagoonal sandstone and claystone with fluvial cobble conglomerate lenses outcropping in the easternmost exposures. It is middle to late Eocene in age (44 million years ago), and is representative of a large-scale marine regression. The Friars Formation has yielded significant remains of terrestrial mammals, marine microfossils and macrofossils, and fossil plants and is determined to have a high potential for paleontological resources.
- **Granitic Rocks.** Granitic rocks are composed of quartz diorite (tonalite) with minor amounts of granodiorite and granite and are Cretaceous in age. Since granitic rocks are plutonic in origin, this geologic unit is determined to have no potential for paleontological resources.
- **Hybrid Gneiss.** This rock unit is composed gneiss, granodiorite and quartz diorite of Cretaceous age. Hybrid gneiss has no potential for paleontological resources, and is assigned a zero sensitivity level.

D.7.25.5 Coastal Link

The Coastal Link of the Proposed Project is located within the Coastal section of the Peninsular Ranges geomorphic province. Upper Cretaceous and Tertiary age sedimentary units were deposited subsequent to the formation of plutonic and volcanic rock units associated with the Peninsular Ranges Batholith. The thickest deposition of sediments in San Diego County occurred during the Eocene Epoch (58 to 36 million years ago) when shallow seas transgressed and regressed along the ancient shoreline, depositing both marine and terrestrial sediments. These marine and terrestrial formations are divided into the La Jolla Group and the Poway Group respectively. The La Jolla Group is comprised of the Mount Soledad Formation, Delmar Formation, Torrey Sandstone, Ardath Shale, and Scripps Formation. The predominantly non-marine Poway Group is late Eocene in age and comprises the Stadium Conglomerate, the Mission Valley Formation, the Pomerado Conglomerate and the Friars Formation. All four formations are partially time equivalent (Demere and Walsh, 1993).

Museum paleontological collections records maintained by the SBCM and SDNHM were searched and 198 previously recorded fossil localities were discovered within a one-mile radius of the Coastal Link (Table D.7-8).

Table D.7-8. Previously Recorded Paleontological Localities within One Mile of the Coastal Link

Geologic Formation	Locality Number	Taxa
Santiago Peak Volcanics	SDNHM 3170	Plants, invertebrates
Torrey Sandstone	SDNHM 3948, 3953-60, 3968	Plants, invertebrates, fish
Ardath Shale	SDNHM 3911, 3914, 3917, 3918, 3922-27, 3933-35, 3958-59, 3961-62, 3964-67, 3969-74 3977-81, 4201, 4203, 4206, 4209, 4213, 4215, 4219-23, 4225, 4227-28, 4230, 4915, 5580-81	Plants, invertebrates, fish, microfossils
Scripps/Ardath	SDNHM 4202, 4205, 4208, 4211-12, 4218, 4226	Plants, invertebrates
Scripps Formation	SDNHM 3919, 4166-70 4207, 4214, 4216-17, 4229, 4231-34, 4236, 4240, 4334, 4337-38, 4341, 4342, 4438, 4441, 4444, 4475-77, 5531-34, 5599-5602, 5604-05, 5612, 5614, 5637, 5638-43, 5649-54, 5478	Plants, invertebrates, fish
Friars Formation	SDNHM 3502-03, 3505, 3507-10, 3615-21, 3623-24, 3681-82, 3727, 3732-33, 3862, 4015, 4165, 4251-52, 4265, 4455, 4526, 5538-40, 3254, 3410-11, 3413, 3425, 3498	Mammals, birds, invertebrates, fish, plants, reptiles
Mission Valley Formation	SDNHM 3626-27, 3629, 3734, 3740-43, 3745, 3747, 3749-50, 3752, 3760, 3866-67, 3870, 3873-74	Mammals, birds, invertebrates, fish
Pomerado Conglomerate	SDNHM 3493, 3625, 3751, 3755-57, 3759, 3863-64, 4041-42, 4448	Plants, mammals, invertebrates, fish, reptiles
Lindavista Formation	SDNHM 4172-74, 4694, 5436	Invertebrates

The following geologic units underlie the Coastal Link and are listed in order from youngest to oldest.

- **Lindavista Formation.** The Lindavista Formation is composed of reddish-brown interbedded sandstone and conglomerate with a hematite cement. It is late Pliocene to early Pleistocene in age and consists of both near-shore marine and non-marine facies. The Lindavista Formation has yielded sparse mostly marine invertebrate specimens, and remains of sharks and baleen whales. The Lindavista Formation is determined to have a moderate potential for paleontological resources.
- **The Pomerado Conglomerate** is described above under “Inland Valley Link” and is determined to have a high potential for paleontological resources.
- **Mission Valley Formation** is described above under “Inland Valley Link” and is determined to have a high potential for paleontological resources.

- **Stadium Conglomerate.** The Stadium Conglomerate is described above under “Inland Valley Link.” The lower member of the Stadium Conglomerate is determined to have a high potential for paleontological resources.
- **The Friars Formation.** The Friars Formation is described above under “Inland Valley Link” and is determined to have a high potential for paleontological resources.
- **Scripps Formation.** The Scripps Formation is composed of pale yellowish-brown medium-grained sandstone with interbedded cobble-conglomerates and is middle Eocene in age (47 million years ago). It has proven to yield significant fossilized specimens of marine invertebrates as well as terrestrial vertebrates. The Scripps Formation is determined to have a high potential for paleontological resources
- **Ardath Shale.** The Ardath Shale is composed of weakly fissile, olive-gray shale. It was deposited in a quiet water environment on the outer shelf during the early middle Eocene, approximately 47 to 48 million years ago. It has yielded a diverse and well-preserved collection of marine invertebrates and vertebrates. The Ardath Shale is determined to have a high potential for paleontological resources.
- **Torrey Sandstone.** The Torrey Sandstone is composed of white to light brown, medium- to coarse-grained, subangular, moderately well indurated arkosic sandstone and is middle Eocene in age (48 to 49 million years ago). It has yielded poorly preserved fossilized plants and marine invertebrates. The Torrey Sandstone is determined to have a moderate potential for paleontological resources.
- **Mount Soledad Formation.** The Mount Soledad Formation is composed of cobble conglomerate, medium- to fine-grained sandstone, and siltstones of late early to early middle Eocene age (48 to 50 million years ago). Fossils recovered from the finer-grained layers within this formation include mollusks, foraminifers, and pollen. The sandstones and siltstones beds in the Mount Soledad Formation are determined to have a moderate potential for paleontological resources.
- **Santiago Peak Volcanics.** The Santiago Peak Volcanics include mildly metamorphosed volcanic, volcanoclastic, and sedimentary rocks aging from late Triassic to mid-Cretaceous in age. This rock unit occurs in the subsurface throughout much of the continental margin of southern California and crops out from the southeastern edge of the Los Angeles basin southward to Mexico. Metasedimentary units within this formation have proven to yield important remains of marine macroinvertebrates and are determined to have a high potential for paleontological resources. The volcanic and meta-volcanics are determined to have a marginal potential for paleontological resources.

D.7.26 Applicable Regulations, Plans, and Standards

Fossils are classified as non-renewable scientific resources and are protected by various laws, ordinances, regulations and standards (LORS) across the country. Pertinent federal, state, and local LORS applicable to paleontological resources within the Proposed Project area are summarized in the following section.

Federal

Federal protection for scientifically significant paleontological resources applies to projects if any construction or other related project impacts occur on federally owned or managed lands, involve the crossing of state lines, or are federally funded. The following federal protections apply to paleontological resources within portions of the Proposed Project area:

- **American Antiquities Act of 1906 1 (6 USC 431-433).** Establishes a penalty for disturbing or excavating any historic or prehistoric ruin or monument or object of antiquity on federal lands as a maximum fine of \$500 or 90 days in jail.
- **The National Environmental Policy Act of 1969,** as amended (Pub. L. 91-190, 42 U.S.C. 4321-4347, January 1, 1970, as amended by Pub. L. 94-52, July 3, 1975, Pub. L. 94-83, August 9, 1975, and Pub. L. 97-258 §4(b), Sept. 13, 1982). Recognizes the continuing responsibility of the Federal Government to “preserve important historic, cultural, and natural aspects of our national heritage....” (Sec. 101 [42 USC § 4321]) (#382).
- **National Historic Preservation Act of 1966** (Pub. L. 89-665; 80 Stat. 915, 16 U.S.C. 470 et seq.). Provides for the survey, recovery, and preservation of significant paleontological data when such data may be destroyed or lost due to a federal, federally licensed, or federally funded project.
- **Federal Land Management and Policy Act of 1976** (43 U.S.C. 1712[c], 1732[b]); sec. 2, Federal Land Management and Policy Act of 1962 [30 U.S.C. 611]; Subpart 3631.0 et seq.), Federal Register Vol. 47, No. 159, 1982. Defines significant fossils as: unique, rare or particularly well-preserved; an unusual assemblage of common fossils; being of high scientific interest; or providing important new data concerning [1] evolutionary trends, [2] development of biological communities, [3] interaction between or among organisms, [4] unusual or spectacular circumstances in the history of life, or [5] anatomical structure.

State

Guidelines for the Implementation of CEQA, as amended March 29, 1999 (Title 14, Chapter 3, California Code of Regulations: 15000 et seq.) define procedures, types of activities, persons, and public agencies required to comply with CEQA, and include as one of the questions to be answered in the Environmental Checklist (§15023, Appendix G, Section XIV, Part a) the following: “*Will the proposed project directly or indirectly destroy a significant paleontological resource or unique geologic feature?*”

Other state requirements for paleontological resources management are included in the Public Resources Code (Chapter 1.7), §5097.5 and §30244. These statutes prohibit the removal of any paleontological site or feature on public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts to paleontological resources from developments on public (state) lands.

Local

Anza-Borrego Desert State Park. Under the Goals and Guidelines (Chapter 3.3, Section 3.3.1.3) of the Anza-Borrego Desert State Park Final General Plan & EIR (2005), the park identifies the following two goals for paleontological resources: (1) “[to] protect and preserve the paleontological resources of ABDSP in perpetuity for their inherent scientific and educational values,” and (2) “[to] provide for an understanding and appreciation of paleontological resources and their contribution to the biological prehistory of the California landscape.”

Imperial County’s General Plan does not specifically address paleontological resources. However, it sets forth conservation policies for historic and prehistoric resources as part of its approach to cultural resources. Also, it explicitly recognizes that the County (the Yuha Desert in particular) is an area rich in paleontological information.

San Diego County's General Plan sets forth policies for the protection of natural resources, and includes paleontological (fossiliferous) formations among its list of Unique Geological Features for conservation in its Appendix G.

D.7.27 Significance Criteria and Approach to Impact Assessment

This section explains how impacts are assessed in Sections D.7.28-42. Section D.7.27.1 presents the significance criteria on which impact identifications are based. In addition, Section D.7.27.2 lists the Applicant Proposed Measures and Section D.7.27.3 lists impacts identified for the Proposed Project and alternatives.

D.7.27.1 Significance Criteria

The loss of any identifiable fossil that could yield information important to prehistory, or that embodies the distinctive characteristics of a type of organism, environment, period of time, or geographic region, would be a significant environmental impact. Direct impacts on paleontological resources primarily concern the potential destruction of non-renewable paleontological resources and the loss of information associated with these resources. This includes the unauthorized collection of fossil remains. If potentially fossiliferous bedrock or surficial sediments are disturbed, the disturbance could result in the destruction of paleontological resources and subsequent loss of information (significant impact). At the project-specific level, direct impacts can be mitigated to below a significant level through the implementation of paleontological mitigation.

Surface disturbance may result in the exposure of fossils that may never have been unearthed via natural processes. If mitigation measures are implemented, these newly exposed fossils become available for salvage, data recovery, scientific analysis, and preservation into perpetuity at a public museum (beneficial impact). The positive impacts of the results of mitigation include advances in scientific knowledge by both field researchers and paleontologists who study fossils in museum collections, contributions to public education and interpretation, and community involvement and partnerships.

In general, for project areas which are underlain by paleontologically sensitive geologic units, the greater the amount of ground disturbance, the higher the potential for significant impacts to paleontological resources. For project areas that are directly underlain by geologic units with no paleontological sensitivity, there is no potential for impacts on paleontological resources unless sensitive geologic units which underlie the non-sensitive unit are also impacted.

Direct impacts result from activities related to construction, and occur at the same time and place as the surface disturbing action. The potential for direct impacts on scientifically significant surface and sub-surface fossils in fossiliferous sedimentary deposits is controlled by two factors. These include: 1) the depth and lateral extent of disturbance of fossiliferous bedrock and/or surficial sediments; and 2) the depth and lateral extent of occurrence of fossiliferous bedrock and/or surficial sediments beneath the surface. Ground disturbance has the potential to adversely impact an unknown quantity of fossils which may occur on or underneath the surface in areas containing paleontologically sensitive geologic units. Without mitigation, these fossils, as well as the paleontological data they could provide if properly salvaged and documented, could be adversely impacted (destroyed), rendering them permanently unavailable for future scientific research.

Indirect impacts occur later in time or further away in distance than direct impacts, but are still reasonably foreseeable. They typically include those impacts which result from the normal ongoing operations of facilities constructed within the project area. An example of an indirect adverse impact on paleontological resources would be the construction of a new road that increases public access to a previously inaccessible area, and results in unauthorized fossil collecting and vandalism. Mitigation strategies could include surveys by qualified paleontologists to collect significant surface fossils, transfer them to a public museum, and identify locations of fossil localities in the nearby area which have the potential to yield additional fossils as erosion occurs; and the construction of protective fencing or other barriers around known paleontological sites.

Paleontological resource sensitivity is defined as the potential for a geologic unit to produce scientifically significant fossils. Due to the nature of the fossil record, paleontologists cannot know either the quality or the quantity of fossils present in a given geologic unit prior to natural erosion or human-caused exposure. Therefore, in the absence of surface fossils, it is necessary to assess the sensitivity of rock units based on their known potential to produce scientifically significant fossils elsewhere within the same geologic unit (both within and outside of the project area) or a unit representative of the same depositional environment.

The paleontological sensitivity of the geologic units underlying the Proposed Project was evaluated using locally accepted and utilized paleontological resource assessment criteria developed by the San Diego Natural History Museum.

The Proposed Project or Alternative will create a significant impact if it:

- Directly or indirectly disturbs or destroys a significant paleontological resource or site
- Is inconsistent with any Plan regarding paleontological resources

For purposes of the above significance criteria, examples of activities that could “directly” disturb or destroy paleontological resources include excavation, trenching, boring, tunneling or any other activity that disturbs the subsurface geologic formation. “Indirect” disturbances or destruction refers to activities where the disturbance or destruction of paleontological resources is reasonably foreseeable, such as where they lead to increased erosion, or unauthorized surface collection or subsurface excavation [i.e., workers onsite illegally take fossils, as indicated above].

A paleontological resource or site is considered “significant” where it meets any of the following criteria:

- It is the best example of its kind locally or regionally
- Illustrates a geologic principle
- Provides a critical piece of paleobiological data
- Encompasses any part of a “type locality” or a fossil or formation
- Contains a unique or particularly unusual assemblage of fossils
- Occupies a unique position stratigraphically
- Occupies a unique position, proximally, distally or laterally within a formation’s extent or distribution.

D.7.27.2 Applicant Proposed Measures for Paleontological Resources

Applicant Proposed Measures (APMs) were identified by SDG&E within the Geology, Soils, and Paleontology sections of the PEA (2006). Table D.7-9 presents the only APMs relevant to paleontology.

Table D.7-9. Applicant Proposed Measures for Paleontological Resources

APM No.	Description
GEO-APM-9	If paleontological resources are encountered, appropriate field mitigation efforts would be implemented to protect the resources. For example, if significant resources are discovered, such as vertebrate fossils, construction would be stopped in the immediate area of the find while SDG&E and its designated paleontologist determine the appropriate method and schedule to recover or protect the resource. However, work may continue in areas outside the immediate area of the find with the approval of the paleontologist. When it is not feasible to avoid paleontological sites, SDG&E would consult with the appropriate federal, state, and resource agencies and specialists to either develop alternative construction techniques to avoid paleontological resources or develop appropriate APMs. Appropriate mitigation field measures may include actions such as protection-in-place by covering with earthen fill, removal and cataloguing, and/or removal and relocation.
CR-APM-1	Prior to construction, construction personnel shall be instructed on the protection and avoidance of cultural resources. To assist in this effort, the construction contract will address state and federal laws regarding antiquities, fossils, and plants and wildlife, including the collection and removal, as well as the importance of these resources and the purpose and necessity of protecting them.

D.7.27.3 Impacts Identified for Paleontological Resources

Table D.7-10 lists the impact to paleontological resources identified for the Proposed Project, along with the significance of the impact. Impacts are classified as Class I (significant/adverse, cannot be mitigated to a level that is less than significant), Class II (significant, can be mitigated to a level that is less than significant), Class III (less than significant), or Class IV (beneficial). The following sections provide a detailed discussion of the impacts identified and the locations of those impacts. Detailed maps showing resource potential (paleontological sensitivity) throughout the Proposed Project area are provided in Appendix 9D (Cultural Resources, Paleontological Sensitivity Maps).

Table D.7-10. Impacts Identified – Proposed Project – Paleontological Resources

Impact No.	Description	Impact Significance
PAL-1	Construction of the project would destroy or disturb significant paleontological resources	Class II
Proposed Project – Future Transmission System Expansion		
PAL-1	Construction of the project would destroy or disturb significant paleontological resources	Class II
Proposed Project – Connected Actions		
PAL-1	Construction of the project would destroy or disturb significant paleontological resources	Class II

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Environmental Impacts and Mitigation Measures for the Proposed Project – Paleontological Resources

The following section describes the environmental impacts and mitigation measures for the Proposed Project for paleontology, and is divided into sections for the five links. Because no operational impacts have been identified for paleontological resources, all impacts addressed here are construction-related.

D.7.28 Imperial Valley Link Impacts and Mitigation Measures

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction within the Imperial Valley Link of the Proposed Project ranges from low to high. Areas from MP 0 to MP 60.88 would be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, grading, and vegetation removal. Areas along the Proposed Project route determined to be paleontologically sensitive based on mapping and museum collection records are shown in Table D.7-11. No fossils have been identified within the Proposed Project ROW.

Table D.7-11. Paleontological Sensitivity – Imperial Valley Link

Mileposts	Rock Units	Sensitivity
0-32.5	Cahuilla Lake Beds	High
32.5-32.7	Older Alluvium	High
32.7-35.8	Cahuilla Lake Beds	High
35.8-36	Brawley Formation	High
36-37.5	Cahuilla Lake Beds	High
37.5-37.9	Brawley Formation	High
37.9-38.2	Cahuilla Lake Beds	High
38.2-38.9	Brawley Formation	High
38.9-43	Cahuilla Lake Beds	High
43-43.5	Brawley Formation	High
43.5-54.1	Cahuilla Lake Beds	High
54.1-60.88	Younger Alluvium	Low

In APM GEO-9, SDG&E does not commit to preparing an inventory of paleontological resources prior to construction. Therefore, impacts to paleontological resources would be significant. Mitigation Measure PAL-1a (Inventory paleontological resources) provides for an inventory after final project design. In APM GEO-9, SDG&E does not commit to pre-construction planning for monitoring and treatment of paleontological resources, nor for monitoring during construction. Therefore, impacts to paleontological resources may not be reduced to a less than significant level. Mitigation Measure PAL-1b (Develop Paleontological Monitoring and Treatment Plan) and Mitigation Measure PAL-1c (Monitor construction for paleontology) provides for paleontological planning and monitoring. In APM GEO-9, SDG&E commits to treatment or avoidance of paleontological resources; however, Mitigation Measure PAL-1d presents additional detail and therefore supersedes this APM. In CR-APM-1 SDG&E commits to personnel training to protect resources; however, Mitigation Measure PAL-1e (Train construction personnel) presents additional detail and therefore supersedes this APM.

Mitigation Measures PAL-1a (Inventory paleontological resources in Final APE), PAL-1b (Develop Paleontological Monitoring and Treatment Plan), PAL-1c (Monitor construction for paleontology), PAL-1d (Conduct paleontological data recovery), and PAL-1e (Train construction personnel) present requirements for the discovery and treatment of significant paleontological resources that would reduce project effects to these resources to a level of less than significant (Class II). Implementation of PAL-1a, PAL-1b and PAL-1d allow for the inventory, collection and treatment of any surface exposures of significant fossils, which will reduce project impacts to a less than significant level. Implementation of PAL-1b, PAL-1c, and PAL-1d require qualified personnel (qualified paleontological monitor

and qualified paleontologist) to monitor for significant subsurface fossils and then collect, analyze and curate any significant fossils found, which would reduce project impacts to a less than significant level.

Mitigation Measures for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

PAL-1a Inventory and evaluate paleontological resources in the Final APE. Prior to construction, the Applicant shall conduct and submit to CPUC, BLM, and other involved land-managing agencies for approval an inventory of significant paleontological resources within the affected area based on field surveys of areas identified as marginal through high or undetermined paleontological sensitivity potential.

PAL-1b Develop Paleontological Monitoring and Treatment Plan. Following completion and approval of the paleontological resources inventory and prior to construction, the Applicant shall prepare and submit to CPUC, BLM, and other involved land-managing agencies for approval a Paleontological Monitoring Treatment Plan (Plan). The plan shall be designed by a Qualified Paleontologist and shall be based on Society of Vertebrate Paleontology (SVP) guidelines and meet all regulatory requirements. The qualified paleontologist shall have a Master's Degree or Ph.D. in paleontology, shall have knowledge of the local paleontology, and shall be familiar with paleontological procedures and techniques. The Plan shall identify construction impact areas of moderate to high sensitivity for encountering significant resources and the depths at which those resources are likely to be encountered. The Plan shall outline a coordination strategy to ensure that a qualified paleontological monitor will conduct full-time monitoring of all ground disturbance in sediments determined to have a moderate to high sensitivity. Sediments of low, marginal, and undetermined sensitivity shall be monitored on a part-time basis (as determined by the Qualified Paleontologist) Sediments with zero sensitivity will not require paleontological monitoring. The Qualified Monitor shall have a B.A. in Geology or Paleontology, and a minimum of one year of monitoring experience in local sediments. The Plan shall detail the significance criteria to be used to determine which resources will be avoided or recovered for their data potential. The Plan shall also detail methods of recovery, preparation and analysis of specimens, final curation of specimens at a federally accredited repository, data analysis, and reporting. The Plan shall specify that all paleontological work undertaken by the Applicant on public land shall be carried out by qualified paleontologists with the appropriate current permits, including, but not limited to a Paleontological Resources Use Permit (for work on public lands administered by BLM) and a Paleontological Collecting Permit (for work on lands administered by California Department of Parks and Recreation). Notices to proceed will be issued by the BLM, CPUC, and other agencies with jurisdiction, following approval of the Paleontological Monitoring and Treatment Plan.

PAL-1c Monitor construction for paleontology. Based on the paleontological sensitivity assessment and Paleontological Monitoring and Treatment Plan consistent with Mitigation Measure PAL-1b (Develop Paleontological Monitoring and Treatment Plan), the Applicant shall conduct full-time construction monitoring by the qualified paleontological monitor in areas determined to have moderate to high paleontological sensitivity. Sediments of low, marginal undetermined sensitivity shall be monitored by a qualified paleontological monitor on a part-time basis (as determined by the Qualified Paleontologist). Construction activities shall be diverted when data recovery of significant fossils is warranted, as determined by the Qualified Paleontologist

PAL-1d Conduct paleontological data recovery. If avoidance of significant paleontological resources is not feasible or appropriate based on project design, treatment (including recovery, specimen preparation, data analysis, curation, and reporting) shall be carried out by the Applicant, in accordance to the approved Treatment Plan per Mitigation Measure PAL-1b (Develop Paleontological Monitoring and Treatment Plan).

PAL-1e Train construction personnel. Prior to the initiation of construction or ground-disturbing activities, all construction personnel shall be trained regarding the recognition of possible subsurface paleontological resources and protection of all paleontological resources during construction. The Applicant shall complete training for all construction personnel. Training shall inform all construction personnel of the procedures to be followed upon the discovery of paleontological materials. Training shall inform all construction personnel that Environmentally Sensitive Areas (ESAs) include areas determined to be paleontologically sensitive as defined on the paleontological sensitivity maps for the project, and must be avoided and that travel and construction activity must be confined to designated roads and areas. All personnel shall be instructed that unauthorized collection or disturbance of protected fossils on or off the right-of-way by the Applicant, his representatives, or employees will not be allowed. Violators will be subject to prosecution under the appropriate State and federal laws and violations will be grounds for removal from the project. Unauthorized resource collection or disturbance may constitute grounds for the issuance of a stop work order. The following issues shall be addressed in training or in preparation for construction:

- All construction contracts shall include clauses that require construction personnel to attend training so they are aware of the potential for inadvertently exposing subsurface paleontological resources, their responsibility to avoid and protect all such resources, and the penalties for collection, vandalism, or inadvertent destruction of paleontological resources.
- The Applicant shall provide a background briefing for supervisory personnel describing the potential for exposing paleontological resources, the location of any potential ESAs, and procedures and notifications required in the event of discoveries by project personnel or paleontological monitors. Supervisory personnel shall enforce restrictions on collection or disturbance of fossils.
- Upon discovery of paleontological resources by paleontologists or construction personnel, work in the immediate area of the find shall be diverted and the Applicant's paleontologist notified. Once the find has been inspected and a preliminary assessment made, the Applicant's paleontologist will notify the BLM, CPUC, and other appropriate land managers and proceed with data recovery in accordance with the approved Treatment Plan consistent with Mitigation Measure PAL-1b (Develop Paleontological Monitoring and Treatment Plan).

Modifications to Imperial Valley Substation

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

Paleontologically sensitive Cahuilla Lake Beds underlie the Imperial Valley Substation and have a high potential to contain significant paleontological resources. Modifications to the substation would require subsurface excavations and borehole drilling that may result in direct impacts to paleontological resources.

Mitigation Measures for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of Mitigation Measures PAL-1a through PAL-1e would reduce project effects to a level of less than significant (Class II). Implementation of PAL-1a, PAL-1b and PAL-1d allow for the inventory, collection and treatment of any surface exposures of significant fossils, which would reduce project impacts to a less than significant level. Implementation of PAL-1b, PAL-1c, and PAL-1d require qualified personnel (qualified paleontological monitor and qualified paleontologist) to monitor for significant subsurface fossils and then collect, analyze and curate any significant fossils found, which would reduce project impacts to a less than significant level.

- PAL-1a** Inventory and evaluate paleontological resources in the Final APE.
- PAL-1b** Develop Paleontological Monitoring and Treatment Plan.
- PAL-1c** Monitor construction for paleontology.
- PAL-1d** Conduct paleontological data recovery.
- PAL-1e** Train construction personnel.

D.7.29 Anza-Borrego Link Impacts and Mitigation Measures

Construction Impacts

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction within the Anza-Borrego Link of the Proposed Project ranges from zero potential to high potential. Areas determined to have paleontological sensitivity are located from MP 60.88 to MP 80 would be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, grading, and vegetation removal, and indirect impacts such as increased human exposure to sensitive paleontological localities. Areas along the Proposed Project route determined to be paleontologically sensitive based on mapping and museum collection records are shown in Table D.7-12. No fossil locations have been identified in the ROW.

Mileposts	Rock Units	Sensitivity
60.88-80	Quaternary Alluvium	Low to High
80-83.2	Hybrid Gneiss	Zero

Mitigation Measures for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of Mitigation Measures PAL-1a through PAL-1e would reduce project effects to a level of less than significant (Class II). For the full text of the mitigation measures, please see Appendix 12.

- PAL-1a** Inventory and evaluate paleontological resources in the Final APE.
- PAL-1b** Develop Paleontological Monitoring and Treatment Plan.
- PAL-1c** Monitor construction for paleontology.
- PAL-1d** Conduct paleontological data recovery.
- PAL-1e** Train construction personnel.

D.7.30 Central Link Impacts and Mitigation Measures

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction within the Central Link of the Proposed Project ranges from zero potential to high potential. Areas determined to have paleontological sensitivity are located from MP 93.7 to 94.2, MP 96.3 to 96.9, MP 97.6 to 98.7, MP 94.4 to 100.2, and MP 105.3 to 107.4 and would be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, grading, and vegetation removal. Areas along the Proposed Project route determined to be paleontologically sensitive based on mapping and museum collection records are shown in Table D.7-13. No specific fossil localities have been identified in the ROW.

Table D.7-13. Paleontological Sensitivity – Central Link

Mileposts	Rock Units	Sensitivity
83.2-84.1	Hybrid Gneiss	Zero
84.1-86	Granitics	Zero
86-89.6	Hybrid Gneiss	Zero
89.6-93.7	Granitics	Zero
93.7-94.2	Quaternary Terraces	High
94.2-96.3	Granitics	Zero
96.3-96.9	Quaternary Terraces	High
96.9-97.6	Granitics	Zero
97.6-98.7	Quaternary Terraces overlying Quaternary Alluvium	High
98.7-99.4	Granitics	Zero
99.4-100.2	Quaternary Terraces overlying Quaternary Alluvium	High
100.2-105.3	Hybrid Gneiss	Zero
105.3-107.4	Quaternary Alluvium	Low
107.4-110.84	Hybrid Gneiss	Zero

Mitigation Measures for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of Mitigation Measures PAL-1a through PAL-1e would reduce project effects to a level of less than significant (Class II).

- PAL-1a** Inventory and evaluate paleontological resources in the Final APE.
- PAL-1b** Develop Paleontological Monitoring and Treatment Plan.
- PAL-1c** Monitor construction for paleontology.
- PAL-1d** Conduct paleontological data recovery.
- PAL-1e** Train construction personnel.

Proposed Central East Substation

The construction and operation of the Proposed Central East Substation would not result in impacts to paleontological resources because the entire project area including access roads is underlain by granitic rocks that are plutonic in origin, and have zero paleontological sensitivity.

D.7.31 Inland Valley Link Impacts and Mitigation Measures

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

Within the Inland Valley Link of the Proposed Project, areas determined to be paleontologically sensitive based on mapping and museum collection records are listed in Table D.7-14. No specific fossil locations have been identified in this segment. The potential to discover paleontological resources during construction within this segment of the Proposed Project ranges from zero potential to high potential. Construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, grading, and vegetation removal would have the potential to impact paleontological resources in those areas determined to be paleontologically sensitive.

Table D.7-14. Paleontological Sensitivity – Inland Valley Link

Mileposts	Rock Units	Sensitivity
110.84–114.9	Hybrid Gneiss	Zero
114.9–118.2	Granitics	Zero
118.2–121.1	Alluvium	Low
121.1–127.2	Granitics	Zero
127.2–127.6	Poway Conglomerate	High
127.6–133.1	Granitics	Zero
133.1–136.34	Poway Conglomerate	High

Mitigation Measures for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of Mitigation Measures PAL-1a through PAL-1e would reduce project effects to a level of less than significant (Class II). Implementation of PAL-1a, PAL-1b and PAL-1d allow for the inventory, collection and treatment of any surface exposures of significant fossils, which would reduce project impacts to a less than significant level. Implementation of PAL-1b, PAL-1c, and PAL-1d requires qualified personnel (qualified paleontological monitor and qualified paleontologist) to monitor for significant subsurface fossils and then collect, analyze and curate any significant fossils found, which would reduce project impacts to a less than significant level. For the full text of the mitigation measures, please see Appendix 12.

- PAL-1a Inventory and evaluate paleontological resources in the Final APE.**
- PAL-1b Develop Paleontological Monitoring and Treatment Plan.**
- PAL-1c Monitor construction for paleontology.**
- PAL-1d Conduct paleontological data recovery.**
- PAL-1e Train construction personnel.**

D.7.32 Coastal Link Impacts and Mitigation Measures

There are 198 previously recorded paleontological localities within a one-mile radius of the centerline the Coastal Link segment of the SRPL route. There is a high potential to discover paleontological resources during ground disturbing activities necessary for the construction of this segment of the Proposed Project.

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction within this segment of the Proposed Project ranges from low potential to high potential as shown in Table D.7-15. Construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, grading, and vegetation removal would have the potential to impact paleontological resources in those areas determined to be paleontologically sensitive. Within the Coastal Link of the Proposed Project, areas determined to be paleontologically sensitive based on mapping and museum collection records are shown in Table D.7-15.

Table D.7-15. Paleontological Sensitivity – Coastal Link

Mileposts	Rock Units	Sensitivity	Fossil Localities
136.34-141.1	Friars Formation overlain by Poway Group	High	SDNHM 3862, 3866-67, 3873-74, 3870, 3863-64, 3502-03, 4015, 3507-10, 3504, 3505, 3498, 3493, 4041-42, 5538-40
141.1-143.1	Poway Group overlying Santiago Peaks, Volcanics, Alluvium	High	SDNHM 4265, 4251-52, 3733, 3618-21, 3624, 3615-17, 3623, 3732, 4448, 3759, 3629, 3626, 3752, 3741, 3747, 3749, 3625, 3740, 3745, 3760, 3750, 3755, 3756-57, 3751, 3742-43, 3734
143.1-144.6	Lindavista Formation overlying Poway Group overlying Santiago Peaks, Volcanics	High	SDNHM 5436, 4526, 4455, 3727, 5152, 3681-82, 4165
144.6-146.3	Quaternary alluvium overlying Santiago Peak Volcanics	Low to Moderate	
146.3-149.9	Poway and La Jolla Groups overlain by Lindavista Formation	High	SDNHM 5531-35, 5637-43, 5549, 5650, 5599, 5600, 5612, 4341, 5612, 4341, 5601, 5603-05, 5652-54, 5602, 5651, 5613-14, 4342, 4474-78, 4444, 4338, 3924-25, 3937, 3933-34, 3948, 3961, 3967, 3981, 4166, 3914, 3922-24, 3935, 3979-80, 4214, 4225-26, 4229-31, 4212, 5132, 5131, 4202-04, 4227-28, 4209, 4213, 4234, 4211, 4221-23, 4219, 4210, 4201, 4215, 4208, 4216-18, 4207, 5580-81, 5141, 4206, 4215, 4205, 4207, 4915, 5478, 5633, 3977-78, 4441, 3969, 3953-62, 3964, 3970-74, 3911, 3917-19, 3965-66, 4337, 5793, 3968, 3857, 5624-31, 4438-40, 4172-73, 4168-70, 4167, 4232-34, 4236, 4240, 3170, 5206-07

Mitigation Measures for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of Mitigation Measures PAL-1a through PAL-1e would reduce project effects to a level of less than significant (Class II).

- PAL-1a** **Inventory and evaluate paleontological resources in the Final APE.**
- PAL-1b** **Develop Paleontological Monitoring and Treatment Plan.**
- PAL-1c** **Monitor construction for paleontology.**
- PAL-1d** **Conduct paleontological data recovery.**
- PAL-1e** **Train construction personnel.**

Modifications to Sycamore Canyon Substation

Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources (Class II)

Members of the paleontologically sensitive Poway Group underlie the Sycamore Substation. Modifications to the Sycamore Canyon Substation would require subsurface excavations that would likely result in impacts to paleontological resources.

Mitigation Measures for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of Mitigation Measures PAL-1a through PAL-1e would reduce project effects to a level of less than significant (Class II). For the full text of the mitigation measures, please see Appendix 12.

- PAL-1a** Inventory and evaluate paleontological resources in the Final APE.
- PAL-1b** Develop Paleontological Monitoring and Treatment Plan.
- PAL-1c** Monitor construction for paleontology.
- PAL-1d** Conduct paleontological data recovery.
- PAL-1e** Train construction personnel.

Modifications to Peñasquitos Substation

Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources (Class II)

Members of the paleontologically sensitive Poway Group underlie the Peñasquitos Substation. Modifications to the Peñasquitos Substation would require subsurface excavations and borehole drilling that would likely result in impacts to paleontological resources.

Mitigation Measures for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of Mitigation Measures PAL-1a through PAL-1e would reduce project effects to a level of less than significant (Class II).

- PAL-1a** Inventory and evaluate paleontological resources in the Final APE.
- PAL-1b** Develop Paleontological Monitoring and Treatment Plan.
- PAL-1c** Monitor construction for paleontology.
- PAL-1d** Conduct paleontological data recovery.
- PAL-1e** Train construction personnel.

D.7.33 Other System Upgrades – Impacts and Mitigation Measures

Reconductor Sycamore Canyon to Elliot 69 kV Line

Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources (Class II)

Reconductoring of the existing 69 kV transmission line between the existing Sycamore Canyon and Elliot Substations would require improving the existing access roads and replacing existing poles. Excavation, borehole drilling, grading, and vegetation removal would likely impact the paleontological resources within the sensitive Poway Group, Friars Formation, and Lindavista Formation, as well as indirect impacts such as increased human exposure to sensitive paleontological localities

Mitigation Measures for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of Mitigation Measures PAL-1a through PAL-1e would reduce project effects to a level of less than significant (Class II).

PAL-1a Inventory and evaluate paleontological resources in the Final APE.

PAL-1b Develop Paleontological Monitoring and Treatment Plan.

PAL-1c Monitor construction for paleontology.

PAL-1d Conduct paleontological data recovery.

PAL-1e Train construction personnel.

Modifications to San Luis Rey Substation

All construction activities and ground disturbances associated with the proposed system upgrades at the existing San Luis Rey Substation would occur within the existing substation fence in previously disturbed areas. No impact to paleontological resources is anticipated.

Modifications to South Bay Substation

All construction activities and ground disturbances associated with the proposed system upgrades at the existing South Bay Substation would occur within the existing substation fence in previously disturbed areas. No impact to paleontological resources is anticipated.

D.7.34 Future Transmission System Expansion – Paleontological Resources

The Proposed Project would facilitate the possible future construction of additional 230 kV and 500 kV transmission lines. These lines are not proposed at this time, but because the construction of the Proposed Project would include a substation and create new transmission corridors that could be used by these additional circuits, impact analysis is presented in this EIR/EIS.

The 230 kV future lines are addressed for paleontological resources in Sections D.7.34.1 and D.7.34.2; the 500 kV future lines are addressed in Sections D.7.34.3 and D.7.34.4.

D.7.34.1 Environmental Setting for Paleontology – 230 kV Future Transmission System Expansion

As described in Section B.2.7, the Central East Substation that would be built as a part of the Proposed Project would accommodate up to six 230 kV circuits. Only two circuits are proposed by SDG&E at this time, but construction of additional 230 kV circuits out of the Central East Substation may be required within the next 10 years. This section considers the impacts of construction and operation of these potential future transmission lines. Based on information provided by SDG&E, there are four substation endpoints and five routes that would be most likely for these future lines; each is addressed below. Figure B-12a illustrates the potential routes of each of the 230 kV transmission lines.

The new 230 kV transmission line route would pass through the Central Link, Inland Valley Link, and the Coastal Link of the proposed SRPL route and parallels the proposed route in some areas. A museum records search of the areas along the four proposed 230 kV lines leading from the Central East Substation was performed by the SDNHM and a total of 182 previously recorded fossil localities were discovered within a one-mile radius of the proposed routes. The paleontological resource potential of the underlying geologic units is determined based on published geologic maps and San Diego County guidelines (Demere and Walsh, 2003). The geologic setting of each of these links is described in Section D.7.25.

The following geologic units variously underlie the proposed 230 kV FTSE, and are listed in order from youngest to oldest.

- **Quaternary Alluvium.** Quaternary alluvium consists of partly dissected, mostly unconsolidated, poorly sorted sand, silt, clay, and gravel located at the margins of canyons and within valley floors. “Younger” alluvium is Holocene (10,000 years ago to Recent) in age and “Older alluvium” is Pleistocene (1.8 million years ago to 10,000 years ago) in age. Fossil localities in older alluvium deposits throughout southern California have yielded terrestrial vertebrates such as mammoths, mastodons, ground sloths, dire wolves, short-faced bears, saber-toothed cats, horses, camels, and bison. Younger alluvium is determined to have a low potential for paleontological resources but is often underlain by older alluvium, which is determined to have a high potential for paleontological resources.
- **Quaternary Landslide Deposits.** The paleontological sensitivity of a landslide deposit is dependent on a number of factors, including the source rock parent material. When the original stratigraphic position of the sediments is disturbed, there are varying degrees of information loss with the severity of changes to the slide mass. Landslides do not necessarily equate to sediments being non-sensitive for paleontological materials but the loss of associated sedimentological and positional data reduces the significance of any fossils found. Additionally, landslides in general are much less likely to contain well-preserved fossils than intact native sediments. Landslide deposits are determined to have a low paleontological sensitivity.
- **Quaternary Terrace Deposits.** Quaternary terraces are composed of sand, gravel, and minor amounts of cobbles and boulders that were deposited by ancient river systems and are generally located above active stream channels. The exact age of these sediments is unknown, but they are likely associated with climatic events of the late Pleistocene (10,000 to 500,000 years ago). The coarse-grained nature of these sediments suggest that fossil preservation would be limited; however, fossils recovered from a few scattered localities include mammoths, ground sloths, mice, pond turtles, hawks, camel, deer, moles, wolves, horses, and rabbit. Quaternary terraces are determined to have a moderate potential for paleontological resources.

- **Lindavista Formation.** The Lindavista Formation is composed of reddish-brown interbedded sandstone and conglomerate with a hematite cement. It is late Pliocene to early Pleistocene in age and consists of both near-shore marine and non-marine facies. The Lindavista Formation has yielded sparse mostly marine invertebrate specimens, and remains of sharks and baleen whales. The Lindavista Formation is determined to have a moderate potential for paleontological resources.
- **Santa Rosa Basalt.** Very fine-grained olivine basalt of Miocene age. These rocks are determined to have no paleontological resource potential due to their origin as molten rock.
- **The Pomerado Conglomerate.** The Pomerado Conglomerate is composed of a thin lower conglomerate member overlain by a sandstone member (referred to as the Miramar Sandstone Member) overlain by an upper conglomerate member. The unit is middle Eocene in age (41 to 42 million years old) and overlies the Mission Valley Formation. Fossils recovered from this formation include marine mollusks and terrestrial mammals. The Pomerado Conglomerate is determined to have a high potential for paleontological resources.
- **Mission Valley Formation.** The Mission Valley Formation is a light olive gray, fine to medium grained marine sandstone that is middle Eocene in age (42 to 43 million years old). This formation contains interbedded brackish water claystone that constitutes approximately 20 percent of the formation (Kennedy, 1975) and has yielded scientifically significant marine invertebrates and both marine and terrestrial vertebrates. The Mission Valley Formation is determined to have a high potential for paleontological resources.
- **Stadium Conglomerate.** The Stadium Conglomerate is composed of a massive cobble conglomerate within a dark yellowish brown coarse-grained sandstone matrix of terrestrial origin. The sandstone portion of this rock unit constitutes approximately 20 percent of the total formation. The Stadium Conglomerate is divided into an upper member and a lower member and is middle to late Eocene in age (42 to 44 million years old). Both members of the Stadium Conglomerate have yielded fossil resources. The lower member has yielded sparse but scientifically significant fossilized specimens of opossums, insectivores, primates, rodents, carnivores, rhinoceros, artiodactyls, as well as foraminifers and marine mollusks. The upper member has yielded a scientifically important assemblage of terrestrial mammals. The upper member of the Stadium Conglomerate is determined to have a high potential for paleontological resources in its western extent and a moderate potential in its easternmost outcrops. The lower member of the Stadium Conglomerate is determined to have a high potential for paleontological resources.
- **The Friars Formation.** The Friars Formation is composed predominantly of yellowish-gray non-marine and lagoonal sandstone and claystone with fluvial cobble conglomerate lenses outcropping in the easternmost exposures. It is middle to late Eocene in age (44 million years ago), and is representative of a large-scale marine regression. The Friars Formation has yielded significant remains of terrestrial mammals, marine microfossils and macrofossils, and fossil plants and is determined to have a high potential for paleontological resources.
- **Scripps Formation.** The Scripps Formation is composed of pale yellowish-brown medium grained sandstone with interbedded cobble-conglomerates and is middle Eocene in age (47 million years ago). It has proven to yield significant fossilized specimens of marine invertebrates as well as terrestrial vertebrates. The Scripps Formation is determined to have a high potential for paleontological resources.
- **Poway Group.** The Poway Group is comprised of the Stadium Conglomerate, the Mission Valley Formation, the Pomerado Conglomerate, and Friars Formation.

- **Ardath Shale.** The Ardath Shale is composed of weakly fissile, olive-gray shale. It was deposited in a quiet water environment on the outer shelf during the early middle Eocene, approximately 47 to 48 million years ago. It has yielded a diverse and well-preserved collection of marine invertebrates and vertebrates. The Ardath Shale is determined to have a high potential for paleontological resources.
- **Delmar Formation.** The Delmar Formation is composed of greenish silty mudstones, brown siltstones, greenish sandstones, and well-cemented oyster shell beds. It was deposited in a lagoonal and estuarine setting and is late early to early middle Eocene in age, approximately 49 to 50 million years ago. The Delmar Formation has yielded important terrestrial vertebrate fossils and is determined to have a high potential for paleontological resources.
- **Santiago Peak Volcanics and Metavolcanics.** The Santiago Peak Volcanics include mildly metamorphosed volcanic, volcanoclastic, and sedimentary rocks aging from late Triassic to mid-Cretaceous in age. This rock unit occurs in the subsurface throughout much of the continental margin of southern California and crops out from the southeastern edge of the Los Angeles basin southward to Mexico. Metasedimentary units within this formation have proven to yield important remains of marine macroinvertebrates and are determined to have a high potential for paleontological resources. The volcanic and metavolcanics are determined to have a marginal potential for paleontological resources.
- **Metasedimentary Rocks.** Metasedimentary rocks in the central part of San Diego County are referred to as Julian Schist, which is composed of quartz-mica schist and quartzite, with minor amounts of marble and amphibolite. These rocks have been intruded and deformed by plutonic rocks associated with the Peninsular Ranges Batholith. The age of these metasedimentary rocks is not well defined; however, microfossils indicate that they are much older than Triassic in age. No fossils have been discovered in this unit within San Diego County; however, correlative units in Riverside and Orange County have yielded marine mollusks. Metasedimentary rocks in San Diego County are determined to have a marginal potential for paleontological resources.
- **Granitic Rocks.** Granitic rocks are composed of quartz diorite (tonalite) with minor amounts of granodiorite and granite and are Cretaceous in age. Since granitic rocks are plutonic in origin, this geologic unit is determined to have no potential for paleontological resources.
- **Hybrid Gneiss.** This rock unit is composed gneiss, granodiorite and quartz diorite of Cretaceous age. Hybrid gneiss has no potential for paleontological resources, and is assigned a zero sensitivity level.
- **Estelle Mountain Volcanics.** Estelle Mountain volcanics consist of a heterogeneous mixture of rhyolite flows, shallow intrusive rocks, and volcanoclastic rocks of Cretaceous age. These igneous and metamorphic rocks are determined to have no paleontological resource potential due to their origin as molten rock.
- **Bedford Canyon Formation.** This Jurassic age geologic unit consists of silty argillite and graywacke with minor amounts of pebble conglomerate and limestone (Morton, 2003). Rare occurrences of shallow-marine invertebrates have been documented within the limestone lenses of the Bedford Canyon Formation; therefore, it is determined to have a moderate paleontological sensitivity rating (Eisentraut and Cooper, 2002).

Central East Substation to Peñasquitos Substation

The potential to discover paleontological resources during the construction of the proposed Central East Substation to Peñasquitos Substation 230 kV transmission line ranges from zero to high. Areas determined to have paleontological sensitivity are located from MP 2.3 to 4.8, MP 5.1 to 9.1, MP 9.8 to

11.2, MP 11.8 to 12.1, MP 12.2 to 12.4, MP 28.3 to 30.5, MP 32.9 to 33.1, MP 37.0 to 37.4, and MP 42.3 to 59.4 (see Table D.7-16). Paleontologically sensitive areas could be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, and grading.

Table D.7-16. Paleontological Sensitivity – Central East Substation to Peñasquitos Substation

Mileposts	Rock Units	Sensitivity	Fossil Localities
MP 0.0 to 2.3	Granitic Rocks	None	—
MP 2.3 to 2.8	Quaternary Alluvium	Low	—
MP 2.8 to 3.0	Quaternary Terrace Deposits	Moderate	—
MP 3.0 to 4.2	Quaternary Alluvium	Low	—
MP 4.2 to 4.7	Quaternary Terrace Deposits	Moderate	—
MP 4.7 to 4.8	Quaternary Alluvium	Low	—
MP 4.8 to 5.1	Granitic Rocks	None	—
MP 5.1 to 6.7	Quaternary Alluvium	Low	—
MP 6.7 to 7.5	Quaternary Terrace Deposits	Moderate	—
MP 7.5 to 7.6	Quaternary Alluvium	Low	—
MP 7.6 to 7.7	Quaternary Terrace Deposits	Moderate	—
MP 7.7 to 7.9	Granitic Rocks	None	—
MP 7.9 to 8.0	Quaternary Terrace Deposits	Moderate	—
MP 8.0 to 8.8	Quaternary Alluvium	Low	—
MP 8.8 to 9.1	Quaternary Terrace Deposits	Moderate	—
MP 9.1 to 9.8	Granitic Rocks	None	—
MP 9.8 to 10.3	Quaternary Terrace Deposits	Moderate	—
MP 10.3 to 11.2	Quaternary Alluvium	Low	—
MP 11.2 to 11.8	Hybrid Gneiss	None	—
MP 11.8 to 12.1	Quaternary Alluvium	Low	—
MP 12.1 to 12.2	Hybrid Gneiss	None	—
MP 12.2 to 12.4	Quaternary Alluvium	Low	—
MP 12.4 to 12.8	Granitic Rocks	None	—
MP 12.8 to 18.8	Hybrid Gneiss	None	—
MP 18.8 to 19.0	Granitic Rocks	None	—
MP 19.0 to 24.9	Hybrid Gneiss	None	—
MP 24.9 to 28.3	Granitic Rocks	None	—
MP 28.3 to 30.5	Quaternary Alluvium	Low	—
MP 30.5 to 32.9	Granitic Rocks	None	—
MP 32.9 to 33.1	Metavolcanic Rocks	Marginal	—
MP 33.1 to 37.0	Granitic Rocks	None	—
MP 37.0 to 37.4	Pomerado Conglomerate	High	—
MP 37.4 to 38.8	Granitic Rocks	None	—
MP 38.8 to 42.3	Metavolcanic Rocks	None	—
MP 42.3 to 42.9	Pomerado Conglomerate	High	—
MP 42.9 to 43.1	Landslide Deposits	Low	—
MP 43.1 to 43.2	Stadium Conglomerate	High	—
MP 43.2 to 43.6	Pomerado Conglomerate	High	—
MP 43.6 to 43.8	Stadium Conglomerate	High	—

Sunrise Powerlink Project

D.7 CULTURAL AND PALEONTOLOGICAL RESOURCES

Table D.7-16. Paleontological Sensitivity – Central East Substation to Peñasquitos Substation

Mileposts	Rock Units	Sensitivity	Fossil Localities
MP 43.8 to 43.9	Pomerado Conglomerate	High	—
MP 43.9 to 44.0	Stadium Conglomerate	High	—
MP 44.0 to 44.1	Pomerado Conglomerate	High	—
MP 44.1 to 44.2	Stadium Conglomerate	High	—
MP 44.2 to 44.4	Pomerado Conglomerate	High	—
MP 44.4 to 44.6	Stadium Conglomerate	High	—
MP 44.6 to 44.8	Pomerado Conglomerate	High	—
MP 44.8 to 44.9	Stadium Conglomerate	High	—
MP 44.9 to 45.0	Quaternary Alluvium	Low	—
MP 45.0 to 45.1	Stadium Conglomerate	High	—
MP 45.1 to 46.0	Pomerado Conglomerate	High	3493, 4041, 4042
MP 46.0 to 48.6	Stadium Conglomerate	High	—
MP 48.6 to 48.7	Mission Valley Formation	High	3626, 3627, 3629, 3734, 3740, 3741, 3742, 3743, 3745, 3747, 3749, 3750, 3752, 3760, 3866, 3867, 3870, 3873, 3874
MP 48.7 to 48.9	Stadium Conglomerate	High	—
MP 48.9 to 49.0	Mission Valley Formation	High	—
MP 49.0 to 49.2	Stadium Conglomerate	High	—
MP 49.2 to 49.3	Mission Valley Formation	High	—
MP 49.3 to 50.6	Stadium Conglomerate	High	—
MP 50.6 to 50.7	Friars Formation	High	3254, 3410, 3411, 3413, 3425, 3681, 3682, 4165
MP 50.7 to 51.5	Santiago Peak Volcanics	Marginal	—
MP 51.5 to 51.7	Stadium Conglomerate	High	—
MP 51.7 to 52.0	Mission Valley Formation	High	—
MP 52.0 to 52.3	Santiago Peak Volcanics	Marginal	—
MP 52.3 to 52.6	Mission Valley Formation	High	—
MP 52.6 to 52.8	Quaternary Alluvium	Low	—
MP 52.8 to 52.9	Mission Valley Formation	High	—
MP 52.9 to 53.0	Lindavista Formation	Moderate	4694, 5436
MP 53.0 to 53.2	Mission Valley Formation	High	—
MP 53.2 to 53.4	Santiago Peak Volcanics	Marginal	—
MP 53.4 to 53.7	Stadium Conglomerate	High	—
MP 53.7 to 54.1	Lindavista Formation	Moderate	—
MP 54.1 to 54.3	Delmar Formation and Friars Formation, undivided	High	—
MP 54.3 to 54.4	Quaternary Alluvium	Low	—
MP 54.4 to 54.5	Santiago Peak Volcanics	Marginal	—
MP 54.5 to 55.7	Quaternary Alluvium	Low	—
MP 55.7 to 55.8	Delmar Formation and Friars Formation, undivided	High	—

Table D.7-16. Paleontological Sensitivity – Central East Substation to Peñasquitos Substation

Mileposts	Rock Units	Sensitivity	Fossil Localities
MP 55.8 to 56.0	Scripps Formation	High	4232, 4233, 4234, 4236, 4240, 4461, 4712, 4713, 5645
MP 56.0 to 56.1	Quaternary Alluvium	Low	—
MP 56.1 to 56.3	Scripps Formation	High	5577, 5723
MP 56.3 to 56.5	Friars Formation	High	—
MP 56.5 to 56.7	Scripps Formation	High	4166, 4167, 4168, 4169, 4170, 4235, 4237, 4334
MP 56.7 to 57.2	Stadium Conglomerate	High	—
MP 57.2 to 57.4	Lindavista Formation	Moderate	4172, 4173
MP 57.4 to 57.6	Scripps Formation	High	4341, 4342, 4438, 4439, 4440, 5600, 5601, 5602, 5603, 5604, 5605, 5612, 5613, 5614, 5649, 5651, 5652, 5653, 5654
MP 57.6 to 57.7	Lindavista Formation	Moderate	4474
MP 57.7 to 58.4	Scripps Formation	High	4202, 4205, 4207, 4208, 4211, 4212, 4214, 4216, 4217, 4218, 4226, 4229, 4231, 4338, 4444, 4475, 4476, 4477, 4478, 5531, 5532, 5533, 5534, 5535, 5580, 5581, 5599, 5637, 5638, 5639, 5640, 5641, 5642, 5643, 5650, 5792
MP 58.4 to 58.5	Ardath Shale	High	3797, 3857, 3911, 3914, 3917, 3918, 3922, 3923, 3924, 3925, 3927, 3933, 3934, 3935, 3952, 3958, 3959, 3961, 3962, 3964, 3965, 3966, 3967, 3969, 3970, 3971, 3972, 3973, 3974, 3977, 3978, 3979, 3980, 3981, 4201, 4203, 4204, 4206, 4209, 4213, 4215, 4219, 4220, 4221, 4222, 4223, 4224, 4225, 4227, 4228, 4230, 4915, 6027
MP 58.5 to 58.7	Scripps Formation	High	3919, 4337, 4441, 5620, 5478
MP 58.7 to 58.9	Lindavista Formation	Moderate	—
MP 58.9 to 59.1	Scripps Formation	High	—
MP 59.1 to 59.2	Quaternary Alluvium	Low	—
MP 59.2 to 59.4	Lindavista Formation	Moderate	—

Central East Substation to Mission Substation

The potential to discover paleontological resources during construction of the proposed Central East to Mission Substation 230 kV line ranges from zero to high. Areas determined to have paleontological sensitivity are located from MP 2.3 to 4.8, MP 5.1 to 7.7, MP 7.9 to 9.1, MP 9.8 to 11.2, MP 11.8 to 12.1, MP 12.2 to 12.4, MP 28.3 to 30.5, MP 32.9 to 33.1, MP 37.0 to 37.4, MP 42.3 to 52.7, and MP 54.1 to 59.9 (see Table D.7-17). Paleontologically sensitive areas could be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, and grading.

Table D.7-17. Paleontological Sensitivity – Central East Substation to Mission Substation

Mileposts	Rock Units	Sensitivity	Fossil Localities
MP 0 to 2.3	Granitic Rocks	None	—
MP 2.3 to 2.8	Quaternary Alluvium	Low	—
MP 2.8 to 3.0	Quaternary Terrace Deposits	Moderate	—
MP 3.0 to 4.2	Quaternary Alluvium	Low	—
MP 4.2 to 4.7	Quaternary Terrace Deposits	Moderate	—
MP 4.7 to 4.8	Quaternary Alluvium	Low	—
MP 4.8 to 5.1	Granitic Rocks	None	—
MP 5.1 to 6.7	Quaternary Alluvium	Low	—
MP 6.7 to 7.5	Quaternary Terrace Deposits	Moderate	—
MP 7.5 to 7.6	Quaternary Alluvium	Low	—
MP 7.6 to 7.7	Quaternary Terrace Deposits	Moderate	—
MP 7.7 to 7.9	Granitic Rocks	None	—
MP 7.9 to 8.0	Quaternary Terrace Deposits	Moderate	—
MP 8.0 to 8.8	Quaternary Alluvium	Low	—
MP 8.8 to 9.1	Quaternary Terrace Deposits	Moderate	—
MP 9.1 to 9.8	Granitic Rocks	None	—
MP 9.8 to 10.3	Quaternary Terrace Deposits	Moderate	—
MP 10.3 to 11.2	Quaternary Alluvium	Low	—
MP 11.2 to 11.8	Hybrid Gneiss	None	—
MP 11.8 to 12.1	Quaternary Alluvium	Low	—
MP 12.1 to 12.2	Hybrid Gneiss	None	—
MP 12.2 to 12.4	Quaternary Alluvium	Low	—
MP 12.4 to 12.8	Granitic Rocks	None	—
MP 12.8 to 18.8	Hybrid Gneiss	None	—
MP 18.8 to 19.0	Granitic Rocks	None	—
MP 19.0 to 24.9	Hybrid Gneiss	None	—
MP 24.9 to 28.3	Granitic Rocks	None	—
MP 28.3 to 30.5	Quaternary Alluvium	Low	—
MP 30.5 to 32.9	Granitic Rocks	None	—
MP 32.9 to 33.1	Metavolcanic Rocks	Marginal	—

Table D.7-17. Paleontological Sensitivity – Central East Substation to Mission Substation

Mileposts	Rock Units	Sensitivity	Fossil Localities
MP 33.1 to 37.0	Granitic Rocks	None	—
MP 37.0 to 37.4	Poway Group	High	—
MP 37.4 to 38.8	Granitic Rocks	None	—
MP 38.8 to 42.3	Metavolcanic Rocks	None	—
MP 42.3 to 42.9	Poway Group	High	—
MP 42.9 to 43.1	Landslide Deposits	Low	—
MP 43.1 to 43.2	Stadium Conglomerate	High	—
MP 43.2 to 43.6	Poway Group	High	—
MP 43.6 to 43.8	Stadium Conglomerate	High	—
MP 43.8 to 43.9	Poway Group	High	—
MP 43.9 to 44.0	Stadium Conglomerate	High	—
MP 44.0 to 44.1	Poway Group	High	—
MP 44.1 to 44.2	Stadium Conglomerate	High	—
MP 44.2 to 44.4	Poway Group	High	—
MP 44.4 to 44.6	Stadium Conglomerate	High	—
MP 44.6 to 44.8	Poway Group	High	—
MP 44.8 to 44.9	Stadium Conglomerate	High	—
MP 44.9 to 45.0	Quaternary Alluvium	Low	—
MP 45.0 to 45.1	Stadium Conglomerate	High	—
MP 45.1 to 46.0	Poway Group	High	—
MP 46.0 to 46.7	Stadium Conglomerate	High	—
MP 46.7 to 47.0	Poway Group	High	—
MP 47.0 to 47.2	Stadium Conglomerate	High	—
MP 47.2 to 47.5	Poway Group	High	—
MP 47.5 to 48.7	Stadium Conglomerate	High	—
MP 48.7 to 48.8	Quaternary Alluvium	Low	—
MP 48.8 to 50.3	Stadium Conglomerate	High	—
MP 50.3 to 50.4	Friars Formation	High	3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667
MP 50.4 to 51.9	Stadium Conglomerate	High	—
MP 51.9 to 52.0	Quaternary Alluvium	Low	—
MP 52.0 to 52.1	Friars Formation	High	3886, 4817, 4818
MP 52.1 to 52.4	Stadium Conglomerate	High	—
MP 52.4 to 52.7	Friars Formation	High	—
MP 52.7 to 54.1	Granitic Rocks	None	—
MP 54.1 to 54.3	Friars Formation	High	3781, 3788, 3790
MP 54.3 to 54.4	Stadium Conglomerate	High	—

Table D.7-17. Paleontological Sensitivity – Central East Substation to Mission Substation

Mileposts	Rock Units	Sensitivity	Fossil Localities
MP 54.4 to 54.5	Mission Valley Formation	High	—
MP 54.5 to 54.6	Poway Group	High	3275
MP 54.6 to 54.7	Mission Valley Formation	High	—
MP 54.7 to 54.8	Poway Group	High	3852
MP 54.8 to 55.1	Mission Valley Formation	High	3417, 4331
MP 55.1 to 55.2	Friars Formation	High	3488, 3649, 3669, 3784, 3785, 3786, 3789, 3851, 4343
MP 55.2 to 55.4	Lindavista Formation	Moderate	—
MP 55.4 to 56.0	Friars Formation	High	3831, 3832, 3833
MP 56.0 to 56.1	Poway Group	High	3731, 4919
MP 56.1 to 56.6	Quaternary Terrace Deposits	Moderate	—
MP 56.6 to 57.0	Poway Group	High	—
MP 57.0 to 57.2	Quaternary Alluvium	Low	—
MP 57.2 to 57.4	Poway Group	High	—
MP 57.4 to 57.9	Quaternary Terrace Deposits	Moderate	—
MP 57.9 to 58.2	Poway Group	High	—
MP 58.2 to 58.3	Quaternary Alluvium	Low	—
MP 58.3 to 59.0	Poway Group	High	—
MP 59.0 to 59.4	Quaternary Terrace Deposits	Moderate	—
MP 59.4 to 59.7	Poway Group	High	—
MP 59.7 to 59.9	Quaternary Terrace Deposits	Moderate	—

Central East Substation to Los Coches Substation

The potential to discover paleontological resources during the construction of the proposed Central East Substation to Los Coches Substation 230 kV transmission line ranges from zero to high. Areas determined to have paleontological sensitivity are located from MP 2.3 to 4.8, MP 5.1 to 7.7, MP 7.9 to 9.1, MP 9.8 to 11.2, MP 11.8 to 12.1, MP 12.2 to 12.4, MP 28.3 to 30.5, MP 33.6 to 34.0, MP 34.3 to 34.5, MP 34.9 to 35.9, MP 38.0 to 38.1, MP 41.5 to 42.8 (see Table D.7-18). The potential to discover paleontological resources during the construction of the proposed Central East Substation to Los Coches Substation Option ranges from zero to high. Areas determined to have a paleontological sensitivity are located from MP 0.9 to 1.1, MP 2.0 to 2.3, MP 2.7 to 3.1, and MP 3.4 to 4.4 (see Table D.7-19). Paleontologically sensitive areas could be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, and grading.

Table D.7-18. Paleontological Sensitivity – Central East Substation to Los Coches Substation

Mileposts	Rock Units	Sensitivity
MP 0.0 to 2.3	Granitic Rocks	None
MP 2.3 to 2.8	Quaternary Alluvium	Low
MP 2.8 to 3.0	Quaternary Terrace Deposits	Moderate
MP 3.0 to 4.2	Quaternary Alluvium	Low
MP 4.2 to 4.7	Quaternary Terrace Deposits	Moderate
MP 4.7 to 4.8	Quaternary Alluvium	Low
MP 4.8 to 5.1	Granitic Rocks	None
MP 5.1 to 6.7	Quaternary Alluvium	Low
MP 6.7 to 7.5	Quaternary Terrace Deposits	Moderate
MP 7.5 to 7.6	Quaternary Alluvium	Low
MP 7.6 to 7.7	Quaternary Terrace Deposits	Moderate
MP 7.7 to 7.9	Granitic Rocks	None
MP 7.9 to 8.0	Quaternary Terrace Deposits	Moderate
MP 8.0 to 8.8	Quaternary Alluvium	Low
MP 8.8 to 9.1	Quaternary Terrace Deposits	Moderate
MP 9.1 to 9.8	Granitic Rocks	None
MP 9.8 to 10.3	Quaternary Terrace Deposits	Moderate
MP 10.3 to 11.2	Quaternary Alluvium	Low
MP 11.2 to 11.8	Hybrid Gneiss	None
MP 11.8 to 12.1	Quaternary Alluvium	Low
MP 12.1 to 12.2	Hybrid Gneiss	None
MP 12.2 to 12.4	Quaternary Alluvium	Low
MP 12.4 to 12.8	Granitic Rocks	None
MP 12.8 to 18.8	Hybrid Gneiss	None
MP 18.8 to 19.0	Granitic Rocks	None
MP 19.0 to 24.9	Hybrid Gneiss	None
MP 24.9 to 28.3	Granitic Rocks	None
MP 28.3 to 30.5	Quaternary Alluvium	Low
MP 30.5 to 33.6	Granitic Rocks	None
MP 33.6 to 34.0	Pomerado Conglomerate	High
MP 34.0 to 34.3	Granitic Rocks	None
MP 34.3 to 34.5	Pomerado Conglomerate	High
MP 34.5 to 34.9	Granitic Rocks	None
MP 34.9 to 35.9	Pomerado Conglomerate	High
MP 35.9 to 38.0	Granitic Rocks	None
MP 38.0 to 38.1	Quaternary Younger Alluvium	Low
MP 38.1 to 41.5	Granitic Rocks	None
MP 41.5 to 41.9	Quaternary Younger Alluvium	Low
MP 41.9 to 42.6	Metasedimentary Rocks	Marginal
MP 42.6 to 42.8	Quaternary Younger Alluvium	Low

Table D.7-19. Paleontological Sensitivity – Central East Substation to Los Coches Substation

Mileposts	Rock Units	Sensitivity
MP 0.0 to 0.9	Granitic Rocks	None
MP 0.9 to 1.1	Poway Group	High
MP 1.1 to 2.0	Granitic Rocks	None
MP 2.0 to 2.3	Quaternary Alluvium	Low
MP 2.3 to 2.7	Granitic Rocks	None
MP 2.7 to 3.1	Poway Group	High
MP 3.1 to 3.4	Granitic Rocks	None
MP 3.4 to 4.4	Quaternary Alluvium	Low
MP 4.4 to 5.7	Granitic Rocks	None

Central East Substation to Escondido Substation

Northern Route. The potential to discover paleontological resources during the construction of the proposed Central East Substation to Escondido Substation 230 kV transmission line ranges from zero to high. Areas determined to have paleontological sensitivity are located from MP 1.6 to 2.1, 2.4 to 2.7, MP 2.8 to 3.9, MP 5.5 to 11.7, MP 11.9 to 12.4, MP 12.9 to 13.2, MP 17.1 to 18.5, 20.2 to 20.3, MP 21.2 to 21.3, MP 23.6 to 24.8, MP 25.5 to 30.4, MP 31.2 to 31.3, MP 31.5 to 31.6, MP 33.1 to 35.0, MP 35.6 to 35.9, MP 36.0 to 36.1, MP 36.7 to 37.4, MP 38.5 to 39.4, MP 39.5 to 40.2, MP 41.3 to 41.4, MP 42.3 to 42.8, MP 43.3 to 45.3, MP 45.6 to 46.0, MP 46.8 to 47.2 (see Table D.7-20). Paleontologically sensitive areas could be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, and grading.

Southern Route. The potential to discover paleontological resources during the construction of the proposed Central East Substation to Escondido South Substation 230 kV transmission line ranges from zero to high. Areas determined to have paleontological sensitivity are located from MP 2.3 to 4.8, MP 5.1 to 7.7, MP 7.9 to 9.1, MP 9.8 to 11.2, MP 11.8 to 12.1, MP 12.2 to 12.4, MP 28.3 to 30.5, MP 32.9 to 33.1, MP 37.0 to 37.4, MP 42.3

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to 52.6, MP 52.8 to 53.2, MP 53.5 to 53.9, MP 54.1 to 60.3, MP 60.4 to 60.8, MP 65.8 to 65.9, and MP 66.0 to 66.2 (see Table D.7-21). The potential to discover paleontological resources during the construction of the proposed Central East Substation to Escondido South Substation Option ranges from zero to high. Areas determined to have paleontological sensitivity are located from MP 0.9 to 1.1, MP 2.0 to 2.37, MP 2.7 to 3.1, and MP 3.4 to 5.8 (see Table D.7-22). Paleontologically sensitive areas could be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, and grading.

Table D.7-20. Paleontological Sensitivity – Central East Substation to Escondido Substation

Mileposts	Rock Units	Sensitivity	Mileposts	Rock Units	Sensitivity
MP 0.0 to 1.6	Granitic Rocks	None	MP 30.4 to 31.2	Granitic Rocks	None
MP 1.6 to 2.1	Quaternary Alluvium	Low	MP 31.2 to 31.3	Quaternary Old Alluvium	High
MP 2.1 to 2.4	Granitic Rocks	None	MP 31.3 to 31.5	Granitic Rocks	None
MP 2.4 to 2.7	Quaternary Alluvium	Low	MP 31.5 to 31.6	Quaternary Old Alluvium	High
MP 2.7 to 2.8	Granitic Rocks	None	MP 31.6 to 33.1	Granitic Rocks	None
MP 2.8 to 3.1	Quaternary Terrace Deposits	Moderate	MP 33.1 to 34.4	Quaternary Alluvium	Low
MP 3.1 to 3.5	Quaternary Alluvium	Low	MP 34.4 to 35.0	Quaternary Older Alluvium	High
MP 3.5 to 3.9	Quaternary Terrace Deposits	Moderate	MP 35.0 to 35.6	Granitic Rocks	None
MP 3.9 to 5.5	Granitic Rocks	None	MP 35.6 to 35.9	Quaternary Older Alluvium	High
MP 5.5 to 6.9	Quaternary Terrace Deposits	Moderate	MP 35.9 to 36.0	Granitic Rocks	None
MP 6.9 to 7.0	Quaternary Alluvium	Low	MP 36.0 to 36.1	Quaternary Older Alluvium	High
MP 7.0 to 7.8	Quaternary Terrace Deposits	Moderate	MP 36.1 to 36.7	Granitic Rocks	None
MP 7.8 to 8.3	Quaternary Alluvium	Low	MP 36.7 to 37.4	Quaternary Older Alluvium	High
MP 8.3 to 11.7	Quaternary Terrace Deposits	Moderate	MP 37.4 to 38.5	Granitic Rocks	None
MP 11.7 to 11.9	Lake	None	MP 38.5 to 39.4	Quaternary Younger Alluvium	Low
MP 11.9 to 12.4	Quaternary Terrace Deposits	Moderate	MP 39.4 to 39.5	Granitic Rocks	None
MP 12.4 to 12.9	Lake	None	MP 39.5 to 40.2	Quaternary Younger Alluvium	Low
MP 12.9 to 13.2	Quaternary Terrace Deposits	Moderate	MP 40.2 to 41.3	Granitic Rocks	None
MP 13.2 to 17.1	Granitic Rocks	None	MP 41.3 to 41.4	Quaternary Older Alluvium	High
MP 17.1 to 18.5	Metasedimentary Rocks	Marginal	MP 41.4 to 42.0	Metavolcanic and Metasedimentary Rocks	None
MP 18.5 to 19.8	Hybrid Gneiss	None	MP 42.0 to 42.3	Granitic Rocks	None
MP 19.8 to 20.2	Granitic Rocks	None	MP 42.3 to 42.8	Quaternary Older Alluvium	High
MP 20.2 to 20.3	Quaternary Terrace Deposits	Moderate	MP 42.8 to 43.3	Granitic Rocks	None
MP 20.3 to 20.5	Granitic Rocks	None	MP 43.3 to 45.2	Quaternary Older Alluvium	High
MP 20.5 to 21.1	Hybrid Gneiss	None	MP 45.2 to 45.3	Quaternary Younger Alluvium	Low
MP 21.2 to 21.3	Landslide Deposits	Low	MP 45.3 to 45.6	Granitic Rocks	None
MP 21.3 to 22.6	Hybrid Gneiss	None	MP 45.6 to 46.0	Quaternary Older Alluvium	High
MP 22.6 to 23.6	Granitic Rocks	None	MP 46.0 to 46.1	Quaternary Artificial Fill	None
MP 23.6 to 24.8	Quaternary Older Alluvium	High	MP 46.1 to 46.8	Granitic Rocks	None
MP 24.8 to 25.5	Granitic Rocks	None	MP 46.8 to 47.2	Quaternary Older Alluvium	High
MP 25.5 to 25.7	Quaternary Older Alluvium	High			
MP 25.7 to 30.4	Quaternary Younger Alluvium	Low			

Table D.7-21. Paleontological Sensitivity – Southern Route-Central East Substation-Escondido South Substation

Mileposts	Rock Units	Sensitivity	Mileposts	Rock Units	Sensitivity
MP 0.0 to 2.3	Granitic Rocks	None	MP 44.1 to 44.2	Stadium Conglomerate	High
MP 2.3 to 2.8	Quaternary Alluvium	Low	MP 44.2 to 44.4	Poway Group	High
MP 2.8 to 3.0	Quaternary Terrace Deposits	Moderate	MP 44.4 to 44.6	Stadium Conglomerate	High
MP 3.0 to 4.2	Quaternary Alluvium	Low	MP 44.6 to 44.8	Poway Group	High
MP 4.2 to 4.7	Quaternary Terrace Deposits	Moderate	MP 44.8 to 44.9	Stadium Conglomerate	High
MP 4.7 to 4.8	Quaternary Alluvium	Low	MP 44.9 to 45.0	Quaternary Alluvium	Low
MP 4.8 to 5.1	Granitic Rocks	None	MP 45.0 to 45.1	Stadium Conglomerate	High
MP 5.1 to 6.7	Quaternary Alluvium	Low	MP 45.1 to 46.0	Poway Group	High
MP 6.7 to 7.5	Quaternary Terrace Deposits	Moderate	MP 46.0 to 48.6	Stadium Conglomerate	High
MP 7.5 to 7.6	Quaternary Alluvium	Low	MP 48.6 to 48.7	Mission Valley Formation	High
MP 7.6 to 7.7	Quaternary Terrace Deposits	Moderate	MP 48.7 to 48.9	Stadium Conglomerate	High
MP 7.7 to 7.9	Granitic Rocks	None	MP 48.9 to 49.0	Mission Valley Formation	High
MP 7.9 to 8.0	Quaternary Terrace Deposits	Moderate	MP 49.0 to 49.2	Stadium Conglomerate	High
MP 8.0 to 8.8	Quaternary Alluvium	Low	MP 49.2 to 49.3	Mission Valley Formation	High
MP 8.8 to 9.1	Quaternary Terrace Deposits	Moderate	MP 49.3 to 50.6	Stadium Conglomerate	High
MP 9.1 to 9.8	Granitic Rocks	None	MP 50.6 to 50.7	Friars Formation	High
MP 9.8 to 10.3	Quaternary Terrace Deposits	Moderate	MP 50.7 to 51.5	Santiago Peak Volcanics	Marginal
MP 10.3 to 11.2	Quaternary Alluvium	Low	MP 51.5 to 51.7	Stadium Conglomerate	High
MP 11.2 to 11.8	Hybrid Gneiss	None	MP 51.7 to 52.0	Mission Valley Formation	High
MP 11.8 to 12.1	Quaternary Alluvium	Low	MP 52.0 to 52.2	Stadium Conglomerate	High
MP 12.1 to 12.2	Hybrid Gneiss	None	MP 52.2 to 52.6	Santiago Peak Volcanics	Marginal
MP 12.2 to 12.4	Quaternary Alluvium	Low	MP 52.6 to 52.8	Granitic Rocks	None
MP 12.4 to 12.8	Granitic Rocks	None	MP 52.8 to 53.2	Santiago Peak Volcanics	Marginal
MP 12.8 to 18.8	Hybrid Gneiss	None	MP 53.2 to 53.5	Granitic Rocks	None
MP 18.8 to 19.0	Granitic Rocks	None	MP 53.5 to 53.9	Santiago Peak Volcanics	Marginal
MP 19.0 to 24.9	Hybrid Gneiss	None	MP 53.9 to 54.1	Granitic Rocks	None
MP 24.9 to 28.3	Granitic Rocks	None	MP 54.1 to 54.4	Santiago Peak Volcanics	Marginal
MP 28.3 to 30.5	Quaternary Alluvium	Low	MP 54.4 to 55.1	Mission Valley Formation	High
MP 30.5 to 32.9	Granitic Rocks	None	MP 55.1 to 55.3	Stadium Conglomerate	High
MP 32.9 to 33.1	Metavolcanic Rocks	Marginal	MP 55.3 to 55.9	Metavolcanic Rocks	Marginal
MP 33.1 to 37.0	Granitic Rocks	None	MP 55.9 to 56.3	Poway Group	High
MP 37.0 to 37.4	Poway Group	High	MP 56.3 to 57.0	Quaternary Terrace Deposits	Moderate
MP 37.4 to 38.8	Granitic Rocks	None	MP 57.0 to 58.6	Metavolcanic Rocks	Marginal
MP 38.8 to 42.3	Metavolcanic Rocks	None	MP 58.6 to 58.7	Quaternary Terrace Deposits	Moderate
MP 42.3 to 42.9	Poway Group	High	MP 58.7 to 60.3	Metavolcanic Rocks	Marginal
MP 42.9 to 43.1	Landslide Deposits	Low	MP 60.3 to 60.4	Lake	None
MP 43.1 to 43.2	Stadium Conglomerate	High	MP 60.4 to 60.8	Metavolcanic Rocks	Marginal
MP 43.2 to 43.6	Poway Group	High	MP 60.8 to 65.8	Granitic Rocks	None
MP 43.6 to 43.8	Stadium Conglomerate	High	MP 65.8 to 65.9	Metasedimentary Rocks	Marginal
MP 43.8 to 43.9	Poway Group	High	MP 65.9 to 66.0	Granitic Rocks	None
MP 43.9 to 44.0	Stadium Conglomerate	High	MP 66.0 to 66.2	Quaternary Older Alluvium	High
MP 44.0 to 44.1	Poway Group	High			

D.7.34.2 Environmental Impacts for Paleontology – 230 kV Future Transmission System Expansion

Impact conclusions for 230 kV Future Expansion are based on implementation of the same mitigation measures that would apply to the Proposed Project, as follows.

Construction Impacts

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction along the 230 kV FTSE routes ranges from zero potential to high potential. Areas determined to have a high paleontological sensitivity would be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, grading, and vegetation removal.

The potential for construction activities to destroy or disturb significant paleontological resources is generally considered to be mitigable. Implementation of the following mitigation measures would reduce project effects to a level of less than significant (Class II). For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measure for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

- PAL-1a Inventory and evaluate paleontological resource in the Final APE.**
- PAL-1b Develop Paleontological Monitoring and Mitigation Plan.**
- PAL-1c Monitor construction for paleontology.**
- PAL-1d Conduct paleontological data recovery.**
- PAL-1e Train construction personnel.**

Operational Impacts

There are no anticipated impacts to paleontological resources during operation of the 230 kV FTSE.

D.7.34.3 Environmental Setting for Paleontology – 500 kV Future Transmission System Expansion

As described in Section B.7.2 and illustrated in Figure B-12b, the potential Future 500 kV circuit would connect the proposed Central East Substation to the Southern California Edison (SCE) transmission system at a new substation north of Interstate 15 (I-15), about 20 miles west of SCE’s Valley Substation.

Refer to the setting for paleontological resources for the 230 kV FTSE above for a description of the geologic units referenced in the table below.

Table D.7-22. Paleontological Sensitivity – Central East Substation to Escondido South Substation Option

Mileposts	Rock Units	Sensitivity
MP 0 to 0.9	Granitic Rocks	None
MP 0.9 to 1.1	Poway Group	High
MP 1.1 to 2	Granitic Rocks	None
MP 2 to 2.37	Quaternary Alluvium	Low
MP 2.3 to 2.7	Granitic Rocks	None
MP 2.7 to 3.1	Poway Group	High
MP 3.1 to 3.4	Granitic Rocks	None
MP 3.4 to 5.8	Quaternary Alluvium	Low
MP 5.8 to 6.4	Granitic Rocks	None

The potential to discover paleontological resources during the construction of the proposed 500 kV FTSE transmission line ranges from zero to high. Areas determined to have paleontological sensitivity are located from MP 0.4 to 2.3, MP 2.7 to 7.2, MP 7.5 to 8.0, MP 8.4 to 8.5, MP 10.5 to 10.7, MP 12.4 to 14.9, MP 15.2 to 15.5, MP 16.3 to 16.5, MP 18.9 to 20.1, MP 21.0 to 24.8, MP 39.8 to 40.4, MP 41.8 to 41.9, MP 49.8 to 49.9, MP 50.3 to 50.4, MP 57.8 to 58.2, MP 64.1 to 64.2, MP 69.1 to 69.7, MP 69.8 to 70.2, MP 70.3 to 70.8, MP 78.1 to 78.2, MP 78.4 to 78.5, MP 80.8 to 81.6, MP 82.1 to 84.5, MP 85.6 to 85.8, MP 87.3 to 87.7, MP 88.3 to 89.0 (see Table D.7-23). Paleontologically sensitive areas could be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, and grading.

Table D.7-23. Paleontological Sensitivity – San Diego North Substation to LEAPS Interconnection Substation and to Serrano-Valley Substation with Modified Staff Alternative

Mileposts	Rock Units	Sensitivity	Mileposts	Rock Units	Sensitivity
MP 0-0.4	Granitic Rocks	None	MP 57.8-58.2	Quaternary Older Alluvium	High
MP 0.4-0.7	Quaternary Terrace Deposits	Moderate	MP 58.2-64.1	Granitic rocks	None
MP 0.7-1.4	Quaternary Alluvium	Low	MP 64.1-64.2	Quaternary Younger Alluvium	Low
MP 1.4-2.3	Quaternary Terrace Deposits	Moderate	MP 64.2-65.1	Granitic Rocks	None
MP 2.3-2.7	Granitic Rocks	None	MP 65.1-65.5	Santa Rosa Basalt	None
MP 2.7-4.8	Quaternary Alluvium	Low	MP 65.5-69.1	Granitic Rocks	None
MP 4.8-7.2	Quaternary Terrace Deposits	Moderate	MP 69.1-69.7	Metasedimentary Rocks	Marginal
MP 7.2-7.5	Lake	None	MP 69.7-69.8	Granitic Rocks	None
MP 7.5-8.0	Quaternary Terrace Deposits	Moderate	MP 69.8-70.0	Quaternary Younger Alluvium	Low
MP 8.0-8.4	Lake	None	MP 70.0-70.2	Metasedimentary Rocks	Marginal
MP 8.4-8.5	Quaternary Terrace Deposits	Moderate	MP 70.2-70.3	Granitic Rocks	None
MP 8.5-10.0	Granitic Rocks	None	MP 70.3-70.6	Metasedimentary Rocks	Marginal
MP 10.0-10.3	Lake	None	MP 70.6-70.8	Quaternary Younger Alluvium	Low
MP 10.3-10.5	Granitic Rocks	None	MP 70.8-78.1	Granitic Rocks	None
MP 10.5-10.6	Quaternary Alluvium	Low	MP 78.1-78.2	Quaternary Younger Alluvium	Low
MP 10.6-10.7	Quaternary Terrace Deposits	Moderate	MP 78.2-78.4	Granitic Rocks	None
MP 10.7-12.4	Granitic Rocks	None	MP 78.4-78.5	Quaternary Younger Alluvium	Low
MP 12.4-13.0	Metasedimentary Rocks	Marginal	MP 78.5-80.8	Granitic Rocks	None
MP 13.0-14.9	Quaternary Terrace Deposits	Moderate	MP 80.8-81.3	Bedford Canyon Formation	Moderate
MP 14.9-15.2	Hybrid Gneiss	None	MP 81.3-81.5	Landslide Deposits	Low
MP 15.2-15.5	Quaternary Terrace Deposits	Moderate	MP 81.5-81.6	Bedford Canyon Formation	Moderate
MP 15.5-16.0	Hybrid Gneiss	None	MP 81.6-82.1	Granitic Rocks	None
MP 16.0-16.2	Granitic Rocks	None	MP 82.1-83.5	Bedford Canyon Formation	Moderate
MP 16.2-16.3	Hybrid Gneiss	None	MP 83.5-83.6	Quaternary Younger Alluvium	Low
MP 16.3-16.5	Landslide Deposits	Low	MP 83.6-83.8	Landslide Deposits	Low
MP 16.5-17.9	Hybrid Gneiss	None	MP 83.8-84.0	Bedford Canyon Formation	Moderate
MP 17.9-18.9	Granitic Rocks	None	MP 84.0-84.2	Landslide Deposits	Low
MP 18.9-20.1	Quaternary Older Alluvium	High	MP 84.2-84.5	Bedford Canyon Formation	Moderate
MP 20.1-21.0	Granitic Rocks	None	MP 84.5-85.6	Granitic Rocks	None
MP 21.0-24.8	Quaternary Younger Alluvium	Low	MP 85.6-85.8	Quaternary Older Alluvium	High
MP 24.8-39.8	Granitic Rocks	None	MP 85.8-87.3	Granitic Rocks	None
MP 39.8-40.4	Quaternary Younger Alluvium	Low	MP 87.3-87.4	Bedford Canyon Formation	Moderate
MP 40.4-41.8	Granitic Rocks	None	MP 87.4-87.6	Quaternary Older Alluvium	High
MP 41.8-41.9	Quaternary Younger Alluvium	Low	MP 87.6-87.7	Quaternary Younger Alluvium	Low
MP 41.9-49.8	Granitic Rocks	None	MP 87.7-88.3	Granitic Rocks	None
MP 49.8-49.9	Quaternary Younger Alluvium	Low	MP 88.3-88.7	Quaternary Older Alluvium	High
MP 49.9-50.3	Granitic Rocks	None	MP 88.7-89.0	Quaternary Younger Alluvium	Low
MP 50.3-50.4	Quaternary Younger Alluvium	Low	MP 89.0-91.1	Estelle Mountain Volcanics	None
MP 50.4-57.8	Granitic Rocks	None			

D.7.34.4 Environmental Impacts for Paleontology – 500 kV Future Transmission System Expansion

Impact conclusions for 500 kV Future Transmission System Expansion are based on implementation of the same mitigation measures that would apply to the Proposed Project, as follows.

Construction Impacts

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction along the FTSE routes ranges from zero potential to high potential. Areas determined to have a high paleontological sensitivity would be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, grading, and vegetation removal.

The potential for construction activities to destroy or disturb significant paleontological resources is generally considered to be mitigable. Implementation of the following mitigation measures would reduce project effects to a level of less than significant (Class II).

Mitigation Measure for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

- PAL-1a Inventory and evaluate paleontological resource in the Final APE.**
- PAL-1b Develop Paleontological Monitoring and Mitigation Plan.**
- PAL-1c Monitor construction for paleontology.**
- PAL-1d Conduct paleontological data recovery.**
- PAL-1e Train construction personnel.**

D.7.35 Connected Actions and Indirect Effects - Paleontology

Section B.6 describes the other projects that have been found to be related to the Sunrise Powerlink Project. They fall into two categories:

- **Connected Actions.** The four projects found to be connected to the Sunrise Powerlink Project are the Stirling Energy Systems solar facility, two components of the IID 230 kV transmission system upgrades, the Esmeralda–San Felipe Geothermal Project, and the Jacumba Substation. Those projects are addressed in Sections D.7.35.1 through D.7.35.4.
- **Indirect Effects.** One project, the SCE La Rumorosa Wind Project, would create effects as a result of the construction and operation of the Sunrise Powerlink Project. That project is addressed in Section D.7.35.5.

D.7.35.1 Stirling Energy Systems Solar Two LLC Project

Environmental Setting

Regarding paleontological resources, the CSP facility site and associated transmission line are located within the Salton Trough geomorphic province, a region that has undergone crustal extension and subsidence resulting in the accumulation of sediments more than 5 miles thick. According to geologic mapping by Weber

(1959), the project area is underlain by the following geologic units, from oldest to youngest: (1) Palm Spring Group, (2) Cahuilla Lake Beds, (3) Older Alluvium, and (4) Alluvium. A museum records search of the CSP facility site associated transmission line was performed by the SDNHM and no fossil localities were discovered within the project boundaries or within a one-mile radius. However, the paleontological resource potential of the underlying geologic units is determined to range from low to high.

Specifically, the CSP facility site is underlain by both Older Alluvium (Pleistocene) and Younger Alluvium (Holocene), which are determined to have high and low paleontological sensitivity (respectively). Areas along the associated transmission line are variously underlain by the Palm Spring Group, Cahuilla Lake Beds, and Alluvium. The locations of these geologic units and their paleontological sensitivity ratings are shown in Table D.7-24 and depicted on paleontological sensitivity maps in Appendix 9D.

Table D.7-24. Paleontological Sensitivity – 230 kV Transmission Interconnection

Mileposts	Rock Units	Sensitivity
MP 0–5.2	Cahuilla Lake Beds	High
MP 5.2–5.5	Alluvium	Low
MP 5.5–5.8	Palm Spring Group	High
MP 5.8–6.7	Alluvium	Low
MP 6.7–6.9	Palm Spring Group	High
MP 6.9–9.0	Alluvium	Low

Environmental Impacts and Mitigation Measures

Impact conclusions for the Stirling Energy Systems Solar Two LLC Project are based on implementation of the same mitigation measures that would apply to the Proposed Project, as follows.

Construction Impacts

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction along the Stirling Energy Systems Solar Two LLC Project ranges from low potential to high potential. Areas determined to have a high paleontological sensitivity would be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, grading, and vegetation removal.

The potential for construction activities to destroy or disturb significant paleontological resources is generally considered to be mitigable. Implementation of the following mitigation measures would reduce project effects to a level of less than significant (Class II). For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measure for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

- PAL-1a Inventory and evaluate paleontological resource in the Final APE.**
- PAL-1b Develop Paleontological Monitoring and Mitigation Plan.**
- PAL-1c Monitor construction for paleontology.**
- PAL-1d Conduct paleontological data recovery.**
- PAL-1e Train construction personnel.**

Operational Impacts

There are no anticipated impacts to paleontological resources during operation of the Stirling Energy Systems Solar Two LLC Project.

D.7.35.2 IID Transmission System Upgrades

Environmental Setting

Regarding paleontological resources, the San Felipe Substation site and associated transmission line are located within the Salton Trough geomorphic province, a region that has undergone crustal extension and subsidence resulting in the accumulation of sediments more than 5 miles thick. According to geologic mapping by Weber (1959), the project area is underlain by the following geologic units, from oldest to youngest: (1) Brawley Formation, (2) Cahuilla Lake Beds, (3) Older Alluvium, and (4) Younger Alluvium. A museum records search of the San Felipe Substation site and associated transmission line was performed by the SDNHM and no fossil localities were discovered within the project boundaries or within a one-mile radius. However, the paleontological resource potential of the underlying geologic units is determined to be ranging from low to high.

Specifically, the San Felipe Substation site is underlain by Younger Alluvium, which is determined to have a low paleontological sensitivity rating. Areas along the associated transmission line are variously underlain by the Brawley Formation, Cahuilla Lake Beds, Older Alluvium, and Younger Alluvium. The locations of these geologic units and their paleontological sensitivity ratings are shown in Table D.7-25 and depicted on paleontological sensitivity maps in Appendix 9D.

Table D.7-25. Paleontological Sensitivity – IID Transmission Upgrades

Mileposts	Rock Units	Sensitivity
IID-0–0.5	Cahuilla Lake Beds	High
IID-0.5–0.7	Older Alluvium	High
IID-0.7–3.8	Cahuilla Lake Beds	High
IID-3.8–4	Brawley Formation	High
IID-4–5.5	Cahuilla Lake Beds	High
IID-5.5–5.9	Brawley Formation	High
IID-5.9–6.2	Cahuilla Lake Beds	High
IID-6.2–6.9	Brawley Formation	High
IID-6.9–11	Cahuilla Lake Beds	High
IID-11–11.5	Brawley Formation	High
IID-11.5–22.1	Cahuilla Lake Beds	High
IID-22.1–26.3	Younger Alluvium	Low

Environmental Impacts and Mitigation Measures

Impact conclusions for the IID Transmission System Upgrades are based on implementation of the same mitigation measures that would apply to the Proposed Project, as follows.

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction along the IID Transmission System Upgrades ranges from low potential to high potential. Areas determined to have a high paleontological sensitivity would be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, grading, and vegetation removal.

The potential for construction activities to destroy or disturb significant paleontological resources is generally considered to be mitigable. Implementation of the following mitigation measures would reduce project effects to a level of less than significant (Class II). For the full text of the mitigation measures, please see Appendix 12.

Mitigation Measure for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

PAL-1a Inventory and evaluate paleontological resource in the Final APE.

PAL-1b Develop Paleontological Monitoring and Mitigation Plan.

PAL-1c Monitor construction for paleontology.

PAL-1d Conduct paleontological data recovery.

PAL-1e Train construction personnel.

Operational Impacts

There are no anticipated impacts to paleontological resources during operation of the IID Transmission System Upgrades.

D.7.35.3 Esmeralda–San Felipe Geothermal Project

Paleontological Resources

The Esmeralda-San Felipe Project Area is located east of Anza-Borrego Desert State Park and west of the Salton Sea, within the western margin of the Salton Trough geomorphic province. From the late Miocene through the Pleistocene, fault activity related to the western Salton Trough detachment resulted in the formation of marine and terrestrial paleoecologic systems during which time marine, deltaic, and lacustrine sediments were deposited. According to geologic mapping by Weber (1959), the Proposed Project areas are underlain by the following geologic units, from oldest to youngest: (1) Palm Spring Group, (2) Borrego Formation, (3) Ocotillo Formation, (4) Brawley Formation, (5) Cahuilla Lake Beds, (6) and Younger Alluvium. A museum records search of the Esmeralda-San Felipe Area was performed by the SDNHM and no fossil localities were discovered within the project boundaries or within a one-mile radius. However, the paleontological resource potential of the underlying geologic units is determined to range from low to high. The locations of paleontologically sensitive areas are depicted on paleontological sensitivity maps in Appendix 9D.

Environmental Impacts and Mitigation Measures

Impact conclusions for the Esmeralda-San Felipe Geothermal Project are based on implementation of the same mitigation measures that would apply to the Proposed Project, as follows.

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction along the Esmeralda-San Felipe Geothermal Project ranges from low potential to high potential. Areas determined to have a high paleontological sensitivity would be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, grading, and vegetation removal.

The potential for construction activities to destroy or disturb significant paleontological resources is generally considered to be mitigable. Implementation of the following mitigation measures would reduce project effects to a level of less than significant (Class II).

Mitigation Measure for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

PAL-1a Inventory and evaluate paleontological resource in the Final APE.

PAL-1b Develop Paleontological Monitoring and Mitigation Plan.

PAL-1c Monitor construction for paleontology.

PAL-1d Conduct paleontological data recovery.

PAL-1e Train construction personnel.

D.7.35.4 Jacumba Substation Project

In its testimony during the CPUC's Phase 1 hearings on the need and economics of the Proposed Project, SDG&E staff stated that a new 230/500 kV substation would be required to allow future wind generation projects to transmit generated power via the existing 500 kV Southwest Powerlink (SWPL) transmission line. The SWPL currently has limited available capacity, but if the Sunrise Powerlink Project is approved and constructed, some electricity currently carried by the SWPL would be transmitted via Sunrise, making more capacity available on the SWPL. There are a number of possible new wind generation projects near the Jacumba area (about 5 miles west of the San Diego/Imperial County line), some in San Diego County (Crestwood wind area) and some in Mexico (La Rumorosa wind area). Therefore, the impacts of this substation are evaluated as part of the Proposed Project.

This 230/500 kV substation would allow incoming transmission lines at 230 kV from wind farms in either the Crestwood or La Rumorosa areas. The power would be transformed to 500 kV in order to allow it to be transmitted via the SWPL to the Miguel Substation in San Diego. The substation is assumed to occupy about 20 acres, and while its location has not been defined by SDG&E, for the purposes of this EIR/EIS it is assumed to be located just east of the point where the Interstate 8 Alternative diverges from the SWPL. Figure B-47 illustrates the approximate location and size of the substation area. The impacts of this substation are also evaluated as a part of the wind component of the Non-Wires In-Area Renewable Generation Alternative, as defined and analyzed in Section E.5. Approval of the SRPL would not result in automatic approval of the Jacumba Substation discussed below, and the project would require applications by SDG&E, and compliance with CEQA and NEPA.

Environmental Setting

The Jacumba Substation (MP I8-35) is underlain by the following geologic units:

- **Quaternary alluvium.** Quaternary alluvium consists of partly dissected, mostly unconsolidated, poorly sorted sand, silt, clay, and gravel located at the margins of canyons and within valley floors. "Younger" alluvium is Holocene (10,000 years ago to Recent) in age and "Older alluvium" is Pleistocene (1.8 million years ago to 10,000 years ago) in age. Fossil localities in older alluvium deposits throughout southern California have yielded terrestrial vertebrates such as mammoths, mastodons, ground sloths, dire wolves, short-faced bears, saber-toothed cats, horses, camels, and bison (Scott, 2006). Younger alluvium is determined to have a low potential for paleontological resources but is often underlain by older alluvium, which is determined to have a high potential for paleontological resources.
- **Alverson Volcanics.** Alverson Volcanics include an upper unit of volcanic flows and a lower unit consisting of a sequence of conglomerates, sandstones, and mudstones interbedded with lava flows. The sedimentary deposits within this geologic unit have yielded fossilized algae, pollen, petrified wood, mollusks, and one occurrence of a vertebrate bone fragment. The Alverson Volcanics are assigned a moderate paleontological resource potential.
- **Metasedimentary rocks.** Metasedimentary rocks in the central part of San Diego County are referred to as Julian Schist, which is composed of quartz-mica schist and quartzite, with minor amounts of marble and amphibolite. These rocks have been intruded and deformed by plutonic rocks associated with the Peninsular Ranges Batholith. The age of these metasedimentary rocks is not definite; however, microfossils indicate that they are much older than Triassic in age. No fossils have been discovered in this unit within San Diego County; however, correlative units in Riverside and Orange County have yielded marine mollusks. Metasedimentary rocks in San Diego County are determined to have a marginal potential for paleontological resources.

Museum paleontological collections records maintained by SDNHM indicate that no previously recorded fossil localities exist within this alternative or a half-mile radius; however, the geologic sediments underlying the project area are determined to have a paleontological resource potential ranging from zero to high.

Environmental Impacts and Mitigation Measures

The potential to discover paleontological resources during construction of the Jacumba Substation ranges from zero to high. The Jacumba Substation, located on and around MP I-8 35 has moderate to low paleontological sensitivity. Paleontologically sensitive areas could be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating and grading. Areas along the substation determined to be paleontologically sensitive based on geologic mapping and museum collection records are shown in Table D.7-26.

Table D.7-26. Paleontological Sensitivity – Jacumba Substation

Mileposts	Rock Units	Sensitivity	Fossil Localities
34.3-34.9	Alverson volcanics	Moderate	—
34.9-35.2	Alluvium	Low	—
35.2-38	Metasedimentary Rocks	Marginal	—

Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources (Class II)

Construction of this substation and associated access roads would require excavation, grading, and vegetation removal in paleontologically sensitive geologic units. Without mitigation, the fossils contained in sensitive geologic units, as well as the paleontological data they could provide if properly salvaged and documented, would be adversely impacted (destroyed), rendering them permanently unavailable for future scientific research.

Mitigation Measure for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of the following mitigation measures would reduce project effects to a level of less than significant (Class II). For the full text of the mitigation measures, please see Appendix 12.

- PAL-1a Inventory and evaluate paleontological resources in the Final APE.**
- PAL-1b Develop Paleontological Monitoring and Treatment Plan.**
- PAL-1c Monitor construction for paleontology.**
- PAL-1d Conduct paleontological data recovery.**
- PAL-1e Train construction personnel.**

D.7.35.5 SCE La Rumorosa Wind Project

Environmental Setting

United States; Paleontology. With regard to paleontological resources, the area in the vicinity of the Jacumba Substation site, from where the La Rumorosa transmission line begins, is underlain by the following geologic units:

- **Quaternary alluvium.** Quaternary alluvium consists of partly dissected, mostly unconsolidated, poorly sorted sand, silt, clay, and gravel located at the margins of canyons and within valley floors. “Younger” alluvium is Holocene (10,000 years ago to Recent) in age and “Older alluvium” is Pleistocene (1.8 million years ago to 10,000 years ago) in age. Fossil localities in older alluvium deposits throughout southern California have yielded terrestrial vertebrates such as mammoths, mastodons, ground sloths, dire wolves, short-faced bears, saber-toothed cats, horses, camels, and bison (Scott, 2006). Younger alluvium is determined to have a low potential for paleontological resources but is often underlain by older alluvium, which is determined to have a high potential for paleontological resources.
- **Alverson Volcanics.** Alverson Volcanics include an upper unit of volcanic flows and a lower unit consisting of a sequence of conglomerates, sandstones, and mudstones interbedded with lava flows. The sedimentary deposits within this geologic unit have yielded fossilized algae, pollen, petrified wood, mollusks, and one occurrence of a vertebrate bone fragment. The Alverson Volcanics are assigned a moderate paleontological resource potential.
- **Metasedimentary rocks.** Metasedimentary rocks in the central part of San Diego County are referred to as Julian Schist, which is composed of quartz-mica schist and quartzite, with minor amounts of marble and amphibolite. These rocks have been intruded and deformed by plutonic rocks associated with the Peninsular Ranges Batholith. The age of these metasedimentary rocks is not definite; however, microfossils indicate that they are much older than Triassic in age. No fossils have been discovered in this unit within San Diego County; however, correlative units in Riverside and Orange County have yielded marine mollusks. Metasedimentary rocks in San Diego County are determined to have a marginal potential for paleontological resources.

Museum paleontological collection records maintained by SDNHM indicate that no previously recorded fossil localities exist within this project or a half-mile radius; however, the geologic sediments underlying the project area are determined to have a paleontological resource potential ranging from low to moderate.

Mexico; Paleontology. With regard to paleontological resources, the area in the vicinity of the RWD site is underlain primarily by igneous and metamorphic rock representative of the following eras:

- **Paleozoic Era.** The Paleozoic era is represented by few sprinklings of metamorphic rock throughout the entire state of Baja California. These rocks are igneous and metamorphic. The two oldest findings have been in the northwest region of Baja California, and correspond to an olistolith located in between Tecate and the Guadalupe Valley.
- **Mesozoic Era.** The most significant event in this era was the development of volcanic-plutonic granite. During this era a large part of the Sierra mountains were formed, along with many metamorphic rocks. Less frequently, sedimentary rocks such as shale and sandstone were found in the regions near to the coast.
- **Cenozoic Era.** The rocks that were formed during this era are found through the state of Baja California and are primarily sedimentary and igneous rocks. This era was relatively calm, punctuated by occasional volcanic eruptions of a mixed composition. During this era, the peninsula moved northward.

Environmental Impacts and Mitigation Measures

Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources (Class II)

United States and Mexico. There is potential that unknown paleontological resources exist in the area that could be adversely affected by ground disturbance associated with construction activities. Any such impact would be considered significant, but would be reduced to a less than significant level (Class II) with implementation of Mitigation Measures PAL-1a through PAL-1e.

Mitigation Measures for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

- PAL-1a** Inventory and evaluate paleontological resources in the Final APE
- PAL-1b** Develop Paleontological Monitoring and Mitigation Plan.
- PAL-1c** Monitor construction for paleontology.
- PAL-1d** Conduct paleontological data recovery.
- PAL-1e** Train construction personnel.

D.7.36 Overall Paleontology Impacts of Proposed Project

The destruction of fossils as a result of human-caused ground disturbance has a significant cumulative impact, as it makes biological records of ancient life permanently unavailable for study by scientists. Implementation of proper mitigation measures can, however, reduce the impacts to paleontological resources to less than significant levels.

Transmission Line Impacts

Construction-related ground disturbances such as the building or improvement of access roads, borehole drilling for new poles and towers, trenching, excavation, grading, and vegetation removal, as well as indirect impacts such as increased human exposure to sensitive paleontological sites would have the potential to impact paleontological resources in those areas determined to be paleontologically sensitive (areas with low, marginal, moderate, high and undetermined sensitivity). Without mitigation, the fossils contained in sensitive geologic units, as well as the paleontological data they could provide if properly salvaged and documented, would be adversely impacted (destroyed), rendering them permanently unavailable for future scientific research.

Substation Impacts

Construction of new substations and associated access roads would require excavation, grading, and vegetation removal in paleontologically sensitive geologic units (areas with low, marginal, moderate, high and undetermined sensitivity) Without mitigation, the fossils contained in sensitive geologic units, as well as the paleontological data they could provide if properly salvaged and documented, would be adversely impacted (destroyed), rendering them permanently unavailable for future scientific research.

Modifications of substations within existing and previously disturbed property would not impact paleontological resources.

Environmental Impacts and Mitigation Measures for Alternatives Along Proposed Project Route – Paleontological Resources

Table D.7-27 lists the impact to paleontological resources identified for the alternatives along the Proposed Project, along with the significance of the impact. Impacts are classified as Class I (significant/adverse, cannot be mitigated to a level that is less than significant), Class II (significant, can be mitigated to a level that is less than significant), Class III (less than significant), or Class IV (beneficial). The following sections provide a detailed discussion of the impacts identified and the locations of those impacts. Detailed maps showing resource potential (paleontological sensitivity) throughout the Proposed Project area are provided in Appendix 9D (Cultural Resources, Paleontological Sensitivity Maps).

Table D.7-27. Impacts Identified – Alternatives – Paleontological Resources

Impact No.	Description	Impact Significance
FTHL Eastern Alternative		
PAL-1	Construction of the project would destroy or disturb significant paleontological resources	Class II
SDG&E West of Dunaway Alternative		
PAL-1	Construction of the project would destroy or disturb significant paleontological resources	Class II
SDG&E West Main Canal–Huff Road Modification Alternative		
PAL-1	Construction of the project would destroy or disturb significant paleontological resources	Class II
Partial Underground 230 kV ABDSP SR78 to S2 Alternative (including San Felipe Substation)		
PAL-1	Construction of the project would destroy or disturb significant paleontological resources	Class II
Overhead 500 kV ABDSP within Existing ROW Alternative		
PAL-1	Construction of the project would destroy or disturb significant paleontological resources	Class II
Santa Ysabel Existing ROW Alternative		
PAL-1	Construction of the project would destroy or disturb significant paleontological resources	Class II
Santa Ysabel Partial Underground Alternative		
PAL-1	Construction of the project would destroy or disturb significant paleontological resources	Class II
Santa Ysabel SR79 All Underground Alternative		
PAL-1	Construction of the project would destroy or disturb significant paleontological resources	Class II
SDG&E Mesa Grande Alternative		
	No impact.	
CNF Existing 69 kV Route Alternative		
	No impact.	
Oak Hollow Road Underground Alternative		
	No impact.	
San Vicente Road Transition Alternative		
	No impact.	
Chuck Wagon Road Transition Alternative		
PAL-1	Construction of the project would destroy or disturb significant paleontological resources	Class II

Table D.7-27. Impacts Identified – Alternatives – Paleontological Resources

Impact No.	Description	Impact Significance
Pomerado Road to Miramar Area North		
PAL-1	Construction of the project would destroy or disturb significant paleontological resources	Class II
Los Peñasquitos Canyon Preserve–Mercy Road Alternative		
PAL-1	Construction of the project would destroy or disturb significant paleontological resources	Class II
Black Mountain to Park Village Road Underground Alternative		
PAL-1	Construction of the project would destroy or disturb significant paleontological resources	Class II
Coastal Link System Upgrade Alternative		
PAL-1	Construction of the project would destroy or disturb significant paleontological resources	Class II
Top of the World Substation Alternative		
	No impact.	

D.7.37 Imperial Valley Link Alternatives Impacts and Mitigation Measures

There are three alternatives analyzed in the Imperial Valley Link, the FTHL Eastern Alternative, the SDG&E West of Dunaway Alternative, and the SDG&E West Main Canal–Huff Road Modification Alternative.

The following geologic units underlie the Imperial Valley Link Alternatives.

- Quaternary alluvium.** Quaternary alluvium consists of partly dissected, mostly unconsolidated, poorly sorted sand, silt, clay, and gravel located at the margins of canyons and within valley floors. “Younger” alluvium is Holocene (10,000 years ago to Recent) in age and “Older alluvium” is Pleistocene (1.8 million years ago to 10,000 years ago) in age. Fossil localities in older alluvium deposits throughout southern California have yielded terrestrial vertebrates such as mammoths, mastodons, ground sloths, dire wolves, short-faced bears, saber-toothed cats, horses, camels, and bison. Younger alluvium is determined to have a low potential for paleontological resources but is often underlain by older alluvium, which is determined to have a high potential for paleontological resources.
- Cahuilla Lake Beds.** The Cahuilla Lake Beds are generally composed of thinly bedded, poorly sorted, fine-grained, light grayish–brown fluvial sediments intervening with a lacustrine sequence of tan and gray fossiliferous clay, silt, sand, and gravel. These sediments are widespread and were deposited during the last seven high stands of the ancient Lake Cahuilla, believed to have existed intermittently from 270 years ago to at least 6,000 years ago. Fossil remains discovered in Cahuilla Lake Beds include fresh-water diatoms, sponges, terrestrial plants, mollusks, fish, ostracodes, and small terrestrial vertebrates. Cahuilla Lake Beds are determined to have a high potential for paleontological resources.
- The Palm Spring Group.** The Palm Spring Group includes the Diablo, Olla, and Hueso Formations, the Canebroke Conglomerate, and the Tapiado Claystone. These nonmarine units generally consist of interbedded conglomerates and arkosic sandstones and red to gray siltstones and claystones of late Pliocene to early Pleistocene age (0.9 to 3.2 million years ago). The Tapiado Claystone consists of olive-green, blue-grey, and grey claystone and limited interbeds of siltstones, sandstones, limestone, and tuff of late Pliocene to early Pleistocene age. It has been proven to be fossiliferous yielding numerous vertebrate specimens as well as fresh-water ostracodes and gastropods and is determined to have a high potential for paleontological resources. The Hueso Formation consists of tan and buff micaceous sandstone and silty sandstone, brown and buff micaceous siltstone, grey and buff very

coarse-grained sandstone, and rare interbeds of olive-green, grey, and tan claystone. This formation is late Pliocene to early Pleistocene in age and has yielded the majority of the terrestrial vertebrate assemblage recovered from the Borrego Badlands region. Fossils uncovered include mostly mammals, but also reptiles and birds. This formation is determined to have a high potential for paleontological resources. The Olla Formation is laterally equivalent to the Diablo Formation and is composed of a coarse-grained basin-margin sedimentary facies. The Diablo Formation consists of 1 to 2 kilometer thick fluvial and deltaic sandstones and mudstones of late Pliocene to early Pleistocene age. Both the Olla and the Diablo Formations are fossiliferous and are determined to have a high potential for paleontological resources. The Canebrake Conglomerate is composed of gray conglomerates and granitic fanglomerates and is late Pliocene to early Pleistocene age (1 to 2 million years ago). This unit has not yet yielded fossil resources; however, its depositional history and gradational association with fossil producing units suggests that it has a moderate potential for paleontological resources.

D.7.37.1 FTHL Eastern Alternative

This alternative was developed by the EIR/EIS team as a way to avoid almost 2 miles within the Flat-Tailed Horned Lizard (FTHL) Management Area. Instead the 500 kV overhead route would follow section lines within agricultural lands and would be approximately 1.5 miles shorter than the proposed route.

Environmental Setting

The FTHL Eastern Alternative is entirely underlain by Cahuilla Lake Beds. Museum paleontological collections records maintained by SDNHM indicate that no previously recorded fossil localities exist within this alternative or a half-mile radius; however, the geologic sediments underlying the project area are determined to have a high paleontological resource potential.

Environmental Impacts and Mitigation Measures

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction of the FTHL Eastern Alternative is high. Areas determined to have a high paleontological sensitivity are located from MP 0 to 4.6 and would be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, and grading. Areas along this alternative route determined to be paleontologically sensitive based on geologic mapping and museum collection records are shown in Table D.7-23.

Mitigation Measures for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of the following mitigation measures would reduce effects of this alternative to a less than significant level (Class II). For the full text of the mitigation measures, please see Appendix 12.

- PAL-1a** Inventory and evaluate paleontological resources in the Final APE.
- PAL-1b** Develop Paleontological Monitoring and Treatment Plan.
- PAL-1c** Monitor construction for paleontology.
- PAL-1d** Conduct paleontological data recovery.
- PAL-1e** Train construction personnel.

D.7.37.2 SDG&E West of Dunaway Alternative

This 6.1-mile alternative was suggested by SDG&E and approved by the proposed land use developer in the area. It would be an overhead 500 kV line, and would be 2.2 miles longer than the Proposed Project.

Environmental Setting

The SDG&E West of Dunaway Alternative is underlain by the following geologic units: (1) Cahuilla Lake Beds, (2) Quaternary alluvium, and (3) Palm Spring Group. Museum paleontological collections records maintained by SDNHM indicate that no previously recorded fossil localities exist within this alternative or a half-mile radius; however, all three of the geologic units underlying the project area are determined to have a high paleontological resource potential.

Environmental Impacts and Mitigation Measures

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction of the SDG&E West of Dunaway Alternative is high. Areas determined to have a high paleontological sensitivity are located from MP 0 to 1.1, MP 1.5 to 1.7, and MP 2.5 to 6.2. Areas determined to have a low paleontological sensitivity are located from MP 1.1 to 1.5 and MP 1.7 to 2.5. These areas would be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, and grading. Areas along the Alternative route determined to be paleontologically sensitive based on geologic mapping and museum collection records are shown in Table D.7-28.

Table D.7-28. Paleontological Sensitivity – SDG&E West of Dunaway Alternative

Mileposts	Rock Units	Sensitivity	Fossil Localities
0–1.1	Cahuilla Lake Beds	High	—
1.1–1.5	Alluvium	Low	—
1.5–1.7	Palm Spring Group	High	—
1.7–2.5	Alluvium	Low	—
2.5–6.2	Cahuilla Lake Beds	High	—

Mitigation Measure for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of the following mitigation measures would reduce project effects to a level of less than significant (Class II).

- PAL-1a** Inventory and evaluate paleontological resources in the Final APE.
- PAL-1b** Develop Paleontological Monitoring and Treatment Plan.
- PAL-1c** Monitor construction for paleontology.
- PAL-1d** Conduct paleontological data recovery.
- PAL-1e** Train construction personnel.

D.7.37.3 SDG&E West Main Canal–Huff Road Modification Alternative

This 4.9-mile alternative would follow the IID Westside Main Canal to the east-northeast, and then turn north on Huff Road. Existing IID 92 kV transmission lines are located on the west side of Huff Road along most of this segment; however, where the IID line would turn northwest, this alternative would continue straight along Huff Road to reconnect with the Proposed Project 0.2 miles south of Wheeler Road (MP 15.9). The lengths of the alternative and the proposed routes would be essentially the same; however, this route would avoid direct effects to the Bullfrog Farms and also to the Raceway development.

Environmental Setting

The SDG&E West Main Canal–Huff Road Modification Alternative is entirely underlain by Cahuilla Lake Beds. Museum paleontological collections records maintained by SDNHM indicate that no previously recorded fossil localities exist within this alternative or a half-mile radius; however, the geologic sediments underlying the project area are determined to have a high paleontological resource potential.

Environmental Impacts and Mitigation Measures

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction of the SDG&E West Main Canal–Huff Road Modification Alternative is high. Areas determined to have a high paleontological resource sensitivity are located from MP 0 to 4.9 and would be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, and grading.

Mitigation Measure for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of the following mitigation measures would reduce project effects to a level of less than significant (Class II).

- PAL-1a Inventory and evaluate paleontological resources in the Final APE.**
- PAL-1b Develop Paleontological Monitoring and Treatment Plan.**
- PAL-1c Monitor construction for paleontology.**
- PAL-1d Conduct paleontological data recovery.**
- PAL-1e Train construction personnel.**

D.7.38 Anza-Borrego Link Alternatives Impacts and Mitigation Measures

Two alternatives are considered in the Anza-Borrego Link: the Partial Underground 230 kV ABDSP SR78 to S2 Alternative (also considered with an All Underground Option) and the Overhead 500 kV ABDSP within Existing ROW Alternative.

The following geologic units underlie the Anza-Borrego Link Alternatives.

- **Quaternary alluvium.** Quaternary alluvium consists of partly dissected, mostly unconsolidated, poorly sorted sand, silt, clay, and gravel located at the margins of canyons and within valley floors. “Younger” alluvium is Holocene (10,000 years ago to Recent) in age and “Older alluvium” is Pleistocene (1.8 million years ago to 10,000 years ago) in age. Fossil localities in older alluvium deposits throughout southern California have yielded terrestrial vertebrates such as mammoths, mastodons, ground sloths, dire wolves, short-faced bears, saber-toothed cats, horses, camels, and bison. Younger alluvium is determined to have a low potential for paleontological resources but is often underlain by older alluvium, which is determined to have a high potential for paleontological resources.
- **The Canebrake Conglomerate.** The Canebrake Conglomerate is composed of gray conglomerates and granitic fanglomerates and is late Pliocene to early Pleistocene age (1 to 2 million years ago). This unit has not yet yielded fossil resources; however, its depositional history and gradational association with fossil producing units suggests that it has a moderate potential for paleontological resources.
- **Ocotillo Formation.** The Ocotillo Formation consists of gray granitic-pebble conglomerate of early Pleistocene age. This formation has proven to yield numerous vertebrate fossils including mammoths, saber-toothed cats, ground sloths, short-faced bears, horses, camels, birds, reptiles, and fish and is determined to have a high potential for paleontological resources.
- **The Palm Spring Group.** The Palm Spring Group includes the Diablo, Olla, and Hueso Formations, the Canebrake Conglomerate, and the Tapiado Claystone. These nonmarine units generally consist of interbedded conglomerates and arkosic sandstones and red to gray siltstones and claystones of late Pliocene to early Pleistocene age (0.9 to 3.2 million years ago). The Tapiado Claystone consists of olive-green, blue-grey, and grey claystone and limited interbeds of siltstones, sandstones, limestone, and tuff of late Pliocene to early Pleistocene age. It has been proven to be fossiliferous yielding numerous vertebrate specimens as well as fresh-water ostracodes and gastropods and is determined to have a high potential for paleontological resources. The Hueso Formation consists of tan and buff micaceous sandstone and silty sandstone, brown and buff micaceous siltstone, grey and buff very coarse-grained sandstone, and rare interbeds of olive-green, grey, and tan claystone. This formation is late Pliocene to early Pleistocene in age and has yielded the majority of the terrestrial vertebrate assemblage recovered from the Fish Creek–Vallecito Creek region. Fossils uncovered include mostly mammals, but also reptiles and birds. This formation is determined to have a high potential for paleontological resources. The Olla Formation is laterally equivalent to the Diablo Formation and is composed of a coarse-grained basin-margin sedimentary facies. The Diablo Formation consists of 1 to 2 kilometer thick fluvial and deltaic sandstones and mudstones of late Pliocene to early Pleistocene age. Both the Olla and the Diablo Formations are fossiliferous and are determined to have a high potential for paleontological resources. The Canebrake Conglomerate is composed of gray conglomerates and granitic fanglomerates and is late Pliocene to early Pleistocene age (1 to 2 million years ago). This unit has not yet yielded fossil resources; however, its depositional history and gradational association with fossil producing units suggests that it has a moderate potential for paleontological resources.
- **Granitic rocks.** Granitic rocks are composed of quartz diorite (tonalite) with minor amounts of granodiorite and granite and are Cretaceous in age. Since granitic rocks are plutonic in origin, this geologic unit is determined to have no potential for paleontological resources.
- **Hybrid gneiss.** This rock unit is composed of gneiss, granodiorite and quartz diorite of Cretaceous age. Hybrid gneiss has no potential for paleontological resources.

D.7.38.1 Partial Underground 230 kV ABDSP SR78 to S2 Alternative

This alternative was developed by the EIR/EIS team and would include installation of a double-circuit bundled 230 kV line (as opposed to an overhead 500 kV with the Proposed Project) that would be installed underground in SR78 through ABDSP. The proposed Central East Substation would not be constructed with this alternative and approximately 2 miles of transmission line (one mile of 500 kV and one mile of 230 kV) to and from that substation would be eliminated. Instead a new 500 kV/230 kV substation would be constructed adjacent to the existing IID San Felipe Substation to accommodate the new transmission line.

There is also an All Underground Option considered for this alternative, in which the entire length of the 230 kV transmission line between the San Felipe Substation and the connection to the Proposed Project would be installed underground in Highways SR78 and S2.

Environmental Setting

The Partial Underground 230 kV ABDSP SR78 to S2 Alternative is underlain by the following geologic units: (1) Alluvium, (2) Ocotillo Formation, (3) Granitic Rocks, and (4) Hybrid gneiss. Museum paleontological collections records maintained by SDNHM and DSRC indicate that no previously recorded fossil localities exist within this alternative or a half-mile radius; however, the geologic sediments underlying the project area are determined to have a paleontological resources potential ranging from zero to high.

Environmental Impacts and Mitigation Measures

Construction Impacts

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction of the Partial Underground 230 kV ABDSP SR78 to S2 Alternative and San Felipe 230/500 kV Substation ranges from zero to high. Areas determined to have a low to high (increasing with depth) paleontological resource sensitivity are located from MP 0 (San Felipe Substation) to 14, MP 14.2 to 22.5, MP 24.6 to 24.7, MP 25.7 to 30, MP 30.6 to 30.8, and MP 34.5 to 35.4. Paleontologically sensitive areas would be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, and grading. Areas along this alternative route determined to be paleontologically sensitive based on geologic

Table D.7-29. Paleontological Sensitivity – 230 kV ABDSP SR78 to S2 Partial Underground Alternative (Underground Portion)

Mileposts	Rock Units	Sensitivity	Fossil Localities
0–3.4	Alluvium	Low to High	—
3.4–3.6	Ocotillo Formation	High	—
3.6–14	Alluvium	Low to High	—
14–14.2	Granitic Rocks	Zero	—
14.2–22.5	Alluvium	Low to High	—
22.5–24.6	Hybrid Gneiss	Zero	—
24.6–24.7	Alluvium	Low to High	—
24.7–25.7	Hybrid Gneiss	Zero	—
25.7–30	Alluvium	Low to High	—
30–30.6	Hybrid Gneiss	Zero	—
30.6–30.8	Alluvium	Low to High	—
30.8–33.9	Hybrid Gneiss	Zero	—
33.9–34.5	Granitic Rocks	Zero	—
34.5–35.4	Alluvium	Low to High	—
35.4–38.2	Granitic Rocks	Zero	—

mapping and museum collection records are shown in Table D.7-29.

Mitigation Measure for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of the following mitigation measures would reduce project effects to a level of less than significant (Class II). For the full text of the mitigation measures, please see Appendix 12.

- PAL-1a Inventory and evaluate paleontological resources in the Final APE.**
- PAL-1b Develop Paleontological Monitoring and Treatment Plan.**
- PAL-1c Monitor construction for paleontology.**
- PAL-1d Conduct paleontological data recovery.**
- PAL-1e Train construction personnel.**

Partial Underground 230 kV ABDSP SR78 to S2 Alternative: All Underground Option

Environmental Setting

The Partial Underground 230 kV ABDSP SR78 to S2 Alternative: All Underground Option is underlain by the following three geologic units: (1) Alluvium, (2) Hybrid gneiss, and (3) Granitic rocks. Museum paleontological collections records maintained by SDNHM and DSRC indicate that no previously recorded fossil localities exist within this alternative option; however, the geologic sediments underlying the project area are determined to have a paleontological resources potential ranging from zero to high.

Environmental Impacts and Mitigation Measures

Construction Impacts

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction of the Partial Underground 230 kV ABDSP SR78 to S2 Alternative: All Underground Option ranges from zero to high. Areas determined to have paleontological resource sensitivity are located from MP 0 to 3.2, MP 4.1 to 5.1 and MP 5.3 to 7.1. Paleontologically sensitive areas would be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, and grading. Areas along the alternative option determined to be paleontologically sensitive based on published geologic mapping are shown in Table D.7-30.

Mileposts	Rock Units	Sensitivity	Fossil Localities
0-3.2	Alluvium	Low to High	—
3.2-4.1	Hybrid Gneiss	Zero	—
4.1-5.1	Alluvium	Low to High	—
5.1-5.3	Hybrid Gneiss	Zero	—
5.3-7.1	Alluvium	Low to High	—
7.1-9.3	Granitic Rocks	Zero	—

Mitigation Measure for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of the following mitigation measures would reduce project effects to a level of less than significant (Class II).

- PAL-1a Inventory and evaluate paleontological resources in the Final APE.**
- PAL-1b Develop Paleontological Monitoring and Treatment Plan.**
- PAL-1c Monitor construction for paleontology.**
- PAL-1d Conduct paleontological data recovery.**
- PAL-1e Train construction personnel.**

D.7.38.2 Overhead 500 kV ABDSP within Existing ROW Alternative

The alternative would follow the same route as the proposed route, except for in the Grapevine Canyon area in the Angelina Springs Cultural District where the alternative would remain within the existing SDG&E 69 kV ROW/easement and towers would not be located on State-designated Wilderness. Undergrounding of the existing 69 kV and 92 kV lines would not occur with this alternative; however, the lines would be underbuilt on Delta lattice towers.

The *East of Tamarisk Grove Campground 150-Foot Option* was suggested by SDG&E in which the alternative would follow the Proposed Project route in the 150-foot proposed alignment, and not the existing ROW, between the eastern Park boundary (MP 60.9) to Tamarisk Grove Campground (MP 74.8) near the SR78/Highway S3 intersection. Similar to the Proposed Project described in Section B.2.2, SDG&E would underbuild and underground the existing 92 kV and 69 kV lines.

Environmental Setting

The Overhead 500 kV ABDSP within Existing ROW Alternative is underlain by the following two geologic units: (1) Alluvium, and (2) Hybrid gneiss. Museum paleontological collections records maintained by SDNHM and DSRC indicate that no previously recorded fossil localities exist within this alternative or a half-mile radius; however, the geologic sediments underlying the project area are determined to have a paleontological resources potential ranging from zero to high.

Environmental Impacts and Mitigation Measures

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction of the Overhead 500 kV ABDSP within Existing ROW Alternative ranges from zero to high. Areas determined to have a low to high (increasing with depth) paleontological resource sensitivity are located from MP 0 to 24.7 and MP 24.9 to 25.5. Paleontologically sensitive areas would be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, and grading. Areas along the Alternative route determined to be paleontologically sensitive based on mapping and museum collection records are shown in Table D.7-31.

Mileposts	Rock Units	Sensitivity	Fossil Localities
0–24.7	Alluvium	Low to High	—
24.7–24.9	Hybrid Gneiss	Zero	—
24.9–25.5	Alluvium	Low to High	—
25.5–29.2	Hybrid Gneiss	Zero	—

Mitigation Measure for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of the following mitigation measures would reduce project effects to a level of less than significant (Class II).

- PAL-1a** Inventory and evaluate paleontological resources in the Final APE.
- PAL-1b** Develop Paleontological Monitoring and Treatment Plan.
- PAL-1c** Monitor construction for paleontology.
- PAL-1d** Conduct paleontological data recovery.
- PAL-1e** Train construction personnel.

D.7.39 Central Link Alternatives Impacts and Mitigation Measures

Four Central Link Alternatives are considered in this section: the Santa Ysabel Existing ROW Alternative, the Santa Ysabel Partial Underground Alternative, the Santa Ysabel SR79 All Underground Alternative, and the Mesa Grande Alternative.

The following geologic units underlie the Central Link Alternatives.

- **Quaternary alluvium.** Quaternary alluvium consists of partly dissected, mostly unconsolidated, poorly sorted sand, silt, clay, and gravel located at the margins of canyons and within valley floors. “Younger” alluvium is Holocene (10,000 years ago to Recent) in age and “Older alluvium” is Pleistocene (1.8 million years ago to 10,000 years ago) in age. Fossil localities in older alluvium deposits throughout southern California have yielded terrestrial vertebrates such as mammoths, mastodons, ground sloths, dire wolves, short-faced bears, saber-toothed cats, horses, camels, and bison. Younger alluvium is determined to have a low potential for paleontological resources but is often underlain by older alluvium, which is determined to have a high potential for paleontological resources.
- **Granitic rocks.** Granitic rocks are composed of quartz diorite (tonalite) with minor amounts of granodiorite and granite and are Cretaceous in age. Since granitic rocks are plutonic in origin, this geologic unit is determined to have no potential for paleontological resources.
- **Gabbroic rocks.** Gabbroic rocks in this region of San Diego County include the San Marcos and Cuyamaca gabbros, as well as unnamed bodies. They are composed of mostly gabbros with proportions of norite and diorite. Since granitic rocks are plutonic in origin, this geologic unit is determined to have no potential for paleontological resources.
- **Hybrid gneiss.** This rock unit is composed of gneiss, granodiorite and quartz diorite of Cretaceous age. Hybrid gneiss has no potential for paleontological resources.

D.7.39.1 Santa Ysabel Existing ROW Alternative

This alternative would follow an existing 69 kV transmission line ROW on the west side of SR79 in the northern half and east of SR79, along the toe of the hill slope in the southern portion of the alternative. This route would pass east of the existing Santa Ysabel Substation and continue to follow the existing 69 kV line south of SR78 until it rejoins the proposed corridor.

Environmental Setting

The Santa Ysabel Existing ROW Alternative is underlain by the following geologic units: (1) Alluvium, (2) Granitic Rocks, (3) Gabbroic rocks, and (4) Hybrid gneiss. Museum paleontological collections records maintained by SDNHM indicate that no previously recorded fossil localities exist within this alternative or a half-mile radius; however, the geologic sediments partially underlying the project area are determined to have a paleontological resources potential ranging from zero to high.

Environmental Impacts and Mitigation Measures

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction of the Santa Ysabel Existing ROW Alternative ranges from zero to high. Areas determined to have paleontological resource sensitivity are located from MP 0 to 0.8 and MP 1.3 to 1.6. Paleontologically sensitive areas would be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, and grading. Areas along the Alternative route determined to be paleontologically sensitive based on geologic mapping and museum collection records are shown in Table D.7-32.

Table D.7-32. Paleontological Sensitivity – Santa Ysabel Existing ROW Alternative

Mileposts	Rock Units	Sensitivity	Fossil Localities
0-0.1	Alluvium	Low	—
0-0.1	Granitic Rocks	Zero	—
0.1-0.8	Alluvium	Low	—
0.8-1.3	Hybrid Gneiss	Zero	—
1.3-1.6	Alluvium	Low	—
1.6-1.8	Hybrid Gneiss	Zero	—
1.8-2.4	Gabbroic Rocks	Zero	—
2.4-8.3	Hybrid Gneiss	Zero	—
8.3-8.5	Gabbroic Rocks	Zero	—
8.5-9	Hybrid Gneiss	Zero	—

Mitigation Measure for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of the following mitigation measures would reduce project effects to a level of less than significant (Class II). For the full text of the mitigation measures, please see Appendix 12.

- PAL-1a Inventory and evaluate paleontological resources in the Final APE.**
- PAL-1b Develop Paleontological Monitoring and Treatment Plan.**
- PAL-1c Monitor construction for paleontology.**
- PAL-1d Conduct paleontological data recovery.**
- PAL-1e Train construction personnel.**

D.7.39.2 Santa Ysabel Partial Underground Alternative

This 230 kV alternative would begin at MP 105.5 where the proposed route would join Mesa Grande Road at the base of the hills at the western side of the Santa Ysabel Valley. The alternative would transition underground at the southern side of Mesa Grande Road and would travel underground in Mesa Grande Road, SR79 and then, south of SR78, following property lines for approximately one mile to rejoin the proposed route at approximately MP 109.5 where it would transition overhead. The route would be 0.7 miles longer than the proposed route.

Environmental Setting

The Santa Ysabel Partial Underground Alternative is underlain by the following geologic units: (1) Alluvium, (2) Gabbroic rocks, and (3) Hybrid gneiss. Museum paleontological collections records maintained by SDNHM indicate that no previously recorded fossil localities exist within this alternative or a half-mile radius; however, the geologic sediments partially underlying the project area are determined to have a paleontological resources potential ranging from zero to high.

Environmental Impacts and Mitigation Measures

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction of the Santa Ysabel Partial Underground Alternative ranges from zero to high. Areas determined to have a low paleontological resource sensitivity are located from MP 0 to 0.8. Areas with no paleontological resource potential are located from MP 0.8 to 5.1. Paleontologically sensitive areas would be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, and grading. Areas along the Alternative route determined to be paleontologically sensitive based on geologic mapping and museum collection records are shown in Table D.7-33.

Mileposts	Rock Units	Sensitivity	Fossil Localities
0–0.8	Alluvium	Low	—
0.8–4.4	Hybrid Gneiss	Zero	—
4.4–4.5	Gabbroic Rocks	Zero	—
4.5–5.1	Hybrid Gneiss	Zero	—

Mitigation Measure for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of the following mitigation measures would reduce project effects to a level of less than significant (Class II).

- PAL-1a** Inventory and evaluate paleontological resources in the Final APE.
- PAL-1b** Develop Paleontological Monitoring and Treatment Plan.
- PAL-1c** Monitor construction for paleontology.
- PAL-1d** Conduct paleontological data recovery.
- PAL-1e** Train construction personnel.

D.7.39.3 Santa Ysabel SR79 All Underground Alternative

This alternative would diverge from the Proposed Project at MP 100, just south of the crossing of SR78. It would start as an overhead 230 kV line, which would then transition to an underground route on private property, west of SR79. It would be underground along existing dirt roads and within hay fields and SR79 through the Santa Ysabel Valley, rejoining the proposed route south of SR78.

Environmental Setting

The Santa Ysabel SR79 All Underground Alternative is underlain by the following four geologic units: (1) Alluvium, (2) Granitic rocks, (3) Gabbroic rocks, and (4) Hybrid gneiss. Museum paleontological collections records maintained by SDNHM indicate that no previously recorded fossil localities exist within this alternative or a half-mile radius; however, the geologic sediments partially underlying the project area are determined to have a paleontological resources potential ranging from zero to high.

Environmental Impacts and Mitigation Measures

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction of the Santa Ysabel SR79 All Underground Alternative ranges from zero to high. Areas determined to have paleontological resource sensitivity are located from MP 0 to 1.2. Paleontologically sensitive areas would be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, and grading. Areas along the alternative route determined to be paleontologically sensitive based on geologic mapping and museum collection records are shown in Table D.7-34.

Table D.7-34. Paleontological Sensitivity – Santa Ysabel SR79 All Underground Alternative

Mileposts	Rock Units	Sensitivity	Fossil Localities
0-1.2	Alluvium	Low	—
1.2-5.2	Hybrid Gneiss	None	—

Mitigation Measure for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of the following mitigation measures would reduce project effects to a level of less than significant (Class II).

- PAL-1a** Inventory and evaluate paleontological resources in the Final APE.
- PAL-1b** Develop Paleontological Monitoring and Treatment Plan.
- PAL-1c** Monitor construction for paleontology.
- PAL-1d** Conduct paleontological data recovery.
- PAL-1e** Train construction personnel.

D.7.39.4 SDG&E Mesa Grande Alternative

This alternative to a one-mile portion of the proposed overhead 230 kV route was proposed by the landowner and also by SDG&E in order to reduce the visibility of the overhead line west of Mesa Grande Road. It would diverge from the proposed route at MP 102.2, and rejoin it before MP 104.

Environmental Setting

The SDG&E Mesa Grande Alternative is entirely underlain by hybrid gneiss, which is determined to have no paleontological resource sensitivity.

Environmental Impacts and Mitigation Measures

There is no potential to discover paleontological resources during construction of the SDG&E Mesa Grande Alternative because it is underlain by granitic and metamorphic rocks that are determined to have no potential for paleontological resources. Therefore, no impacts would be expected to occur.

D.7.40 Inland Valley Link Alternatives Impacts and Mitigation Measures

Four alternatives are considered within the Inland Valley Link: the CNF Existing 69 kV Route Alternative, the Oak Hollow Road Underground Alternative, the San Vicente Road Transition Station Alternative, and the Chuck Wagon Road Alternative.

The following geologic units underlie the Inland Valley Link Alternatives.

- **Quaternary alluvium.** Quaternary alluvium consists of partly dissected, mostly unconsolidated, poorly sorted sand, silt, clay, and gravel located at the margins of canyons and within valley floors. “Younger” alluvium is Holocene (10,000 years ago to Recent) in age and “Older alluvium” is Pleistocene (1.8 million years ago to 10,000 years ago) in age. Fossil localities in older alluvium deposits throughout southern California have yielded terrestrial vertebrates such as mammoths, mastodons, ground sloths, dire wolves, short-faced bears, saber-toothed cats, horses, camels, and bison. Younger alluvium is determined to have a low potential for paleontological resources but is often underlain by older alluvium, which is determined to have a high potential for paleontological resources.
- **Granitic rocks.** Granitic rocks are composed of quartz diorite (tonalite) with minor amounts of granodiorite and granite and are Cretaceous in age. Since granitic rocks are plutonic in origin, this geologic unit is determined to have no potential for paleontological resources.
- **Hybrid gneiss.** This rock unit is composed of gneiss, granodiorite and quartz diorite of Cretaceous age. Hybrid gneiss has no potential for paleontological resources.

D.7.40.1 CNF Existing 69 kV Route Alternative

This 0.5-mile alternative segment would start at MP 111.3 where the proposed 230 kV and existing 69 kV transmission lines would be routed west for 0.5 miles and then south for approximately 0.5 miles to avoid Cleveland National Forest (CNF). The alternative would remain in the existing 69 kV ROW heading southwest through Cleveland National Forest to rejoin the proposed route at MP 111.8. This alternative would be 0.5 miles shorter than the Proposed Project and the existing 69 kV transmission line would not need to be relocated out of the existing ROW.

Environmental Setting

The CNF Existing 69 kV Route Alternative is entirely underlain by hybrid gneiss, which is determined to have no paleontological resource sensitivity.

Environmental Impacts and Mitigation Measures

There is no potential to discover paleontological resources during the construction of the CNF Existing 69 kV Route Alternative because it is underlain by metamorphic rocks that are determined to have no potential for paleontological resources. Therefore, no impacts would be expected to occur.

D.7.40.2 Oak Hollow Road Underground Alternative

The purpose of this alternative would be to extend the proposed underground to the east of Mount Gower County Open Space Preserve so the line would be underground through the valley area. The alternative would require 0.6 miles of additional underground 230 kV transmission line, and the existing 69 kV would remain overhead.

Environmental Setting

The Oak Hollow Road Underground Alternative is entirely underlain by granitic rocks, which are determined to have no paleontological resource sensitivity.

Environmental Impacts and Mitigation Measures

There is no potential to discover paleontological resources during the construction of the Oak Hollow Road Underground Alternative because it is underlain by granitic rocks that are determined to have no potential for paleontological resources. Therefore, no impacts would be expected to occur.

D.7.40.3 San Vicente Road Transition Alternative

The alternative would move the transition structure from its proposed location along San Vicente Road (MP 121.9) approximately 0.3 miles west to MP 122.2. The underground line would follow San Vicente Road within a 60-foot ROW for an additional 2,100 feet and would cross under an existing Creelman–Los Coches 69 kV transmission line, before it would turn north and would travel through open space for approximately 200 feet to the overhead transition point.

Environmental Setting

The West of San Vicente Road Underground Alternative is entirely underlain by granitic rocks, which are determined to have no paleontological resource sensitivity.

Environmental Impacts and Mitigation Measures

There is no potential to discover paleontological resources during the construction of the San Vicente Road Transition Alternative because it is underlain by granitic rocks that are determined to have no potential for paleontological resources. Therefore, no impacts would be expected to occur.

D.7.40.4 Chuck Wagon Road Alternative

This alternative would diverge from the proposed route in San Vicente Boulevard, turning south in Chuck Wagon Road approximately 0.2 miles east of the proposed transition point at MP 121.7. It would continue south for approximately 1.6 miles before passing under the existing Creelman–Los Coches 69 kV transmission line ROW. At this point, the route would transition to overhead and turn west for approximately 1.2 miles to rejoin the proposed route at MP 125.6.

Environmental Setting

The Chuck Wagon Road Alternative is underlain by the following geologic units: (1) Younger Alluvium, (2) Granitic rocks, and (3) Tonalite. Museum paleontological collections records maintained by SDNHM indicate that no previously recorded fossil localities exist within this alternative or a half-mile radius; however, the geologic sediments partially underlying the project area are determined to have a paleontological resources potential ranging from zero to low.

Environmental Impacts and Mitigation Measures

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction of the Chuck Wagon Road Alternative ranges from zero to low. Areas determined to have low paleontological resource sensitivity are located from MP 2.7 to 2.8. Areas with no paleontological resource potential are located from MP 0 to 2.7 and MP 2.8 to 3.2. Paleontologically sensitive areas would be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, and grading. Areas along the Alternative route determined to be paleontologically sensitive based on geologic mapping and museum collection records are shown in Table D.7-35.

Table D.7-35. Paleontological Sensitivity – Chuck Wagon Road Alternative

Mileposts	Rock Units	Sensitivity	Fossil Localities
0–2.2	Granitic Rocks	Zero	—
2.2–2.7	Granitic Rocks (Tonalite)	Zero	—
2.7–2.8	Younger Alluvium	Low	—
2.8–3.2	Granitic rocks	Zero	—

Mitigation Measure for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of the following mitigation measures would reduce project effects to a level of less than significant (Class II). For the full text of the mitigation measures, please see Appendix 12.

- PAL-1a Inventory and evaluate paleontological resources in the Final APE.**
- PAL-1b Develop Paleontological Monitoring and Treatment Plan.**
- PAL-1c Monitor construction for paleontology.**
- PAL-1d Conduct paleontological data recovery.**
- PAL-1e Train construction personnel.**

D.7.41 Coastal Link Alternatives Impacts and Mitigation Measures

Four alternatives are considered within the Coastal Link: the Pomerado Road to Miramar Area North Alternative, the Los Peñasquitos Canyon Preserve and Mercy Road Alternative, the Black Mountain to Park Village Road Underground Alternative, and the Coastal Link System Upgrade Alternative.

The following geologic units underlie the Coastal Link Alternatives.

- **Quaternary alluvium and slope wash.** Quaternary alluvium consists of partly dissected, mostly unconsolidated, poorly sorted sand, silt, clay, and gravel located at the margins of canyons and within valley floors. “Younger” alluvium is Holocene (10,000 years ago to Recent) in age and “Older allu-

vium” is Pleistocene (1.8 million years ago to 10,000 years ago) in age. Fossil localities in older alluvium deposits throughout southern California have yielded terrestrial vertebrates such as mammoths, mastodons, ground sloths, dire wolves, short-faced bears, saber-toothed cats, horses, camels, and bison. Younger alluvium is determined to have a low potential for paleontological resources but is often underlain by older alluvium, which is determined to have a high potential for paleontological resources.

- **Bay Point Formation.** The late Pleistocene Bay Point Formation generally consists of near shore marine sedimentary deposits of light gray to pale brown, partially cemented, mostly coarse-grained cross-bedded to massive sandstone. It is approximately 220,000 years old and has an undetermined total thickness. Paleontological resources commonly discovered in this geologic unit are marine invertebrates, with occasional and rare recovery of marine vertebrate fossils. The coarse grains and concentrated fossil shell beds that characterize this unit are indicative of a high-energy depositional environment. Nonmarine sandstone is also found interbedded within this formation and is unfossiliferous; however, the overall geologic unit is determined to have a high potential for paleontological resources.
- **Lindavista Formation.** The Lindavista Formation is composed of reddish-brown interbedded sandstone and conglomerate with a hematite cement. It is late Pliocene to early Pleistocene in age and consists of both near-shore marine and non-marine facies. The Lindavista Formation has yielded sparse mostly marine invertebrate specimens, and remains of sharks and baleen whales. The Lindavista Formation is determined to have a moderate potential for paleontological resources.
- **Pomerado Conglomerate.** The Pomerado Conglomerate is composed of a thin lower conglomerate member overlain by a sandstone member (referred to as the Miramar Sandstone Member) overlain by an upper conglomerate member. The unit is middle Eocene in age (41 to 42 million years ago) and overlies the Mission Valley Formation. Fossils recovered from this formation include marine mollusks and terrestrial mammals. The Pomerado Conglomerate is determined to have a high potential for paleontological resources.
- **Mission Valley Formation.** The Mission Valley Formation is a light olive gray, fine- to medium-grained marine sandstone that is middle Eocene in age (42 to 43 million years ago). This formation contains interbedded brackish water claystone that comprises approximately 20 percent of the formation and has yielded scientifically significant marine invertebrates and both marine and terrestrial vertebrates. The Mission Valley Formation is determined to have a high potential for paleontological resources.
- **Stadium Conglomerate.** The Stadium Conglomerate is composed of a massive cobble conglomerate within a dark yellowish brown coarse-grained sandstone matrix of terrestrial origin. The sandstone portion of this rock unit comprises approximately 20 percent of the total formation. The Stadium Conglomerate is divided into an upper member and a lower member and is middle to late Eocene in age (42 to 44 million years ago). Both members of the Stadium Conglomerate have yielded fossil resources. The lower member has yielded sparse but scientifically significant fossilized specimens of opossums, insectivores, primates, rodents, carnivores, rhinoceros, artiodactyls, as well as foraminifers and marine mollusks. The upper member has yielded a scientifically important assemblage terrestrial mammals. The upper member of the Stadium Conglomerate is determined to have a high potential for paleontological resources in its western extent and a moderate potential in its easternmost outcrops. The lower member of the Stadium Conglomerate is determined to have a high potential for paleontological resources.

- **The Friars Formation.** The Friars Formation is composed predominantly of yellowish-gray non-marine and lagoonal sandstone and claystone with fluvial cobble conglomerate lenses outcropping in the easternmost exposures. It is middle to late Eocene in age (44 million years ago), and is representative of a large-scale marine regression. The Friars Formation has yielded significant remains of terrestrial mammals, marine microfossils and macrofossils, and fossil plants and is determined to have a high potential for paleontological resources.
- **Scripps Formation.** The Scripps Formation is composed of pale yellowish-brown medium-grained sandstone with interbedded cobble-conglomerates and is middle Eocene in age (47 million years ago). It has proven to yield significant fossilized specimens of marine invertebrates as well as terrestrial vertebrates. The Scripps Formation is determined to have a high potential for paleontological resources.
- **Ardath Shale.** The Ardath Shale is composed of weakly fissile, olive-gray shale. It was deposited in a quiet water environment on the outer shelf during the early middle Eocene, approximately 47 to 48 million years ago. It has yielded a diverse and well-preserved collection of marine invertebrates and vertebrates. The Ardath Shale is determined to have a high potential for paleontological resources.
- **Delmar Formation.** The Delmar Formation is composed of greenish silty mudstones, brown silts-tones, greenish sandstones, and well-cemented oyster shell beds. It was deposited in a lagoonal and estuarine setting and is late early to early middle Eocene in age, approximately 49 to 50 million years ago. The Delmar Formation has yielded important terrestrial vertebrate fossils and is determined to have a high potential for paleontological resources.
- **Santiago Peak Volcanics.** The Santiago Peak Volcanics include mildly metamorphosed volcanic, volcanoclastic, and sedimentary rocks aging from late Triassic to mid-Cretaceous in age. This rock unit occurs in the subsurface throughout much of the continental margin of southern California and crops out from the southeastern edge of the Los Angeles basin southward to Mexico. Metasedimentary units within this formation have proven to yield important remains of marine macroinvertebrates and are determined to have a high potential for paleontological resources. The volcanic and metavolcanics are determined to have a marginal potential for paleontological resources.

Museum paleontological collections records maintained by the SDNHM were searched and 65 previously recorded fossil localities were discovered within a half-mile radius of the Coastal Link Alternatives (Table D.7-36).

Table D.7-36. Previously Recorded Paleontological Localities – Coastal Link Alternatives

Geologic Formation	Locality Number	Taxa
Ardath Shale	SDNHM 4203-04, 4206, 4209, 4215, 4223, 4221, 4225, 4227, 4228, 4230	Plants, invertebrates, trace fossils
Scripps/Ardath	SDNHM 4202, 4208, 4211, 4212, 4226, 4241, 4244	Mammals, plants, invertebrates
Scripps Formation	SDNHM 4207, 4214, 4216-17, 4229, 4231, 4234, 5531-35, 5590-92	Fish, Plants, invertebrates
Friars Formation	SDNHM 3254, 3410-11, 3413, 3425, 3494, 3496, 3498, 3615-17, 3620-21, 3624, 3681-82, 3727, 3733, 4251-52, 4265, 4455, 4526, 5538-39, 5837-39	Mammals, birds, invertebrates, fish, plants, reptiles
Pomerado Conglomerate	SDNHM 3493, 4041-42	Plants, mammals, invertebrates, fish, reptiles
Lindavista Formation	SDNHM 5436	Invertebrates

D.7.41.1 Pomerado Road to Miramar Area North

This alternative would be underground with the exception of the east and west ends where the line is overhead within existing SDG&E transmission ROWs. This alternative would exit the Sycamore Substation at MCAS Miramar overhead westerly within an existing ROW toward Pomerado Road. The line would transition to underground beneath Pomerado Road in the vicinity of Legacy Road, then continuing underground in Miramar Road, Kearny Villa Road, Black Mountain Road, Activity Road, Camino Ruiz, Miralani Drive, Arjons Drive, Trade Place, Camino Santa Fe, Carroll Road/Carroll Canyon Road and Scranton Road. At the western end, the line would transition to overhead and would be located within the existing 230 kV ROW heading northward into the Peñasquitos Substation.

Environmental Setting

The Pomerado Road to Miramar Area North Alternative is underlain by the following geologic units: (1) Quaternary alluvium and slope wash, (2) Bay Point Formation, (3) Lindavista Formation, (4) Pomerado Conglomerate, (5) Mission Valley Formation, (6) Stadium Conglomerate, (7) Scripps Formation, and (8) Ardath Shale. Museum paleontological collections records maintained by SDNHM indicate that no previously recorded fossil localities exist within this alternative or a half-mile radius; however, the geologic sediments partially underlying the project area are determined to have a paleontological resources potential ranging from low to high.

Environmental Impacts and Mitigation Measures

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction of the proposed Pomerado Road to Miramar Area North Alternative ranges from low to high. Areas determined to have a high paleontological sensitivity are located from MP 0 to 2.2, MP 2.3 to 3.5, MP 3.6 to 3.7, MP 3.9 to 4.2, MP 4.3 to 4.4, MP 4.7 to 4.8, MP 5.1 to 5.3, MP 6.9 to 7, MP 7.1 to 7.2, MP 7.5 to 8.2, MP 8.6 to 9.6, MP 9.9 to 10, MP 10.2 to 10.4, MP 10.5 to 10.8, MP 10.9 to 11.1, MP 11.6 to 11.8, MP 12 to 12.3, and MP 12.4 to 12.6. Areas determined to have a paleontological sensitivity ranging from low to high (increasing with depth) are located from MP 2.2 to 2.3, MP 3.5 to 3.6, MP 3.7 to 3.9, MP 4.8 to 5, MP 9.6 to 9.9, MP 10 to 10.2, MP 10.4 to 10.5, MP 10.8 to 10.9, and MP 11.8 to 12. Areas determined to have moderate paleontological resource sensitivity are located from MP 4.2 to 4.3, MP 4.4 to 4.7, MP 5 to 5.1, MP 5.3 to 6.9, MP 7 to 7.1, MP 7.2 to 7.5, MP 8.2 to 8.6, MP 11.1 to 11.6, MP 12.3 to 12.4, and MP 12.6 to 12.8. Paleontologically sensitive areas would be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating, and grading. Areas along this alternative route determined to be paleontologically sensitive based on geologic mapping and museum collection records are shown in Table D.7-37.

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D.7 CULTURAL AND PALEONTOLOGICAL RESOURCES

Table D.7-37. Paleontological Sensitivity – Pomerado Road to Miramar Area North Alternative

Mileposts	Rock Units	Sensitivity	Fossil Localities
0-0.4	Stadium Conglomerate	High	SDNHM 5538-39
0.4-0.5	Mission Valley Formation	High	—
0.5-0.8	Pomerado Conglomerate	High	SDNHM 3493, 3498
0.8-1.1	Mission Valley Formation	High	—
1.1-2.2	Stadium Conglomerate	High	SDNHM 5837
2.2-2.3	Alluvium and Slopewash	Low	—
2.3-3.5	Stadium Conglomerate	High	—
3.5-3.6	Alluvium and Slopewash	Low	—
3.6-3.7	Stadium Conglomerate	High	—
3.7-3.9	Alluvium and Slopewash	Low	—
3.9-4.2	Stadium Conglomerate	High	—
4.2-4.3	Lindavista Formation	Moderate	—
4.3-4.4	Stadium Conglomerate	High	—
4.4-4.7	Lindavista Formation	Moderate	—
4.7-4.8	Stadium Conglomerate	High	—
4.8-5.0	Alluvium and Slopewash	Low	—
5.0-5.1	Lindavista Formation	Moderate	—
5.1-5.3	Stadium Conglomerate	High	—
5.3-6.9	Lindavista Formation	Moderate	—
6.9-7.0	Stadium Conglomerate	High	—
7.0-7.1	Lindavista Formation	Moderate	—
7.1-7.2	Stadium Conglomerate	High	—
7.2-7.5	Lindavista Formation	Moderate	—
7.5-7.9	Stadium Conglomerate	High	—
7.9-8.0	Scripps Formation, upper tongue	High	—
8.0-8.1	Stadium Conglomerate	High	—
8.1-8.2	Scripps Formation, upper tongue	High	—
8.2-8.6	Lindavista Formation	Moderate	—
8.6-8.7	Stadium Conglomerate	High	—
8.7-9.0	Scripps Formation	High	—
9.0-9.5	Stadium Conglomerate	High	—
9.5-9.6	Scripps Formation	High	—
9.6-9.9	Alluvium and Slopewash	Low	—
9.9-10.0	Bay Point Formation	High	—
10.0-10.2	Alluvium and Slopewash	Low	—
10.2-10.4	Bay Point Formation	High	—
10.4-10.5	Alluvium and Slopewash	Low	—
10.5-10.7	Bay Point Formation	High	SDNHM 5590-92
10.7-10.8	Scripps Formation	High	—
10.8-10.9	Alluvium and Slopewash	Low	—
10.9-11.1	Scripps Formation	High	—
11.1-11.6	Lindavista Formation	Moderate	SDNHM 4241-44, 5762
11.6-11.7	Scripps Formation	High	—
11.7-11.8	Ardath Shale	High	—
11.8-12	Alluvium and Slopewash	Low	—
12-12.1	Bay Point Formation	High	—
12.1-12.2	Ardath Shale	High	—
12.2-12.3	Scripps Formation	High	SDNHM 4203-04, 4206, 4209, 4215, 4223, 4221, 4225, 4227, 4228, 4230
12.3-12.4	Lindavista Formation	Moderate	SDNHM 4202-09, 4211-18, 4222-23, 4225-30 5531-35
12.4-12.5	Scripps Formation	High	—
12.5-12.6	Ardath Shale	High	—
12.6-12.8	Lindavista Formation	Moderate	—

Mitigation Measure for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of the following mitigation measures would reduce project effects to a level of less than significant (Class II). For the full text of the mitigation measures, please see Appendix 12.

- PAL-1a Inventory and evaluate paleontological resources in the Final APE.**
- PAL-1b Develop Paleontological Monitoring and Treatment Plan.**
- PAL-1c Monitor construction for paleontology.**
- PAL-1d Conduct paleontological data recovery.**
- PAL-1e Train construction personnel.**

D.7.41.2 Los Peñasquitos Canyon Preserve–Mercy Road Alternative

This alternative route would bypass the Chicarita Substation and connect to existing ROW along Scripps Poway Parkway in the vicinity of Ivy Hill Drive. The line would then transition to underground and follow Scripps Poway Parkway/Mercy Road, Mercy Road, Black Mountain Road, and finally Park Village Drive, where the alternative route would rejoin the proposed route.

Environmental Setting

The Los Peñasquitos Canyon Preserve–Mercy Road Alternative is underlain by the following geologic units: (1) Alluvium and slopewash, (2) Lindavista Formation, (3) Delmar and Friars Formations, and (4) Santiago Peak Volcanics. Museum paleontological collections records maintained by the SDNHM were searched and 12 previously recorded fossil localities were discovered within a half-mile radius of the Los Peñasquitos Canyon Preserve–Mercy Road Alternative.

Environmental Impacts and Mitigation Measures

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction of the proposed Los Peñasquitos Canyon Preserve–Mercy Road Alternative ranges from low to high. Areas determined to have a high paleontological sensitivity are located from MP 0 to 0.3, MP 2.7 to 2.9 and MP 3.4 to 3.5. Areas determined to have a moderate to high paleontological sensitivity are located from MP 3.5 to 3.7. Areas determined to have marginal to high paleontological sensitivity are located from MP 0.3 to 2.1 and MP 2.9 to 3.4. Areas determined to have paleontological sensitivity ranging from low to high (increasing with depth) are located from MP 2.1 to 2.7. Areas determined to be paleontologically sensitive would be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating and grading. Areas along the Alternative route determined to be paleontologically sensitive based on geologic mapping and museum collection records are shown in Table D.7-38.

Table D.7-38. Paleontological Sensitivity – Los Peñasquitos Canyon–Mercy Road Alternative

Mileposts	Rock Units	Sensitivity	Fossil Localities
0-0.3	Stadium Conglomerate	High	SSSDNHM 3615-17, 3620-21, 3624, 3733, 4251-52, 4265
0.3-2.1	Santiago Peak Volcanics	Marginal to High*	SDNHM 3494, 3496
2.1-2.7	Alluvium and Slopewash	Low	—
2.7-2.9	Delmar and Friars Formations	High	—
2.9-3.4	Santiago Peak Volcanics	Marginal to High*	—
3.4-3.5	Delmar and Friars Formations	High	—
3.5-3.7	Lindavista Formation	Moderate	—

*Metasedimentary units within this geologic unit are determined to have a high paleontological sensitivity.

Mitigation Measure for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of the following mitigation measures would reduce project effects to a level of less than significant (Class II).

- PAL-1a Inventory and evaluate paleontological resources in the Final APE.**
- PAL-1b Develop Paleontological Monitoring and Treatment Plan.**
- PAL-1c Monitor construction for paleontology.**
- PAL-1d Conduct paleontological data recovery.**
- PAL-1e Train construction personnel.**

D.7.41.3 Black Mountain to Park Village Road Underground Alternative

This alternative would deviate from the Proposed Project alignment where the route approaches Black Mountain Road. Under this alternative, the line would remain underground but would be located underneath Black Mountain Road and would turn west onto Park Village Drive, following the project alignment into the Peñasquitos Substation via the Los Peñasquitos Canyon Preserve.

Environmental Setting

The Black Mountain to Park Village Road Underground Alternative is underlain by the following geologic units: (1) Lindavista Formation, (2) Delmar and Friars Formations, (3) Mission Valley Formation, (4) Stadium Conglomerate, and (5) Santiago Peak Volcanics. Museum paleontological collections records maintained by the SDNHM were searched and 5 previously recorded fossil localities were discovered within a half-mile radius of the Black Mountain to Park Village Road Underground Alternative.

Environmental Impacts and Mitigation Measures

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction of the proposed Black Mountain to Park Village Road Underground Alternative ranges from marginal to high. Areas determined to have a paleontological sensitivity are located from MP 0 to 1.1. Paleontologically sensitive areas would be impacted by construction-related ground disturbances such as the building or improvement of access roads, borehole drilling, trenching, excavating and grading. Areas along the Alternative route determined to be paleontologically sensitive based on geologic mapping and museum collection records are shown in Table D.7-39.

Table D.7-39. Paleontological Sensitivity – Black Mountain to Park Village Road Underground Alternative

Mileposts	Rock Units	Sensitivity	Fossil Localities
0–0.1	Mission Valley Formation	High	SDNHM 3681-82, 3727, 4455, 4526
0.1–0.2	Stadium Conglomerate	High	—
0.2–0.3	Santiago Peak Volcanics	Marginal to High*	—
0.3–0.4	Delmar and Friars Formations	High	—
0.4–0.8	Santiago Peak Volcanics	Marginal to High*	—
0.8–0.9	Delmar and Friars Formations	High	—
0.9–1.1	Lindavista Formation	Moderate	—

*Metasedimentary units within this geologic unit are determined to have a high paleontological sensitivity.

Mitigation Measure for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of the following mitigation measures would reduce project effects to a level of less than significant (Class II).

PAL-1a Inventory and evaluate paleontological resources in the Final APE.

PAL-1b Develop Paleontological Monitoring and Treatment Plan.

PAL-1c Monitor construction for paleontology.

PAL-1d Conduct paleontological data recovery.

PAL-1e Train construction personnel.

D.7.41.4 Coastal Link System Upgrade Alternative

The Coastal Link System Upgrade Alternative would be a system modification to install a third 230/69 kV transformer at the existing Sycamore Canyon Substation. Expansion of the Sycamore Canyon Substation would occur within the existing substation easement. Additionally, SDG&E would either (a) install a new 230/138 kV transformer at the existing Encina Substation or (b) upgrade (reconductor) the existing Sycamore Canyon-Chicarita 138 kV circuit using 34 existing wood frame structures.

Environmental Setting

The Coastal Link System Upgrade Alternative is located in the Coastal Link of the proposed SRPL project route. The geologic setting of each of the links is described in Section D.7.25 For this analysis, a museum records search of the alternative project route was performed by the San Diego Natural History Museum. No fossil localities were previously documented within a one-half mile radius of the centerline of this alternative. The paleontological resource potential of the underlying geologic units is determined based on published geologic maps and San Diego County guidelines (Demere and Walsh, 2003). The following geologic units variously underlie the proposed Coastal Link System Upgrade, and are listed in order from youngest to oldest.

- **Quaternary alluvium and slope wash.** Quaternary alluvium consists of partly dissected, mostly unconsolidated, poorly sorted sand, silt, clay, and gravel located at the margins of canyons and within valley floors. “Younger” alluvium is Holocene (10,000 years ago to Recent) in age and “Older alluvium” is Pleistocene (1.8 million years ago to 10,000 years ago) in age. Fossil localities in older alluvium deposits throughout southern California have yielded terrestrial vertebrates such as mammoths, masto-

dons, ground sloths, dire wolves, short-faced bears, saber-toothed cats, horses, camels, and bison. Younger alluvium and slope wash is determined to have a low potential for paleontological resources but is often underlain by older alluvium, which is determined to have a high potential for paleontological resources.

- **The Pomerado Conglomerate.** The Pomerado Conglomerate is composed of a thin lower conglomerate member overlain by a sandstone member (referred to as the Miramar Sandstone Member) overlain by an upper conglomerate member. The unit is middle Eocene in age (41 to 42 million years old) and overlies the Mission Valley Formation. Fossils recovered from this formation include marine mollusks and terrestrial mammals. The Pomerado Conglomerate is determined to have a high potential for paleontological resources.
- **Mission Valley Formation.** The Mission Valley Formation is a light olive gray, fine to medium grained marine sandstone that is middle Eocene in age (42 to 43 million years old). This formation contains interbedded brackish water claystone that constitutes approximately 20 percent of the formation (Kennedy, 1975) and has yielded scientifically significant marine invertebrates and both marine and terrestrial vertebrates. The Mission Valley Formation is determined to have a high potential for paleontological resources.
- **Stadium Conglomerate.** The Stadium Conglomerate is composed of a massive cobble conglomerate within a dark yellowish brown coarse-grained sandstone matrix of terrestrial origin. The sandstone portion of this rock unit constitutes approximately 20 percent of the total formation. The Stadium Conglomerate is divided into an upper member and a lower member and is middle to late Eocene in age (42 to 44 million years old). Both members of the Stadium Conglomerate have yielded fossil resources. The lower member has yielded sparse but scientifically significant fossilized specimens of opossums, insectivores, primates, rodents, carnivores, rhinoceros, artiodactyls, as well as foraminifers and marine mollusks. The upper member has yielded a scientifically important assemblage of terrestrial mammals. The upper member of the Stadium Conglomerate is determined to have a high potential for paleontological resources in its western extent and a moderate potential in its easternmost outcrops. The lower member of the Stadium Conglomerate is determined to have a high potential for paleontological resources.
- **Friars Formation.** The Friars Formation is composed predominantly of yellowish-gray nonmarine and lagoonal sandstone and claystone with fluvial cobble conglomerate lenses outcropping in the easternmost exposures. It is middle to late Eocene in age (44 million years ago), and is representative of a large-scale marine regression. The Friars Formation has yielded significant remains of terrestrial mammals, marine microfossils and macrofossils, and fossil plants and is determined to have a high potential for paleontological resources.
- **Lusardi Formation.** The Lusardi Formation is mostly composed of a reddish-brown, poorly sorted, pebble to boulder conglomerate and contains lenses of arkosic sandstone. It is late Cretaceous in age (approximately 80 million years old) and is believed to have been deposited by alluvial fans along the western margin of the coastal mountain range. No vertebrate fossil remains have been discovered in this formation; however, its depositional setting suggests that it may have unproven fossil potential. The Lusardi Formation is determined to have a moderate potential for paleontological resources.
- **Santiago Peak Volcanics and Metavolcanics.** The Santiago Peak Volcanics include mildly metamorphosed volcanic, volcanoclastic, and sedimentary rocks aging from late Triassic to mid-Cretaceous in age. This rock unit occurs in the subsurface throughout much of the continental margin of southern California and crops out from the southeastern edge of the Los Angeles basin southward to Mexico.

Metasedimentary units within this formation have proven to yield important remains of marine macro-invertebrates and are determined to have a high potential for paleontological resources. The volcanic and metavolcanics are determined to have a marginal potential for paleontological resources.

- **Granitic Rocks.** Granitic rocks are composed of quartz diorite (tonalite) with minor amounts of granodiorite and granite and are Cretaceous in age. Since granitic rocks are plutonic in origin, this geologic unit is determined to have no potential for paleontological resources.

Environmental Impacts and Mitigation Measures

Impact conclusions for Coastal Link System Upgrade are based on implementation of the same mitigation measures that would apply to the Proposed Project, as follows.

The Coastal Link Upgrade Alternative would be a system modification to existing circuits and modification of existing substations. No ground disturbance is anticipated for this project. However, if the project would require ground disturbing activities such as the building or improvement of access roads, borehole drilling for new poles and towers, trenching, excavation, grading, and vegetation removal then it would have the potential to impact paleontological resources in those areas determined to be paleontologically sensitive. Without mitigation, the fossils contained in sensitive geologic units, as well as the paleontological data they could provide if properly salvaged and documented, would be adversely impacted (destroyed), rendering them permanently unavailable for future scientific research.

Impact PAL-1: Construction of the transmission line would destroy or disturb significant paleontological resources (Class II)

The paleontological resource potential of geologic units underlying the proposed Coastal Link System Upgrade project route ranges from zero to high (Table D.7-40). Areas determined to have paleontological sensitivity are located from MP 0 to 0.3, 0.7 to 1.2, and 1.3 to 10.5.

Mitigation Measure for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

Implementation of the following mitigation measures would reduce project effects to a level of less than significant (Class II). For the full text of the mitigation measures, please see Appendix 12.

Table D.7-40. Paleontological Sensitivity – Coastal Link System Upgrade

Mileposts	Rock Units	Sensitivity
MP 0 to 0.3	Alluvium and Slopewash	Low
MP 0.3 to 0.7	Granitic rocks	Zero
MP 0.7 to 1.2	Alluvium and Slopewash	Low
MP 1.2 to 1.3	Granitic rocks	Zero
MP 1.3 to 1.5	Lusardi Formation	Moderate
MP 1.5 to 1.9	Alluvium and Slopewash	Low
MP 1.9 to 2.2	Friars Formation	High
MP 2.2 to 2.3	Stadium Conglomerate	High
MP 2.3 to 2.5	Pomerado Conglomerate	High
MP 2.5 to 2.8	Stadium Conglomerate	High
MP 2.8 to 2.9	Pomerado Conglomerate	High
MP 2.9 to 3.4	Stadium Conglomerate	High
MP 3.4 to 3.6	Alluvium and Slopewash	Low
MP 3.6 to 4.5	Stadium Conglomerate	High
MP 4.5 to 4.6	Pomerado Conglomerate	High
MP 4.6 to 4.7	Stadium Conglomerate	High
MP 4.7 to 4.8	Pomerado Conglomerate	High
MP 4.8 to 7.2	Stadium Conglomerate	High
MP 7.2 to 7.3	Mission Valley Formation	High
MP 7.3 to 7.5	Stadium Conglomerate	High
MP 7.5 to 7.6	Mission Valley Formation	High
MP 7.6 to 7.8	Stadium Conglomerate	High
MP 7.8 to 8.0	Mission Valley Formation	High
MP 8.0 to 9.2	Stadium Conglomerate	High
MP 9.2 to 10.1	Santiago Peak Volcanics	Marginal
MP 10.1 to 10.3	Stadium Conglomerate	High
MP 10.3 to 10.5	Mission Valley Formation	High

- PAL-1a Inventory and evaluate paleontological resource in the Final APE.**
- PAL-1b Develop Paleontological Monitoring and Mitigation Plan.**
- PAL-1c Monitor construction for paleontology.**
- PAL-1d Conduct paleontological data recovery.**
- PAL-1e Train construction personnel.**

D.7.42 Top of the World Substation Alternative Impacts and Mitigation Measures

The substation site would be located approximately one mile west of the proposed Central East Substation on Vista Irrigation District land. The transmission line routes into the substation would follow the Proposed Project route to approximately MP 92.7, then the alternative 500 kV route would turn west for 1.1 miles to enter the alternative site. Exiting the substation, the line would travel southwest for 400 feet and then west and north-northwest to rejoin the Proposed Project around MP 95.

Environmental Setting

The Top of the World Substation Alternative is entirely underlain by granitic rocks, which is determined to have no paleontological resource sensitivity.

Environmental Impacts and Mitigation Measures

There is no potential to discover paleontological resources during the construction and operation of the Top of the World Substation Alternative because it is underlain by granitic rocks that are determined to have no paleontological resource potential.

D.7.43 Mitigation Monitoring, Compliance, and Reporting Table – Cultural and Paleontological Resources

Table D.7-41 presents the mitigation monitoring, compliance and reporting table for Cultural and Paleontological Resources. Mitigation measures not originating in this section do not appear in the table; they appear only in the mitigation monitoring, compliance and reporting table for the section in which they were originally recommended. For a summary of all impacts and their respective mitigation measures, please see the Impact Summary Tables at the end of the Executive Summary.

Sections D.7.15, D.7.16, D.7.34, and D.7.35 recommend mitigation measures for the projects described under Future Transmission System Expansion and Connected Actions & Indirect Effects. Those mitigation measures are presented for consideration by the agencies that will issue permits for construction of the connected and future projects. Because those projects would not be constructed as a result of approval of the Sunrise Powerlink Project, the recommended mitigation measures are not included in this mitigation monitoring table.

Table D.7-41. Mitigation Monitoring Program – Cultural and Paleontological Resources

MITIGATION MEASURE	<p>C-1a: Inventory and evaluate cultural resources in Final Area of Potential Effect (APE). Prior to construction and all other surface disturbing activities, the Applicant shall have conducted and submitted for approval by the BLM and CPUC an inventory of cultural resources within the project's final Areas of Potential Effect. This survey shall supplement inventories conducted for the EIS/EIR and shall satisfy Section 106 requirements for inventory of historic properties within all Areas of Potential Effect. The nature and extent of this inventory shall be determined by the BLM and CPUC in consultation with the appropriate State Historic Preservation Officer (SHPO) and other land-managing agencies (e.g., Anza-Borrego Desert State Park, U.S. Forest Service, Bureau of Indian Affairs, etc.) and shall be based upon project engineering specifications and in accordance with the Secretary of the Interior's Standards and Guidelines (Secretary's Standards) (36 CFR 61).</p> <p>A report documenting results of this inventory shall be filed with appropriate State repositories and local governments. As part of the inventory report, the Applicant shall evaluate the significance of all potentially affected cultural resources on the basis of surface observations. Evaluations shall be conducted by professionals meeting the Secretary's Standards and in accordance with those Standards to provide recommendations with regard to their eligibility for the NRHP, CRHR, or local registers. Preliminary determinations of NRHP eligibility will be made by the BLM, in consultation with the CPUC and other appropriate agencies and local governments, and the SHPO.</p> <p>As part of the inventory, the Applicant shall conduct field surveys of sufficient nature and extent to identify cultural resources that would be affected by tower pad construction, reconductoring activities, trenching for underground transmission lines, access road installation, and transmission line construction and operation. At a minimum, field surveys shall be conducted along newly proposed access roads, new construction yards, new tower sites, and any other projected areas of potential ground disturbance outside of the previously surveyed potential impact areas. Site-specific field surveys also shall be undertaken at all projected areas of impact within the previously surveyed corridor that coincide with previously recorded resource locations. The selected right-of-way and tower locations shall be staked prior to the cultural resource field surveys.</p>
Location	All locations within potential ground-disturbing activities.
Monitoring / Reporting Action	BLM, CPUC, ABDSP, and USFS, where applicable, to review inventory findings and eligibility evaluation.
Effectiveness Criteria	Identification and preliminary evaluation of all resources within areas of potential ground disturbance.
Responsible Agency	BLM and CPUC; ABDSP and USFS where applicable.
Timing	Prior to construction.

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MITIGATION MEASURE	<p>C-1b: Avoid and protect potentially significant resources. Where operationally feasible, regardless of cost, potentially register-eligible resources shall be protected from direct project impacts by project redesign; complete avoidance of impacts to such resources shall be the preferred protection strategy. On the basis of preliminary National Register of Historic Places (NRHP) eligibility assessments (Mitigation Measure C-1a) or previous determinations of resource eligibility, the BLM and CPUC, in consultation with the SHPO, may require the relocation of the line, ancillary facilities, or temporary facilities or work areas, if any, where relocation would avoid or reduce damage to cultural resource values.</p> <p>Where the BLM and CPUC decide that potentially NRHP- and/or CRHR-eligible cultural resources cannot be protected from direct impacts by project redesign, the Applicant shall undertake additional studies to evaluate the resources' NRHP- and/or CRHR-eligibility and to recommend further mitigative treatment. The nature and extent of this evaluation shall be determined by the BLM in consultation with the CPUC and the SHPO and shall be based upon final project engineering specifications. Evaluations shall be based on surface remains, subsurface testing, archival and ethnographic resources, and in the framework of the historic context and important research questions of the project area. Results of those evaluation studies and recommendations for mitigation of project effects shall be incorporated into a Historic Properties Treatment Plan consistent with Mitigation Measure C-1c (Develop and implement Historic Properties Treatment Plan).</p> <p>All potentially NRHP- and/or CRHR-eligible resources (as determined by the BLM and CPUC, in consultation with the SHPO) that will not be affected by direct impacts, but are within 50 feet of direct impact areas shall be designated as Environmentally Sensitive Areas (ESAs) to ensure that construction activities do not encroach on site peripheries. Protective fencing, or other markers (after approval by CPUC/BLM), shall be erected and maintained to protect ESAs from inadvertent trespass for the duration of construction in the vicinity. ESAs shall not be identified specifically as cultural resources. A monitoring program shall be developed as part of a Historic Properties Treatment Plan and implemented by the Applicant to ensure the effectiveness of ESA protection (as detailed in Mitigation Measure C-1e).</p>
Location	All locations within ground-disturbing activities with potentially NRHP-eligible resources.
Monitoring / Reporting Action	<ul style="list-style-type: none"> • BLM and CPUC review final construction drawings and rationale for necessity of impacting potentially NRHP-eligible resources. • BLM and CPUC review NRHP-eligibility recommendations. BLM forwards NRHP-eligibility determinations to appropriate SHPO. • BLM and CPUC verify location and protective measures of all ESAs.
Effectiveness Criteria	Known archaeological resources are not adversely affected by construction activity.
Responsible Agency	BLM and CPUC.
Timing	Prior to and during construction.
MITIGATION MEASURE	<p>C-1c: Develop and implement Historic Properties Treatment Plan. Upon approval of the inventory report and the National Register of Historic Places (NRHP)-eligibility and CRHR-eligibility evaluations consistent with Mitigation Measures C-1a (Inventory and evaluate cultural resources in Final APE) and C-1b (Avoid and protect potentially significant resources), the Applicant shall prepare and submit for approval a Historic Properties Treatment Plan (HPTP) for register-eligible cultural resources to avoid or mitigate identified potential impacts. Treatment of cultural resources shall follow the procedures established by the Advisory Council on Historic Preservation for compliance with Section 106 of the National Historic Preservation Act and other appropriate State and local regulations, as explicated in Section D.7.8. Avoidance, recordation, and data recovery will be used as mitigation alternatives; avoidance and protection shall be the preferred strategy. The HPTP shall be submitted to the BLM and CPUC for review and approval.</p> <p>As part of the HPTP, the Applicant shall prepare a research design and a scope of work for evaluation of cultural resources and for data recovery or additional treatment of NRHP- and/or CRHR-eligible sites that cannot be avoided. Data recovery on most resources would consist of sample excavation and/or surface artifact collection, and site documentation. A possible exception would be a site where burials, cremations, or sacred features are discovered that cannot be avoided (see Mitigation Measure C-2).</p>

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	<p>The HPTP shall define and map all known NRHP- and/or CRHR-eligible properties in or within 50 feet of all project APEs and shall identify the cultural values that contribute to their NRHP- and/or CRHR-eligibility. The HPTP shall also detail how NRHP- and/or CRHR-eligible properties shall be marked and protected as ESAs (in accordance with Mitigation Measure C-1b) during construction.</p> <p>The HPTP shall also define any additional areas that are considered to be of high-sensitivity for discovery of buried register-eligible cultural resources, including burials, cremations, or sacred features. This sensitivity evaluation shall be conducted by an archaeologist who meets the Secretary's Standards and who takes into account geomorphic setting and surrounding distributions of archaeological deposits. The HPTP shall detail provisions for monitoring construction in these high-sensitivity areas for proper implementation of Mitigation Measures C-1e and C-3a. It shall also detail procedures for halting construction, making appropriate notifications to agencies, officials, and Native Americans, and assessing register-eligibility in the event that unknown cultural resources are discovered during construction. For all unanticipated cultural resource discoveries, the HPTP shall detail the methods, the consultation procedures, and the timelines for assessing register-eligibility, formulating a mitigation plan, and implementing treatment. Mitigation and treatment plans for unanticipated discoveries shall be approved by the BLM and CPUC, other appropriate agencies and local governments, appropriate Native Americans, and the SHPO prior to implementation.</p> <p>The HPTP shall also identify all historic built environment resources (structures, roads, dams, etc.) that would be affected indirectly by visual intrusion of the Proposed Project on qualities that contribute to their register eligibility. Although the current analysis has assessed the potential for indirect visual impacts to previously recorded historic built environment resources within 0.5 miles of the Proposed Project and Alternatives, the HPTP shall include an identification effort focused on identifying any such resources that may not have been previously recorded. The scope of this identification effort shall be in accordance with 36 CFR 800, which requires a reasonable effort to identify potentially NRHP-eligible resources that would be adversely affected by indirect project impacts. The HPTP shall also detail the treatment for each affected resource that will minimize those long-term visual impacts (as detailed in Mitigation Measure C-6a).</p> <p>The HPTP shall include provisions for analysis of data in a regional context, reporting of results within one year of completion of field studies, curation of artifacts (except from private land) and data (maps, field notes, archival materials, recordings, reports, photographs, and analysts' data) at a facility that is approved by BLM, and dissemination of reports to local and State repositories, libraries, and interested professionals. The BLM will retain ownership of artifacts collected from BLM managed lands. The Applicant shall attempt to gain permission for artifacts from privately held land to be curated with the other project collections. The HPTP shall specify that archaeologists and other discipline specialists conducting the studies meet the Secretary's Standards (per 36 CFR 61).</p>
Location	All locations within ground-disturbing activities with potentially NRHP-eligible resources.
Monitoring / Reporting Action	<ul style="list-style-type: none"> • BLM and CPUC review and approve HPTP. • BLM conduct required Native American consultation. • BLM draft and negotiate appropriate agreement document for appropriate signatures (BLM, SHPOs, Advisory Council on Historic Preservation, Native American Tribes).
Effectiveness Criteria	Known archaeological resources are not adversely affected by construction activity.
Responsible Agency	BLM and CPUC.
Timing	Prior to construction.
MITIGATION MEASURE	C-1d: Conduct data recovery to reduce adverse effects. If NRHP- and/or CRHR-eligible resources, as determined by the BLM and SHPO, cannot be protected from direct impacts of the Proposed Project, data-recovery investigations shall be conducted by the Applicant to reduce adverse effects to the characteristics of each property that contribute to its NRHP- and/or CRHR-eligibility. For sites eligible under Criterion (d), significant data would be recovered through excavation and analysis. For properties eligible under Criteria (a), (b), or (c), data recovery may include historical documentation, photography, collection of oral histories, architectural or engineering documentation, preparation of a scholarly work, or some form of public awareness or

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	<p>interpretation. Data gathered during the evaluation phase studies and the research design element of the Historic Properties Treatment Plan (HPTP) shall guide plans and data thresholds for data recovery; treatment shall be based on the resource's research potential beyond that realized during resource recordation and evaluation studies. If data recovery is necessary, sampling for data-recovery excavations shall follow standard statistical sampling methods, but sampling shall be confined, as much as possible, to the direct impact area. Data-recovery methods, sample sizes, and procedures shall be detailed in the HPTP consistent with Mitigation Measure C-1c (Develop and implement Historic Properties Treatment Plan) and implemented by the Applicant only after approval by the BLM and CPUC. Following any field investigations required for data recovery, the Applicant shall document the field studies and findings, including an assessment of whether adequate data were recovered to reduce adverse project effects, in a brief field closure report. The field closure report shall be submitted to the BLM and CPUC for their review and approval, as well as to appropriate State repositories, local governments, and other appropriate agencies. Construction work within 100 feet of cultural resources that require data-recovery fieldwork shall not begin until authorized by the BLM or CPUC, as appropriate, to ensure that impacts to known significant archaeological deposits are adequately mitigated.</p>
Location	Within 100 ft of resources identified in HPTP that require data-recovery mitigation.
Monitoring / Reporting Action	<ul style="list-style-type: none"> • BLM and CPUC review and approve field closure report of data-recovery fieldwork. • BLM and CPUC review and approve final report of data recovery, curation of artifacts and data, and dissemination of final report.
Effectiveness Criteria	Data-recovery investigations, curation, and reporting fulfill all requirements of the agreement document promulgated with the Advisory Council.
Responsible Agency	BLM and CPUC.
Timing	Field closure report prior to construction within 100 ft of affected resource. Final report of data-recovery investigations within one year of completion of fieldwork.
MITIGATION MEASURE	<p>C-1e: Monitor construction at known ESAs. The Applicant shall implement full-time archaeological monitoring by a professional archaeologist during ground-disturbing activities at all cultural resource Environmentally Sensitive Areas (ESAs). These locations and their protection boundaries shall be defined and mapped in the HPTP.</p> <p>Archaeological monitoring shall be conducted by a qualified archaeologist familiar with the types of historical and prehistoric resources that could be encountered within the project, and under direct supervision of a principal archaeologist. The qualifications of the principal archaeologist and archaeological monitors shall be approved by the BLM and CPUC.</p> <p>A Native American monitor may be required at culturally sensitive locations specified by the BLM following government-to-government consultation with Native American tribes. The monitoring plan in the HPTP shall indicate the locations where Native American monitors will be required and shall specify the tribal affiliation of the required Native American monitor for each location. The Applicant shall retain and schedule any required Native American monitors.</p> <p>Compliance with and effectiveness of any cultural resources monitoring required by an HPTP shall be documented by the Applicant in a monthly report to be submitted to the BLM and CPUC for the duration of project construction. In the event that cultural resources are not properly protected by ESAs, all project work in the immediate vicinity shall be diverted to a buffer distance determined by the archaeological monitor until authorization to resume work has been granted by the BLM and CPUC.</p> <p>The Applicant shall notify the BLM of any damage to cultural resource ESAs. If such damage occurs, the Applicant shall consult with the BLM and CPUC to mitigate damages and to increase effectiveness of ESAs. At the discretion of the BLM and CPUC, such mitigation may include, but not be limited to modification of protective measures, refinement of monitoring protocols, data-recovery investigations, or payment of compensatory damages in the form of non-destructive cultural resources studies or protection within or outside the license area, at the discretion of the BLM.</p>
Location	All locations identified in the HPTP.
Monitoring / Reporting Action	<ul style="list-style-type: none"> • BLM, and CPUC, as well as ABDSP and USFS, as appropriate, review and approve monthly monitoring reports. • BLM and CPUC receive and act on reports of failure of ESAs to protect cultural resources.

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Effectiveness Criteria	Known archaeological resources are not adversely affected by construction activities.
Responsible Agency	BLM and CPUC.
Timing	During construction.
MITIGATION MEASURE	<p>C-1f: Train construction personnel. All construction personnel shall be trained regarding the recognition of possible buried cultural remains and protection of all cultural resources, including prehistoric and historic resources during construction, prior to the initiation of construction or ground-disturbing activities. The Applicant shall complete training for all construction personnel and retain documentation showing when training of personnel was completed. Training shall inform all construction personnel of the procedures to be followed upon the discovery of archaeological materials, including Native American burials. Training shall inform all construction personnel that Environmentally Sensitive Areas (ESAs) must be avoided and that travel and construction activity must be confined to designated roads and areas. All personnel shall be instructed that unauthorized collection or disturbance of artifacts or other cultural materials on or off the right-of-way by the Applicant, his representatives, or employees will not be allowed. Violators will be subject to prosecution under the appropriate State and federal laws and violations will be grounds for removal from the project. Unauthorized resource collection or disturbance may constitute grounds for the issuance of a stop work order.</p> <p>The following issues shall be addressed in training or in preparation for construction:</p> <ul style="list-style-type: none"> • All construction contracts shall require construction personnel to attend training so they are aware of the potential for inadvertently exposing buried archaeological deposits, their responsibility to avoid and protect all cultural resources, and the penalties for collection, vandalism, or inadvertent destruction of cultural resources. • The Applicant shall provide training for supervisory construction personnel describing the potential for exposing cultural resources, the location of any potential ESA, and procedures and notifications required in the event of discoveries by project personnel or archaeological monitors. Supervisors shall also be briefed on the consequences of intentional or inadvertent damage to cultural resources. Supervisory personnel shall enforce restrictions on collection or disturbance of artifacts or other cultural resources.
Location	Entire project.
Monitoring / Reporting Action	<ul style="list-style-type: none"> • BLM and CPUC review and approve contract specifications. • BLM and CPUC review verification of required training. • BLM and CPUC receive prompt notification of new resource discoveries and violations.
Effectiveness Criteria	<ul style="list-style-type: none"> • Cultural resources are not adversely affected by construction activities. • All infractions are corrected.
Responsible Agency	BLM and CPUC.
Timing	Prior to and during construction.
MITIGATION MEASURE	<p>C-2a: Properly treat human remains. All locations of known Native American human remains shall be avoided through project design and shall be protected by designation as ESAs. If the approved project route will affect sites known to contain human remains that cannot be avoided in their entirety during construction, the Applicant shall contact the California Native American Heritage Commission (NAHC). The NAHC will identify the Most Likely Descendant (MLD), within 48 hours, who will specify the preferred course of treatment in the event that additional human remains are discovered. The Applicant shall also contact the BLM (lead federal agency for the Proposed Project) and any additional land management agencies if the site is located on public lands administered by a State or federal agency other than the BLM. The Applicant shall follow all State and federal laws, statutes, and regulations that govern the treatment of human remains (see Section D.7.7). The Applicant shall assist and support the BLM in all required government-to-government consultations with Native Americans and appropriate agencies and commissions, as requested by the BLM. The Applicant shall comply with and implement all required actions and studies that result from such consultations.</p> <p>If human remains are discovered during construction, all work shall be diverted from the area of the discovery and the BLM authorized officer shall be informed immediately. The Applicant shall follow all State and federal laws, statutes, and regulations that govern the treatment of human</p>

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	<p>remains. The Applicant shall assist and support the BLM in all required government-to-government consultations with Native Americans and appropriate agencies and commissions, as requested by the BLM. The Applicant shall comply with and implement all required actions and studies that result from such consultations, as directed by the BLM.</p> <p>Although subject to the recommendations of the MLD, it is likely that the human remains would be respectfully removed by the MLD and/or qualified archaeologists and reinterred in an area not subject to impacts from the Proposed Project. The reinterment location may be identified as a nearby locale within SDG&E ROW, or an off-site location may be selected. The Applicant shall assist and support the MLD in identifying, acquiring, and protecting the reinterment location.</p>
Location	Entire project.
Monitoring / Reporting Action	<ul style="list-style-type: none"> • Applicant, monitors, or construction personnel report discoveries to BLM and CPUC immediately. • BLM and CPUC conduct and document consultation with appropriate Native American tribes and agencies. • BLM and CPUC document final disposition or treatment of Native American human remains.
Effectiveness Criteria	Adverse effects to human remains are avoided or treated in accordance with federal and appropriate State law.
Responsible Agency	BLM and CPUC.
Timing	Prior to or during construction.
MITIGATION MEASURE	<p>C-3a: Monitor construction in areas of high sensitivity for buried resources. The Applicant shall implement archaeological monitoring by a professional archaeologist during subsurface construction disturbance at all locations identified in the Historic Properties Treatment Plan (HPTP) as highly sensitive for buried prehistoric or historical archaeological sites or Native American human remains. These locations and their protection boundaries shall be defined and mapped in the HPTP. Intermittent monitoring may occur in areas of moderate archaeological sensitivity at the discretion of the BLM and CPUC. Monitoring shall be conducted in accordance with procedures detailed in Mitigation Measure C-1e</p> <p>Upon discovery of potential buried cultural materials by archaeologists or construction personnel, or damage to an ESA, work in the immediate area of the find shall be diverted and the Applicant's archaeologist notified. Once the find has been inspected and a preliminary assessment made, the Applicant's archaeologist shall consult with the BLM or CPUC, as appropriate, to make the necessary plans for evaluation and treatment of the find(s) or mitigation of adverse effects to ESAs, in accordance with the Secretary's Standards, and as specified in the HPTP.</p>
Location	Areas of high sensitivity for buried resources per HPTP.
Monitoring / Reporting Action	<ul style="list-style-type: none"> • BLM, and CPUC, as well as ABDSP and USFS, as appropriate, review and approve monthly monitoring reports. • Applicant, monitors, or construction personnel report discoveries to BLM and CPUC immediately. • BLM and CPUC receive and act on reports of failure of ESAs to protect cultural resources.
Effectiveness Criteria	Adverse effects to buried archaeological resources are avoided or treated in accordance with federal and appropriate State law.
Responsible Agency	BLM and CPUC.
Timing	Prior to construction.
MITIGATION MEASURE	<p>C-4a: Complete consultation with Native American and other Traditional Groups. The Applicant shall provide assistance to the BLM, as requested by the BLM, to complete required government-to-government consultation with interested Native American tribes and individuals (Executive Memorandum of April 29, 1994 and Section 106 of the National Historic Preservation Act) and other Traditional Groups to assess the impact of the approved project on Traditional Cultural Properties or other resources of Native American concern, such as sacred sites and landscapes, or areas of traditional plant gathering for food, medicine, basket weaving, or ceremonial uses. As directed by the BLM, the Applicant shall undertake required treatments, studies, or other actions that result</p>

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	from such consultation. Written documentation of the completion of all pre-construction actions shall be submitted by the Applicant and approved by the BLM at least 30 days before commencement of construction activities. Actions that are required during or after construction shall be defined, detailed, and scheduled in the Historic Properties Treatment Plan and implemented by the Applicant, consistent with Mitigation Measure C-1c (Develop and implement Historic Properties Treatment Plan).
Location	Entire Project.
Monitoring / Reporting Action	<ul style="list-style-type: none"> • Signature of agreement documents for treatment of TCPs. • Written documentation and approval by BLM and CPUC of completion of required treatment.
Effectiveness Criteria	TCPs and other resources of Native American concern are treated in accordance with agreements that are made during consultation.
Responsible Agency	BLM and CPUC.
Timing	Prior to construction.
MITIGATION MEASURE	C-4b: Conduct cultural resources survey of the entirety of the identified cultural landscape within a portion of the Anza-Borrego Link of the Proposed Project and prepare a report documenting the resources present as well as the ethnographic use of the area. The Applicant shall retain a professional cultural resources consultant who shall conduct a cultural resources survey of the cultural landscape and use area from ridge top to ridge top (generally east-west) and from Tamarisk Grove to the northern terminus at S-22. All identified archaeological resources and Native gathering areas shall be recorded on appropriate DPR forms. In addition, the Applicant shall retain an ethnographer to conduct interviews with Native Americans including members of the Kwaaymii Laguna Band of Indians and the Santa Ysabel Band of Diegueño Indians regarding past and present uses of the area. The results of this survey shall be presented in a technical report that synthesizes the site information with the ethnography to provide the most complete picture possible of Native American use of the area. The surveys shall be coordinated with ABDSP. The distribution of the final report of findings shall be at the discretion of the Kwaaymii Laguna Band of Indians and the Santa Ysabel Band of Diegueño Indians, in consultation with the ABDSP.
Location	Anza-Borrego Link (confidential location)
Monitoring / Reporting Action	<ul style="list-style-type: none"> • Signature of agreement documents for treatment of TCPs. • Written documentation and approval by BLM and CPUC of completion of required treatment.
Effectiveness Criteria	TCPs and other resources of Native American concern in Anza Borrego Link are treated in accordance with agreements that are made during consultation.
Responsible Agency	BLM and CPUC.
Timing	Prior to construction.
MITIGATION MEASURE	C-4c: Consult with the Santa Ysabel Band of Diegueño Indians and Implement Mitigation Measure V-3a and C-6c.
Location	Chapel of Santa Ysabel
Monitoring / Reporting Action	<ul style="list-style-type: none"> • Signature of agreement documents for treatment of TCPs. • Written documentation and approval by BLM and CPUC of completion of required treatment.
Effectiveness Criteria	Resources of Native American concern at the Chapel of Santa Ysabel are treated in accordance with agreements that are made during consultation.
Responsible Agency	BLM and CPUC.
Timing	Prior to construction.
MITIGATION MEASURE	C-5a: Protect and monitor NRHP- and/or CRHR-eligible properties. The Applicant shall design and implement a long-term plan to protect National Register of Historic Places (NRHP- and/or CRHR)-eligible sites from direct impacts of project operation and maintenance and from indirect impacts (such as erosion and access) that could result from the presence of the project. The plan shall be developed in consultation with the BLM to design measures that will be effective against project maintenance impacts, such as vegetation clearing and road and tower maintenance, and project-related vehicular impacts. The plan shall also include protective measures

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	<p>for NRHP- and/or CRHR-eligible properties within the transmission line corridor that will experience operational and access impacts as a result of the Proposed Project. Measures considered shall include restrictive fencing or gates, permanent access road closures, signage, stabilization of potential erosive areas, site capping, site patrols, and interpretive/educational programs, or other measures that will be effective for protecting NRHP- and/or CRHR-eligible properties. The plan shall be property specific and shall include provisions for monitoring and reporting its effectiveness and for addressing inadequacies or failures that result in damage to NRHP- and/or CRHR-eligible properties. The plan shall be submitted to the BLM, CPUC, and other appropriate land-managing agencies for review and approval at least 30 days prior to project operation.</p> <p>Monitoring of sites selected during consultation with BLM shall be conducted annually by a professional archaeologist for a period of five years. Monitoring shall include inspection of all site loci and defined surface features, documented by photographs from fixed photo monitoring stations and written observations. A monitoring report shall be submitted to the BLM, CPUC, and other appropriate land-managing agencies within one month following the annual resource monitoring. The report shall indicate any properties that have been affected by erosion or vehicle or maintenance impacts. For properties that have been impacted, the Applicant shall provide recommendations for mitigating impacts and for improving protective measures. After the fifth year of resource monitoring, the BLM, CPUC, or other land-managing agency, as appropriate, will evaluate the effectiveness of the protective measures and the monitoring program. Based on that evaluation, the BLM or CPUC may require that the Applicant revise or refine the protective measures, or alter the monitoring protocol or schedule. If the BLM does not authorize alteration of the monitoring protocol or schedule, those shall remain in effect for the duration of project operation.</p> <p>If the annual monitoring program identifies adverse effects to National Register of Historic Places (NRHP- and/or CRHR)-eligible properties from operation or long-term presence of the project, or if, at any time, the Applicant, BLM, CPUC, or other appropriate land-managing agency become aware of such adverse effects, the Applicant shall notify the BLM and CPUC immediately and implement additional protective measures, as directed by the BLM and CPUC. At the discretion of the BLM and CPUC, such measures may include, but not be limited to refinement of monitoring protocols, data-recovery investigations, or payment of compensatory damages in the form of non-destructive cultural resources studies or protection.</p>
Location	All locations identified in long-term protection plan.
Monitoring / Reporting Action	BLM and CPUC review and approval of long-term protection plan; compliance with reporting and monitoring provisions in the approved protection plan. Following construction, annual site monitoring; immediate notification to BLM and CPUC of adverse changes.
Effectiveness Criteria	Known cultural resources are not affected by long-term project operation and adverse changes to NRHP and CRHR-eligible properties are mitigated.
Responsible Agency	BLM and CPUC.
Timing	30 days prior to and during project operation. During operation, annually for 5 years. Thereafter, on a schedule determined by BLM and CPUC and/or immediately upon discovery of adverse changes to NRHP or CRHR-eligible property.
MITIGATION MEASURE	<p>C-6a: Reduce adverse visual intrusions to historic built environment properties. All known historic built environment resources located within 0.5 miles of the Proposed Project shall be inventoried and subjected to a visual analysis to assess which resources would be subject to potential indirect visual intrusions resulting from the project. This inventory will supplement the analysis of built environment resources conducted for the EIS/EIR, and shall meet the requirements of Section 106 to inventory historic properties that could be adversely affected by the Proposed Project. The Applicant shall inventory potentially register-eligible built environment resources within an Area of Potential Indirect Effect established by the BLM and CPUC. A qualified (Secretary of the Interior Standards) Architectural Historian shall assess the potential for visual intrusions on the qualities that qualify any historic properties within the APE for register eligibility. The results of this inventory shall be included in the HPTP. If any historic properties are identified that would be adversely affected by visual intrusions from the Proposed Project, the HPTP shall also specify mitigation measures that would be implemented to reduce adverse effects, such as screening the visual intrusion with vegetation, moving project towers to less conspicuous locations, or altering towers to reduce any identified adverse effects.</p>

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Location	All locations identified in HPTP. Mitigation Measures C-6b and V-3a in Anza-Borrego Link.
Monitoring / Reporting Action	BLM and CPUC review and approval of HPTP; compliance with reporting and monitoring provisions in the approved protection plan.
Effectiveness Criteria	Known historic built environment properties are not affected by construction and long-term project operation and adverse changes to NRHP and CRHR-eligible historic built environment properties are mitigated.
Responsible Agency	BLM and CPUC.
Timing	Prior to construction.
MITIGATION MEASURE	C-6b: Reduce adverse visual intrusions at the Tamarisk Grove Campground. Specifically for the Tamarisk Grove Campground, pole locations shall be selected to offer the maximum screening from the campground by the Tamarisk trees and the number of poles placed in direct view of the campground shall be minimized. Additionally, poles shall be painted to blend into the surrounding landscape, thereby minimizing the visual impact.
Location	Tamarisk Grove Campground
Monitoring / Reporting Action	BLM and CPUC review and approval of HPTP; compliance with reporting and monitoring provisions in the approved protection plan.
Effectiveness Criteria	NRHP-qualities of Tamarisk Grove Campground are not directly affected by construction and project operation and adverse changes to visual qualities are mitigated.
Responsible Agency	BLM and CPUC.
Timing	Prior to construction.
MITIGATION MEASURE	C-6c: Reduce adverse visual intrusions to the Chapel of Santa Ysabel. For the Chapel of Santa Ysabel, visual intrusions shall be reduced by screening the new tower locations through planting of trees, selective tower location, and painting the towers to match the surrounding landscape.
Location	Chapel of Santa Ysabel
Monitoring / Reporting Action	BLM and CPUC review and approval of HPTP; compliance with reporting and monitoring provisions in the approved protection plan.
Effectiveness Criteria	NRHP-qualities of Chapel of Santa Ysabel are not directly affected by construction and project operation and adverse changes to visual qualities are mitigated.
Responsible Agency	BLM and CPUC.
Timing	Prior to construction.
MITIGATION MEASURE	C-6d: Reduce adverse visual intrusion to the San Felipe Valley and Stage Station. For the San Felipe Valley and Stage Station visual intrusion by the aboveground portion of this alternative shall be minimized by a combination of following the existing transmission line corridor, minimizing tower height, screening, and painting towers to match the surroundings.
Location	San Felipe Valley and Stage Station
Monitoring / Reporting Action	BLM and CPUC review and approval of HPTP; compliance with reporting and monitoring provisions in the approved protection plan.
Effectiveness Criteria	NRHP-qualities of San Felipe Valley and Stage Station are not directly affected by construction and project operation and adverse changes to visual qualities are mitigated.
Responsible Agency	BLM and CPUC.
Timing	Prior to construction.
MITIGATION MEASURE	PAL-1a: Inventory and evaluate paleontological resources in Final APE. Prior to construction, the Applicant shall conduct and submit to CPUC, BLM, and other involved land-managing agencies for approval an inventory of significant paleontological resources within the affected area based on field surveys of areas identified as marginal through high or undetermined paleontological sensitivity potential.

Table D.7-41. Mitigation Monitoring Program – Cultural and Paleontological Resources

Location	All locations of marginal, moderate, and high paleontological sensitivity within the Final APE where ground-disturbing activities are anticipated.
Monitoring / Reporting Action	BLM and CPUC to review inventory and sensitivity findings.
Effectiveness Criteria	Identification and preliminary evaluation of all resources within potentially ground-disturbing activities.
Responsible Agency	BLM and CPUC.
Timing	Prior to construction.
MITIGATION MEASURE	PAL-1b: Develop Paleontological Monitoring and Treatment Plan. Following completion and approval of the paleontological resources inventory and prior to construction, the Applicant shall prepare and submit to CPUC, BLM, and other involved land-managing agencies for approval a Paleontological Monitoring Treatment Plan (Plan). The plan shall be designed by a Qualified Paleontologist and shall be based on Society of Vertebrate Paleontology (SVP) guidelines and meet all regulatory requirements. The qualified paleontologist shall have a Master's Degree or Ph.D. in paleontology, and shall have knowledge of the local paleontology and is familiar with paleontological procedures and techniques. The Plan shall identify construction impact areas of moderate to high sensitivity for encountering significant resources and the depths at which those resources are likely to be encountered. The Plan shall outline a coordination strategy to ensure that a qualified paleontological monitor will conduct full-time monitoring of all ground disturbance in sediments determined to have a moderate to high sensitivity. Sediments of low, marginal, and undetermined sensitivity shall be monitored on a part-time basis (as determined by the Qualified Paleontologist). Sediments with zero sensitivity will not require paleontological monitoring. The Qualified Monitor shall have a BA in Geology or Paleontology and a minimum of one year of monitoring experience in local sediments. The Plan shall detail the significance criteria to be used to determine which resources will be avoided or recovered for their data potential. The Plan shall also detail methods of recovery, preparation and analysis of specimens, final curation of specimens at a federally accredited repository, data analysis, and reporting. The Plan shall specify that all paleontological work undertaken by the Applicant on public land shall be carried out by qualified paleontologists with the appropriate current permits, including, but not limited to a Paleontological Resources Use Permit (for work on public lands administered by BLM) and a Paleontological Collecting Permit (for work on lands administered by California Department of Parks and Recreation). Notices to proceed will be issued by the BLM, CPUC, and other agencies with jurisdiction, following approval of the Paleontological Monitoring and Treatment Plan.
Location	Entire project.
Monitoring / Reporting Action	BLM and CPUC review and approve treatment plan.
Effectiveness Criteria	BLM and CPUC approval of treatment plan.
Responsible Agency	BLM and CPUC.
Timing	Prior to construction.
MITIGATION MEASURE	PAL-1c: Monitor construction for paleontology. Based on the paleontological sensitivity assessment and Paleontological Monitoring and Treatment Plan consistent with Mitigation Measure PAL-1b (Develop Paleontological Monitoring and Treatment Plan), the Applicant shall conduct full-time construction monitoring by the qualified paleontological monitor in areas determined to have moderate to high paleontological sensitivity. Sediments of low, marginal undetermined sensitivity shall be monitored by a qualified paleontological monitor on a part-time basis (as determined by the Qualified Paleontologist). Construction activities shall be diverted when data recovery of significant fossils is warranted, as determined by the Qualified Paleontologist
Location	Locations identified in paleontological treatment plan.
Monitoring / Reporting Action	Progress reporting to BLM and CPUC as identified in treatment plan.
Effectiveness Criteria	Discovery of significant fossil resources from all localities affected by construction.
Responsible Agency	BLM and CPUC.
Timing	During construction.

Table D.7-41. Mitigation Monitoring Program – Cultural and Paleontological Resources

MITIGATION MEASURE	PAL-1d: Conduct paleontological data recovery. If avoidance of significant paleontological resources is not feasible or appropriate based on project design, treatment (including recovery, specimen preparation, data analysis, curation, and reporting) shall be carried out by the Applicant, in accordance to the approved Treatment Plan per Mitigation Measure PAL-1b (Develop Paleontological Monitoring and Treatment Plan).
Location	Locations identified in paleontological treatment plan.
Monitoring / Reporting Action	BLM and CPUC review and approve treatment plan. BLM and PCUC review and approval of final data-recovery report and disposition of fossils.
Effectiveness Criteria	Recovery of adequate samples of significant fossil resources from all localities affected by construction.
Responsible Agency	BLM and CPUC.
Timing	During construction; report within one year of data-recovery fieldwork.
MITIGATION MEASURE	<p>PAL-1e: Train construction personnel. Prior to the initiation of construction or ground-disturbing activities, all construction personnel shall be trained regarding the recognition of possible subsurface paleontological resources and protection of all paleontological resources during construction. The Applicant shall complete training for all construction personnel. Training shall inform all construction personnel of the procedures to be followed upon the discovery of paleontological materials. Training shall inform all construction personnel that Environmentally Sensitive Areas (ESAs) ESAs include areas determined to be paleontologically sensitive as defined on the paleontological sensitivity maps for the project, and must be avoided and that travel and construction activity must be confined to designated roads and areas. All personnel shall be instructed that unauthorized collection or disturbance of protected fossils on or off the right-of-way by the Applicant, his representatives, or employees will not be allowed. Violators will be subject to prosecution under the appropriate State and federal laws and violations will be grounds for removal from the project. Unauthorized resource collection or disturbance may constitute grounds for the issuance of a stop work order. The following issues shall be addressed in training or in preparation for construction:</p> <ul style="list-style-type: none"> • All construction contracts shall include clauses that require construction personnel to attend training so they are aware of the potential for inadvertently exposing subsurface paleontological resources, their responsibility to avoid and protect all such resources, and the penalties for collection, vandalism, or inadvertent destruction of paleontological resources. • The Applicant shall provide a background briefing for supervisory personnel describing the potential for exposing paleontological resources, the location of any potential ESAs, and procedures and notifications required in the event of discoveries by project personnel or paleontological monitors. Supervisory personnel shall enforce restrictions on collection or disturbance of fossils. • Upon discovery of paleontological resources by paleontologists or construction personnel, work in the immediate area of the find shall be diverted and the Applicant's paleontologist notified. Once the find has been inspected and a preliminary assessment made, the Applicant's paleontologist will notify the BLM, CPUC, and other appropriate land managers and proceed with data recovery in accordance with the approved Treatment Plan consistent with Mitigation Measure PAL-1b (Develop Paleontological Monitoring and Treatment Plan).
Location	Entire project.
Monitoring / Reporting Action	<ul style="list-style-type: none"> • BLM and CPUC review and approve contract specifications. • BLM and CPUC review verification of required training. • BLM and CPUC receive prompt notification of new resource discoveries and violations.
Effectiveness Criteria	Paleontological resources are not adversely affected by construction activity.
Responsible Agency	BLM and CPUC.
Timing	Prior to and during construction.

D.7.44 References for Cultural Resources

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