

4.4.1 Introduction

This section provides contextual background information on historical resources in the project area, including the area's prehistoric, ethnographic, and historical settings. This section also summarizes the results of preliminary cultural surveys of the project site, analyzes the proposed project's potential impacts on cultural resources, and identifies mitigation measures to address adverse impacts.

This section is based on the cultural resource records searches, inventories, and Native American scoping conducted by ICF International (ICF, 2010a; 2010b). The cultural evaluation was conducted in compliance with Section 5024.1 of the California Public Resources Code to identify archaeological or historical resources in the area of potential effect. These reports can be found in Appendix D of this EIR. Due to the confidential nature of the location of cultural resources, information regarding locations of cultural resources has been removed from these reports and is not included in the appendix.

For the purposes of CEQA, "historical resources" generally refer to prehistoric and historical archaeological sites and the built environment. Historical resources can also include areas determined to be important to Native Americans such as "sacred sites." Sacred sites are most often important to Native American groups because of the role of the location in traditional ceremonies or activities.

4.4.2 Environmental Setting

Local and Regional Natural Setting

The project site lies within the Antelope Valley, which exists along the boundary between two major geomorphic provinces: the Transverse Ranges and the Mojave Desert (CGS, 2000). The Transverse Ranges province is characterized by east-west oriented ranges including the Tehachapi Mountains to the north, and the San Gabriel, Sierra Pelona and Liebre Mountains that rise abruptly along the southwestern side of the project. The Mojave Desert province is characterized primarily by a broad interior region of isolated mountain ranges separated by expanses of desert plains. The Mojave Desert province is wedged between the Garlock Fault and the San Andreas Fault, which have uplifted the surrounding mountains relatively rapidly, isolating the Mojave Desert from the Pacific Coast and creating the interior drainage basins of the western Mojave Desert, such as the Antelope Valley. The west end of the Antelope Valley is defined by the Tehachapi and San Gabriel Mountains, forming the v-shaped basin of the western Mojave Desert.

The Antelope Valley floor is mantled in thick deposits of Quaternary alluvial and lacustral (lakebed) sediments that have filled the West Antelope, East Antelope and Kramer structural basins. The alluvial sediments are subdivided into two units: the older (Pleistocene) Quaternary sediments, and younger (Holocene) alluvial surface deposits. These alluvial sediments are derived from nearby granitic mountains and have been deposited on the valley floor over the course of thousands of years.

In the vicinity of the project site, a relatively thin layer of younger Quaternary alluvial sediments overlies the thicker older Quaternary sediments (Dibblee, 1963). The younger Quaternary valley alluvial deposits, composed of weathered soil material and poorly sorted clay, silt, and sand, may be up to several hundred feet thick in valley areas, and thinner on slopes at the valley margins.

The project site is currently vacant with the exception of six groundwater wells, and consists primarily of former farmland that has been fallow for over seven years. The project site is not classified as either Prime Farmland or Farmland of Statewide Importance and has been subdivided for residences that were never constructed. Due to past agricultural activities at the project site, on-site topography is relatively flat with constant slope of approximately 0.8 percent. Land adjacent to the study area is also primarily fallow agriculture, with the exception of active alfalfa fields to the southwest, a water banking development project immediately west, and two small areas of native vegetation to the southeast and northeast.

Paleoenvironment

As glaciers in the western United States began to retreat between 12,000 and 10,000 years ago, the climate became dramatically warmer and drier, and vegetation communities such as piñon-juniper woodlands, along with the animals that relied on them, began to inhabit higher elevations (Price et al., 2008). During the late Pleistocene age, fossil evidence suggests that the Antelope Valley was inhabited by numerous large mammalian species including sloths, horses, bears, mammoth, bison, camels, as well as prong-horned antelope. Large carnivorous species included saber-toothed cats, wolves, mountain lions, desert coyotes and foxes, while smaller animals included rodent, rabbits, squirrels and a multitude of birds. Studies of pollen and pack rat middens suggest that desert vegetation began replacing the low-elevation woodlands between 12,000 and 8,000 year ago (Price et al., 2008). Evidence suggests that the plant and animal communities that exist within the Antelope Valley today did not become established until after 4,300 years ago.

The Antelope Valley is a closed basin; that is, a basin that has no outlet for its surface streams. All rainwater either sinks into the ground or collects in the lower part of the valley. Data suggest that, during several periods of time, much of the Antelope Valley was covered by a large fresh-water lake, named Lake Thompson by modern researchers. The high stand of Lake Thompson would probably have been about six miles east of the project site (Way, 2009). By about 8,000 years ago, Lake Thompson appears to have receded and split into Rosamond, Buckhorn, and Rogers Lakes (Price et al., 2008).

Prehistoric Setting

The prehistory of the Mojave Desert is generally described in terms of cultural “complexes.” A complex is a specific archaeological manifestation of a general mode of life, characterized archaeologically by technology, artifact types, economic systems, trade, burial practices, and other aspects of culture. Complexes are typically associated with particular chronological periods. The prehistory of the Mojave is generally divided into the following time-periods/complexes: Paleo-Indian, Lake Mojave Complex, Pinto Complex, Gypsum Complex, Rose Springs Complex, and Late Prehistoric.

Paleo-Indian (10,000-8,000 B.C.)

The Paleo-Indian period is sparsely represented in the Mojave, primarily by large, fluted Clovis projectile points. This limited evidence suggests that early human occupants of the Mojave probably lived in small, mobile groups in temporary camps in the vicinity of permanent water sources (Sutton et al., 2007). In the Antelope Valley, a fragment of a fluted Clovis point was recorded on the southern slopes of the Tehachapis, and recent excavations at Rosamond Lake have documented a terminal Pleistocene/Early Holocene occupation (Pacific Legacy, 2007). In addition, the earliest occupation of CA-KER-2821/H, an extensive multicomponent site near Willow Springs, has been radiocarbon dated to 9020-9430 RCYBP (radiocarbon years before present) (Way, 2009).

Lake Mojave Complex (8,000-6,000 B.C.)

In terms of material culture, the Lake Mojave Complex is typified by stone tools such as Lake Mojave and Silver Lake projectile points, bifaces, steep-edged unifaces, crescents, and some ground stone implements (Sutton et al., 2007). Lake Mojave groups were organized in relatively small, mobile groups and practiced a forager-like subsistence strategy. Some trade with coastal groups was practiced, as evidenced by the presence of shell beads. Lake Mojave sites have been found primarily around Fort Irwin, Lake Mojave, Lake China, Rosamond Lake, and Twentynine Palms.

The Pinto Complex (6,000 to 3,000 B.C.)

Archaeological deposits dating from the Pinto Complex suggest that Pinto settlement patterns consisted of seasonal occupation by small, semi-sedentary groups that were dependent upon a combination of big and small-game hunting and collection strategies, which could include the exploitation of stream or water resources. Typically, sites of this period, which are far more geographically widespread than the Lake Mojave complex sites, are found along lakeshores and streams or springs, some of which are now dry. Material culture representative of this period in California prehistory include roughly formed projectile points, “heavy-keeled” scrapers, choppers, and a greater prevalence of flat millstones and manos, indicating a more intensive use and processing of plant resources (Warren, 1984; Sutton et al., 2007). At the end of the middle Holocene, around 3000 B.C., environmental conditions became much drier and hotter, and few sites in the Mojave date to the period between 3000 and 2000 B.C., suggesting that the area’s population may have decreased during this period of unfavorable climate (Sutton et al., 2007).

A number of Pinto sites have been recorded in the Antelope Valley, including at least six at the Edwards Air Force Base (Price et al., 2008).

Gypsum Complex (c. 2,000 B.C. to A.D. 200)

Many archaeological sites of this period are small and surficial, probably of a temporary nature. It is during this time, however, that more archaeological evidence suggestive of inter-tribal trade appears, particularly between the desert and the coast. At site CA-LAN-192 at Lovejoy Springs, which has a prominent Gypsum component, a group inhumation with at least nine individuals was uncovered, including a child buried with approximately 3,000 *Olivella* shell beads from the southern Californian coast (Price et al., 2008). The artifact assemblage associated with this period also includes an increased number of millingstones and manos, and it is believed that it was during this period that the pestle and mortar were introduced. These technological developments may point to the increased consumption of seeds and mesquite. Other artifacts associated with the Gypsum Period include Humboldt Concave Base, Gypsum Cave, Elko Eared, and Elko Corner-notched projectile points (Warren, 1984).

Rose Springs Complex (c. A.D. 200 to 1,200)

The general cultural pattern for this period is a continuation of that of the preceding Gypsum Period. Rose Springs archaeological sites are more numerous than previous periods and contain more well-developed middens, indicating an increase in population and a more permanent settlement pattern (Sutton et al., 2007). In addition, the archaeological record attests to established trade routes between desert and coastal populations by way of shell beads and steatite, as well as an introduction of Anasazi influence from the eastern Great Plains as evidenced by the appearance of turquoise and pottery. Material culture related to this complex includes obsidian artifacts, Rose Spring and Eastgate projectile points, millingstones, manos, mortars and pestles, slate pendants, and incised stones (Warren, 1984).

The frequent use of obsidian is a defining feature of the Rose Springs period. Obsidian from the Coso volcanic field, 70 miles north of Mojave, was imported in near-finished form for use in making lithic tools (Price et al., 2008). The importing of obsidian seems to have dropped sharply at the end of the Rose Springs period, possibly associated with the Medieval Climatic Anomaly, a period of climate change between A.D. 800 to 1350, and the concurrent migration of Numic-speaking populations out of southeastern California and into the Great Basin.

Several periods of drought affected the Mojave in the Rose Springs period, associated with the Medieval Climatic Anomaly, and subsequent Late Prehistoric Period. Drops in the lake levels at Mono Lake attest to dry periods in A.D. 900-1100 and A.D. 1200-1350 (Price et al., 2008).

Several major Rose Springs villages or site complexes exist in the vicinity of the project site. A complex of 15 sites exists near Rosamond Lake, many of which are characterized solely by evidence of lithic reduction. Some of these sites have been dated to the Rose Springs Complex (Gardner, 2009). Site CA-KER-303, located on a series of low hills about two miles northwest of the project site, is defined by a large, deep midden, cemetery, artifacts interpreted as trade and luxury items, and evidence of structures. Several other smaller sites apparently ring CA-KER-303; these have been interpreted as “support sites” to the larger, primary village site (Sutton, 1988). Finally, CA-LAN-298, at Fairmont Butte, contains extensive and deep midden, rock art,

and numerous bedrock milling features, and probably represents a village site associated with the rhyolite quarries at the butte (Sutton, 1988).

The Late Prehistoric Period (A.D. 1,200 to European Contact)

Following periods of drought during the Rose Springs Period, wetter conditions returned between A.D. 1350 and 1600, associated with a climatic event known as the Little Ice Age (Price et al., 2008).

By the Late Prehistoric Period, an extensive network of established trade routes wound their way through the desert, routing goods to populations throughout the Mojave region. Near the project site, trade routes have been postulated as running along the foothills on the southern border of the Antelope Valley and along the Mojave River (Farmer, 1935; Sutton, 1988). The Antelope Valley sat at a convenient geographical location for controlling trade, between the Great Basin and the southern coastal region (Sutton, 1988).

It is also believed that these trade routes encouraged or were the motivating factors for the development of an “increasingly complex socioeconomic and sociopolitical organization” among Protohistoric peoples in southern California. Housepit village sites are prevalent during this period, as are the presence of Desert Side-notched and Cottonwood projectile points, brownware and buffware ceramics, steatite shaft straighteners, painted millstones, and, to a lesser degree, coastal shell beads. Beginning around A.D. 1300, however, a decline in trade occurred and well-established village sites were abandoned (Warren, 1984).

Ethnographic Setting

At the time of European contact, numerous groups occupied the area in and surrounding the Antelope Valley. The southeastern portion of the valley, around the Mojave River, was inhabited by the Serrano and Vanyume. The territory of the Tataviam centered on the southwestern extent of the Antelope Valley, the Santa Clara River drainage, and possibly the Sierra Pelonas and the Palmdale area (Sutton, 1988). The Kitanemuk inhabited the southern Tehachapi Mountains and the northern and central portion of the Antelope Valley. Finally, during the historic period, there is some evidence for the occupation of the Western Mojave by the Chemehuevi. The Kitanemuk and Chemehuevi, the two groups that are known to have lived in the vicinity of the project site, are described in more detail below.

A number of other groups neighbored the Antelope Valley and may have passed through the valley on occasion. To the north, the Kawaiisu occupied the southern Sierra Nevada and the northern Tehachapi Mountains, and may have also inhabited part of the western Mojave Desert (Sutton, 1988). The Chumash were present along the coast to the west, the Yokuts to the north, and the Mojave to the east.

Kitanemuk

The Kitanemuk occupied a territory that extended from the Tehachapi Mountains into the western end of the Antelope Valley. While most of their recorded villages were located in the Tehachapis, their settlement pattern is poorly understood. Some scholars posit that the Antelope Valley’s desert floor was used only on a seasonal basis, while others point to

archaeological evidence of permanent occupation of the desert floor during the Late Prehistoric Period (Sutton, 1988). While the Kitanemuk maintained friendly relations with their other neighbors such as the Chumash, historic evidence indicates that their relationship with the Tataviam was generally hostile (Blackburn and Bean, 1978).

Like other Takic-speaking groups, such as the Serrano, Kitanemuk society had a patrilineal organization. Families grouped together into villages, which were headed by a team of “administrative elite” composed of a chief, messengers, and shamans. Kitanemuk subsistence was similar to their neighbors the Tataviam. Primary vegetable food sources included acorns, juniper berries, seeds, and yucca buds. Small game such as antelope and deer supplemented these foods.

Chemehuevi

The Chemehuevi, a branch of the Southern Paiute, had a territory that stretched from the Colorado River to the San Bernardino Mountains. The Chemehuevi moved into the eastern Mojave around 1500 A.D. and into the Antelope Valley in the early 19th century (Earle, 2005). By the 1840s, many of the native populations of the Antelope Valley had been depleted by missionization or driven out by an increasing number of non-native settlers. In particular, the opening of the Old Spanish Trail along the Mojave River caused the displacement of Vanyne groups, and brought other native groups, such as the Chemehuevi, into their former territory (Earle, 2005). Early American settlers in the Antelope Valley note the presence of “Paiutes” around Elizabeth Lake, Rosamond Dry Lake, Barrel Springs, and Big Rock Creek in the Valyermo and Littlerock areas, where there were apparently small Chemehuevi settlements (Earle, 2005).

Chemehuevi material culture and subsistence was similar to the Serrano and Cahuilla. One major difference was the use of baskets instead of pottery (Bean and Vane, 2002). As the Chemehuevi population movement into the Antelope Valley, cattle raiding became the predominant mode of subsistence (Earle, 2005). The Chemehuevi were divided into two moieties represented by two songs, the Mountain Sheep Song and the Deer Song, which were each associated with different hunting areas. They generally lived in bands of two or three families, with each band having its own leader (Bean and Vane, 2002).

Historic Context

Early Exploration

The first Europeans known to have visited the Mojave were Pedro Fages in 1772, and Juan Bautista de Anza and Father Francisco Garces in 1774 (Greene, 1983). In 1775, Father Garces separated from de Anza and crossed the Mojave along the ancient Mojave Trail from Needles west to the San Gabriel Mission.

The Spanish missions that dotted the California coast never spread inland to the Mojave, and the desert remained relatively unexplored and unsettled by Europeans for much of the next century. The Romero-Estudillo Expedition of 1823-24 was an attempt by the Spanish to establish a secure route between the California Coast and Tucson; however, despite two attempts, the expedition never managed to make it as far as the Colorado River (Greene, 1983).

The first recorded American visitors to the Mojave were the party of Jedediah Smith, who crossed the Mojave along the Mojave Trail in 1826. Ewing Young and Kit Carson followed his route in the 1820s and 1830s. Kit Carson, who had participated in Jedediah Smith's 1828 expedition, later was the guide for John C. Fremont in 1844. This expedition was one of the first to document in detail the Antelope Valley.

Early Settlement

In the Antelope and Fremont Valleys, mining played a significant role in the development of the area. Gold was discovered in the mountains surrounding the valley, and early mining also concentrated on borax and later potash. In 1866, the Mining Act declared all mineral lands of public domain free and open to exploration and occupancy.

Although settlement had been encouraged by the Homestead Act of 1862, which allowed settlement of public lands in return for residence and improvement of the land, and the Desert Land Act of 1877, which permitted disposal of 640-acre tracts of arid public lands at \$1.25 per acre to homesteaders if they proved reclamation of the land by irrigation, the Antelope Valley did not see much growth until after the coming of the railroad. In 1876, the railroad came to the Antelope Valley when the Southern Pacific Railroad's line that ran south from the San Joaquin Valley was connected to the line from Los Angeles. In 1884, this line joined the Atchison, Topeka, & Santa Fe line that ran east through Needles (Pacific Legacy, 2007).

In the 1880s, a number of groups established colonies in the Antelope Valley, including the Quakers, German Lutherans, and Utopian Socialists. However, fluctuating water levels and years of severe drought brought a quick end to many of these colonies. By 1930, over 80 settlements had been established in the region, most along railroad lines. The town of Rosamond, located about six miles east of the project site, was established in 1877 along the Southern Pacific line and named for the daughter of a Southern Pacific executive (Gudde, 1960). The town of Mojave was founded in 1976 in connection with the construction of the railroad.

Agriculture and ranching were the primary economic focus of homesteaders in the Antelope Valley. During the initial wave of settlement in the 1880 and 1890s, dry-farming methods proved fairly successful. However, this was in large part because these were unusually wet years. A severe drought between 1894 and 1904 brought an end to most agricultural enterprises. After the drought, irrigation was used with some success, particularly for the cultivation of alfalfa, which became the Valley's primary crop (COLA Public Library, 2009).

Paleontological Setting

Paleontological resources are the mineralized (fossilized) remains of prehistoric plants and animals and the mineralized impressions (trace fossils) left as indirect evidence of the form and activity of such organisms. These resources are located within sedimentary rocks or alluvium and are considered to be nonrenewable.

Formations that contain vertebrate fossils are considered more sensitive because vertebrate fossils tend to be rare and fragmentary. Formations containing microfossils, plant casts, and invertebrate fossils are more common. A significant fossil deposit is a rock unit or formation that contains significant nonrenewable paleontological resources. This is defined as comprising

one or more identifiable vertebrate fossils, large or small, and any associated invertebrate and plant fossils, traces, and other data that provide taphonomic, taxonomic, phylogenetic, ecologic, and stratigraphic information (ichnites and trace fossils generated by vertebrate animals such as trackways or nests and middens), which provide datable material and climatic information. This definition excludes invertebrate or botanical fossils except when present within a given vertebrate assemblage. However, invertebrate and botanical fossils may be significant as environmental indicators associated with vertebrate fossils.

As stated above, the project site is currently vacant with the exception of six groundwater wells, and consists primarily of former farmland that has been fallow for over seven years. Due to past agricultural activities at the project site, on-site topography is relatively flat with constant slope of approximately 0.8 percent. Land adjacent to the study area is also primarily fallow agriculture, with the exception of active alfalfa fields to the southwest, a water banking development project immediately west, and two small areas of native vegetation to the southeast and northeast.

Regulatory Setting

Federal

Section 106 of the National Historic Preservation Act (NHPA)

Archaeological resources are protected through the NHPA of 1966, as amended (16 USC 470f), and its implementing regulation, Protection of Historic Properties (36 CFR Part 800), the Archaeological and Historic Preservation Act of 1974, and the Archaeological Resources Protection Act of 1979. Prior to implementing an “undertaking” (e.g., issuing a federal permit), Section 106 of the NHPA requires federal agencies to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation and the State Historic Preservation Officer a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the National Register of Historic Places (NRHP). As indicated in Section 101(d)(6)(A) of the NHPA, properties of traditional religious and cultural importance to a tribe are eligible for inclusion in the National Register. Under the NHPA, a resource is considered significant if it meets the National Register listing criteria at 36 CFR 60.4.

National Register of Historic Places

The NRHP was established by the NHPA of 1966, as “an authoritative guide to be used by federal, State, and local governments, private groups and citizens to identify the Nation’s historic resources and to indicate what properties should be considered for protection from destruction or impairment” (Code of Federal Regulations 36 Section 60.2). The NRHP recognizes both historical-period and prehistoric archaeological properties that are significant at the national, state, and local levels. In the context of the project, which does not involve any historical-period structures, the following NRHP criteria are given as the basis for evaluating archaeological resources.

To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must meet one or more of the following four established criteria (U.S. Department of the Interior, 1995):

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

Unless the property possesses exceptional significance, it must be at least 50 years old to be eligible for National Register listing (U.S. Department of the Interior, 1995).

In addition to meeting the criteria of significance, a property must have integrity. Integrity is defined as “the ability of a property to convey its significance” (U.S. Department of the Interior, 1995). The NRHP recognizes seven qualities that, in various combinations, define integrity. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association.

State

California Environmental Quality Act

CEQA requires the assessment of a proposed project’s effects on cultural resources. Pursuant to CEQA, a “historical resource” is a resource listed in, or eligible for listing in, the California Register of Historical Resources (CRHR). In addition, resources included in a local register of historic resources or identified as significant in a local survey conducted in accordance with state guidelines are also considered historic resources under CEQA, unless a preponderance of the facts demonstrates otherwise. According to CEQA, the fact that a resource is not listed in or determined eligible for listing in the CRHR or is not included in a local register or survey shall not preclude a lead agency, as defined by CEQA, from determining that the resource may be an historic resource as defined in California PRC Section 5024.1. CEQA applies to archaeological resources when: (1) the archaeological resource satisfies the definition of a historic resource; or (2) the archaeological resource satisfies the definition of a “unique archaeological resource.” A unique archaeological resource is an archaeological artifact, object, or site that has a high probability of meeting any of the following criteria:

- The archaeological resource contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.

- The archaeological resource has a special and particular quality such as being the oldest of its type or the best available example of its type.
- The archaeological resource is directly associated with a scientifically recognized important prehistoric or historic event or person.

California Register of Historical Resources

Created in 1992 and implemented in 1998, the CRHR is “an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state’s historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change.” Certain properties, including those listed in or formally determined eligible for listing in the NRHP and California Historical Landmarks numbered 770 and higher, are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historic resources surveys or designated by local landmarks programs, may be nominated for inclusion in the CRHR. A resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on NRHP criteria:

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

Criterion 2. It is associated with the lives of persons important in our past.

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.

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

Furthermore, under PRC 5024.1, Title 14 CCR, Section 4852(c), a cultural resource must retain integrity to be considered eligible for the CRHR. Specifically, it must retain sufficient character or appearance to be recognizable as a historical resource and convey reasons of significance. Integrity is evaluated with regard to retention of such factors as location, design, setting, materials, workmanship, feeling, and association.

Typically, a prehistoric archaeological site in California is recommended eligible for listing in the CRHR based on its potential to yield information important in prehistory or history (Criterion 4). Important information includes chronological markers such as projectile point styles or obsidian artifacts that can be subjected to dating methods or undisturbed deposits that retain their stratigraphic integrity. Sites such as these have the ability to address research questions.

California Historical Landmarks

California Historical Landmarks (CHLs) are buildings, structures, sites, or places that have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value and that have been determined to have statewide

historical significance by meeting at least one of the criteria listed below. The resource also must be approved for designation by the County Board of Supervisors (or the city or town council in whose jurisdiction it is located); be recommended by the State Historical Resources Commission; and be officially designated by the Director of California State Parks. The specific standards now in use were first applied in the designation of CHL #770. CHLs #770 and above are automatically listed in the CRHR.

To be eligible for designation as a landmark, a resource must meet at least one of the following criteria:

- It is the first, last, only, or most significant of its type in the state or within a large geographic region (Northern, Central, or Southern California);
- It is associated with an individual or group having a profound influence on the history of California; or
- It is a prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer, or master builder.

California Points of Historical Interest

California points of historical interest are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. Points of historical interest designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the CRHR. No historic resource may be designated as both a landmark and a point. If a point is later granted status as a landmark, the point designation will be retired. In practice, the point designation program is most often used in localities that do not have a locally enacted cultural heritage or preservation ordinance.

To be eligible for designation as a point of historical interest, a resource must meet at least one of the following criteria:

- It is the first, last, only, or most significant of its type within the local geographic region (city or county);
- It is associated with an individual or group having a profound influence on the history of the local area; or
- It is a prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder.

Health and Safety Code, Sections 7050 and 7052

Health and Safety Code, Section 7050.5, declares that, in the event of the discovery of human remains outside of a dedicated cemetery, all ground disturbance must cease and the county coroner must be notified. Section 7052 establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

Senate Bill 18

Senate Bill 18 (SB 18), which went into effect January 1, 2005, requires local governments (city and county) to consult with Native American tribes before making certain planning decisions and to provide notice to tribes at certain key points in the planning process. The intent is to “provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places” (Governor’s Office of Planning and Research, 2005).

The purpose of involving tribes at these early planning stages is to allow consideration of cultural places in the context of broad local land use policy, before individual site-specific, project-level, land use designations are made by a local government. The consultation requirements of SB 18 apply to general plan or specific plan processes proposed on or after March 1, 2005.

According to the *Tribal Consultation Guidelines: Supplement to General Plan Guidelines* (2005), the following are the contact and notification responsibilities of local governments:

- Prior to the adoption or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes (on the contact list maintained by the NAHC of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts to, cultural places located on land within the local government’s jurisdiction that is affected by the proposed plan adoption or amendment. Tribes have 90 days from the date on which they receive notification to request consultation, unless a shorter timeframe has been agreed to by the tribe (Government Code §65352.3).
- Prior to the adoption or substantial amendment of a general plan or specific plan, a local government must refer the proposed action to those tribes that are on the NAHC contact list and have traditional lands located within the city or county’s jurisdiction. The referral must allow a 45-day comment period (Government Code §65352). Notice must be sent regardless of whether prior consultation has taken place. Such notice does not initiate a new consultation process.
- Local government must send a notice of a public hearing, at least 10 days prior to the hearing, to tribes who have filed a written request for such notice (Government Code §65092).

As this project involves the amendment of a specific plan, Kern County is required to conduct SB 18 consultations with the appropriate tribes.

Local

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan for cultural resources applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the proposed project. Therefore, they are not listed below,

but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation (General Provisions in the Land Use, Open Space, and Conservation Element)

Policies

Policy 25 The County will promote the preservation of cultural and historic resources that provide ties with the past and constitute a heritage value to residents and visitors.

Implementation Measures

- K. Coordinate with the California State University, Bakersfield's Archaeology Inventory Center.
- L. The County shall address archaeological and historical resources for discretionary projects in accordance with CEQA.
- M. In areas of known paleontological resources, the County should address the preservation of these resources where feasible.
- N. The County shall develop a list of Native American organizations and individuals who desire to be notified of proposed discretionary projects. This notification will be accomplished through the established procedures for discretionary projects and CEQA documents.
- O. On a project-specific basis, the County Planning Department shall evaluate the necessity for the involvement of a qualified Native American monitor for grading or other construction activities on discretionary projects that are subject to a CEQA document.

Willow Springs Specific Plan

The Willow Springs Specific Plan contains the following relevant goals, policies, and implementation measures concerning cultural resources:

Goal: To preserve cultural resources contained on sensitive sites located within the Willow Springs Specific Plan area.

Policies

Policy 1 Archaeological investigations shall be required of specific properties proposed for development

Policy 2 Recorded archaeological sites shall be subject to individual studies prior to development

4.4.3 Impacts and Mitigation Measures

Methodology

To evaluate the project's potential effects on significant cultural resources, including prehistoric and historic archaeological sites, ICF International archaeologists conducted Phase I characterization and evaluation of the project site, which included a literature review, Native American contact, and preliminary field surveys in areas of potential permanent and temporary impacts where facilities would be installed (ICF, 2010a). ICF also conducted a Phase II testing and evaluation of one archaeological resource (temporary designation ICF-SG-003) identified during the archaeological survey of the project site (ICF, 2010b).

Impacts on cultural resources could result from ground-disturbing activities and/or damage, destruction, or alteration of historic structures. Ground-disturbing activities include project-related excavation, grading, trenching, vegetation clearance, the operation of heavy equipment, or other surface and sub-surface disturbance that could damage or destroy surficial or buried archaeological resources including prehistoric and historic materials or human burials.

Existing Cultural Resources

Methods Used to Identify Known Cultural Resources

A cultural resources literature review, Native American contact, and archaeological survey, were undertaken in order to identify any cultural resources that may be present within the project area. The records search and survey were conducted by ICF International in February and March, 2010. Testing of archaeological site ICF-SG-003 was conducted in June, 2010.

Literature Review

A project-specific cultural resources literature and records search was conducted at the CHRIS Southern San Joaquin Valley Information Center (SSJVIC) and South Central Coastal Information Center (SCCIC) on September 22, 2009. This records search included an examination of previous cultural resources survey coverage and reports and known cultural resources within a one-mile radius of the project site.

In addition to the records search, archival research was performed at the BLM, through historic mapping services, and using historic aerial photographs.

Native American Contact

The NAHC performed a search of their Sacred Lands File on March 4, 2010. Correspondence was conducted with all individuals and groups indicated by the NAHC as having affiliation with the project area. Correspondence consisted of a letter describing the proposed project and a map indicating the project area. Recipients were invited to reply with any information they are able to share about Native American resources that might be affected by the proposed project.

Field Surveys

ICF completed an archaeological resources pedestrian survey between February 23 and March 1, 2010. The project site was completely surveyed in transects spaced 15-20 meters apart. Any cultural resource greater than 50 years in age was documented, photographed, and recorded on DPR forms as appropriate.

Archaeological testing

Archaeological testing was performed for one of the archaeological resources (ICF-SG-003) identified by ICF as potentially significant. The testing was completed in June, 2010 (ICF, 2010b). Testing consisted of intensive surface survey and documentation, and the excavation of five shovel test pits and one test excavation unit within the site boundaries.

Results and Evaluation of Known Cultural Resources

Records Search

The records search at the SSJVIC indicated that five cultural resources studies have been conducted within one mile of the project site, none of which were within the project site. One site (P-15-012793), a large sparse historic refuse scatter, and two isolates (a prehistoric flake [P-19-100131] and a prehistoric flake and core [P-15-12781]) have been recorded within one mile of the project site. None of these previously recorded resources are within the project site. One additional site, a historic well and refuse deposit, which has not yet been assigned a permanent site number, has been recorded within ¼ mile of the project site (ESA, 2010).

Native American Contact

The SLF search performed by the NAHC failed to indicate the presence of Native American sacred site within the project site. The Tejon Indian Tribe responded to the NOP/IS, and stated that they have no concerns or issues regarding the project.

Field Surveys

Fourteen potential cultural resources were recorded during the 2009 field survey. Of these, seven (AC-1, a 2003 aircraft crash site; ICF-SB-002H, two agricultural irrigation features dating to the early 1970s; ICF-SG-005H, a utility line constructed around 1965; ICF-SG-006H, a post-1965 well; ICF-SG-008H, a post-1965 well; ICF-SG-009H, a post-1972 utility pole; and ICF-SG-011H, a post-1965 well) were later determined to be less than 50 years old and therefore are not considered significant cultural resources under CEQA and will not be considered further.

Of the original 14 recorded resources, five archaeological sites and two isolated artifacts were determined to be greater than 50 years in age. The resources are described below:

ICF-SG-001H: This historic-era feature consisted of a highly disturbed “closed” well feature with windmill footings, utility pole, and electrical foundation. The well is approximately 50 feet north of Willow Avenue and visible on the 1965 and 1995 Fairmont Butte, California 7.5’ series quadrangles. A 1954 historic aerial photograph shows no irrigation features in the area;

however, by 1959 a small earthen reservoir had been constructed just north of the well site, and may have been associated with the well.

ICF-SG-004H: The site consists of a 1.5-mile segment of an east/west trending overhead utility line. The segment appears to be a standard three-wire distribution line supported by ceramic insulators on horizontal wooden crossarms with metal cross braces. Each pole is of standard dimension, approximately one foot in diameter by 45 feet tall and set at an interval of about 325 feet. The earliest date nails observed on the utility poles suggests the line was installed by 1956. The project site segment was recorded although the line extends further east and west for an unspecified distance. Site ICF-SG-004H is representative of a standard three-wire distribution line typically carrying voltages between 4.6 to 33 kV between a local substation and the customer. Utility lines like this are very common throughout rural southern California.

ICF-SG-007H: The site is a T-shaped overhead utility line. The segment appears to be a standard three-wire distribution line supported by brown ceramic insulators on horizontal wooden crossarms with metal cross braces. Each pole is of standard dimension, approximately one foot in diameter by 40 feet tall and set at an interval of about 300 feet. The earliest date nails observed on the utility poles suggests the line was installed in 1947. Site ICF-SG-007H is representative of a standard three-wire distribution line typically carrying voltages between 4.6 to 33 kV between a local substation and the customer. Utility lines like this are very common throughout rural southern California.

ICF-SG-010H: The site consists of a one-mile segment of a north/south trending overhead utility line. The segment appears to be a standard three-wire distribution line supported by ceramic insulators on horizontal wooden crossarms with metal cross braces. Each pole is of standard dimension, approximately one foot in diameter by 45 feet tall and set at an interval of about 300 feet along the east side of 150th Street West. The earliest date nails observed suggests the line was installed in 1960. Only the segment within the current project site was recorded. Site ICF-SG-010H is representative of a standard three-wire distribution line typically carrying voltages between 4.6 to 33 kV between a local substation and the customer. Utility lines like this are very common throughout rural southern California

ICF-SG-003: Site ICF-SG-003 is a moderately dense scatter of more than 100 fragments of fire-affected rock. The site measures approximately 17 m (north/south) by 17 m (east/west) and has been subjected to agricultural tilling. The densest quantity of fire-affected rock was visible roughly at the center of the site. A significant portion of the fire-affected rock exhibited highly charred elements indicative of multiple periods of reuse. Individual fragments measure between 14 centimeters to less than two centimeters in diameter. An examination of the fire-affected rock did not yield any definitive groundstone surfaces although several fragments were possible, albeit heavily weathered. No other artifact types were observed at the site.

ICF identified this site as potentially significant based on the results of the initial survey. Archaeological testing was conducted at the site in June 2010 in order to determine whether the site contained any subsurface archaeological deposits and to evaluate the site for its significance under CEQA. The result of the surface inventory and subsurface excavation indicated that the site is a highly disturbed, prehistoric hearth feature consisting almost exclusively of fire-affected rock to a depth of 23 centimeters below ground surface (ICF, 2010b).

Examination of the soil profiles in conjunction with historic research indicates that the site, which is located within an abandoned agricultural field, has been tilled to a depth of approximately 30cm (12 inches), and its surface and subsurface integrity has been compromised. No datable material, such as charcoal, obsidian, pottery, faunal remains, or projectile points, was recovered

ICF-SG-001i: The resource consists of a black and gray-banded obsidian translucent tertiary flake fragment located in the eastern side of the dirt north/south trending 145th Street West. The flake fragment measures 1.5 by 1.5 by 0.4 centimeters.

ICF-SG-002i: The isolate is an intact bifacial mano. The mano has a well-preserved surface while the exposed surface was highly weathered but still visible. Shaping and modest shouldering were observed and there was no evidence of it having been fire-affected. The mano was recorded in a low stabilized dune environment.

Evaluation of Resources

Isolated artifacts

Isolated prehistoric artifacts ICF-SG-001i and ICF-SG-002i are not eligible for listing in the CRHR and do not otherwise meet CEQA's definitions for historical resources and unique archaeological resources. The isolated artifacts were recorded in areas of disturbed context and do not have the potential to yield information important to the study of prehistory or history. In fact, the information potential of both isolated artifacts was exhausted in the process of documenting the finds on California Department of Parks and Recreation Primary Record forms and mapping their locations. Damage to or destruction of the artifacts would have no impact and no mitigation is required.

Historic-Period Sites

Historic-period sites ICF-SG-004H, ICF-SG-007H, ICF-SG-001H, and ICF-SG-010H are not eligible for listing in the CRHR and do not otherwise meet CEQA's definitions for historical resources and unique archaeological resources. They are not known to be directly associated with events or people that have had a broad-reaching impact on the community at the local, state, or national level (Criteria 1 and 2). Furthermore, the sites do not embody the characteristics of a distinctive type, period, or method of construction, or represent the work of a master (Criterion 3). In particular, sites ICF-SG-004H, ICF-SG-007H, and ICF-SB-010H are historic-era power lines, which are ubiquitous throughout rural California. In addition, site ICF-SG-001H, a historic-era agricultural field well, also represents a common irrigation feature found throughout the Antelope Valley.

Finally, based on examination of the site surface and historic documentation, these sites do not appear to have the potential to yield information important to an understanding of the prehistory or history of the local area, the state, or the nation (Criterion 4). In the case of site ICF-SG-001H, agriculture and other ground-disturbing activity appears to have heavily disturbed the site. Therefore, none of these resources appear to be eligible for the CRHR and all lack overall historical significance.

Prehistoric Site

Site ICF-SG-003 is a prehistoric hearth feature that was initially identified as potentially significant under *CEQA Guidelines* because of its association with the prehistory of Antelope Valley. Testing was performed at the site in June 2010. Results of the testing indicated that the feature was a surface, or near surface, manifestation prior to the cultivation of the field, which adversely impacted the site's integrity. Furthermore, the absence of datable temporal indicators limits the information that can be gained from the site and suggests that it has exhausted its research potential. Therefore, site ICF-SG-003 is recommended as not eligible for the CRHR, based on its lack of integrity and the absence of additional research potential (Criterion 4). In addition, the site is not associated with events or people important in history and does not embody the characteristics of a distinctive type, period, or method of construction, or represent the work of a master (Criteria 1, 2, and 3).

Potential for Unknown Buried Cultural Resources

The Antelope Valley floor is covered in thick deposits of Quaternary alluvial sediments. Dibblee (1963) subdivides the alluvium into two units: the older (Pleistocene) Quaternary sediments, and younger (Holocene) alluvial surface deposits. These alluvial sediments are derived from nearby granitic mountains and have been deposited on the valley floor over the course of thousands of years. The younger Quaternary valley alluvial deposits, composed of weathered soil material and poorly sorted clay, silt, and sand, may be up to several hundred feet thick in valley areas, and thinner on slopes at the valley margins. The precise thickness of the younger alluvial deposits within the project site is unknown.

Given that this portion of the Antelope Valley has been covered with Holocene alluvial deposits, which have been deposited over the course of known human occupation in the region, there is a possibility that this deposition of alluvium has buried prehistoric archaeological sites that once existed on the surface. Therefore, even though the project site has been heavily tilled and cultivated for agriculture purposes in the past, there exists some possibility that intact buried archaeological deposits exist beneath the plow zone and may be encountered during project-related excavation.

Existing Paleontological Resources

Methods Used to Identify Paleontological Resources

A paleontological records search and examination of geologic maps was conducted by Dr. Sam McLeod at the Natural History Museum of Los Angeles in June, 2010.

Results and Evaluation of Known Paleontological Resources

The records check performed by Dr. McLeod confirmed that the entire project site is underlain by surficial deposits of younger Quaternary Alluvium, derived from igneous and metamorphic rocks, which are typically not paleontologically sensitive. However, the younger Quaternary Alluvium is underlain by older Quaternary deposits, which may contain significant vertebrate fossils.

No vertebrate fossil localities have been recorded within or near the project site; however, fossils have been recorded nearby from similar sedimentary deposits as occur within the project site. The nearest vertebrate fossil locality is a specimen of fossil horse recovered from Quaternary deposits in Tehachapi (McLeod, 2010)

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist state that a project would have a significant impact on cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource, as defined in *CEQA Guidelines* Section 15064.4;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to *CEQA Guidelines* Section 15064.4;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- Disturb any human remains, including those interred outside of formal cemeteries.

According to *CEQA Guidelines* (CCR Title 14, 15064.4), a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment (CCR Title 14, 15064.4(b)). The guidelines further state that a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historic resource would be materially impaired. Actions that would materially impair the significance of a historical resource are any actions that would demolish or adversely alter those physical characteristics of a historical resource that convey its historical significance and qualify it for inclusion in the CRHR or in a local register or survey that meet the requirements of PRC Sections 5020.1(k) and 5024.1(g).

Project Impacts

Impact 4.4-1: The project would cause a substantial adverse change in the significance of a historical or archaeological resource.

Known Resources

As stated above, one potentially significant prehistoric archaeological site ICF-SG-003 was identified during the Phase I pedestrian survey conducted for the proposed project. Phase II testing and evaluation of the site was conducted. The testing indicated that the site had been previously impacted by tilling associated with past agricultural activities. Furthermore, the absence of datable temporal indicators (i.e., charcoal, obsidian, pottery, faunal remains, or projectile points) limits the information that can be gained from the site and suggests that it does not possess any research potential. Therefore, site ICF-SG-003 is recommended as not eligible for the CRHR, based on the lack of integrity and absence of additional research potential.

No other archaeological or built architectural cultural resources either listed on or eligible for the NRHP, CRHR, or local register are known to be located within the project site, nor do any resources within the project site meet CEQA's definition of a unique archaeological resource. Therefore, there would be no impact to known historical resources as a result of project implementation.

Potential for Unknown Buried Resources

Significant prehistoric sites in the vicinity of the project site tend to occur in close proximity to springs, watercourses, or other natural resources. Site CA-KER-303, a village complex, is located near Cottonwood Creek and several other drainages. Site CA-KER-2821/H, a large prehistoric occupation, is centered on Bean Springs and is in close proximity to Willow Springs (Way, 2009). The site complex at Fairmont Butte, which appears to represent a village and quarry site, is associated with the rhyolite quarries, springs, and streams at Fairmont Butte.

The 1965 (photorevised 1974) USGS Fairmont Butte 7.5' topographic quadrangle does not indicate any potential water sources, aside from historic-era wells, near the project site. The nearest water source indicated on this map is the Cottonwood Creek drainage, about one mile to the northwest of the project site. While prehistoric isolates or small archaeological features such as campsites may be located in the area, as demonstrated by the presence of prehistoric fire-affected rock scatter ICF-SG-003, it is unlikely that large, significant prehistoric sites would be found within the project site.

As discussed above, given that this portion of the Antelope Valley has been covered with Holocene alluvial deposits, which have been deposited over the course of known human occupation in the region, there is a possibility that this deposition of alluvium has buried prehistoric archaeological sites that once existed on the surface. Therefore, although overall there is a low probability of significant prehistoric resources existing within the project site, there is nevertheless some possibility that buried archaeological deposits may be encountered during project-related excavation.

Ground-disturbing activities associated with the proposed project could impact unknown buried cultural resources, which would be a significant impact. Mitigation Measure 4.4-1 provides provisions for the unanticipated discovery of archaeological resources, and would mitigate impacts to cultural resources to a less-than-significant level.

Mitigation Measures

MM 4.4-1: If cultural resources are encountered during construction, all activity in the vicinity of the find shall cease until it can be evaluated by a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology. If the qualified archaeologist determines that the resources may be significant, he or she will notify the County and will develop an appropriate treatment plan for the resources. The County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.4-2: The project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

In the vicinity of the project site, a relatively thin layer of younger Quaternary alluvial sediments overlies the thicker older Quaternary sediments (Dibblee, 1963). The younger Quaternary valley alluvial deposits, composed of weathered soil material and poorly sorted clay, silt, and sand, may be up to several hundred feet thick in valley areas, and thinner on slopes at the valley margins.

The younger Quaternary deposits are not generally paleontologically sensitive; however, the older Quaternary deposits are considered sensitive for significant paleontological resources. Therefore, although surface grading and very shallow excavation is unlikely to impact sensitive paleontological resources, it is possible that deeper project-related excavation could extend into the older alluvium and impact significant vertebrate fossil resources. Implementation of Mitigation Measure 4.4-2 would reduce impacts to a less-than-significant level.

Mitigation Measures

MM 4.4-2: Prior to the issuance of grading permits a qualified paleontologist shall be retained and approved by the lead agency to monitor all ground-disturbing activity that occurs deeper than a depth of five feet below ground surface. The duration and timing of monitoring shall be determined by the qualified paleontologist in consultation with the lead agency and based on the grading plans. Initially, all ground-disturbing activities deeper than five feet shall be monitored. However, during the course of monitoring, if the paleontologist can demonstrate that the level of monitoring should be reduced, the paleontologist, in consultation with the lead agency, may adjust the level of monitoring to circumstances as warranted.

If a potentially significant fossil is found, the paleontologist shall be allowed to temporarily divert or redirect grading and excavation activities in the area of the exposed fossil to facilitate evaluation and, if necessary, salvage. Any fossils encountered and recovered shall be catalogued and donated to a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County. Accompanying notes, maps, and photographs shall also be filed at the repository.

Following the completion of the above tasks, the paleontologist shall prepare a report documenting the absence or discovery of fossil resources on-site. If fossils are found, the report shall summarize the results of the inspection program, identify those fossils encountered, recovery and curation efforts, and the methods used in these efforts, as well as describe the fossils collected and their significance. A copy of the report shall be provided to the County and to the Natural History Museum of Los Angeles County.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.4-3: The project would disturb any human remains, including those interred outside of formal cemeteries.

There is no indication, either from the archival research results or the archaeological survey, that any particular location in the project area has been used for human burial purposes in the recent or distant past. However, in the event that human remains are inadvertently discovered during project construction activities, the human remains could be inadvertently damaged, which could be a significant impact. This impact would be minimized by implementation of Mitigation 4.4-3.

Mitigation Measures

MM 4.4-3: If human skeletal remains are uncovered during project construction, the project proponent (depending upon the project component) shall immediately halt work, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.4 (e)(1) of the *CEQA Guidelines*. If the County Coroner determines that the remains are Native American, the project proponent shall contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendents regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.

Level of Significance after Mitigation

Impacts would be less than significant.

Cumulative Setting Impacts and Mitigation Measures

The geographic scope for cumulative impacts to cultural and paleontological resources includes a one-mile radius from the project site. Analysis of cumulative impacts takes into consideration the entirety of impacts that the projects, zone changes, and general plans discussed in Section 3.11 would have on cultural resources. This geographic scope of analysis is appropriate because the archaeological, historical, and paleontological resources within this radius are expected to be similar to those in the project site because of their proximity; similar environments, landforms, and hydrology would result in similar land-use—and thus, site types. Similar geology within this vicinity would likely yield fossils of similar sensitivity and quantity.

The project area contains a significant archaeological and historical record that, in many cases, has not been well documented or recorded. Thus, there is the potential for ongoing and future

development projects in the vicinity to disturb landscapes that may contain known or unknown cultural resources.

The potential construction impacts of the proposed project, in combination with other projects in the area, could contribute to a cumulatively significant impact on cultural resources. However, this analysis includes several mitigation measures to reduce potential project impacts to cultural resources during construction of the proposed project. Future projects with potentially significant impacts to cultural resources would be required to comply with federal, state, and local regulations and ordinances protecting cultural resources through implementation of similar mitigation measures during construction. Therefore, with implementation of Mitigation Measure 4.4-1 the proposed project would not have a cumulatively considerable contribution to impacts to archaeological and historical resources.

Excavation activities associated with the proposed project in conjunction with other projects in the area could contribute to the progressive loss of fossil remains, as-yet unrecorded fossil sites, associated geological and geographic data, and fossil bearing strata. However, the proposed project would have a less than significant impact to paleontological resources with incorporation of Mitigation Measures 4.4-2, and other projects in the area would be required to comply with existing regulations and undergo CEQA review to assure that any impacts are appropriately evaluated and, if necessary, mitigated. Therefore, with the implementation of Mitigation Measures 4.4-2, it is likely that cumulative impacts to paleontological resources would be less than significant.

Mitigation Measures

Compliance with the goals, policies, and implementation measures of the Kern County General Plan is required. No additional mitigation measures are proposed.

Level of Significance after Mitigation

Cumulative impacts would be less than significant.