# 5.4 Cultural Resources

This section addresses the cultural resources impacts of construction and operation of the Palen Solar Power Project (PSPP or Project). It identifies applicable laws, ordinances, regulations, and standards (LORS), describes baseline conditions, and identifies mitigation measures to avoid or reduce adverse impacts. The section covers the approximately 3,870-acre disturbance area (that will be disturbed by construction and operation and within which all Project facilities will be located). Because the location of the planned substation where the Project will interconnect with the regional grid has not been finalized, the transmission line route itself cannot be finalized. For this reason, this section does not cover a transmission line route, and the following pages address only cultural resources of the PSPP plant site.

Cultural resources are defined as buildings, sites, structures, districts, and/or objects that have historical, architectural, archaeological, cultural, or scientific significance. Cultural resources studies were conducted by qualified cultural resources professionals. Additional detail on the cultural resources assessments, including personnel qualifications, can be found in the Cultural Resources Technical Report (Class III Report), provided as Appendix G. The Architectural Survey Report is provided as Attachment 6 to the Cultural Resources Technical Report.

The cultural resources evaluation presented in the following pages is intended to support compliance both by the California Energy Commission (CEC) with the requirements of the California Environmental Quality Act (CEQA), and by the Bureau of Land Management (BLM) with the requirements of the National Environmental Policy Act (NEPA). The two agencies are conducting a joint review of the Project and a combined CEQA/NEPA document will be prepared.

**Summary**

With implementation of planned additional investigations and appropriate mitigation measures, Project impacts on cultural resources would be expected to be less than significant. Based on archival research, systematic field survey, and consultation with interested parties**,** 46 newly identified archaeological sites, and four built (historic) resources were inventoried. None of the built resources are significant. There is the potential for significant impacts at six archaeological sites that are considered potentially significant resources under CEQA. These sites are primarily lithic scatters (scattered cultural artifacts and debris that consist of lithic, i.e., stone tools, and chipped stone debris). These sites will also need to be assessed under the requirements of Section 106 of the National Historic Preservation Act (NHPA), which will require subsurface investigations. Potential adverse effects to the six archaeological sites under the NHPA would be addressed through California Archaeological Resources Identification and Data Acquisition Program (CARIDAP): Sparse Lithic Scatters or consultation between BLM, the State Historic Preservation Officer (SHPO), and interested parties. If unanticipated archaeological and/or historical resources are discovered during construction, Project construction activities will be halted in the immediate vicinity so that the significance of these resources can be evaluated and appropriate mitigation measures implemented, if deemed necessary.

## 5.4.1 LORS Compliance

The Project will comply with applicable LORS throughout construction and operation. Applicable LORS are summarized in Table 5.4-1 and briefly discussed below.

**Table 5.4-1 Summary of Applicable Cultural Resources LORS**

| Laws | Applicability | Where Discussed in AFC |
|---|---|---|
| **Federal:** | | |
| Antiquities Act of 1906: Title 16 United States Code (USC) Sections 431–433 | Federal legislation for protection of cultural resources on Federal land. | Section 5.4.1 |
| National Historic Preservation Act (NHPA: Title 16 USC Section 470 et seq. | Establishes national policy of historic preservation; requires that Federal agencies consider significant cultural resources prior to undertakings. | Sections 5.4.1, 5.4.3, and 5.4.4 |
| Archaeological Resources Protection Act of 1979: Title 16 USC Sections 470aa-470mm | Provides protection for archaeological resources on public lands and Indian lands. | Section 5.4.1 |
| Executive Order 11593 of May 13, 1971: Title 36 Federal Register 8921 | Provides protection and enhancement of the cultural environment. | Section 5.4.1 |
| Secretary of Interior's Standards for Archaeology and Historic Preservation: Title 48 Code of Federal Regulations (CFR) 44716-42 | Establishes guidelines for technical reports and standards for evaluation for the SHPO. | Section 5.4.1 |
| Federal Land Policy Management Act of 1976: Sections 1701(a)(8) and 1740 | Establishes that public lands be managed in a manner that will protect the quality of scientific, scenic, historical, and archeological values. | Section 5.4.1 |
| Native American Graves Protection and Repatriation Act: Title 25 USC Sections 3001-3013 | Provides for the protection of Native American graves, funerary objects, and "objects of cultural patrimony" on Federal land and establishes the procedures for determining ownership for Native American human remains, funerary objects, and other sacred objects under Federal jurisdiction. | Section 5.4.1 |
| American Indian Religious Freedom Act: Title 42 USC Section 1996 | Provides protection of Native American religious practices. | Section 5.4.1 |
| **State:** | | |
| CEQA: Public Resources Code (PRC) Section 21083.2 | Requires public agencies to evaluate impacts to cultural resources; provides guidance for evaluating and mitigating impacts. | Sections 5.4.1, 5.4.3, and 5.4.4 |
| CEQA Guidelines: Title 14 California Code of Regulations (CCR) Sections 15064.5, 15126.4(b), Appendix G Section V | Requires public agencies to evaluate impacts to cultural resources; provides guidance for evaluating and mitigating impacts. | Sections 5.4.1, 5.4.3, and 5.4.4 |

**Table 5.4-1 Summary of Applicable Cultural Resources LORS**

| Laws | Applicability | Where Discussed in AFC |
|---|---|---|
| PRC Sections 5024.1, 5097.98, 5097.99, 5097.991, and 21084.1 | Establishes the California Register of Historical Resources (CRHR).<br>Discusses the procedures that need to be followed upon the discovery of Native American human remains.<br>Provides a definition of historical resources, and states that projects that cause a substantial adverse change in the significance of an historical resource are projects that may have a significant effect on the environment. | Sections 5.4.1, 5.4.3, and 5.4.4 |
| Assembly Bill 2641 | Modifies the process that private land owners follow after discovering Native American human remains (set forth in California PRC 5097.98). | Sections 5.4.1, 5.4.3, and 5.4.4 |
| Health and Safety Code Sections 7050.5 and 8010-8011 | Establishes procedures for notification in the event of the discovery of human remains. Requires construction to be halted and the county coroner to be contacted if human remains are encountered. Makes it a misdemeanor to disturb or remove human remains found outside a cemetery. | Sections 5.4.1, 5.4.3, and 5.4.4 |
| **Local** | | |
| Riverside County General Plan, Multipurpose Open Space Element, Policies O.S. 19.2-19.4 | Provides that the County will promote the preservation of cultural and promote Native American consultation. | Sections 5.4.1, 5.4.3, and 5.4.4 |
| Riverside County General Plan, Multipurpose Open Space Element, Policies O.S. 19.5-19.7 | Provides historic structure evaluation and enforcement of the Historic Building Code during development projects. | Sections 5.4.1, 5.4.3, and 5.4.4 |
| Riverside County General Plan, Exhibit A, CEQA Findings of Fact and Statement of Overriding Considerations, Section 4.7, Mitigation Monitoring Program, Measures 4.7.1A, 4.7.1B, and 4.7.1C | Outlines mitigation measures for cultural resources monitoring programs. | Section 5.4.1 |

### 5.4.1.1 Federal LORS

**Antiquities Act of 1906, Title 16 USC 431 - 433**

This Act establishes criminal penalties for unauthorized destruction or appropriation of “any historic or prehistoric ruin or monument, or any object of antiquity” on Federal land.

**NHPA, Title 16 USC Section 470 et seq.**

The NHPA sets in place a program for the preservation of historic properties. Section 106 of the NHPA requires Federal agencies to take in to account the effects of projects on historic properties (resources included in or eligible for the National Register of Historic Places [NRHP]). It also gives the Advisory Council on Historic Preservation and State Historic Preservation Offices an opportunity to consult. Federal agencies issuing permits for the Project would be required to comply with NHPA requirements.

**Archaeological Resources Protection Act of 1979, Title 16 USC Section 470aa-470mm**

This Act provides protection of archaeological resources from vandalism and unauthorized collecting on Federal land.

**Executive Order 11593 of May 13, 1971, 36 Federal Register 8921**

This Executive Order focuses on the protection and enhancement of the cultural environment. It outlines responsibilities of the Federal agencies and Secretary of the Interior with regard to cultural resources.

**Archeology and Historic Preservation: Secretary of Interior's Standards and Guidelines 48 CFR 44716-42**

This document establishes standards and guidelines regarding professional qualification requirements for archaeological and historic preservation professionals, technical report format and content, and standards for resource evaluation required by the State Historic Preservation Officer (SHPO).

**Federal Land Policy Management Act of 1976 43 United States Code Section 1701 et seq.**

The Federal Land Policy Management Act (FLPMA) declares that it is the policy of the United States that public lands be managed so as to protect historical and archaeological resources, and that the Secretary of Interior shall establish rules and regulations regarding resource protection on public lands.

**Native American Graves Protection and Repatriation Act, Title 25 USC Sections 3001-3013**

This law provides for ownership of Native American graves and grave goods on Federal lands.

**American Indian Religious Freedom Act, Title 42 USC Section 1996**

This measure establishes a national policy to protect the right of Native Americans and other indigenous groups to exercise their traditional religions. Federal agencies issuing permits for the Project would be required to comply with this Act if Native Americans identified issues regarding their right to exercise traditional religious practices.

### 5.4.1.2 State LORS

**CEQA, PRC Section 21083.2**

Under CEQA, the lead agency is responsible for determining whether a project may have a significant effect on historical and archaeological resources. Section 21083.2 states that if the lead agency determines that the project may have a significant effect on "unique" archaeological resources, an Environmental Impact Report (EIR) shall address these resources. A unique archaeological resource is an 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 one of the following criteria:

1) Contains information needed to answer important 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 or best example of its type; or
3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require that reasonable efforts be taken to preserve these resources in place or provide mitigation measures. CEC licensing is a CEQA-equivalent process.

**CEQA Guidelines, CCR Title 14 Sections 15064.5 and 15124(b).**

State CEQA Guidelines define a "historical resource" to include:

- Resource(s) listed or eligible for listing on the CRHR (Title 14 CCR Section 15064.5(a)(1)); resource(s) either listed in the NRHP or in a "local register of historical resources," unless "the preponderance of evidence demonstrates that it is not historically or culturally significant" (Title 14 CCR Section 15064.5(a)(2)); and resources identified as significant in a historical resource survey meeting the requirements in section 5024.1(g) of the PRC (Title 14 CCR Section 15065.5(a)(2)).
- Subdivision (g) provides that

> [a] resource identified as significant in an historical survey may be listed in the CRHR if the survey meets all of the following criteria:
>
> 1) The survey has been or will be included in the State Historic Resources Inventory.
>
> 2) The survey and the survey documentation were prepared in accordance with procedures and requirements of the (California) Office of Historic Preservation.
>
> 3) The resource is evaluated and determined by the Office of Historic Preservation to have a significance rating of Category 1 to 5 on the Department of Parks and Recreation Historic Resources Inventory Form.
>
> 4) If the survey is five years or more old at the time of its nomination for inclusion in the CRHR, the survey is updated to identify historic resources which have become eligible or ineligible due to changed circumstances or further documentation and those which have been demolished or altered in a manner that substantially diminished the significance of the resource.
>
> Resources identified by such surveys are presumed to be historically or culturally significant unless the preponderance of evidence demonstrates otherwise.

- The final category of "historical resources" is discretionary with the lead agency:

> Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, education, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record (Title 14 CCR Section 15064.5(a)(3)).

If initial studies identify the existence of, or the probable likelihood of, Native American human remains within the Project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission (NAHC). The Applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the NAHC (Title 14 CCR Section 15064.5(d).

Section 15124(b) addresses mitigation, and states that the preferred mitigation for historical resources is treatment in a manner consistent with Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings. The preferred mitigation for archaeological sites is preservation in place.

**CEQA Appendix G Section V**

This appendix is a checklist that identifies potential impacts to historical, cultural, or paleontological resources. The checklist includes four questions to determine if a potential project would:

1) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?
2) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?
3) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?
4) Disturb any human remains, including those interred outside of formal cemeteries?

Questions on the checklist are addressed to assess if impacts would be potentially significant, less than significant with mitigation, less than significant, or have no impact.

**PRC Section 5024.1**

This section establishes the CRHR. A resource may be listed as a historical resource in the CRHR if it meets NRHP criteria or the following State criteria:

1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2) Is associated with the lives of persons important in our past;
3) 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
4) Has yielded, or may be likely to yield, information important in prehistory or history.

**PRC Section 5097.98**

This section discusses the procedures that need to be followed upon the discovery of Native American human remains. The NAHC, upon notification of the discovery of human remains by the coroner, is required to notify those persons it believes to be most likely descended from the deceased Native American. It enables the descendant to inspect the site of the discovery of the Native American human remains and to recommend to the land owner (or person responsible for the excavation) means of treating, with dignity, the human remains and any associated grave goods.

**Assembly Bill 2641**

This section provides procedures for private land owners to follow upon discovering Native American human remains. Land owners are encouraged to consider culturally appropriate measures if they discover Native American human remains as set forth in California PRC 5097.98. Assembly Bill 2641 further clarifies how the land owner should protect the site both immediately after discovery and into the future.

**PRC Sections 5097.99 and 5097.991**

These sections establish that it is a felony to obtain or possess Native American artifacts or human remains taken from a grave or cairn and sets penalties for these actions. They also mandate that it is the policy of the State to repatriate Native American remains and associated grave goods.

**PRC Section 21084.1**

This section sets forth that a project that may cause a significant adverse change in a significant historical resource is a project that may be considered to have adverse effects on the environment. Historical resources not listed on the CRHR or other local lists may still be considered historical resources at the discretion of the lead agency on the project.

**Health and Safety Code Section 7050.5**

This code establishes that any person who knowingly mutilates, disinters, wantonly disturbs, or willfully removes any human remains in or from any location without authority of the law is guilty of a misdemeanor. It further defines procedures for the discovery and treatment of Native American remains.

**Health and Safety Code Sections 8010-8011**

This code is intended to provide consistent state policy to ensure that all California Indian human remains and cultural materials are treated with dignity and respect. The code extends policy coverage to non-federally recognized tribes, as well as federally recognized groups.

### 5.4.1.3 Local LORS

**Riverside County General Plan, Chapter 5 (Multipurpose Open Space Element), Open Space Policies 19.2-19.4**

This portion of the General Plan outlines policies intended to promote the preservation of cultural resources in the County of Riverside. Policies within this chapter identify the need for a review of project area archaeological sensitivity, resource confidentiality, Native American consultation, and a Report of Findings.

**Riverside County General Plan, Chapter 5 (Multipurpose Open Space Element), Open Space Policies 19.5-19.7**

This portion of the General Plan outlines policies for the preservation of historic resources in the County of Riverside. Policies within this chapter identify the need for review of proposals for large development projects by the History Division of the Riverside County Regional Park and Open-Space District for the purposes of evaluation in relation to the potential destruction or preservation of historical sites. The chapter also calls for promotion of built environment preservation through application of the Historic Building Code and authorization of tax credits for historic building and structure retrofitting.

**Riverside County General Plan, Exhibit A, CEQA Findings of Fact and Statement of Overriding Considerations, Section 4.7, Mitigation Monitoring Program, Measures 4.7.1A, 4.7.1B, and 4.7.1C**

The Riverside Mitigation Monitoring Program addresses cultural resource protection. Mitigation measures include contacting the county coroner in the event of the discovery of human remains and contacting the NAHC if the remains are determined to be prehistoric, promoting avoidance as the preferred mitigation measure, and five specific measures (4.7.1C a-e) to be implemented as part of data recovery for sites where impacts cannot be avoided.

### 5.4.1.4 Involved Agencies

Consistent with CEC requirements for AFC preparation, as indicated in Table 5.4-2, the NAHC was contacted regarding a check of their sacred sites inventory and to acquire a list of Native American contacts for the area. Cultural sites were identified near the project area. Contact information was provided for 18 tribal representatives and contacts have been initiated with these representatives. To date, two responses have been received. One response is from Judy Stapp of the Cabazon Band of Mission Indians. Ms. Stapp indicated that she has no comments at this time. The second response is from Joseph R. Benitez. Mr. Benitez indicated that the Project site is a traditional gathering area for the Chemehuevi and that they should be contacted regarding the Project. Please note that the BLM will also conduct Native American consultation as part of the NEPA process.

**Table 5.4-2 Agency Contacts**

| Agency Contact | Phone/E-mail | Permit/Issue |
|---|---|---|
| David Singleton<br>Native American Heritage Commission<br>915 Capitol Mall, #364<br>Sacramento, CA 95814 | (916) 653-6251<br>nahc@pacbell.net | Native American cultural issues |
| Chris Dalu<br>BLM<br>Palm Springs Field Office<br>1201 Bird Center Drive<br>Palm Springs, California 92262 | (760) 833-7105<br>Christopher_Dalu@ca.blm.gov | BLM fieldwork authorization and coordination of fieldwork on behalf of the BLM; Government to government consultation with Native Americans |
| Milford Wayne Donaldson<br>State Historic Preservation Officer (SHPO)<br>1416 9th Street, Room 1442-7<br>Sacramento, CA 95814<br>P.O. Box 942896 Sacramento, CA 94296 | TEL: 916-653-6624<br>FAX: 916-653-9824<br>calshpo@parks.ca.gov<br>mwdonaldson@parks.ca.gov | NHPA compliance |

### 5.4.1.5 Permits Required and Permit Schedule

The Project is located on Federal land managed by BLM. Prior to all archaeological field investigations on BLM land, a Fieldwork Authorization Request must be filed and approved by the BLM. A Fieldwork Authorization was obtained on April 10, 2009 for cultural resources studies of the Project site.

## 5.4.2 Affected Environment

### 5.4.2.1 Natural Environment

The Project area is located in the Chuckwalla Valley of Riverside County, bounded by the Chuckwalla Mountains to the south, Coxcomb Mountain and the Palen Mountains to the north, and the Eagle

Mountains to the west. The area is situated in the northern portion of the Colorado Desert. A subdivision of the greater Sonoran Desert, the Colorado Desert encircles the northern Gulf of California, spanning portions of northwestern Mexico, southwestern Arizona, and southeastern California. It is a subtropical desert, influenced by tropical weather conditions. In general, the Colorado Desert differs from the Mojave Desert to the north by being lower, flatter, and warmer both in summer and winter. Within the Palen Mountains to the north of the Project area, the rocks and basin-and-range physiography of the Colorado Desert is similar to that of the Mojave Desert.

Sediments within the Project area generally originate from an alluvial fan descending from the Chuckwalla Mountains to the south. The southern portion of the Project area contains heavily patinated desert pavements. These pavements transition to an active alluvial fan with cobbles and poorly sorted gravels. Alluvial washes cut through stable desert pavement surfaces with little to no patination and transition to active ephemeral washes consisting of sandy silts, combined small cobbles, and poorly sorted gravels. Further north, the alluvial fan stabilizes as ephemeral drainages become more and more superficial. Sediments in this part of the Project area consist of stable sandy silts with few to no cobbles and significantly less amounts of gravels. Approaching the playa, silts give way to sandy dunes that are less stable and prone to rapidly redepositing and burying/uncovering of cultural deposits. The playa is a stabilized surface consisting of mostly fine silts and some small gravel. Ephemeral dunes are present along the playa shore, which tend to be mostly unstable and constantly shifting. The playa acts as a basin when rainwater exceeds evaporation and has become a shallow freshwater lake with brackish shoreline marshes several times in the last 10,000 years, with the most recent occurring only a few hundred years ago. Today, Palen Lake is a dry lake with the exception of occasional flash flooding.

Present day temperatures in the Colorado Desert typically range from the low 40 degree Fahrenheit (°F) in winter to 105°F in summer, although summer temperatures can reach into the 120°F range. A high of 127°F has been recorded at the Gold Rock Ranch station, located approximately 15 miles northwest of Yuma. This region also experiences rapid heat loss at night, resulting in a wide daily temperature variance of approximately 30 degrees. Annual rainfall totals within the Colorado Desert are among the lowest in the Sonoran Desert, averaging between 2 to 4 inches along the Colorado River.

Surface water within the region includes both perennial and seasonal sources. Nearby perennial water sources are limited to the Colorado River. The Colorado River lies approximately 40 miles east of the Project area and is one of the major river systems of North America. Formed high in the Colorado Rocky Mountains and fed by numerous tributaries, it travels 1,400 miles to the Gulf of California, picking up vast quantities of silt along the way. Groundwater is also found in Palen Valley as sands, gravels, silts, and clays have created a natural aquifer in the area.

Although the vegetation communities are similar to those of the Mojave Desert to the north, the Colorado Desert's bimodal pattern of rainfall allows for greater diversity. Species commonly found throughout both deserts are varieties of agave (*Agave* spp.), including the desert agave or century plant (*Agave deserti*), creosote (*Larrea tridentate)*, white bursage (*Ambrosia dumosa*), and saltbushes (*Atriplex* spp.). However, the Sonoran Desert is effectively outlined by the distribution of ocotillo (*Fouquiera splendens),* and the Mojave Desert by Joshua trees (*Yucca brevifolia)*. The Sonoran Desert differs also in the presence of frost-sensitive species, as well as trees and large shrubs.

Creosote scrub is the dominant vegetation community through most of the desert, with a greater variety of species occurring along the Colorado River corridor and seasonal washes. Vegetation in the Project area is dominated by creosote bush, white bursage, and allscale (*Atrilex polycarpa*). Closer to the playa, plant species also include Mojave seablite (*Suaeda moquinii*) and honey mesquite (*Prosopis glandulosa)*. Additional plant communities are found along alluvial washes and include blue palo verde (*Parkinsonia florida*), ironwood (*Olneya tesota*), and big galleta (*Pleuraphis rigida*). Non-native species present in the Project area include Saharan mustard (*Brassica tournefortti*) and Russian thistle (*Salsola sp.)*. These species are characterized as noxious weeds as they tend to dominate the landscape at the expense of

other plant species. Within the Project area, Russian thistle dominates the landscape along the dune portion of the Project site.

Most of the faunal species occurring in the Colorado Desert are also found in the Mojave Desert to the north. Because of the high diurnal temperatures, most of the desert mammals have adapted by spending much of the day underground in burrows or aestivating. Small, burrowing rodents are particularly abundant in sandy plains. Animals commonly found in dry desert lands include the blacktailed jackrabbit (*Lepus californicus*); desert cottontail (*Sylvilagus audoboni*); kit fox (*Vulpes macrotis*); and a variety of rodents such as round-tailed ground squirrel (*Spermophilus tereticaudus*), white-tailed antelope squirrel (*Ammosphermophilus leucurus*), desert and Merriam kangaroo rats (*Dipodomys merriami*), and desert pocket mouse (*Perognathus penicillatus*). Larger mammals are usually limited to desert bighorn sheep (*Ovis Canadensis nelsoni*), Sonoran pronghorn antelope (*Antilocapra americana sonorensis*), and coyote (*Canis latrans*). Several species of bat are found in the Colorado Desert, including California leaf-nosed bat (*Macrotus californicus*).

Common avian species in the Colorado Desert include horned lark (*Eremophila alpestris*), common ravens (*Corvus corax*), mourning dove (*Zenaida macroura*), Costa's hummingbird (*Calypte costae*), black-throated sparrow (*Amphispiza bilineata*), verdin (*Auriparus flaviceps*), and greater roadrunner (*Geococcyx californianus*). Migratory birds found throughout the Colorado Desert include the tree swallow (*Tachycineta bicolor*), barn swallow (*Hirundo rustica*), cliff swallow (*Petrochelidon pyrrhonota*), orange-crowned warbler (*Vermivora celata*), Wilson's warbler (*Wilsonia pusilla*), hermit warbler (*Dendroica occidentalis*), and yellow-rumped warbler (*Dendroica coronata*). Several other avian species can be found in the Colorado Desert, including the northern harrier (*Circus cyaneus*), Swainson's hawk (*Buteo swainsoni*), western burrowing owl (*Athene cunicularia hypugaea*), and the loggerhead shrike (*Lanius ludovicianus*).

Several species of reptiles that are found in the Colorado Desert have unique adaptations to sandy environments, including fringe-toed lizards (*Uma inornata*, *U. notata*), flat-tailed horned lizards (*Phrynosoma m'calli*), banded sandsnakes (*Chilomeniscus cinctus*) and sidewinders (*Crotalus cerastes*). Other reptiles include the desert tortoise (*Gopherus agassizi*); chuckwalla (*Sauromalus obesus*); desert iguana (*Dipsosaurus dorsalis*); and snakes such as the rosy boa (*Lichanura trivirgata*) and western diamondback (*Crotalus atrox*).

### 5.4.2.2 Prehistoric Background

While the Colorado Desert is rich in prehistoric archaeological sites and has been intensively studied by archaeologists for 80 years, the culture-historical framework for the ordering and interpretation of archaeological materials is still heavily reliant on interregional comparisons. To a large degree, this results from the fact that sites with substantial subsurface components are quite rare, and this paucity has hampered chronology building. Sites found in the Colorado Desert are particularly diverse when it comes to sites associated with what might generally be termed ritual events. In addition to the remains of Native American habitations and resource procurement activities, there are abundant earth figures and shrines, petroglyphs and pictographs, and a well-preserved trail system.

Climatic changes, influenced by temperature and moisture variations, have affected the distribution and subsistence practices of prehistoric populations in the Colorado Desert. During the late Pleistocene (25,000 to 10,000 years ago), temperatures in California were generally cool and moist, resulting in widespread montane glaciations and the creation of numerous pluvial lakes. The settlement patterns of early human inhabitants during the Late Pleistocene and Early Holocene in the Colorado Desert suggest that populations preferred settlement near prehistoric lakes and perennial washes.

In the Colorado Desert, the San Dieguito complex is thought to represent a terminal Pleistocene and/or early Holocene cultural tradition. Malcolm Rogers first defined this complex based on surveys of the

Southern California coastal and desert areas in the 1930s. Subsistence is generally thought to have been focused on highly ranked resources such as large mammals, although numerous small mammals were also taken at some sites. This subsistence strategy may have encouraged a pattern of relatively high residential mobility.

Beginning with Rogers, cultural materials have often been assigned to the San Dieguito complex based on desert varnish patination and degree of embeddedness in ancient desert pavements. Based on these measures, various cleared circles, trails, and geoglyphs have been included within the San Dieguito complex in the desert regions. However, these assignments must be considered tentative at best because patination and embeddedness have not been demonstrated as reliable for cross-dating purposes.

San Dieguito materials have been found around now dry inland lakes, on old desert terrace deposits, at Ventana Cave, and near the California coast, where they were first documented at the Harris Site. Dating of the San Dieguito complex has proven to be problematic. The related Lake Mojave complex, in the Mojave Desert to the north, is thought to have existed 12,000 to 7,000 years ago. More recent work might suggest a terminal date there of around 8,000 years before present (BP) (i.e., 6,000 BC).

Native Cahuilla and Chemehuevi claim traditional use and knowledge of the land. Later Native American settlements have been documented near the Chuckwalla Valley, including Chemehuevi settlements near the Colorado River, Cahuilla towns in Coachella Valley, a Desert Cahuilla settlement near Cottonwood Spring, and Serrano villages at Twenty-nine Palms. Association with so many different Native Americans indicates that Chuckwalla Valley was utilized in different ways, but likely not controlled by any single group.

### Archaic Period

The Archaic period in North American prehistory has been generally characterized as the time when regional cultural adaptations became well established to varying local conditions. The Archaic spans the time from the end of early Holocene climatic conditions, which were generally less arid than today across much of the interior west, to the first introduction of pottery and the bow and arrow around 1500 BP Regional populations were generally expanding, leading to a diversification and intensification of subsistence activities, and regional networks were becoming well established. Groundstone tools, largely absent during the earliest period of occupation, became widespread during the Archaic period.

In contrast with the general pattern of population expansion and regionalization during the Archaic period, there is a dearth of evidence of Archaic occupation in the Colorado Desert. This absence is a key regional research issue. Rogers identified the Archaic assemblages of the Colorado Desert as the Amargosa complex, which he subsequently divided into three phases: Amargosa I, II, and III. However, due to the dearth of clearly dated Archaic sites in the Colorado Desert, developments within the Archaic there must be inferred primarily from development in adjacent areas.

### Late Prehistoric/Protohistoric Period

The Patayan complex, dating from approximately 1450 BP (AD 500) to the historic period, spans the late prehistoric and protohistoric time frames, the latter of which includes a 300-year period of sporadic exploration and colonization that left aboriginal lifeways relatively unaffected. There is a clear correspondence between the geographical distribution of Patayan cultural materials and the historic territories of the Yuman-speaking peoples: the Quechan, Mohave, Cocopah, Paipai, Yavapai, Havasupai, and others. Thus, Patayan can be seen as directly ancestral to the ethnographic cultures of the region.

The Patayan complex is characterized by marked changes in the artifact assemblage, economic system, and settlement patterns. Paddle and anvil pottery was introduced, possibly from Mexico. During this time, floodplain horticulture, featuring maize, beans, squash, and other crops, was introduced along the

lower Colorado River and extended to the New and Alamo rivers in Imperial Valley. The Colorado Desert lay on the prehistoric frontier of expansion of agriculturally based subsistence systems.

The bow and arrow was also introduced during this period as evidenced by the presence of Cottonwood Triangular and Desert Side-notched series projectile points. Cottonwood series projectile points apparently predate the Desert Side-notched series and probably the advent of pottery. Also during the Late period, burial practices shifted from inhumations to cremations. Other culture traits generally associated with this period include increasingly elaborate kinship systems, rock art including ground figures, and expanded trading networks.

While the Colorado Desert region has been heavily researched, little is known about the Chuckwalla Valley. Early inhabitants of the area appear to have been highly mobile, especially in the late prehistoric and protohistoric period. Various cultural groups may have used the area at various or concurrent times, including the Chemeheuvi, Mojave, Cahuilla, Halchidhoma, and Quechan. It has been suggested that the Chuckwalla Valley may have been used as a transportation corridor from the Santa Barbara Channel Island region to the Yuman area of the Colorado River.

In the Chuckwalla Mountains, south of the Project site, petroglyphs are located at Corn Springs (CA-RIV-32). The petroglyphs at Corn Springs are located along an important east-west trail connecting the Colorado River Valley to the Coachella Valley and are associated with a prehistoric village. Since the Chuckwalla Valley was utilized by numerous cultural groups, sites indicate the importance of the area. According to Whitley, petroglyphs at Corn Springs represent the initial stages of a shaman's altered state. It is likely that the Corn Springs petroglyphs were created within the last 1,000 years.

#### 5.4.2.3 Ethnographic Background

Several Native American groups may have occupied or traversed the Project area. The Mohave were encountered by the Oñate Spanish expedition as far south as the present Colorado River Indian tribes Reservation in 1604 and intermittently controlled areas as far south as Palo Verde. After the Halchidhoma vacated the Parker-Blythe Valley between 1825 and 1830, the Mohave settled this area for a year or so but then returned to the Mohave Valley. Although Mohave and Quechan bands still made use of the area, the Chemehuevi, who had been west of the Chemehuevi and Whipple mountains, moved into the vacated area. The Chemehuevi are the southernmost of the 16 subgroups of the Southern Paiute. Their traditional territory was a large area southwest of Las Vegas, including the eastern Mojave Desert of California. Yuman-speaking groups from the south, such as the Quechan, also include the area in their oral traditions and report trails that extend along the Colorado River north of the Project area.

#### 5.4.2.4 Historical Background

Despite early explorations beginning in the 16th century, Euro-American settlement was delayed in the regional study area until the mid-19th century. This fact creates a long "proto-historic" period, which has been dealt with in the previous subsections from the point of view of Native American history. Euro-American expansion into the region and subsequent historical developments are addressed in the following paragraphs.

As early as 1539, the Spanish began to explore parts of California. Early explorers, such as Francisco de Ulloa (1539), Hernando de Alarcon (1540), and Francisco de Coronado (1540) led expeditions into the Gulf of Mexico, reaching the mouth of the Colorado River and continuing up the river past the Gila confluence. However, little exploration of the interior deserts was undertaken until much later. Spanish exploration for the next 200 years was intermittent in this area as it was considered remote and difficult to access.

The first recorded explorer of the interior Colorado Desert region was Father Eusebio Francisco Kino, a Jesuit missionary, cartographer, and explorer. Starting in 1691, Kino established a string of missions in northern Mexico and southern Arizona, finally reaching the Colorado River in 1702.

Almost 70 years later, Father Francisco Garcés followed Kino's route, reaching the villages of the Quechan Indians at the junction of the Gila and Colorado rivers in 1771. Garcés' party crossed the Colorado River and traveled west through the desert until the San Jacinto Mountains were visible in the distance, before returning to Sonora. Three years later, Father Garcés and a Spanish border captain named Juan Bautista de Anza attempted an overland route to Monterey. When they reached the Colorado River, Anza found the local Yumans friendly; they assisted Anza to ford the river, located wells and trails, and rescued an exploring party lost in the desert.

In the 1800s, most travel from Arizona to central California by Mexican soldiers and later, American settlers followed Anza's route. In the 1820s, limited placer mining occurred in the eastern Colorado Desert. From the 1840s through the 1880s, the U.S. cavalry established a series of camps and forts through Arizona, Nevada, and California deserts to protect settlers and immigrants from the hostile tribes.

The discovery of gold in California brought a great influx of American and European settlers to the State. Between 1849 and 1860 an estimated 8,000 emigrants crossed the Colorado Desert on their way to California. In the 1850s, there was limited gold mining in the eastern Colorado Desert.

The first road through eastern Riverside County was blazed by William Bradshaw in 1862 as an overland stage route beginning at San Bernardino and ending at La Paz, Arizona (now Ehrenberg, Arizona). The east-west trail was used extensively between 1862 and 1877 to haul miners and other passengers to the gold fields at La Paz. Today, the trail is a 65-mile graded road that traverses mostly public land between the Chuckwalla Mountains and the present-day Chocolate Mountain Aerial Gunnery Range, from the Salton Sea State Recreation Area to the community of Ripley near the Colorado River.

Significant economic development of the Colorado Desert region began in the 1870s and came to fruition in the early part of the 20th century. Development was dependent largely on two things: transportation and water. No major mining operations were undertaken in the Colorado Desert, but small-scale mining operations were present in isolated spots throughout the desert.

The Southern Pacific Railroad reached Yuma on September 30, 1877. The railroad was the single most important boost to mining in the southeastern Colorado Desert, offering convenient transportation of heavy mining equipment, supplies, personnel, and bullion. By 1880, the Southern Pacific Railroad was providing access to gold and silver ore deposits in the Chocolate Mountains, Cargo Muchachos, and Palo Verde Mountains. When mines opened up near the turn of the 20th century, stamp mills, and small tracks leading from the mines to the stamp mills, were built. Mining productivity in the southeastern Colorado Desert was greatest between 1890 and 1910, with a brief resurgence in the 1930s.

Small-scale mining took place in the Chuckwalla Mountains near Corn Springs as well. The Bryan Mine and a stamp mill were located near Corn Springs between 1898 and 1900 and operated by two men. The men, Adams and Pickering, processed their ore at the stamp mill and may have processed ore from other nearby mines.

Small-scale mining continued at Corn Springs during the early 20th Century as well. The "Hotel de Corn Springs," a small house located near the springs, shows evidence of approximately 20 to 40 visitors a year. Two prospectors are known to have lived near Corn Springs. Terry Jones lived there until his death in 1923 and Gus Lederer (the so-called "Mayor of Corn Springs") lived there until his death in 1932.

In the 1930s, the Metropolitan Water District was created to effect transport of water from the Colorado River to the Los Angeles basin. The Metropolitan Aqueduct was constructed from Parker Dam through

the mountains east of Indio to Riverside, and finally, to Los Angeles. It was the largest construction project in the world at the time and provided jobs during the depression.

During World War II (WWII), shortly after the bombing of Pearl Harbor and the U.S. entry into the war, Lieutenant General Lesley J. McNair, Director of Army Ground Forces and Combat Training for the War Department, decided to establish the Desert Training Center in southeastern California, Arizona, and Nevada in order to train U.S. troops in the event they would be sent to North Africa to fight the Germans. General George S. Patton, Jr. was tasked with overseeing the transformation of the desert stretching from the California-Arizona border and the Mexican border up to the lower part of Nevada.

General Patton scouted the area by plane, jeep, and horseback beginning in March of 1942. The area was suitable for training because of its openness, established railroads and highways, and the presence of several military installations throughout the region.

After 19 months of training and expansion, the Center was officially named "The Desert Training Center California-Arizona Maneuver Area," and had grown in size to an area twice the size of Maryland. The Center included tank, infantry, and air units all training for desert warfare. Patton established his base of operations at Shaver's Summit (now Chiriaco Summit) at Camp Young. Troops began arriving at the Center in April of 1942 and endured harsh physical training that included restricted access to water, physical endurance training, and lack of sleep. Life at the Desert Training Center was so difficult that the officers and enlisted men came to refer to the area as "the place that God forgot."

Patton commanded the Desert Training Center until July of 1942, when he was placed in charge of "Operation Torch," the Allied invasion of North Africa. Patton was replaced by Major General Alvan Gillem, Jr. Twelve thousand troops were stationed at the Desert Training Center when Patton left. As WWII continued, that number grew to over 200,000 by May of 1943. The need for troops around the world during WWII required that the various units stationed there be sent to places other than North Africa. In light of this need, the Desert Training Center was closed in April of 1944.

With the end of WWII came a reduction in the military activity in the Colorado Desert region. Civilian buildings and airports converted for use by the military during the war years returned to civilian use. Surplus military barracks were recycled for a variety of uses throughout the local communities. The primary post-war activities in the area were mining and agriculture. Agricultural practices were primarily confined to the mid and western side of Riverside County but have also developed in the Palo Verde Valley due to its location near the Colorado River.

### 5.4.2.5 Cultural Resources Inventory

A cultural resources inventory was conducted of the entire Project site and linear facilities. This inventory included archival research, a pedestrian archaeological survey, and an architectural survey. The results of the inventory are presented in the following subsections; additional detail is provided in Appendix G.

#### Archival Research

A records search was conducted by the Eastern Information Center (EIC) at the University of California, Riverside. The records search covered a one-mile buffer around the proposed BLM right-of-way (ROW). The study included a review of archaeological, historical, and environmental literature in addition to the site records and survey maps on file at the EIC.

Of the 11 previous surveys identified by the records search, five were conducted within portions of the Project area (Table 5.4-3). Two reports shown in this table (Crew and Schmidt), that crossed the Project site were linear studies that did not identify any cultural resources. Also, von Till Warren's overview of the Colorado Desert includes the Project area.

The remaining six cultural resources studies located near the Project site include linear surveys for transmission lines and fiber-optic lines, geotechnical test pit location surveys, and an overview of Palen Lake playa. Surveys near the Project area identified cultural materials, such as trails and remnants of prehistoric hearth features along the playa shoreline. None of the previous surveys within the current Project footprint identified cultural materials.

**Table 5.4-3 Summary of Previous Surveys within Records Search Limits**

| Report Number | Author | Title |
|---|---|---|
| RI-00161 | Roberta S. Greenwood | Paleontological, Archaeological, Historical, and Cultural Resources - West Coast-Midwest Pipeline Project, Long Beach to Colorado River |
| RI-00190 | Stephen R. Hammond | Archaeological Survey Report for The Proposed Safety Project on Interstate 10 Between Chiriaco Summit and Willey's Well Overcrossing, Riverside County, California |
| RI-00220 | Richard Cowan and Kurt Wallof | Interim Report -- Fieldwork and Data Analysis: Cultural Resource Survey of the Proposed Southern California Edison Palo Verde-Devers 500 kV Power Transmission Line |
| RI-00221 | Westec Services, Inc. | Cultural Resource Inventory and National Register Assessment of the Southern California Edison Palo Verde to Devers Transmission Line Corridor (California Portion) |
| RI-00222 | Kurt Wallof and Richard A. Cowan | Final Report: Cultural Resource Survey of the Proposed Southern California Edison Palo Verde-Devers 500 kV Power Transmission Line |
| RI-00813 | Bureau of Land Management | Eastern Riverside County Geothermal Temperature Gradient Holes |
| RI-00982 | Harvey L. Crew | An Archaeological Survey of Geothermal Drilling Sites in Riverside County |
| RI-01211 | Elisabeth von Till Warren et al. | A Cultural Resources Overview of the Colorado Desert Planning Units |
| RI-01341 | Eric W. Ritter | Archaeological Appraisal of the Palen Dry Lake Area of Critical Environmental Concern, Riverside County, California |
| RI-02210 | J. Underwood, et al. | Preliminary Cultural Resources Survey Report for the US Telecom Fiber Optic Cable Project, From San Timoteo Canyon to Socorro, Texas: The California Segment |
| RI-05245 | James Schmidt | Negative Archaeological Survey Report: Southern California Edison Company, Blythe-Eagle Mountain 161 kV Deteriorated Pole Replacement Project |

The records search identified 11 resources within the one-mile plant site buffer (Table 5.4-4), none of which are recorded within the Project footprint. Cultural resources located within the buffer area include historic can scatters, prehistoric habitation sites, and prehistoric trail segments.

**Table 5.4-4 Summary of Previously Recorded Cultural Resources**

| Primary Number (P-33-) | Permanent Trinomial CA-RIV- | Site Type | Site Constituents | Time Period |
|---|---|---|---|---|
| N/A | 893T | Trail segment | Disturbed trail segment | Prehistoric |
| N/A | 1515 | Habitation site | Fire-affected rock, core fragments, milling implements, bone fragments, beads, projectile points | Prehistoric |
| 13591 | | Isolate – biface fragment | Quartzite biface fragment | Prehistoric |
| 13592 | | Historic debris scatter | Church key opened beverage cans, juice cans, meat tins | Historic – Early 20th Century |
| 13681 | | Isolate –historic tin can | Hole-in-cap can | Historic – Early 20th Century |
| 13964 | 7648 | Historic can scatter; section marker | Wood fragments and tin cans | Historic – Late 19th Early 20th Century |
| 14160 | | Ceramic scatter | Incised rim sherd and body sherd | Prehistoric |
| 14161 | | Isolate - historic government issued periscope style flashlight | Flashlight | Historic - 1940s |
| 14177 | | Rock ring | Cleared circle rock ring – no artifacts | Prehistoric |
| 17137 | 8920 | Historic can scatter | Hole-in-top cans, evaporated milk cans, glass fragments | Historic – Early 20th Century |
| 17138 | 8921 | Historic can scatter | Tin cans, milled lumber, glass fragments | Historic – Early 20th Century |

**Archaeological Survey**

An archaeological survey of the Project site was conducted in April and May 2009. The survey was conducted to identify possible cultural resources that may be impacted by construction activities. The survey utilized both 7.5-minute U.S. Geological Survey (USGS) topographic maps and larger-scale aerial photographs. The Project site was surveyed by a four-person crew walking at no more than 20-meter (about 66-foot) intervals. Per CEC requirements, the survey area included a 200-foot buffer around the Project site boundary. As noted earlier, the transmission route for the Project has not been finalized because of uncertainties concerning the location of the substation that will be the terminus of the Project line. For this reason, no transmission route survey results are reported in this section. When the route is finalized, the needed archival research and field survey work will be conducted and the results provided to the regulatory agencies.

Archaeological sites were defined as a cluster of three or more artifacts within 30 meters and an arbitrary distance of 50 meters was utilized to differentiate between sites. Identified site boundaries, features, and artifacts were recorded using a GEO-XT submeter or GEO-XH subfoot Trimble Global Positioning System, and a sketch map was produced. Identified sites and isolates were recorded on State of California Department of Parks and Recreation (DPR 523) forms.

The ground visibility was good, close to or at 100 percent. The Project site lies north of Interstate 10 (I-10) and has been heavily disturbed by road construction and maintenance, and by modern refuse associated with the road. Other impacts within the Project area are related to General George Patton's Desert Training Center during World War II. Throughout the Project area there are numerous isolated modern and historic cans. Larger historic debris concentrations were identified near some dirt roads and I-10. Many of these debris scatters have been distributed by alluvial drainages and have been redeposited throughout the Project area. During the course of the survey, 46 archaeological sites and 330 isolates were identified. The resource types include prehistoric and historic period sites, along with numerous isolated artifacts scattered throughout the landscape.

Of the sites encountered, 12 are prehistoric sites and 45 are historic period (Table 5.4-5). The historic period sites are primarily refuse scatters containing combinations of glass, metal, and cans. Historic artifacts include hole-in-top cans, square cans, side seam cans, and broken bottles. The prehistoric cultural resources vary in both artifact types and raw materials used and consisted of flake scatters of varying sizes, cores, clusters of fire-affected rock, and camps. The predominant prehistoric artifact types identified during the survey consist mainly of flakes and cores. Cryptocrystalline silicate and jasper are the main sources of raw materials used in the manufacturing of these artifacts.

**Architectural Research and Reconnaissance**

On May 1, 2009, a qualified architectural historian conducted a historic architecture field survey of the Project area to determine whether historic buildings and structures were present. To comply with CEC requirements, a 0.5-mile area surrounding the Project area and linear facilities was surveyed for historic buildings and structures. The survey was conducted from the ROW or existing vantage points. Prior to the survey, available aerial photographs and historic maps of the Project area and 0.5-mile buffer area were reviewed to identify existing structures.

Prior to the survey, a comparison of current aerial photographs and historical USGS topographical maps were studied to locate structures within the Project area and a 0.5-mile buffer area. Several structures were identified for survey based on current aerial photographs. Archives at the Palo Verde Historical Museum and Society were also reviewed for information about architecture in the Project area. One residential structure (SMP-Built-01), one farmstead (SMP-Built-02) including a house and outbuildings, a radio tower complex with outbuildings, and two bridges (Caltrans Bridge numbers 5656C0102 and 56C0103) were observed on current aerials and during field survey, but did not appear on any historical maps..

The residential structure appears to date to the mid-20th century, potentially over 45 years old. The farmstead also appears to date to the mid-20th century, potentially over 45 years old, with additional associated structures that do not appear to be over 45 years old. The radio tower complex and its two outbuildings do not appear to be over 45 years old and will not be evaluated. The construction of the two outbuildings is modern, potentially dating to the 1990s.

The two bridges were observed along Chuckwalla Road, the Aztec Ditch Bridge (Caltrans Bridge 56C0102) and the Tarantula Ditch Bridge (Caltrans Bridge 56C0103). Both bridges were built in 1931 and modified in 1944. The Caltrans Historic Bridge Inventory determined both bridges to be in Category 5, and therefore not eligible for the NRHP.

**Table 5.4-5 Summary of Cultural Resources Sites at the PSPP**

| Temporary Number | Site Type/Historic Context | Date |
|---|---|---|
| **Archaeological Resources** | | |
| SMP-H-1001 | Historic Debris Scatter/Military | Early to mid 20th Century |
| SMP-H-1002 | Historic Debris Scatter/Military | Early to mid 20th Century |
| SMP-H-1003 | Historic Debris Scatter/Military | 1942-1944 |
| SMP-H-1004 | Historic Debris Scatter/Military | Post 1935 |
| SMP-H-1005 | Historic Debris Scatter/Military | Early to mid 20th Century |
| SMP-H-1006 | Historic Debris Scatter/Military | Early to mid 20th Century |
| SMP-H-1007 | Historic Debris Scatter/Military | Early to mid 20th Century |
| SMP-H-1008 | Historic Debris Scatter/Military | Post 1942 |
| SMP-H-1009 | Historic Debris Scatter/Military | Early to mid 20th Century |
| SMP-H-1010 | Historic Debris Scatter/Military | 1942-1944 |
| SMP-H-1011 | Historic Debris Scatter/Military | 1940s |
| SMP-H-1012 | Historic Debris Scatter/Military | Post 1932 |
| SMP-H-1013 | Historic Debris Scatter/Military | Early to mid 20th Century |
| SMP-P-1015 | Lithic Scatter/Lithic Technology | Prehistoric |
| SMP-P-1016 | Lithic Scatter/Lithic Technology | Prehistoric |
| SMP-P-1017 | Hearth Feature/Prehistoric Settlement, Lithic Technology | Prehistoric |
| SMP-P-1018 | Hearth Feature/Prehistoric Settlement | Prehistoric |
| SMP-H-1020 | Historic Debris Scatter/Military | Early to mid 20th Century |
| SMP-H-1021 | Historic Debris Scatter/Military | Early to mid 20th Century |
| SMP-H-1022 | Historic Debris Scatter/Military | Early to mid 20th Century |
| SMP-H-1023 | Historic Debris Scatter/Military | 1938-1951 |
| SMP-H-1024 | Power Line and Access Road/Regional Development | 1957-Present |
| SMP-H-1025 | Survey Markers/Regional Development | Late 19th to early 20th Century |
| SMP-H-1026 | Tank Tracks/Military | 1942-1944 |
| SMP-H-1032 | Historic Road/Transportation | 1943 |
| SMP-H-2002 | Historic Debris Scatter/Military | 1942-1944 |
| SMP-H-2003 | Historic Debris Scatter/Military | 1942-1944 |
| SMP-H-2004 | Historic Debris Scatter/Military | 1942-1944 |
| SMP-H-2006 | Historic Debris Scatter/Military | Post-1932 |
| SMP-H-2007 | Historic Debris Scatter/Military | Early to mid 20th Century |

**Table 5.4-5 Summary of Cultural Resources Sites at the PSPP**

| Temporary Number | Site Type/Historic Context | Date |
|---|---|---|
| SMP-H-2008 | Historic Debris Scatter/Military | Early to mid 20th Century |
| SMP-H-2009 | Tank Tracks/Military | 1942-1944 |
| SMP-H-2010 | Historic Debris Scatter and Tank Tracks/Military, Regional Development | 1924-1944 |
| SMP-H-2011/2012 | Historic Debris Scatter with Military Components/ Military | 1942-1944 |
| SMP-P-2013B | Lithic Scatter/Lithic Technology | Prehistoric |
| SMP-P-2014 | Lithic Scatter/Lithic Technology | Prehistoric |
| SMP-P-2015 | Lithic and Groundstone Scatter/Lithic Technology, Prehistoric Settlement | Prehistoric |
| SMP-H-2016 | Historic Corral/Agriculture, Ranching | Early to mid 20th Century |
| SMP-H-2017 | Historic Debris Scatter/Military | Early to mid 20th Century |
| SMP-P-2018 | Lithic Scatter/Lithic Technology | Prehistoric |
| SMP-H-2019 | Historic Debris Scatter/Military | Early to mid 20th Century |
| SMP-H-2020 | Historic Debris Scatter /Military | Early to mid 20th Century |
| SMP-H-2021 | Historic Debris Scatter/Military | Early to mid 20th Century |
| SMP-H-2022 | Historic Debris Scatter/Military | Early to mid 20th Century |
| SMP-P-2023 | Temporary Camp/Prehistoric Settlement, Lithic Technology | Prehistoric |
| SMP-H-RMA-1 | Historic Encampment/Military | 1942-1944 |
| **Architectural Resources** | | |
| Bridge 56C0102 | Transportation | 1931 |
| Bridge 56C0103 | Transportation | 1931 |
| SMP-Built-01 | Residence | Mid 20th Century |
| SMP-Built-02 | Farmstead | Mid 20th Century |

### 5.4.2.6 Consultation with Local Historical Societies and Other Interested Parties

A letter was sent to various local historical societies in order to solicit any information or input they may have on the Project (Table 5.4-6). To date, no responses have been received.

**Table 5.4-6 Local Historical Society Contacts by Organization**

| Organization | Dates of Contact | Response |
|---|---|---|
| General Patton Memorial Museum | 6/1/2009 | None to date |
| Historic Resources Management Programs, University of California, Riverside | 6/1/2009 | None to date |

| | | |
|---|---|---|
| Palm Springs Air Museum | 6/1/2009 | None to date |
| Palm Springs Historical Society | 6/1/2009 | None to date |
| Palo Verde Historical Museum and Society | 6/1/2009 | None to date |
| Riverside County Historical Commission | 6/1/2009 | None to date |

In addition to the records search conducted by EIC and letters sent to historical societies, several historical societies and agencies were visited by Project cultural staff in April and May 2009. The purpose of these visits was to try to obtain any pertinent information regarding historic or other cultural resources within or near the Project area. The societies visited were:

- General Patton Memorial Museum; and
- Palo Verde Historical Museum and Society.

### 5.4.2.7 Native American Consultation

In accordance with CEC requirements, a letter was sent to the NAHC in April 2009 requesting information on sacred lands and traditional cultural properties, as well as a list of Native American individuals and organizations that might have knowledge or concerns with cultural resources within the Project area. The file search revealed that cultural resources were known to exist near the Project area. Eighteen Native American representatives were identified by the NAHC (Table 5.4-7). Letters were sent to these individuals informing them of the Project and asking for their input and concerns (copies of the letters are provided in Appendix G. To date, two responses have been received. Judy Stapp, Director of Cultural Affairs for the Cabazon Band of Mission Indians in Indio, indicated that she had no comment at this time. Joseph R. Benitez indicated that the Chemehuevi should be contacted.

In addition to the consultation effort describe above, BLM is conducting Native American consultation. As part of the Federal compliance process for projects on land managed by the BLM, BLM staff work with federally-recognized tribes in government to government consultation.

**Table 5.4-7 Consulting Parties and Public Participation Contacts by Affiliation**

| Name/Title | Affiliation | Dates of Contact | Response |
|---|---|---|---|
| Joseph R. Benitez | None provided by NAHC | 5/5/2009 | 6/17/2009 – Indicated Chemehuevi Tribe should be contacted |
| Ann Brierty | San Manuel Band of Mission Indians | 5/5/2009 | None to date |
| Bennae Calac, Tribal Council Member | Pauma Valley Band of Luiseño Indians | 5/5/2009 | None to date |
| Chairperson | Twentynine Palms Band of Mission Indians | 5/5/2009 | None to date |
| Diana L. Chihuahua, Cultural Resources Coordinator | Torres-Martinez Desert Cahuilla Indians | 5/5/2009 | None to date |
| Michael Contreras, Cultural Heritage Program Manager | Morongo Band of Mission Indians | 5/5/2009 | None to date |

**Table 5.4-7 Consulting Parties and Public Participation Contacts by Affiliation**

| Name/Title | Affiliation | Dates of Contact | Response |
|---|---|---|---|
| Joseph Hamilton, Chairman | Ramona Band of Cahuilla Mission Indians | 5/5/2009 | None to date |
| John A. James, Chairperson | Cabazon Band of Mission Indians | 5/5/2009 | None to date |
| Linda Otero, Director | AhaMaKav Cultural Society, Fort Mojave Indian Tribe | 5/5/2009 | None to date |
| James Ramos, Chairperson | San Manuel Band of Mission Indians | 5/5/2009 | None to date |
| Mary Resvaloso, Chairperson | Torres-Martinez Desert Cahuilla Indians | 5/5/2009 | None to date |
| Luther Salgado, Sr. | Cahuilla Band of Indians | 5/5/2009 | None to date |
| Alvino Silva | None provided by NAHC | 5/5/2009 | None to date |
| Judy Stapp, Director of Cultural Affairs | Cabazon Band of Mission Indians | 5/5/2009 | 5/18/2009 - No comment |
| Michael Tsosie | Colorado River Reservation | 5/5/2009 | None to date |
| Patricia Tuck, Tribal Historic Preservation Officer | Agua Caliente Band of Cahuilla Indians | 5/5/2009 | None to date |
| Tim Williams, Chairperson | Fort Mojave Indian Tribe | 5/5/2009 | None to date |
| Charles Wood, Chairperson | Chemehuevi Reservation | 5/5/2009 | None to date |

## 5.4.3 Environmental Impacts

This section describes the potential impacts of the Project on cultural resources. Impacts during both construction and operation are addressed.

Environmental impacts are assessed for those resources that have been identified as potentially significant. Significance of archaeological sites is based on the regional and local context in which they are found. For a cultural resource to be significant, it must meet some of the significance criteria of the NRHP (NHPA, Title 16 USC Section 470 et seq.) or the CRHR (PRC 5024.1) or satisfy the uniqueness criteria under CEQA. In general, a site that qualifies for inclusion to the NRHP also qualifies for inclusion to the CRHR.

The NRHP states that a building, structure, archaeological site, or other resource will be considered significant if it meets at least one of the following criteria (A-D):

A) That are associated with events that have made a significant contribution to the broad patterns of our history; or

B) That are associated with the lives of persons significant in our past; or

C) That 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; or

D) That have yielded or may be likely to yield, information important in prehistory or history.

The CRHR states that a building, structure, archaeological site, or other resource will be considered significant if it meets at least one of the following criteria (1-4):

1) Is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California; or

2) Is associated with the lives of persons important to local, California, or national history; or

3) Embodies distinctive characteristics of a type, period, region, or method of construction or represents the work of a master, or possesses high artistic values; or

4) Has yielded, or may be likely to yield, information important in prehistory or history.

In addition to qualifying for the NRHP or CRHR, a resource must possess sufficient integrity with regard to location, design, setting, materials, workmanship, feeling, and association.

Assessments of project impacts are based on the level of direct and indirect physical changes to a significant resource. A significant impact would occur if the Project:

- Alters a resource or its setting in a manner that affects the qualities that make it significant. Direct impacts to archaeological resources include grading, and for built resources include removal of key elements (e.g., roof), or demolition.
- Indirectly alters the setting, access to, or other elements of the resource in a manner that negatively affects the significance of the resource. Examples of indirect impacts include increased erosion at archaeological sites or visual intrusion of buildings that are left vacant.
- Disturbs any human remains, including those located outside of formal cemeteries.

### 5.4.3.1 Construction

Ground-disturbing construction activities have the potential to directly impact cultural resources by altering site integrity and the qualities that make the resources significant. In addition, in the case of built resources, impacts can occur to the setting of a resource, even if the resource is not physically damaged. Based on archival and survey investigations, 46 newly identified archaeological sites, and four built resources were inventoried for the Project site. Table 5.4-8 summarizes the Project's anticipated impacts to these resources.

Most of the resources inventoried for the Project have been assessed as not significant. Potentially significant impacts are possible at six archaeological sites (SMP-P-1015, SMP-P-1016, SMP-P-1017, SMP-P-2014, SMP-P-2015, and SMP-P-2023). Based on the surface evidence, these resources are assessed as potentially significant and subject to potential impacts from construction of the Project. Three of these sites (SMP-P-1015, SMP-P-1016, and SMP-P-2014), appear to qualify for the California Archaeological Resources Identification and Data Acquisition Program: Sparse Lithic Scatters (CARIDAP). Successful treatment under this program results in a "not eligible" and "No Effect on Historic Properties" determination. Under CEQA and NHPA, with implementation of mitigation measures at other sites identified in Section 5.4.4 below, potential impacts would be mitigated to a less than significant level and would be addressed under the BLM Nationwide Programmatic Agreement (PA).

**Table 5.4-8 Summary of Palen Solar Power Project Site Data and Impact Assessment**

| Temporary Number/Parcel Number | Site Type/Historic Context | Date | Significance Potential | Project Impact |
|---|---|---|---|---|
| **Archaeological Resources** | | | | |
| SMP-H-1001 | Historic Debris Scatter | Early to mid 20th Century | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-1002 | Historic Debris Scatter | Early to mid 20th Century | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-1003 | Historic Debris Scatter | 1942-1944 | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-1004 | Historic Debris Scatter | Post-1935 | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-1005 | Historic Debris Scatter | Early to mid 20th Century | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-1006 | Historic Debris Scatter | Early to mid 20th Century | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-1007 | Historic Debris Scatter | Early to mid 20th Century | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-1008 | Historic Debris Scatter | Post 1942 | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-1009 | Historic Debris Scatter | Early to mid 20th Century | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-1010 | Historic Debris Scatter | 1942-1944 | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-1011 | Historic Debris Scatter | 1940s | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-1012 | Historic Debris Scatter | Post 1932 | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-1013 | Historic Debris Scatter | Early to mid 20th Century | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |

**Table 5.4-8 Summary of Palen Solar Power Project Site Data and Impact Assessment**

| Temporary Number/Parcel Number | Site Type/Historic Context | Date | Significance Potential | Project Impact |
|---|---|---|---|---|
| SMP-P-1015 | Lithic and Groundstone Scatter | Prehistoric | Appears to meet requirements for CARIDAP | Solar Field; if eligible, impact less than significant with mitigation under CEQA; no historic properties affected if addressed under CARIDAP for NHPA |
| SMP-P-1016 | Lithic Scatter | Prehistoric | Appears to meet requirements for CARIDAP | Solar Field; if eligible, impact less than significant with mitigation under CEQA; no historic properties affected if addressed under CARIDAP for NHPA |
| SMP-P-1017 | Hearth Feature | Prehistoric | Potentially eligible under CRHR Criterion 4 and unevaluated under NRHP Criterion D | If eligible, impact less than significant with mitigation under CEQA; adverse effect under NHPA addressed by consultation between BLM, SHPO and interested parties |
| SMP-P-1018 | Hearth Feature | Prehistoric | Not evaluated | None – site is in buffer and will be avoided |
| SMP-H-1020 | Historic Debris Scatter | Early to mid 20th Century | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-1021 | Historic Debris Scatter | Early to mid 20th Century | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-1022 | Historic Debris Scatter | Early to mid 20th Century | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-1023 | Historic Debris Scatter | 1938-1951 | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |

**Table 5.4-8 Summary of Palen Solar Power Project Site Data and Impact Assessment**

| Temporary Number/Parcel Number | Site Type/Historic Context | Date | Significance Potential | Project Impact |
|---|---|---|---|---|
| SMP-H-1024 | Power Line and Access Road | 1957-Present | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-1025 | Survey Markers | Late 19th to early 20th Century | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-1026 | Tank Tracks | 1942-1944 | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-1032 | Historic Road | 1943 | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-2002 | Historic Debris Scatter | 1942-1944 | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-2003 | Historic Debris Scatter | 1942-1944 | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-2004 | Historic Debris Scatter | 1942-1944 | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-2006 | Historic Debris Scatter | Post-1932 | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-2007 | Historic Debris Scatter | Early to mid 20th Century | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-2008 | Historic Debris Scatter | Early to mid 20th Century | Not evaluated | None – site is in buffer and will be avoided |
| SMP-H-2009 | Tank Tracks | 1942-1944 | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-2010 | Historic Debris Scatter and Tank Tracks | 1924-1944 | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-2011/2012 | Historic Debris Scatter with Military Components | 1942-1944 | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |

**Table 5.4-8 Summary of Palen Solar Power Project Site Data and Impact Assessment**

| Temporary Number/Parcel Number | Site Type/Historic Context | Date | Significance Potential | Project Impact |
|---|---|---|---|---|
| SMP-P-2013B | Lithic Scatter | Prehistoric | Not evaluated | None – site is in buffer and will be avoided |
| SMP-P-2014 | Lithic Scatter | Prehistoric | Appears to meet requirements for CARIDAP | Drainage discharge; if eligible, impact less than significant with mitigation under CEQA; no historic properties affected if addressed under CARIDAP for NHPA |
| SMP-P-2015 | Lithic and Groundstone Scatter | Prehistoric | Potentially eligible under CRHR Criterion 4 and unevaluated under NRHP Criterion D | If eligible, impact less than significant with mitigation under CEQA; adverse effect under NHPA addressed by consultation between BLM, SHPO, and interested parties |
| SMP-H-2016 | Historic Corral | Early to mid 20th Century | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-2017 | Historic Debris Scatter | Early to mid 20th Century | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-P-2018 | Hearths and Lithic Scatter | Prehistoric | Not evaluated | None – site is in buffer and will be avoided |
| SMP-H-2019 | Historic Debris Scatter | Early to mid 20th Century | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-2020 | Historic Debris Scatter | Early to mid 20th Century | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-2021 | Historic Debris Scatter | Early to mid 20th Century | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-H-2022 | Historic Debris Scatter | Early to mid 20th Century | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |

**Table 5.4-8 Summary of Palen Solar Power Project Site Data and Impact Assessment**

| Temporary Number/Parcel Number | Site Type/Historic Context | Date | Significance Potential | Project Impact |
|---|---|---|---|---|
| SMP-P-2023 | Hearth | Prehistoric | Potentially eligible under CRHR Criterion 4 and not evaluated under NRHP Criterion D | If eligible, impact less than significant with mitigation under CEQA; adverse effect under NHPA addressed by consultation between BLM, SHPO, and interested parties |
| SMP-H-RMA-1 | Historic encampment | 1942-1944 | Not evaluated | None - site is in buffer and will be avoided |
| **Architectural Resources** | | | | |
| Bridge 56C0102 | Bridge | 1931 | Not eligible per Caltrans Historic Bridge Inventory | Not significant |
| Bridge 56C0103 | Bridge | 1931 | Not eligible per Caltrans Historic Bridge Inventory | Not significant |
| SMP-Built-01 | Residence | Mid 20th Century | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |
| SMP-Built-02 | Farmstead | Mid 20th Century | Not significant; does not meet NRHP or CRHR criteria or criteria for uniqueness | Not significant |

In addition to the resources identified in Table 5.4-8, 288 isolated finds were encountered during the survey efforts. These include prehistoric lithics and ceramics, and historic period items such as tin cans. None of the isolated finds are considered significant.

If an unanticipated archaeological and/or historical resource were discovered during construction, then potential impacts would be mitigated to a less than significant level with the implementation of the mitigation measures identified in Section 5.4.4.1.

### 5.4.3.2 Operation

No additional impacts to cultural resources are anticipated by Project operation.

### 5.4.3.3 Cumulative Impacts

The various cumulative projects, almost all of which are on BLM land, have submitted ROW applications for the use of approximately 100,000 acres along the I-10 corridor, although the projects themselves will affect considerably less acreage. Each of these projects will be required to comply with CEQA, the NHPA, and NEPA (projects on Federal land), all of which contain requirements related to cultural resources investigations, impacts assessment, and mitigation. Cumulatively, the various projects potentially could impact existing cultural resources, including potentially significant resources on a substantial amount of land. However, each project will be required to comply with the regulatory and professional requirements of the cultural resources field to investigate, carefully evaluate, avoid, and mitigate any impacts through excavation, data recovery, and so on. For these reasons overall cumulative cultural resources impacts would be less than significant and the Project's contribution to cumulative impacts would be less than considerable.

## 5.4.4 Mitigation Measures

### 5.4.4.1 Construction

To mitigate potentially significant Project cultural resources to a less-than-significant level, the Applicant will implement the measures listed below.

**CUL-1** If significant or potentially significant cultural resources cannot be avoided, the project owner will retain a qualified Cultural Resources Specialist to prepare and implement a Historic Property Treatment Plan (HPTP) for the affected resources. The HPTP may include protocols for affected resources including data recovery, research design, and treatment measures. The Principal Investigator for the HPTP program will meet the minimum Principal Investigator qualifications under the Secretary of Interior's Standards for Archaeology.

**CUL-2** **CUL-2**: A designated Cultural Resources Specialist will provide input to construction and operation training programs for employees to enhance awareness regarding the protection of cultural resources. The specialist or a qualified archaeological monitor will be on site during construction to inspect and evaluate any finds of potentially significant buried cultural material. The Cultural Resources Specialist or qualified archaeological monitor will coordinate with the Project owner's construction manager and environmental compliance manager to stop all work in the vicinity of the find until it can be assessed. The Cultural Resources Specialist will also contact the BLM archaeologist. If the discovery is determined to be not significant through consultation with CEC and BLM staff, work will be allowed to continue.

**CUL-3** All discoveries will be documented on appropriate Department of Parks and Recreation forms (Form DPR 523) and filed with the EIC in Riverside.

**CUL-4** If, in consultation with the CEC and BLM, a discovery is determined to be significant, a mitigation plan will be prepared and carried out in accordance with state and Federal guidelines. If the resources cannot be avoided, a data recovery plan will be developed to ensure collection of sufficient information to address archaeological or historical research questions.

**CUL-5** A professional technical report will be prepared documenting assessment and data recovery investigations. The report will describe the methods and materials collected and will provide conclusions regarding the results of the investigations. The report will be submitted to the curatorial facility with the artifacts.

**CUL-6** Cultural material collected as part of an assessment or data recovery mitigation will be curated at a qualified curation facility. Field notes and other pertinent materials will be curated along with the archaeological collection.

**CUL-7** If human remains are encountered during construction, potentially destructive activities in the vicinity of the find will be stopped. The Cultural Resources Specialist will immediately notify the Principal Investigator, who will contact the CEC and BLM. The project owner will ensure that any such remains are treated in a respectful manner and that applicable state and Federal laws are followed. If human remains of Native American origin, associated grave goods, or objects of cultural patrimony are discovered on Federal property, the provisions of the Native American Graves Protection and Repatriation Act will be followed.

**CUL-8** The project owner will provide worker environmental awareness program training during construction to assist in worker compliance with cultural resource protection procedures. The training will include photographs of a variety of historic and prehistoric artifacts and will include a description of the specific steps to be taken in the event of an unanticipated discovery of cultural material, including human remains.

## 5.4.5 References

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