CULTURAL RESOURCES STUDY FOR THE GLACIER POWER AND GAS SOLAR PROJECT

YERMO
SAN BERNARDINO COUNTY, CALIFORNIA

APN 0538-161-28 and -29

Lead Agency:

County of San Bernardino
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San Bernardino, California 92415

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July 18, 2023

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Archaeological Database Information

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Report Date:	July 18, 2023
Report Title:	Cultural Resources Study for the Glacier Power and Gas Solar Project, Yermo, San Bernardino County, California
Type of Study:	Phase I Cultural Resources Study
USGS Quadrangle:	Section 32, Township 10 North, Range 2 East of the *Yermo, California* (7.5-minute) USGS Quadrangle
Acreage:	41 acres
Key Words:	Survey; *Yermo, California* USGS Quadrangle; no new resources identified; Site P-36-023426 relocated; evaluated as not eligible for the CRHR; monitoring of project-related ground disturbances not recommended.

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MANAGEMENT SUMMARY/ABSTRACT

At the direction of Lilburn Corporation, a cultural resources study was conducted by BFSA Environmental Services, a Perennial Company (BFSA), for the proposed Glacier Power and Gas Solar Project. The proposed project includes the installation of a new series of 20-by-20-foot solar collection arrays, along with associated chain link fence, access gates and roads, parking stalls, electric cabinets and meters, power poles, and concrete pads. The 41-acre project (Assessor's Parcel Numbers [APNs] 0538-161-28 and -29) is located at 39952 Calico Boulevard in the community of Yermo, in unincorporated San Bernardino County, California (Figure 1.1–1). The project is situated within Section 32, Township 10 North, Range 2 East on the U.S. Geological Survey (USGS) (7.5-minute) *Yermo, California* Quadrangle.

The purpose of this investigation was to locate and record any cultural resources within the project and subsequently evaluate any resources as part of the County of San Bernardino environmental review process conducted in compliance with the California Environmental Quality Act (CEQA). The archaeological investigation of the project includes an archaeological records search conducted at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton (CSU Fullerton) in order to assess previous archaeological studies and identify any previously recorded archaeological sites within the project, or in the immediate vicinity. The records search identified six previously recorded resources (all historic built resources) recorded within a one-half-mile radius of the project. Of the previously recorded resources, one (Site P-36-023426) intersects the subject property. Site P-36-023426 consists of a series of poorly preserved segments of the 1910-1917 concrete-lined Yermo Mutual Water Company canal (Yermo Canal). The section of the canal within the project, as well as other segments, have been previously recorded and described to be in poor condition and impacted by past construction projects in the vicinity (SRS 1983; Neuenschwander 1997; Dice 2011; Granger et al. 2012). A Sacred Lands File (SLF) search was also requested from the Native American Heritage Commission (NAHC). The SLF search has been returned with negative results for potential sites or locations of Native American importance within the vicinity. The NAHC suggested contacting local Native American groups for further information. This additional outreach will be conducted by the lead agency under the official Assembly Bill (AB) 52 Native American consultation process.

Survey conditions were generally good and visibility was only limited by a few large creosote bushes. Remnants of Site P-36-023426 within the current project area were identified during the survey. The visible segments of the Yermo Canal within the project were found to be similar to other previously recorded sections, generally measuring 10 feet wide with cement walls. Within the project, the canal has almost entirely been filled with sediment with some sections appearing to have been removed from the property. As such, the portion of the resource within the project lacks integrity. The survey did not result in the identification of any new historic or prehistoric cultural resources within the project; however, a limited research effort was conducted

to contextualize the historic elements of P-36-023426 and evaluate the resource for inclusion in the California Register of Historical Resources (CRHR). The remaining segments of the Yermo Canal within the project are of unremarkable construction, lack any association with local or regional historical events or figures, and are lacking in integrity. As such, Site P-36-023426 is evaluated as not eligible for the CRHR and, therefore, does not meet the requirements to be defined as a historical resource under CEQA. Site P-36-023426 has been evaluated as not eligible for the CRHR and any project related impacts to the resource are not considered significant. Therefore, no site-specific mitigation measures are recommended. Further, based on the records search results, only historic built resources have been previously identified within one-half mile of the project. The potential for previously unidentified archaeological resources or deposits is considered low. Since there is low potential to encounter any significant cultural sites during the development of this property, archaeological monitoring of grading is not recommended as a condition of project approval. A copy of this report will be permanently filed with the SCCIC at CSU Fullerton. All notes, photographs, and other materials related to this project will be curated at the archaeological laboratory of BFSA in Poway, California.

1.0 INTRODUCTION

1.1 Project Description

The archaeological survey program for the Glacier Power and Gas Solar Project was conducted in order to comply with CEQA and County of San Bernardino environmental requirements. The 41-acre project (APNs 0538-161-28 and -29) is located at 39952 Calico Boulevard in the community of Yermo, in unincorporated San Bernardino County, California (Figure 1.1–1). The project is situated within Section 32, Township 10 North, Range 2 East on the USGS *Yermo, California* Quadrangle (Figure 1.1–2). The proposed project consists of a new series of 20-by-20-foot solar collection arrays, along with associated chain link fence, access gates and roads, parking stalls, electric cabinets and meters, power poles, and concrete pads (Figure 1.1–3).

The decision to request this investigation was based upon the cultural resource sensitivity of the locality as suggested by known site density and predictive modeling. Sensitivity for cultural resources in a given area is usually indicated by known settlement patterns which, in southwestern San Bernardino County, were focused around freshwater resources and a food supply.

1.2 Environmental Setting

The project is located south of the Calico Mountains, in the central area of the Mojave Desert, within the tectonically active Mojave Desert Block. The path of the intermittent Mojave River lies just south of the project. The subject property primarily contains sediments deposited by the Mojave River which are mapped as early Holocene and late Pleistocene older young wash deposits. These deposits are characterized as "well-stratified, moderately sorted channel gravel, poorly sorted, sandy crevasse splay deposits, muddy to finely sandy floodplain deposits, and muddy marsh deposits with organic materials and groundwater-discharge carbonate blebs." Along the southern boundary of the project, Phelps et al. (2012) identify a large, modern surficial deposit of disturbed earthen materials. These disturbed/fill deposits are partly associated with the Calico Lakes community southwest of the project where Mountain View Road encircles an artificial lake. The specific soil types found within the property are mapped as Cajon Sand, 2 to 9 percent slopes (113) (NRCS 2019). The subject property is relatively flat with elevations ranging between approximately 1,905 feet above mean sea level (AMSL) to approximately 1,910 feet AMSL. Vegetation within the project consists primarily of sporadic creosote bushes.

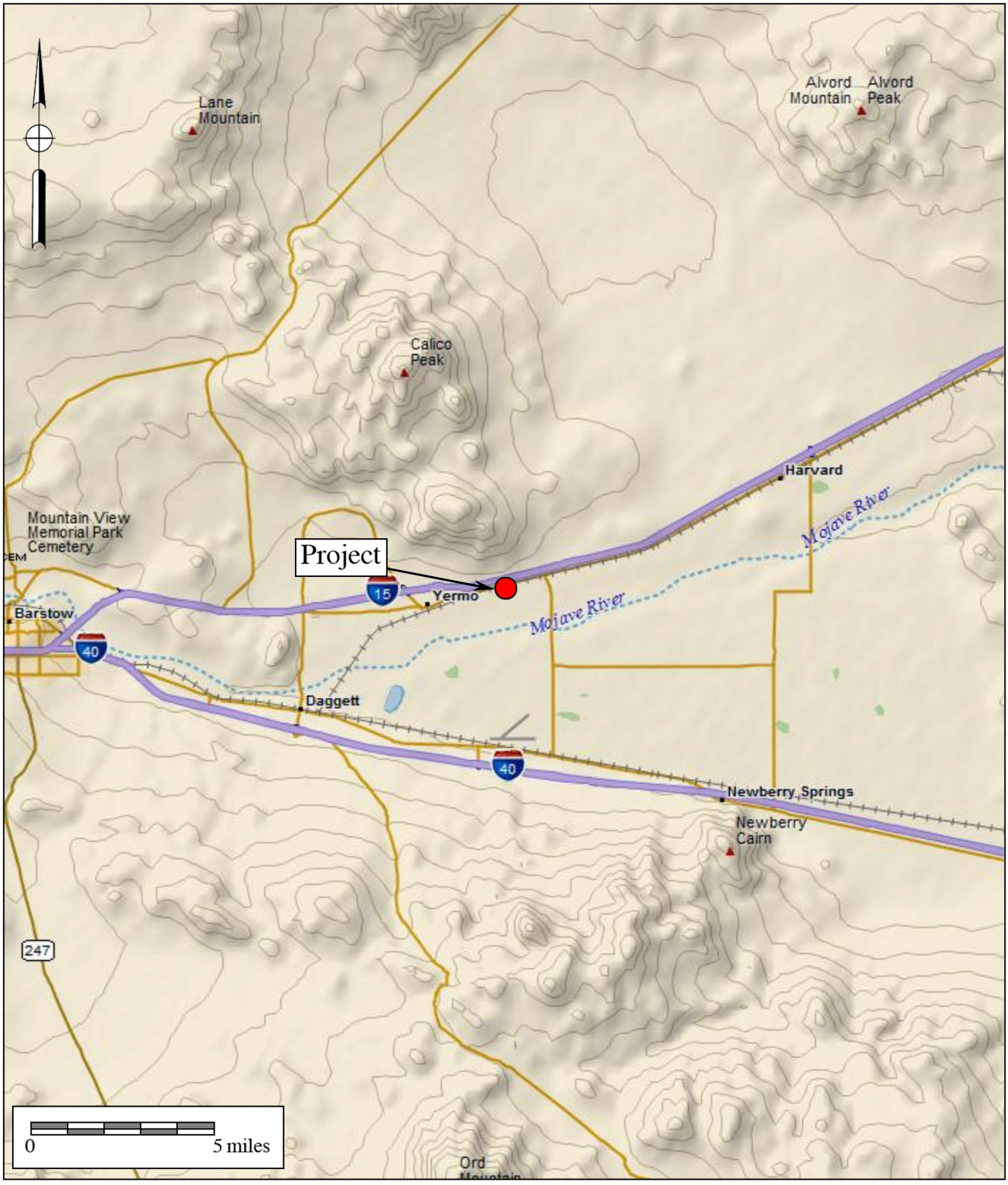

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Figure 1.1–1
General Location Map

The Glacier Power and Gas Solar Project

DeLorme (1:250,000 series)

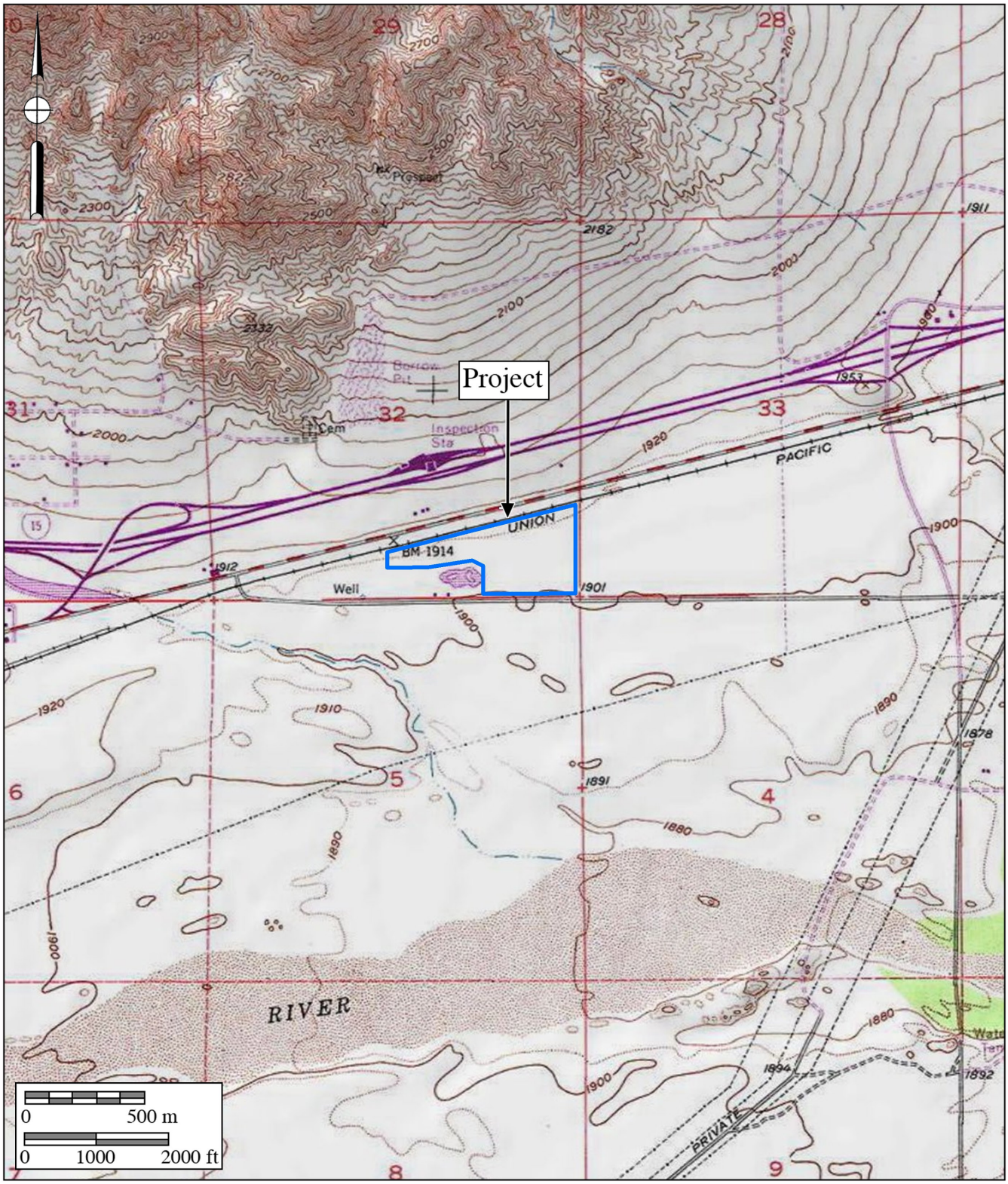

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Figure 1.1–2
Project Location Map
The Glacier Power and Gas Solar Project
USGS *Yermo* Quadrangle (7.5-minute Series)

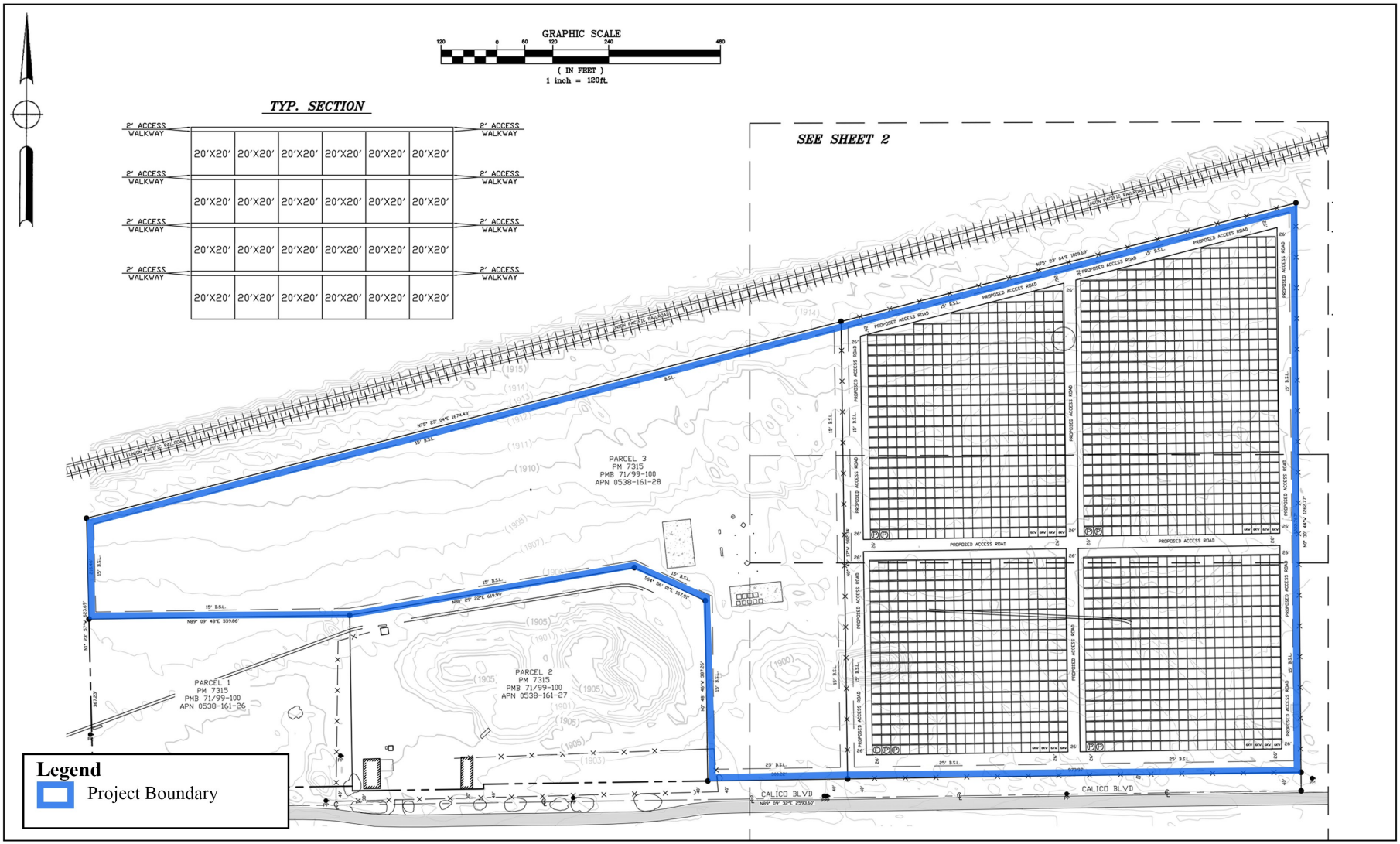

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Figure 1.1–3
Conceptual Site Plan
The Glacier Power and Gas Solar Project

1.3 Cultural Setting

1.3.1 Prehistoric Period

The subject property straddles the traditional territory of multiple Native American groups, including the Serrano and the Vanyume, south of the Kawaiisu and Chemehuev. Although there may be considered a range of cultural variation, the study area was traditionally inhabited by those tribes speaking Shoshonean languages of the Uto-Aztecan language stock. In the same instance, although they may have held differing worldviews and maintained variations in their social structures, how they exploited the natural resources of their territories remained similar. Although the Mojave Desert is an area believed to have had limited prehistoric subsistence resources, it has historically supported a long and occasionally dense population. Evidence of villages and camps, burials, quarries, rock features, and bedrock mortars has been documented at archaeological sites across the desert, some of which contain evidence of a lengthy prehistoric time span. Although early archaeological remains are not found frequently, when they are found they are generally located along the margins of former pluvial lakes or in areas of dune deflation. In contrast, artifacts on the desert floor may be sparse, widely scattered, and mixed with the desert pavements. For the region, archaeologists have reached a broad consensus regarding the general cultural chronology. The identified sequence includes the Paleo Indian Period, the Lake Mojave Period, the Pinto Period, the Gypsum Period, the Saratoga Springs Period, and the Ethnohistoric Period.

Paleo Indian Period (12,000 to circa 10,000 YBP)

Archaeologically, the Paleo Indian Period is associated with the terminus of the late Pleistocene (12,000 to 10,000 years before the present [YBP]). The environment during the late Pleistocene was cool and moist, which allowed for glaciation in the mountains and the formation of deep, pluvial lakes in the deserts and basin lands (Moratto 1984). However, by the terminus of the late Pleistocene, the climate became warmer, which caused the glaciers to melt, sea levels to rise, greater coastal erosion, large lakes to recede and evaporate, extinction of Pleistocene megafauna, and major vegetation changes (Moratto 1984; Martin 1967, 1973; Fagan 1991). The coastal shoreline at 10,000 YBP, depending upon the particular area of the coast, was near the 30-meter isobath, or two to six kilometers further west than its present location (Masters 1983).

Paleo Indians were likely attracted to multiple habitat types, including mountains, marshlands, estuaries, and lakeshores. These people likely subsisted using a more generalized hunting, gathering, and collecting adaptation utilizing a variety of resources including birds, mollusks, and both large and small mammals (Erlandson and Colten 1991; Moratto 1984; Moss and Erlandson 1995).

Lake Mojave Period (Late Pleistocene: 10,000 to 7,000 YBP)

The earliest documented evidence of human occupation in the Mojave Desert and surrounding areas comes from the Paleo Indian Period, a cultural expression referred to as the Western Pluvial Lakes Tradition (WPLT). The WPLT occurred in the western Great Basin and

covered an area that stretched from the now arid lands of southern California to Oregon. A cultural adaptation to pluvial conditions (e.g., lakes, marshes, and grasslands) flourished for thousands of years after approximately 9000 B.C., but disappeared in response to the warming and drying trends of the Altithermal climatic period (Moratto 1984). One of the most well known expressions of the WPLT is the Lake Mojave Complex, which is thought to have covered a vast area including parts of the southwestern Great Basin and the Mojave Desert, and may have reached as far south as the San Diego area. Artifacts indicative of the Lake Mojave Complex include foliated points and knives, Lake Mojave points, Silver Lake points, and flaked-stone crescents. Similar artifacts have been subsequently recorded along the shoreline of many other pluvial lakes in the Mojave Desert. Archaeological studies by Mark Sutton (1988) suggested that, at the time of the Lake Mojave Complex, much of Antelope and Fremont valleys may have been covered by Pleistocene Lake Thompson. In her 1978 work, Davis (1978) argues that the wetlands generated as a result of such Pliestocene lakes would have been a great attraction to the region's early occupants. This would result in an adaptive strategy that was more generalized, focusing on hunting and the overall exploitation of wetland resources. In general, it is clear that cultures across California adapted to wetland environments generated by pluvial lake ecological systems (Moratto 1984).

Pinto Period (7,000 to 4,000 YBP)

The Pinto Period dates to the end of the Pleistocene, when the severe and dramatic environmental change from pluvial to arid conditions began (Moratto 1984). Pinto Period sites are found mostly near ephemeral lakes and now dry streams and springs, suggesting that as the region began to dry, new subsistence adaptations were necessary. Projectile points associated with the Pinto Period are characterized as larger atlatl dart points, as opposed to arrowhead points, which were introduced later. This period has been described as a highly mobile desert economy, with an emphasis on hunting, supplemented by the use of processed seeds (Moratto 1984). However, the collections believed to represent the Pinto Period are largely lacking in well-developed milling technologies according to Moratto (1984). Pinto Period artifacts have been interpreted as indications of temporary or seasonal occupations by small groups of people. Sites of this period are generally small in scale and are typically absent of a developed midden. More recent studies (Sutton et al. 2007) suggest that the Pinto Period may have actually started in the early Holocene, overlapping the Lake Mojave Period. A series of radiocarbon dates from Little Lake, Pinto Basin, Twentynine Palms, and Fort Irwin suggests Pinto sites with antiquity of upwards of 9,000 years (Sutton et al. 2007), indicating these sites may be of greater antiquity than previously suggested.

Gypsum Period (4,000 to 1,500 YBP)

The presence of Humboldt Concave Base, Gypsum Cave, Elko Eared, or Elko corner-notched points are believed to be indicative of the Gypsum Period (radiocarbon dated from 4,000 to 1,500 YBP). The Gypsum Period reflects a more intensive desert occupation as temperatures

began to regulate during the First Neoglacial episode at the beginning of the late Holocene (Warren 1984; Sutton et al. 2007). During this time, indications of trade with coastal populations are evidenced by the presence of shell beads in the archaeological record. An increase in milling stones and manos has been found in association with this period, which indicates an increased use of hard seeds (Moratto 1984; Warren 1984; Sutton et al. 2007). In comparison to sites from the preceding periods, Gypsum Period sites are generally smaller, higher in frequency, and distributed across a range of environments. Further, Gypsum Period sites also display evidence of exploitation of *artiodactyls*, rabbits, and rodents, as well as a wide range of seeds. Adaptations resulting from better adapted technologies combined with what was likely more complex social organization likely facilitated the ease of adaptation to the warming and drying conditions that initiated circa 2,000 years ago. The continued use of the region during the Gypsum Period indicates an overall more successful adaptation to the warm and dry conditions during this period (Warren 1984; Sutton et al. 2007).

Several scholars associate this period with the division of the Uto-Aztecan language, approximately 3,000 to 2,500 years ago (Moratto 1984; Warren 1984; Sutton et al. 2007). The major language groups that emerged from this division are Numic, spoken by the Kawaiisu and Piute; Takic, spoken by the Kitanemuk, Serrano, Gabrielino, and other southern California Shoshonean speakers; Hopic, spoken in the southwest; and Tubatulabalic, spoken by the Tubatulabal in the southern Sierra Nevada Mountains. A shift in settlement patterns toward a more sedentary lifestyle occurred during this period, characterized by the emergence of large permanent or semi-permanent village sites and associated cemeteries.

Saratoga Springs Period (1,500 to 800 YBP)

The Saratoga Springs Period is characterized by a transition from larger dart points to smaller arrow points. The presence of arrow points suggest that the bow and arrow were introduced to the Mojave Desert during the Saratoga Springs Period. This, combined with evidence from rock art motifs, leads scholars to argue for a shift from atlatls to use of the bow and arrow either during the end of the Gypsum Period or the beginning of the Saratoga Springs Period. This technological advancement likely improved overall hunting efficiency and possibly the carrying capacity for local population (Warren 1984). This in turn may have resulted in a significant increase in population as suggested by archaeological data. During this period, the development of large village sites with cemeteries and well-developed middens indicates long-term occupations in comparison to previous periods. This period saw an increase in trade with Arizona and other areas of the southwest. Evidence in the archaeological record shows that Brown and Buff wares (pottery styles), characteristic of Arizona, made their way to the California desert by 900 A.D. It is also believed that the Anasazi mined turquoise in the eastern California desert about this time. While the presence of Hakataya influence may have extended as far north and west as the eastern Antelope Valley (Warren 1984), influence in the western Mojave appears to have been minimal. During the second half of the Saratoga Springs Period, the rise in temperatures

and return to xeric conditions around A.D. 700 likely led to population decline and eventually the terminus of the Saratoga Springs complex circa A.D. 1100 (Sutton et al. 2007).

Ethnohistoric Period (800 YPB to the Time of European Contact)

During the Ethnohistoric Period, the Vanyume and potentially the Serrano occupied the project area. The territory of the Vanyume was covered by small and relatively sparse populations focused primarily along the Mojave River, north of the Serrano and southeast of the Kawaiisu. It is believed that the southwestern extent of their territory went as far as Cajon Pass and portions of Hesperia. Bean and Smith (1978) noted that it was uncertain if the Vanyume spoke a dialect of Serrano or a separate Takic-based language. However, King and Blackburn (1978) suggest that the Vanyume and other Kitanemuk speakers once occupied most of Antelope Valley. In contrast to the Serrano, the Vanyume maintained friendly social relations with the Mohave and Chemehuevi to the east and northeast (Kroeber 1976). As with the majority of California native populations, Vanyume populations were decimated around the 1820s by placement in Spanish missions and asistencias. It is believed that by 1900, the Vanyume had become extinct (Bean and Smith 1978). However, given the settlement patterns reported for the Vanyume, it is more probable that the population was dispersed rather than completely wiped out.

The Serrano and Vanyume were primarily hunters and gatherers. Individual family dwellings were likely circular, domed structures. Vegetal staples varied with locality; acorns and piñon nuts were found in the foothills, and mesquite, yucca roots, cacti fruits, and piñon nuts were found in or near the desert regions. Diets were supplemented with other roots, bulbs, shoots, and seeds (Heizer 1978). Deer, mountain sheep, antelopes, rabbits, and other small rodents were among the principal food packages. Various game birds, especially quail, were also hunted. The bow and arrow was used for large game, while smaller game and birds were killed with curved throwing sticks, traps, and snares. Occasionally, game was hunted communally, often during mourning ceremonies (Benedict 1924; Drucker 1937; Heizer 1978). In general, manufactured goods included baskets, some pottery, rabbit-skin blankets, awls, arrow straighteners, sinew-backed bows, arrows, fire drills, stone pipes, musical instruments (rattles, rasps, whistles, bull-roarers, and flutes), feathered costumes, mats, bags, storage pouches, and nets (Heizer 1978). Food acquisition and processing required the manufacture of additional items such as knives, stone or bone scrapers, pottery trays and bowls, bone or horn spoons, and stirrers. Mortars, made of either stone or wood, and metates were also manufactured (Strong 1971; Drucker 1937; Benedict 1924).

1.3.2 Historic Period

Traditionally, the history of the state of California has been divided into three general periods: the Spanish Period (1769 to 1821), the Mexican Period (1822 to 1846), and the American Period (1848 to present) (Caughey 1970). The American Period is often further subdivided into additional phases: the nineteenth century (1848 to 1900), the early twentieth century (1900 to 1950), and the Modern Period (1950 to present). From an archaeological standpoint, all of these

phases can be referred to together as the Ethnohistoric Period. This provides a valuable tool for archaeologists, as ethnohistory is directly concerned with the study of indigenous or non-Western peoples from a combined historical/anthropological viewpoint, which employs written documents, oral narrative, material culture, and ethnographic data for analysis.

European exploration along the California coast began in 1542 with the landing of Juan Rodríguez Cabrillo and his men at San Diego Bay. Sixty years after the Cabrillo expeditions, an expedition under Sebastián Vizcaíno made an extensive and thorough exploration of the Pacific coast. Although the voyage did not extend beyond the northern limits of the Cabrillo track, Vizcaíno had the most lasting effect upon the nomenclature of the coast. Many of his place names have survived, whereas practically every one of the names created by Cabrillo have faded from use. For instance, Cabrillo named the first (now) United States port he stopped at "San Miguel"; 60 years later, Vizcaíno changed it to "San Diego" (Rolle 1969). The early European voyages observed Native Americans living in villages along the coast but did not make any substantial, long-lasting impact. At the time of contact, the Luiseño population was estimated to have ranged from 4,000 to as many as 10,000 individuals (Bean and Shipek 1978; Kroeber 1976).

The historic background of the project area began with the Spanish colonization of Alta California. The first Spanish colonizing expedition reached southern California in 1769 with the intention of converting and civilizing the indigenous populations, as well as expanding the knowledge of and access to new resources in the region (Brigandi 1998). As a result, by the late eighteenth century, a large portion of southern California was overseen by Mission San Luis Rey (San Diego County), Mission San Juan Capistrano (Orange County), and Mission San Gabriel (Los Angeles County), which began colonizing the region and surrounding areas (Chapman 1921).

Native Californians may have first coalesced with Europeans around 1769 when the first Spanish mission was established in San Diego. In 1771, Father Francisco Garcés first searched the Californian desert for potential mission sites. Interactions between local tribes and Franciscan priests occurred by 1774 when Juan Bautista de Anza made an exploration of Alta California.

Serrano contact with the Europeans may have occurred as early as 1771 or 1772, but it was not until approximately 1819 that the Spanish directly influenced the culture. The Spanish established asistencias in San Bernardino, Pala, and Santa Ysabel. Between the founding of the asistencia and secularization in 1834, most of the Serranos in the San Bernardino Mountains were removed to the nearby missions (Beattie and Beattie 1951:366) while the Cahuilla maintained a high level of autonomy from Spain (Bean 1978).

Each mission gained power through the support of a large, subjugated Native American workforce. As the missions grew, livestock holdings increased and became increasingly vulnerable to theft. To protect their interests, the southern California missions began to expand inland to try and provide additional security (Beattie and Beattie 1951; Caughey 1970). In order to meet their needs, the Spaniards embarked upon a formal expedition in 1806 to find potential locations within what is now the San Bernardino Valley. As a result, by 1810, Father Francisco Dumetz of Mission San Gabriel had succeeded in establishing a religious site, or capilla, at a

Cahuilla rancheria called Guachama (Beattie and Beattie 1951). San Bernardino Valley received its name from this site, which was dedicated to San Bernardino de Siena by Father Dumetz. The Guachama rancheria was located in present-day Bryn Mawr in San Bernardino County.

These early colonization efforts were followed by the establishment of estancias at Puente (circa 1816) and San Bernardino (circa 1819) near Guachama (Beattie and Beattie 1951). These efforts were soon mirrored by the Spaniards from Mission San Luis Rey who, in turn, established a presence in what is now Lake Elsinore, Temecula, and Murrieta (Chapman 1921). The indigenous groups who occupied these lands were recruited by missionaries, converted, and put to work in the missions (Pourade 1961). Throughout this period, the Native American populations were decimated by introduced diseases, a drastic shift in diet resulting in poor nutrition, and social conflicts due to the introduction of an entirely new social order (Cook 1976).

Mexico achieved independence from Spain in 1822 and became a federal republic in 1824. As a result, both Baja and Alta California became classified as territories (Rolle 1969). Shortly thereafter, the Mexican Republic sought to grant large tracts of private land to its citizens to begin to encourage immigration to California and to establish its presence in the region. Part of the establishment of power and control included the desecularization of the missions circa 1832. These same missions were also located on some of the most fertile land in California and, as a result, were considered highly valuable. The resulting land grants, known as "ranchos," covered expansive portions of California and, by 1846, more than 600 land grants had been issued by the Mexican government. Rancho Jurupa was the first rancho to be established and was issued to Juan Bandini in 1838. Although Bandini primarily resided in San Diego, Rancho Jurupa was located in what is now Riverside County (Pourade 1963). A review of Riverside County place names quickly illustrates that many of the ranchos in Riverside County lent their names to present-day locations, including Jurupa, El Rincon, La Sierra, El Sobrante de San Jacinto, La Laguna (Lake Elsinore), Santa Rosa, Temecula, Pauba, San Jacinto Nuevo y Potrero, and San Jacinto Viejo (Gunther 1984). As was typical of many ranchos, these were all located in the valley environments within western Riverside County.

The treatment of Native Americans grew worse during the Rancho Period. Most of the Native Americans were forced off their land or put to work on the now privately-owned ranchos, most often as slave labor. Considering the brutality of the ranchos, the degree to which Native Americans had become dependent upon the mission system is evident when, in 1838, a group of Native Americans from Mission San Luis Rey petitioned government officials in San Diego to relieve suffering at the hands of the rancheros:

> We have suffered incalculable losses, for some of which we are in part to be blamed for because many of us have abandoned the Mission … We plead and beseech you … to grant us a Rev. Father for this place. We have been accustomed to the Rev. Fathers and to their manner of managing the duties. We labored under their intelligent directions, and we were obedient to the Fathers according to the regulations, because we considered it as good for us. (Brigandi 1998:21)

Native American culture had been disrupted to the point where they could no longer rely upon prehistoric subsistence and social patterns. Not only does this illustrate how dependent the Native Americans had become upon the missionaries, but it also indicates a marked contrast in the way the Spanish treated the Native Americans as compared to the Mexican and United States ranchers. Spanish colonialism (missions) is based upon utilizing human resources while integrating them into their society. The ranchers, both Mexican and American, did not accept Native Americans into their social order and used them specifically for the extraction of labor, resources, and profit. Rather than being incorporated, they were either subjugated or exterminated (Cook 1976).

In 1846, war erupted between Mexico and the United States. In 1848, with the signing of the Treaty of Guadalupe Hidalgo, the region was annexed as a territory of the United States and, in 1850, California became a state. These events generated a steady flow of settlers into the area, including gold miners, entrepreneurs, health-seekers, speculators, politicians, adventurers, seekers of religious freedom, and individuals desiring to create utopian colonies. As the non-native population increased through immigration, the indigenous population rapidly declined from the high morbidity of European diseases, low birth rates, and conflict and violence. California became a state in 1850 and was divided into 21 counties. The dwindling native populations were eventually displaced into reservations after California became a state.

By 1846, tensions between the United States and Mexico had escalated to the point of war (Rolle 1969). In order to reach a peaceful agreement, the Treaty of Guadalupe Hidalgo was put into effect in 1848, which resulted in the annexation of California to the United States. Once California opened to the United States, waves of settlers moved in searching for gold mines, business opportunities, political opportunities, religious freedom, and adventure (Rolle 1969; Caughey 1970). By 1850, California had become a state and was eventually divided into 27 separate counties. A much larger population was now settling in California, primarily in the central valley, San Francisco, and the Gold Rush region of the Sierra Nevada mountain range (Rolle 1969; Caughey 1970). During this time, southern California grew at a much slower pace than northern California and was still dominated by the cattle industry that was established during the earlier rancho period.

By the late 1880s and early 1890s, there was growing discontent between San Bernardino and Riverside, its neighbor 10 miles to the south, due to differences in opinion concerning religion, morality, the Civil War, and politics, and there was fierce competition to attract settlers. After a series of instances in which charges were claimed about unfair use of tax monies to the benefit of only the city of San Bernardino, several people from Riverside decided to investigate the possibility of a new county. In May 1893, voters living within portions of San Bernardino County (to the north) and San Diego County (to the south) approved the formation of Riverside County. Early business opportunities were linked to the agriculture industry, but commerce, construction, manufacturing, transportation, and tourism also provided a healthy local economy.

A Brief History of the Project Vicinity

The project vicinity is tied to the history of the Mojave Desert and the city of Barstow, located approximately 10 miles east of the project. Scholars often attribute Father Francisco Garcés as the first known European to travel through the Western Mojave in the late 1770s. However, it has been proposed that Pedro Fages, the first governor of Alta California, actually traversed the Western Mojave nearly 10 years before Garcés in pursuit of military deserters (Stickel et al. 1980). Nevertheless, little is actually known about Fages's expedition across the desert, and Garcés, a Jesuit priest, is the first European visitor to have documented visiting the area (Stickel et al. 1980). Garcés acted as a guide to Juan Bautista de Anza in 1774 on an expedition to establish shorter and quicker routes from the Colorado River to the coastal Spanish missions. Garcés further explored the Mojave Desert in 1775 on his own expedition under the orders of Anza to better acquaint himself with the Mojave Desert (Stickel et al. 1980). Garcés traveled from present-day Needles through the Western Mojave with Native Americans from the Colorado River regions as his guides, eventually reaching Mission San Gabriel in March of 1776 (Stickel et al. 1980).

Jedediah Strong Smith, a trapper, was selected to investigate trapping possibilities west of the Mississippi. In 1826, he crossed the Colorado River into California. He is believed to have been the "first white man to travel from the Mississippi to the Pacific on a transcontinental route" (Stickel et al. 1980). Smith's route extended through present-day Needles and the Cajon Pass. He followed already established portions of old Indian trading routes, later known as the Mojave River Trail, which is recorded with the SCCIC as SBR-330/H. The path Smith traveled became known as the Old Spanish Trail. Smith was killed on the trail in 1831 (Stickel et al. 1980).

The Old Spanish Trail split where the Mojave River forks in the Mojave Desert. The southern fork followed the route established by Smith and extended to Santa Fe, New Mexico, while the northern fork extended to Salt Lake City, Utah (Stickel et al. 1980). Although both forks of the trail were initially known as the Old Spanish Trail, the northern route later became known as the Mormon Road because of its use by Mormon converts and freighting companies traveling to and from Salt Lake City in the middle of the nineteenth century (Warren and Roske 1981). In addition, the northern portion of the trail was used by John C. Fremont and Kit Carson on an expedition to explore the west; during this expedition, Fremont named the Mojave River the "Mohahave River" (Stickel et al. 1980).

In the early 1860s, as gold mining in the Sierra Nevada mountains began to decline, many miners looked to the Mojave Desert. However, it was not until the discovery of silver in Calico, just north of the project, and the construction of the Southern Pacific Railroad from Mojave to Daggett in 1882 that the region became a mining center. This gave rise to the now-famous 20-mule teams. Ten teams were hitched together with two wagons and a water wagon to haul ore from Daggett to the town of Calico. The rich silver deposits gave birth to Calico Mines, Waterman Mines, and Daggett Mills (Kyle 1990).

The Southern Pacific Railroad track was transferred to the Santa Fe Railroad in 1884, and Barstow rose to prominence as a major junction point (Steeples 1999). The town was originally named Waterman. The name was changed to Barstow in honor of William Barstow Strong, the president of the Santa Fe Railroad, in 1886 (City of Barstow N.d.). With Barstow serving as a profitable major junction point for the transportation of people and goods, other railway lines were soon constructed. In 1905, the San Pedro, Los Angeles, and Salt Lake Railway Line connected the region to Salt Lake City, Utah, further increasing Barstow's importance.

The City of Barstow was incorporated in 1947, and much of the growth of the city through the twentieth century came from its location along major highways (City of Barstow N.d). Barstow's location along the famed Route 66 was important for the development of the area. U.S. Highway 66 was established in 1926 and was one of 13 U.S. highways that made up the initial nationally designated highway system. The U.S. highways tended to roughly follow the routes established by the railroads, and Barstow became a popular stopping point for tourists driving cross-country (Roland et al. 2011). Tourism, like other industries in the area, was first facilitated by the construction and marketing of the railways; however, the advent of the automobile brought new forms of boosterism and helped facilitate the need for state and federal highways (Shaffer 2001). "With the construction of the modern Interstate Highway system Barstow's future of growth was assured, as [Interstate 40] and [Interstate 15] converged at the city limits with State Highway 58, making it the transportation hub of the western Mojave Desert" (City of Barstow N.d).

1.4 Results of the Archaeological Records Search

1.4.1 SCCIC Records Search

The results of the SCCIC records search (Appendix C) identified six resources (all historic) recorded within a one-mile radius of the subject property (Table 1.3−1). Of the previously recorded resources, one (P-36-023426) intersects the subject property.

- Site P-36-023426 consists of the east-to-west trending historic Yermo Canal. The Yermo Canal was constructed circa 1910 through 1917 by the Mojave River Land & Water Company and was later operated by the Yermo Mutual Water Company (Granger et al. 2012). The canal was first documented within the subject property by Scientific Resource Surveys, Inc., (SRS) in 1983. Other segments of the Yermo Canal have been recorded since the resource was initially documented in 1983. None of the previous recordation efforts indicate if the Yermo Canal was evaluated for inclusion in the CRHR. However, all documentation of the previously recorded segments describes the integrity of the canal as poor. Three segments of the canal, outside of the current project, were formally recorded in 1997 by Neuenschwander. At the locations studied by Neuenschwander, the canal was found to be "nearly obscured from view" due to construction projects and natural sedimentation

(Neuenschwander 1997). Neuenschwander measured the canal at 119 inches wide (roughly 9.9 feet) with a depth of 26 inches and indicated that it was approximately five miles long (Neuenschwander 1997). Other segments of the canal were recorded in 2011 and 2012, respectively, by Michael Dice (2011) and G. Granger et al (2012). Dice described the canal as being 10 feet wide with solid concrete walls. The segments of the canal recorded by Dice were described as being filled with soil throughout, although he did estimate the depth to be around six and seven feet (Dice 2011). Granger et al. (2012) noted similar construction and conditions at the segments of the Yermo Canal they encountered. The development history of the Yermo Canal is discussed in further detail below, while the alignment of the resource within the project is shown on Figure 1.4–1.

The remaining five resources include the 132kV Hoover Dam transmission line, the SCE Boulder Dam-San Bernardino transmission line access road, the Coolwater-Tiefort 115kV transmission line, Yermo Road, and Calico Boulevard. Calico Boulevard (P-36-034277) is the street onto which the subject property fronts, but it has been previously evaluated as ineligible under National Register of Historic Places (NRHP)/CRHR criteria (Becker 2014).

Table 1.4–1
Cultural Resources Located Within
One Mile of the Glacier Power and Gas Solar Project

Site(s)	Description
P-36-010315	The 132kV Hoover Dam transmission line/Edison Company Boulder Dam-San Bernardino electrical transmission line
P-36-021629	Yermo Road
P-36-023426*	Yermo Mutual Water Company canal
P-36-029490	Coolwater-Tiefort 115kV transmission line
P-36-034231	SCE Boulder Dam-San Bernardino transmission line access road
P-36-034277	Calico Boulevard

**Intersects the current project.*

The SCCIC records search results also identified five previous studies, one of which included the subject property (SRS 1983). The SRS study consisted of an archaeological survey of a 176-acre project which included the entirety of the Glacier Power and Gas Solar Project (1993). Site P-36-023426 within the project was initially documented during the 1983 SRS survey. No other resources were noted by SRS within the current project boundary. SRS did not evaluate the Yermo Canal but did recommend that any ground distubance within the area be monitored by an archaeologist.

Figure 1.4–1
Cultural Resource Location Map

(Deleted for Public Review; Bound Separately)

BFSA also reviewed the following sources to help facilitate a better understanding of the historic use of the property:

- The NRHP Index
- The Office of Historic Preservation (OHP) Archaeological Determinations of Eligibility
- The OHP Directory of Properties in the Historic Property Data File
- The 1955 *Newberry Springs, California* and 1956 *Daggett, California* (15-minute) USGS topographic quadrangle maps
- The 1954, 1960, and 1971 *Yermo, California* (7.5-minute) USGS topographic quadrangle maps
- 1970, 1975, 1983, 1995, 2005, 2009, 2010, 2012, 2014, 2016, 2018, and 2020 aerial photographs

These sources did not indicate the presence of any additional archaeological resources within the project. Site P-36-023426 is visible on the historic 7.5- and 15-minute USGS topographic quadrangle maps as a 4.68-mile abandoned canal. Despite the poor resolution, elements of the Yermo Canal within the project are visible on all of the aerial photographs. Between 1983 and 1995, concrete foundations, excavated pits, piles of sand or gravel, and dirt access roads are visible within the subject property.

1.4.2 History of the Yermo Canal

Given that the project area contains a recorded resource, a limited research effort was conducted to better contextualize the historic elements of Site P-36-023426. In 1929, the United States Department of the Interior detailed the construction history of the Yermo Canal (Thompson 1929). Thompson noted that the "project was begun in 1910 with the incorporation of the Mojave River Land & Water Co." (Thompson 1929). The main focus of the group was to create a system to irrigate 20,000 to 40,000 acres in the area surrounding Yermo, California. Although several wells and miles of canal were constructed, the company quickly began having financial difficulties. The Mojave River Land & Water Company was reorganized in 1917 as the Yermo Mutual Water Company with a reduced plan to irrigate 8,000 acres (Thompson 1929).

Thompson indicates that, in 1917, the Yermo Mutual Water Company's infrastructure consisted of "five drilled wells and several miles of cement canals" (1929). These canals presumably include the existing segments of the Yermo Canal which intersect the subject property. Thompson also reported that when he visited the area in 1919, it was only apparent that at one time 200 acres had been irrigated from the canal. Further, he stated that there was "no indication that any crops had been irrigated the preceding summer" and that "all but one of the company's pumping plants had been dismantled" (Thompson 1929). Thompson summarized the endeavor in 1919 as follows:

> "The project of the Yermo Mutual Water Co. is commendable in that it contemplates carrying water to land situated where, because of unfavorable geologic conditions, sufficient water cannot be obtained for irrigation from wells. However, it is very unlikely that there is enough water to irrigate all the land in the valley, and it seems much more economical to use the water on lands in the western part of the valley, where long distribution canals are not necessary." (Thompson 1929)

It is not entirely clear when the Yermo Canal efforts were formally abandoned. A review of information presented by Thompson indicates that it was likely not long after 1919. Further, based on the review of historic USGS maps, the canal was definitely labeled as abandoned by 1955. Regardless, the Yermo Canal fell into disrepair, eventually filling in with sediment and, based on past recordation efforts, has been partially destroyed by several successive phases of construction in the area (Neuenschwander 1997; Dice 2011; Granger et al. 2012). As such, in its present state, much of the Yermo Canal is no longer visible, having been filled almost completely with sediment.

1.4.3 Sacred Lands File Search

BFSA also requested a SLF search from the NAHC to search for the presence of any recorded Native American sacred sites or locations of religious or ceremonial importance within one mile of the project. This request is not part of any AB 52 Native American consultation. The SLF search has been returned with negative results for potential sites or locations of Native American importance within the vicinity. The NAHC suggested contacting local Native American groups for further information. This additional outreach will be conducted by the lead agency under the official AB 52 Native American consultation process. All correspondence is provided in Appendix D.

1.5 Applicable Regulations

Resource importance is assigned to districts, sites, buildings, structures, and objects that possess exceptional value or quality illustrating or interpreting the heritage of San Bernardino County in history, architecture, archaeology, engineering, and culture. A number of criteria are used in demonstrating resource importance. Specifically, the criteria outlined in CEQA provide the guidance for making such a determination. The following sections detail the criteria that a resource must meet in order to be determined important.

1.5.1 California Environmental Quality Act

According to CEQA (§15064.5a), the term "historical resource" includes the following:

1) A resource listed in or determined to be eligible by the State Historical Resources Commission for listing in the CRHR (Public Resources Code SS5024.1, Title 14 CCR [California Code of Regulations]. Section 4850 et seq.).
2) A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3) 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, educational, 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. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR (Public Resources Code SS5024.1, Title 14, Section 4852) including the following:

    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.

4) The fact that a resource is not listed in, or determined eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to Section 5020.1[k] of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in Section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code Section 5020.1(j) or 5024.1.

According to CEQA (§15064.5b), a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. CEQA defines a substantial adverse change as:

1) Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.
2) The significance of an historical resource is materially impaired when a project:

    a) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in the CRHR; or
    b) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or,
    c) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for purposes of CEQA.

Section 15064.5(c) of CEQA applies to effects on archaeological sites and contains the following additional provisions regarding archaeological sites:

1) When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, as defined in subsection (a).
2) If a lead agency determines that the archaeological site is an historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, Section 15126.4 of the guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply.
3) If an archaeological site does not meet the criteria defined in subsection (a), but does meet the definition of a unique archaeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of Section 21083.2. The time and cost limitations described in Public Resources Code Section 21083.2 (c-f) do not apply to surveys and site evaluation activities intended to determine whether the project location contains unique archaeological resources.
4) If an archaeological resource is neither a unique archaeological nor historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or Environmental Impact Report, if one is prepared to address

impacts on other resources, but they need not be considered further in the CEQA process.

Section 15064.5(d) and (e) contain additional provisions regarding human remains. Regarding Native American human remains, paragraph (d) states:

(d) When an Initial Study identifies 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 NAHC as provided in Public Resources Code SS5097.98. 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. Action implementing such an agreement is exempt from:

1) The general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (Health and Safety Code Section 7050.5).
2) The requirements of CEQA and the Coastal Act.

2.0 RESEARCH DESIGN

The primary goal of the research design is to attempt to understand the way in which humans have used the land and resources within the project through time, as well as to aid in the determination of resource significance. For the current project, the study area under investigation is the Barstow area of San Bernardino County, in the western Mojave region. The scope of work for the cultural resources study conducted for the Glacier Power and Gas Solar Project included the survey of a 41-acre study area. Given the area involved and the presence of nearby archaeological sites, the research design for this project was focused upon realistic study options. Since the main objective of the investigation was to identify the presence of and potential impacts to cultural resources, the goal here is not necessarily to answer wide-reaching theories regarding the development of early southern California, but to investigate the role and importance of identified resources. Nevertheless, the assessment of the significance of a resource must take into consideration a variety of factors, as well as the ability of a resource to address regional research topics and issues.

Although elementary resource evaluation programs are limited in terms of the amount of information available, several specific research questions were developed that could be used to guide the initial investigations of any observed cultural resources. The following research questions consider the small size and location of the project discussed above.

Research Questions:

- Can located cultural resources be associated with a specific time period, population, or individual?
- Do the types of any located cultural resources allow a site activity/function to be determined from a preliminary investigation? What are the site activities? What is the site function? What resources were exploited?
- How do located sites compare to others reported from different surveys conducted in the area?
- How do located sites fit existing models of settlement and subsistence for mountainous environments of the region?

Data Needs

At the survey level, the principal research objective is a generalized investigation of changing settlement patterns in both the prehistoric and historic periods within the study area. The overall goal is to understand settlement and resource procurement patterns of the project occupants. Therefore, adequate information on site function, context, and chronology from an archaeological perspective is essential for the investigation. The fieldwork and archival research were undertaken with the following primary research goals in mind:

1) To identify cultural resources occurring within the project;
2) To determine, if possible, site type and function, context of the resource(s), and chronological placement of each cultural resource identified;
3) To place each cultural resource identified within a regional perspective; and
4) To provide recommendations for the treatment of each cultural resources identified.

3.0 ANALYSIS OF PROJECT EFFECTS

The cultural resources study of the project site consisted of an institutional records search, archival research, an intensive cultural resource survey of the entire 41-acre study area, and the preparation of this technical report. This study was conducted in conformance with Section 21083.2 of the California Public Resources Code (PRC) and CEQA. Statutory requirements of CEQA (Section 15064.5) were followed for the identification and evaluation of resources. Specific definitions for archaeological resource type(s) used in this report are those established by the State Historic Preservation Office (SHPO 1995).

3.1 Survey Methods

The survey methodology employed during the current investigation followed standard archaeological field procedures and was sufficient to accomplish a thorough assessment of the project. The field methodology employed for the project included walking evenly spaced survey transects set approximately five to 10 meters apart while visually inspecting the ground surface. All potentially sensitive areas where cultural resources might be located were closely inspected. Photographs documenting survey areas and overall survey conditions were taken frequently.

3.2 Results of the Field Survey

Staff Archaeologist Allison D. Reynolds conducted the archaeological survey for the project on May 30, 2023. The archaeological study included an intensive reconnaissance survey consisting of a series of transects conducted across the project alignment. The survey found the project to consist primarily of vacant desert terrain with sparse vegetation (Plates 3.2–1 and 3.2–2). Visibility was characterized as very good, barring certain large creosote bushes. Impacts to the property primarily consists of modern trash and building materials dumped throughout the subject property, previously graded dirt and gravel access roads, and modern concrete slab foundations (Plates 3.2–3 and 3.2–4). Again, these impacts to the property did not occur until sometime between 1983 and 1995. In addition, remnants of the Yermo Canal were identified within the project (See Figure 3.3–1 and following sections).

Plate 3.2–1: Overview of the southern portion of the project, facing east.

Plate 3.2–2: Overview of the project from the southeastern corner, facing west.

Plate 3.2–3: Existing circular concrete pad on property, facing north.

Plate 3.2–4: Overview of modern building material and concrete foundation, facing east.

3.3 Site P-36-023426

3.3.1 Description of Surveyed Resource

Site P-36-023426 consists of a series of poorly preserved segments of the Yermo Canal, constructed some time between 1910 and 1917 by the Mojave River Land & Water Company/Yermo Mutual Water Company. The section within the project, as well as other segments, have been previously recorded and described to be in poor condition and impacted by past construction projects in the vicinity. The visible segments of the Yermo Canal within the project were found to be similar to other sections discussed in the records search section, generally measuring 10 feet wide with cement walls. Within the project, the canal has almost completely been filled with sediment with some sections appearing to have been removed from the property (Plate 3.3–1). Segments of the canal observed just east, outside of the project, were observed in better condition but containing concrete rubble intermixed with modern trash (Plate 3.3–2). Regardless, the resource within the project lacks integrity. An updated California Department of Parks and Recreation form (DPR 523L) for the site has been prepared for the resource in accordance with the State Historic Preservation Office's manual, *Instructions for Recording Historical Resources* (SHPO 1995) (Appendix B).

Plate 3.3–1: Overview of the Yermo Canal (Site P-36-023426) within the project, facing east.

Figure 3.3–1
The Yermo Canal (Site P-36-023426) on Recent Aerial Photograph

(Deleted for Public Review; Bound Seperately)

Plate 3.3–2: Overview of a remaining segment of the Yermo Canal (Site P-36-023426), southwest of the project, facing east.

3.3.2 Significance Evaluation

CEQA guidelines (Section 15064.5) address archaeological and historic resources, noting that physical changes that would demolish or materially alter in an adverse manner those characteristics that convey the historic significance of the resource and justify its listing on inventories of historic resources are typically considered significant impacts. The project may impact some or all elements of Site P-36-023426; therefore, CEQA eligibility criteria were used to evaluate the resource's eligibility for the CRHR. For a historic resource to be eligible for listing on the CRHR, the resource must be found significant at the local, state, or national level, under one or more of the following criteria:

- **CRHR Criterion 1:**
  It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

  The Yermo Canal, Site P-36-023426, was originally conceived to deliver water through the Yermo area. While perhaps ambitious at the time, the canal is one example of a fairly commonplace water control feature. Further, based on contemporary sources (Thompson 1929), it is clear that the canal never fully succeeded in providing adequate irrigation to the vicinity. As such, the Yermo Canal is not directly related to any

significant events or patterns in California history. Therefore, Site P-36-023426 is not eligible for designation under CRHR Criterion 1.

- **CRHR Criterion 2:**
  It is associated with the lives of persons important in our past.

  Historical research did not identify any elements of Site P-36-023426 associated with the lives of important individuals. Therefore, the resource is not eligible for designation under CRHR Criterion 2.

- **CRHR Criterion 3:**
  It embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.

  The Yermo Canal is of a standard utilitarian design. Further, the resource does not possess any artistic elements or distinct character defining features. As such, no element of Site P-36-023426 embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values. Therefore, the site is not eligible for designation under CRHR Criterion 3.

- **CRHR Criterion 4:**
  It has yielded, or may be likely to yield, information important in prehistory or history.

  The research conducted for this study revealed that Site P-36-023426 is not associated with any significant persons or events and was not constructed using unique or innovative methods of construction. Therefore, the resource is not likely to yield any additional information about the history of Yermo, San Bernardino, or the state of California, and is not eligible for designation under CRHR Criterion 4.

3.4 Discussion/Summary

The survey did not identify any new archaeological or historic resources. The survey located the previously recorded Yermo Canal, Site P-36-023426, within the proposed project. Despite Site P-36-023426 containing elements that surpass the 50-year age threshold, the resource is evaluated as not eligible for the CRHR and, therefore, does not meet the requirements to be defined as a historical resource under CEQA. As such, impacts to the site are not considered significant and no site-specific measures required.

4.0 RECOMMENDATIONS

The proposed development of the property will not adversely impact any significant cultural resources. The property contains a portion of the previosuly recorded Yermo Canal, Site P-36-023426, which may be impacted by the proposed project. However, this resource is evaluated as not eligible for the CRHR and, therefore, is not considered a Historical Resource under CEQA Criteria.

As the Yermo Canal within the Project is evaluated as not CRHR eligible, potential project-related impacts to the remnants of the resource within the property are not considered significant. Therefore, no site-specific mitigation measures are recommended. In addition, the current study did not identify any new cultural resources and, based on the records search results, only historic built resources have been previously identified within one-half-mile of the project. As such, the potential for previously unidentified archaeological resources or deposits is low. Since there is little to no potential to encounter any significant cultural sites during the development of this property archaeological monitoring of grading is not recommended. However, if any archaeological resources are inadvertently discovered, all construction work in the immediate vicinity of the discovery shall stop and a qualified archaeologist shall be consulted to determine if further mitigation measures are warranted. Should human remains be discovered, treatment of these remains shall follow the California Public Resources Code.

5.0 LIST OF PREPARERS AND ORGANIZATIONS CONTACTED

The archaeological survey program for the Glacier Power and Gas Solar Project was directed by Principal Investigator Tracy A. Stropes, M.A., RPA. The archaeological fieldwork was conducted by staff archaeologist Allison D. Reynolds. The report text and graphics were prepared by John J. Baber, M.S., RPA, and Andrew J. Garrison, M.A., RPA. Technical editing and report production was conducted by Shawna M. Krystek. The archaeological records search was requested from the SCCIC at CSU Fullerton.

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1983 Cultural Resource Survey Report on an Approximate 176-Acre Parcel of Land Located in the Yermo Area of the County of San Bernardino. Prepared for the United Energy Corporation, Foster City, California. Prepared by and on file with Scientific Resource Surveys, Inc., Huntington Beach, California.

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APPENDIX A

Resumes of Key Personnel

John J. Baber, BA, MA, MS, RPA

Archaeologist
BFSA Environmental Services
14010 Poway Road • Suite A •
Phone: (858) 679-8218 • Fax: (858) 679-9896 • E-Mail: jbaber@bfsa.perennialenv.com

BFSA Environmental Services
A Perennial Company

Education

Master of Science, Human Osteoarcheology, University of Edinburgh **2014**

Master of Arts, Anthropology, University of California, Santa Barbara **2013**

Bachelor of Arts, Anthropology, University of California, San Diego **2011**

Specialized Education/Training

Professional Certificate in Geographic Information Systems, University of California, San Diego **2022**

Laboratory Analysis, Okinawa Prefectural Archaeological Center, Japanese National Museum of Nature and Science, Kyoto University, Sapporo Medical University, Smithsonian National Museum of Natural History (Repatriation Lab) **2015–2018**

Jomon Field School, Aomori, Japan, Professor Junko Habu, University of California, Berkeley **2010**

Rio Muerto Field School, Moquegua, Peru, Professor Paul Goldstein, University of California, San Diego **2008**

Experience

Archaeologist **April 2021–Present**
Brian F. Smith and Associates, Inc.
Poway, California

Full-time archaeological field technician, archaeological monitoring, lab work.

Project Experience

San Diego International Airport, San Diego, San Diego County. Served as archaeological monitor under the supervision of Brian F. Smith. **2022–Present**

Otay Business Park, San Diego, San Diego County. Served as field technician conducting archaeological data recovery under the supervision of Brian F. Smith. **2022–Present**

1834 Spindrift, San Diego, San Diego County. Served as field technician conducting archaeological data recovery under the supervision of Brian F. Smith. **2021–Present**

Oceanside Pavilion – Ocean Kamp, Oceanside, San Diego County. Served as field technician conducting archaeological data recovery under the supervision of Brian F. Smith. **2022–Present**

Rancho Diamante (Tract 35393), Hemet, Riverside County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021–Present**

Citacado Parkway, Escondido, San Diego County. Served as field technician conducting archaeological data recovery under the supervision of Brian F. Smith. **2021–Present**

The Farms, Poway, San Diego County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021–Present**

North City West, San Marcos, San Diego County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021–Present**

Serrano (TTM 37153; BGR1800380), Riverside County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021–Present**

Fairfield, Poway, San Diego County. Served as archaeological monitor under the supervision of Brian F. Smith **2021-Present**

Boyle, Fontana, San Bernardino County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

San Gorgonio Crossing (PP25337; TMP 36564; BGR1800247), Riverside County. Served as archaeological monitor under the supervision of Brian F. Smith. **2022-Present**

10905 Beech, Fontana, San Bernardino County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

The Abby, Ontario, San Bernardino County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

Brisas Del Mar, San Diego, San Diego County. Served as field technician conducting archaeological data recovery under the supervision of Brian F. Smith. **2021-Present**

Almeria, San Bernardino County. Served as field technician conducting archaeological data recovery under the supervision of Brian F. Smith. **2021-Present**

800 Broadway, San Diego, San Diego County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

Knox III & IV (PP25837; PP25838; PM36950; PM36962; BGR1900126; BGR1900123), Riverside County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

8230 Prestwick, San Diego, San Diego County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

Sagewood (Tract 37400), Menifee, Riverside County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

Perry Commerce (BGR2000297), Riverside County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

Enclave, Upland, San Bernardino County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

Altitude Business Center, Chino, San Bernardino County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

Cabot New Jersey, Redlands, San Bernardino County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

Indian & Ramona, Perris, Riverside County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

Los Olivos (TR 37294; BGR2000103), Riverside County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

Epoca, San Diego, San Diego County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

Perris Logistics Center, Perris, Riverside County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

Oak Creek, Escondido, San Diego County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

West Knapp, Vista, San Diego County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

Fontana 489, Fontana, San Bernardino County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

Cabrillo National Monument, San Diego, San Diego County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

Green Oak Villas, Vista, San Diego County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

Starling Pointe, San Jacinto, Riverside County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

Rider 2, Perris, Riverside County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

Radian, San Diego, San Diego County. Served as archaeological monitor under the supervision of Brian F. Smith. **2021-Present**

Andrew J. Garrison, M.A., RPA

Project Archaeologist

BFSA Environmental Services, a Perennial Company
14010 Poway Road • Suite A •
Phone: (858) 679-8218 • Fax: (858) 679-9896 • E-Mail: agarrison@bfsa.perennialenv.com

Education

Master of Arts, Public History, University of California, Riverside **2009**

Bachelor of Science, Anthropology, University of California, Riverside **2005**

Bachelor of Arts, History, University of California, Riverside **2005**

Professional Memberships

Register of Professional Archaeologists
Society for California Archaeology
Society for American Archaeology
California Council for the Promotion of History
Society of Primitive Technology
Lithic Studies Society
California Preservation Foundation
Pacific Coast Archaeological Society

Experience

Project Archaeologist **June 2017–Present**
BFSA Environmental Serives, A Perennial Company **Poway, California**

Project management of all phases of archaeological investigations for local, state, and federal agencies including National Register of Historic Places (NRHP) and California Environmental Quality Act (CEQA) level projects interacting with clients, sub-consultants, and lead agencies. Supervise and perform fieldwork including archaeological survey, monitoring, site testing, comprehensive site records checks, and historic building assessments. Perform and oversee technological analysis of prehistoric lithic assemblages. Author or co-author cultural resource management reports submitted to private clients and lead agencies.

Senior Archaeologist and GIS Specialist **2009–2017**
Scientific Resource Surveys, Inc. **Orange, California**

Served as Project Archaeologist or Principal Investigator on multiple projects, including archaeological monitoring, cultural resource surveys, test excavations, and historic building assessments. Directed projects from start to finish, including budget and personnel hours proposals, field and laboratory direction, report writing, technical editing, Native American consultation, and final report submittal. Oversaw all GIS projects including data collection, spatial analysis, and map creation.

Preservation Researcher **2009**
City of Riverside Modernism Survey **Riverside, California**

Completed DPR Primary, District, and Building, Structure and Object Forms for five sites for a grant-funded project to survey designated modern architectural resources within the City of Riverside.

Information Officer **2005, 2008–2009**
Eastern Information Center (EIC), University of California, Riverside **Riverside, California**

Processed and catalogued restricted and unrestricted archaeological and historical site record forms. Conducted research projects and records searches for government agencies and private cultural resource firms.

Reports/Papers

2019 A Class III Archaeological Study for the Tuscany Valley (TM 33725) Project National Historic Preservation Act Section 106 Compliance, Lake Elsinore, Riverside County, California. Contributing author. Brian F. Smith and Associates, Inc.

2019 A Phase I and II Cultural Resources Assessment for the Jack Rabbit Trail Logistics Center Project, City of Beaumont, Riverside County, California. Brian F. Smith and Associates, Inc.

2019 A Phase I Cultural Resources Assessment for the 10575 Foothill Boulevard Project, Rancho Cucamonga, California. Brian F. Smith and Associates, Inc.

2019 Cultural Resources Study for the County Road and East End Avenue Project, City of Chino, San Bernardino County, California. Brian F. Smith and Associates, Inc.

2019 Phase II Cultural Resource Study for the McElwain Project, City of Murrieta, California. Contributing author. Brian F. Smith and Associates, Inc.

2019 A Section 106 (NHPA) Historic Resources Study for the McElwain Project, City of Murrieta, Riverside County, California. Brian F. Smith and Associates, Inc.

2018 Cultural Resource Monitoring Report for the Sewer Group 818 Project, City of San Diego. Brian F. Smith and Associates, Inc.

2018 Phase I Cultural Resource Survey for the Stone Residence Project, 1525 Buckingham Drive, La Jolla, California 92037. Brian F. Smith and Associates, Inc.

2018 A Phase I Cultural Resources Assessment for the Seaton Commerce Center Project, Riverside County, California. Brian F. Smith and Associates, Inc.

2017 A Phase I Cultural Resources Assessment for the Marbella Villa Project, City of Desert Hot Springs, Riverside County, California. Brian F. Smith and Associates, Inc.

2017 Phase I Cultural Resources Survey for TTM 37109, City of Jurupa Valley, County of Riverside. Brian F. Smith and Associates, Inc.

2017 A Phase I Cultural Resources Assessment for the Winchester Dollar General Store Project, Riverside County, California. Brian F. Smith and Associates, Inc.

2016 John Wayne Airport Jet Fuel Pipeline and Tank Farm Archaeological Monitoring Plan. Scientific Resource Surveys, Inc. On file at the County of Orange, California.

2016 Historic Resource Assessment for 220 South Batavia Street, Orange, CA 92868 Assessor's Parcel Number 041-064-4. Scientific Resource Surveys, Inc. Submitted to the City of Orange as part of Mills Act application.

2015 Historic Resource Report: 807-813 Harvard Boulevard, Los Angeles. Scientific Resource Surveys, Inc. On file at the South Central Coastal Information Center, California State University, Fullerton.

2015 Exploring a Traditional Rock Cairn: Test Excavation at CA-SDI-13/RBLI-26: The Rincon Indian Reservation, San Diego County, California. Scientific Resource Surveys, Inc.

2014 Archaeological Monitoring Results: The New Los Angeles Federal Courthouse. Scientific Resource Surveys, Inc. On file at the South Central Coastal Information Center, California State University, Fullerton.

2012 Bolsa Chica Archaeological Project Volume 7, Technological Analysis of Stone Tools, Lithic Technology at Bolsa Chica: Reduction Maintenance and Experimentation. Scientific Resource Surveys, Inc.

Presentations

2017 "Repair and Replace: Lithic Production Behavior as Indicated by the Debitage Assemblage from CA-MRP-283 the Hackney Site." Presented at the Society for California Archaeology Annual Meeting, Fish Camp, California.

2016 "Bones, Stones, and Shell at Bolsa Chica: A Ceremonial Relationship?" Presented at the Society for California Archaeology Annual Meeting, Ontario, California.

2016 "Markers of Time: Exploring Transitions in the Bolsa Chica Assemblage." Presented at the Society for California Archaeology Annual Meeting, Ontario, California.

2016 "Dating Duress: Understanding Prehistoric Climate Change at Bolsa Chica." Presented at the Society for California Archaeology Annual Meeting, Ontario, California.

2014 "New Discoveries from an Old Collection: Comparing Recently Identified OGR Beads to Those Previously Analyzed from the Encino Village Site." Presented at the Society for California Archaeology Annual Meeting, Visalia, California.

2012 Bolsa Chica Archaeology: Part Seven: Culture and Chronology. Lithic demonstration of experimental manufacturing techniques at the April meeting of The Pacific Coast Archaeological Society, Irvine, California.

APPENDIX B

Updated Site Record Form

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APPENDIX C

Archaeological Records Search Results

(Deleted for Public Review; Bound Separately)

APPENDIX D

NAHC Sacred Lands File Search Results

(Deleted for Public Review; Bound Separately)

APPENDIX E

Confidential Maps

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