



Appendix F

PHASE I CULTURAL RESOURCES
ASSESSMENT FOR THE PALMDALE
REGIONAL GROUNDWATER RECHARGE
AND RECOVERY PROJECT



Phase I Cultural Resource Assessment for the Palmdale Regional Groundwater Recharge and Recovery Project, City of Palmdale, Los Angeles County, California

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National Archaeological Database (NADB)

Type of Study: Literature Search, Intensive Pedestrian Survey, and Significance Evaluation

Resources Revisited: P-19-004154/CA-LAN-4154H (East Branch of the California Aqueduct), P-19-004323/CA-LAN-4323H, and P-19-100581

USGS 7.5' Quadrangle: Alpine Butte, CA, Littlerock, CA, and Palmdale, CA

Acreage: 601 acres

Level of Investigation: Section 106 of the NHPA and CEQA

Key Words: Palmdale; Los Angeles County; Section 106; CEQA; Section 106 of the NHPA; 601 acres surveyed; 18 cultural resources; East Branch of the California Aqueduct; historical refuse deposits; historical farmstead; historic wellhead; isolated prehistoric flaked stone artifact

MANAGEMENT SUMMARY

The Palmdale Water District proposes the construction and operation of the proposed Palmdale Regional Groundwater Recharge and Recovery Project (proposed Project) in the city of Palmdale and unincorporated areas in Los Angeles County, California. The primary purpose of the proposed Project is to improve the reliability of water supplies within the Palmdale Water District's service area by developing programs with new spreading grounds to recharge imported water and potentially recycled water and recovery facilities to help meet future water demands. Applied EarthWorks, Inc. (Æ) was retained to conduct a Phase I cultural resource investigation of the proposed Project area in accordance with Section 106 of the National Historic Preservation Act (NHPA) and the California Environmental Quality Act (CEQA).

This report summarizes the methods and results of the cultural resource investigation of proposed Project's Area of Potential Effect (APE). This assessment included archaeological and historical background research, communication with Native American tribal representatives, an intensive pedestrian (Phase I) survey, and an evaluation of significance of identified cultural resources within the proposed Project APE. The purpose of the investigation was to determine the potential for the proposed Project to impact historic properties as defined by the NHPA and/or historical resources under CEQA.

The cultural literature and records search at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System (CHRIS) at California State University, Fullerton, indicated that 20 cultural resources have been documented within a one quarter-mile radius of the proposed Project area. Seven of these resources are located within the proposed Project APE including the East Branch of the California Aqueduct, five historic-period archaeological sites, and one historical isolated artifact. The East Branch of the California Aqueduct has been previously determined eligible for listing on the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR). None of the remaining six resources have been evaluated for listing on the NRHP or the CRHR.

As part of the cultural resources assessment of the proposed Project APE, Æ also requested searches of the Sacred Lands File (SLF) from the Native American Heritage Commission. Results of the SLF search indicate that there are no known Native American cultural resources within the immediate proposed Project area. Native American individuals and organizations were contacted to elicit information on Native American resources within the proposed Project area. Of the nine groups and/or individuals contacted, three responded with comments. A representative of Chumash, Tataviam, and Fernandeno descent; a Kern Valley Indian Community tribal member; and the Tribal Historic and Cultural Preservation Representative for the Fernandeno Tataviam Band of Mission Indians all indicated that the area is culturally sensitive and recommended that an archaeological and Native American monitor be present for new development in undisturbed areas. The results of the Section 106 Native American consultation efforts will be documented by the California State Water Resources Control Board.

An intensive pedestrian survey of the proposed Project APE and previous pipeline and well alignments (approximately 601 acres) was performed by Æ archaeologists Josh Smallwood, MA, RPA, and Julia Carvajal between June 3 and June 9, 2015, and on September 22, 2015. The seven previously recorded historic-period cultural resources were visited during the field survey to assess their current condition and their relation to the proposed Project APE. The survey also resulted in the discovery of 11 newly identified cultural resources including nine historical archaeological sites and two isolated occurrences. Significance evaluations indicate that aside from the East Branch of the California Aqueduct, none of the cultural resources are recommended as eligible for listing on the NRHP or the CRHR. An assessment of effects indicates the proposed Project will not impair the historical significance or integrity of the East Branch of the California Aqueduct and as such, a finding of no adverse effect is recommended for the proposed Project.

Field notes documenting the current investigation are on file at Æ's Hemet office. A copy of the final report will be placed on file at the SCCIC.

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1 INTRODUCTION

The Palmdale Water District (PWD) proposes to improve the reliability of water supplies within PWD's service area by developing programs with new spreading grounds to recharge imported water and potentially recycled water and recovery facilities to help meet future water demands. Applied EarthWorks, Inc. (Æ) was retained by HELIX Environmental Planning, Inc. (HELIX) to conduct a Phase I cultural resource investigation of the proposed Palmdale Regional Groundwater Recharge and Recovery Project (hereafter "proposed Project") in accordance with Section 106 of the National Historic Preservation Act (NHPA) (36 Code of Federal Regulations [CFR] Part 800) and the California Environmental Quality Act (CEQA). The California State Water Resources Control Board (SWRCB) is the Lead Agency for Section 106 compliance with PWD acting as the Lead Agency for the purposes of CEQA. Vanessa Mirro, MA, RPA, served as Æ's Principal Investigator; Tiffany Clark, PhD, RPA, served as Senior Archaeologist; Roberta Thomas, MA, RPA, served as Project Manager/Archaeologist and author; Josh Smallwood, MA, RPA, served as Field Supervisor and contributing author; and Julia Carvajal served as Field Archaeologist.

1.1 PROJECT LOCATION AND DESCRIPTION

The proposed Project site is located generally in the northeastern portion of the city of Palmdale in Los Angeles County and surrounding unincorporated Los Angeles County and city of Lancaster (Figure 1-1). More specifically, the proposed Project site is situated north of Highway 138, east of Highway 14, south of Edwards Air Force Base, and west of the community of Lake Los Angeles. The proposed Project site is located in portions of the Alpine Butte, Lancaster East, Littlerock, and Palmdale U.S. Geological Survey (USGS) 7.5-minute quadrangle maps (Figure 1-2). The proposed Project consists of several components at different locations, including a Recharge Site, a Distribution Site, and several associated pipelines. The Recharge Site is located south of East Avenue L, west of 110th Street East, north of Avenue M, and east of 95th Street. The Distribution Site is located approximately 0.5 mile south of the Recharge Site's southern boundary. The proposed Project also includes proposed alignments for raw, potable, and recycled water supply mains that would be located mostly within existing streets. The pipelines are bounded by the Recharge Site to the north, the East Branch of the California Aqueduct to the south, 106th Street to the east, and 60th Street East to the west.

The PWD plans to develop groundwater banking programs with new spreading grounds to recharge imported water and recycled water as well as recovery facilities to help meet future water demands and improve reliability. The proposed Project would deliver raw imported water from the East Branch of the California Aqueduct (State Water Project [SWP]) to new recharge basins located in the city of Palmdale. For the magnitude of recharge proposed under the proposed Project, SWP water would need to be recharged nearly year-round during wet years, which is estimated to occur approximately 6 out of every 10 years. During dry years (anticipated to be approximately 4 out of every 10 years), no SWP recharge would occur. Recycled water



Figure 1-1 Proposed Project vicinity map.

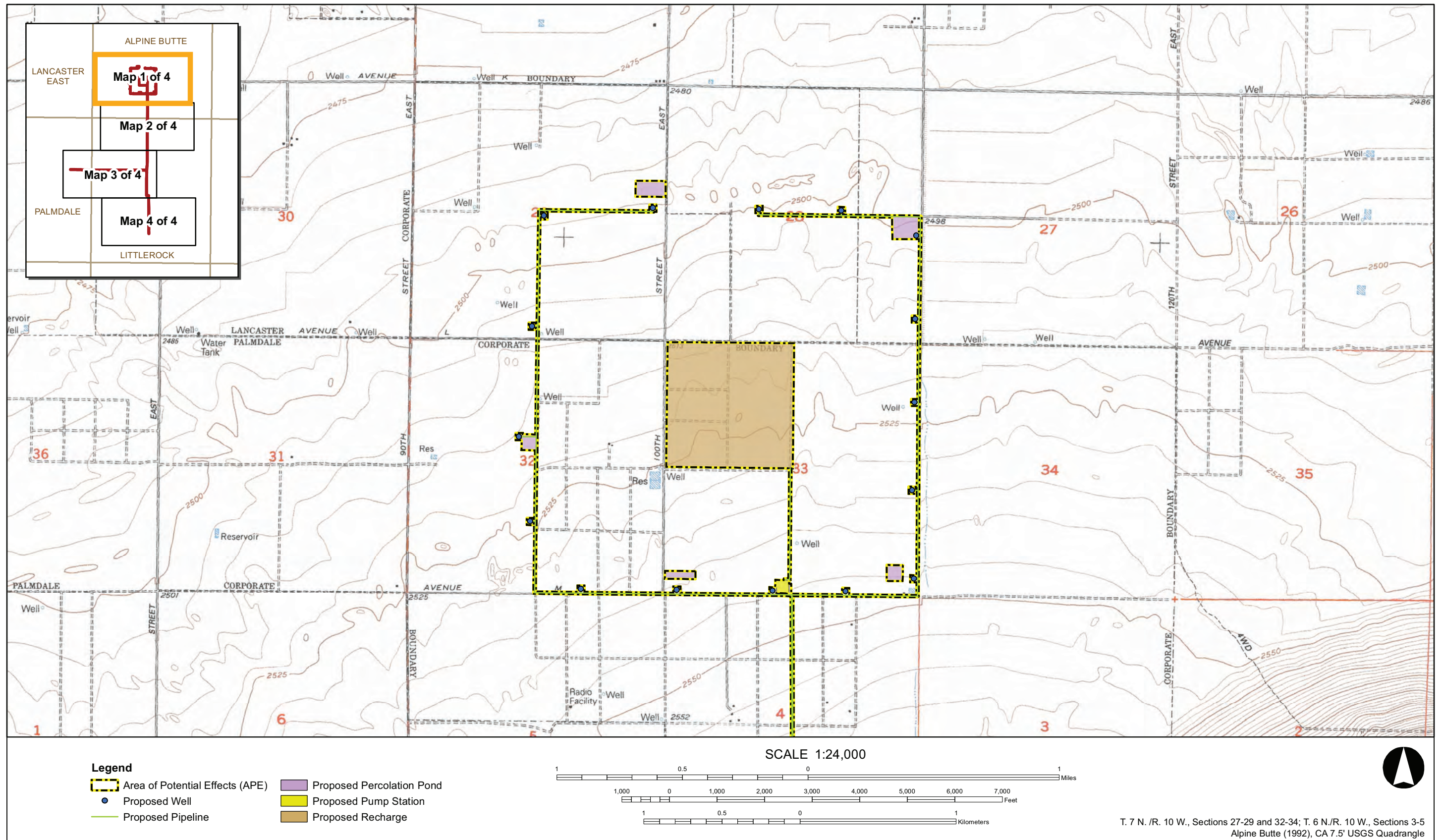


Figure 1-2a Proposed Project location map (1 of 4).

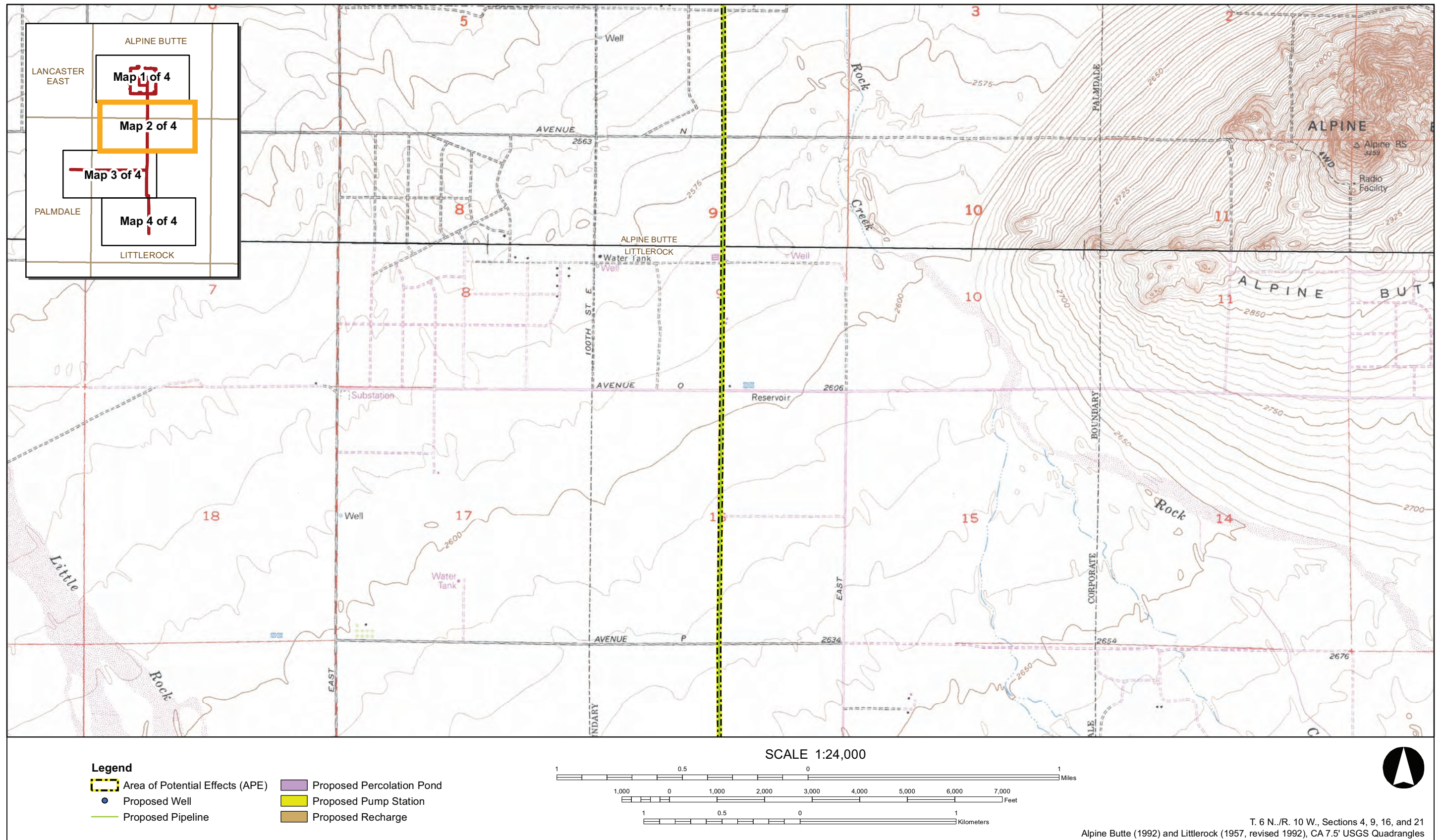


Figure 1-2b Proposed Project location map (2 of 4).

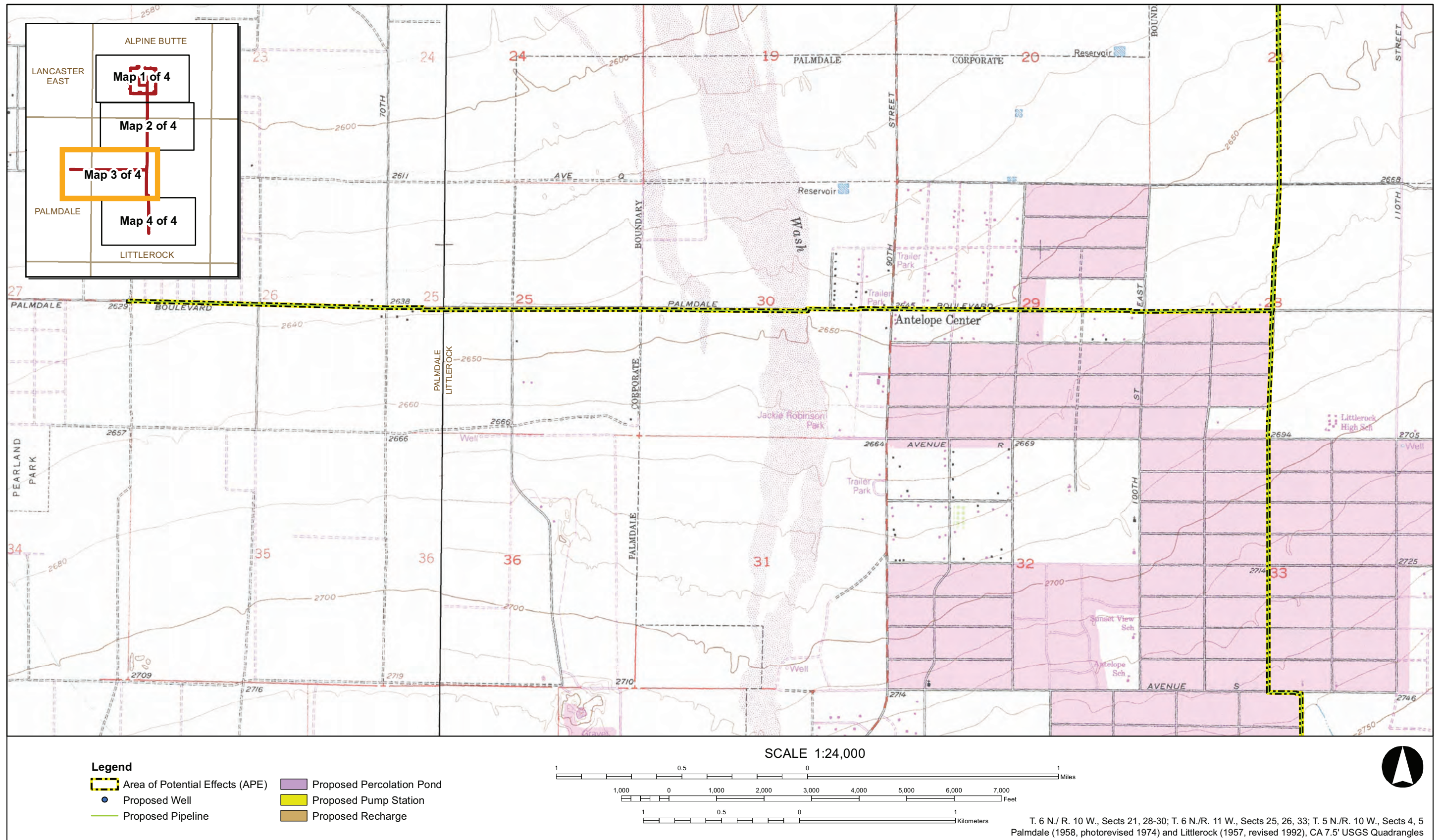


Figure 1-2c Proposed Project location map (3 of 4).

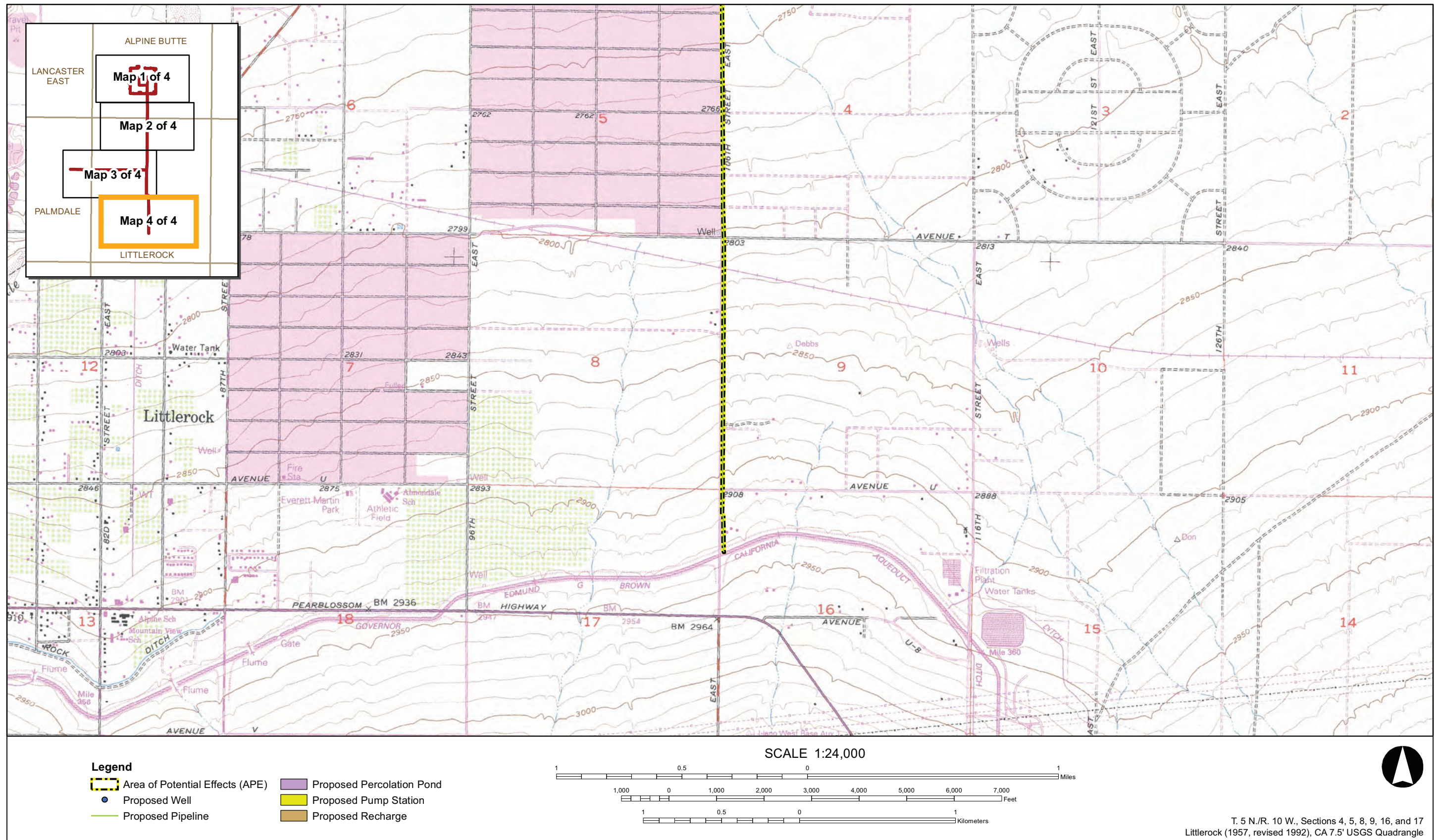


Figure 1-2d Proposed Project location map (4 of 4).

produced locally also would be included in the recharge (compliant with applicable regulations); this source is anticipated to be available at an approximately constant rate year-round. The recharge capacity of the proposed Project is projected to be approximately 50,000 to 52,000 acre-feet per year (AFY).

The proposed Project would occur in phases. The preliminary phase is intended to meet the PWD's water demands for the first 22 years of the proposed Project's life, providing a water supply of 14,125 AFY. The second phase is sized to meet PWD's water demand through the 50-year Project evaluation period (through 2067), as well as ultimate buildout, providing a water supply of up to 24,250 AFY. If a partner agency joins PWD, up to 30,000 AFY could be pumped back to the SWP for use by the partner agency. The components of the proposed Project, which are each designed to accommodate the ultimate demand of the proposed Project, are listed below:

- **SWP Turnout:** The new 50-cubic-foot per second (cfs) turnout would be located at the intersection of the East Branch of the California Aqueduct and 106th Street East. (A turnout at the East Branch of the California Aqueduct is a connection/gate that allows water to leave the Aqueduct). The turnout consists of a rectangular cutout of the East Branch of the California Aqueduct concrete canal lining, approximately 25 feet long by 10 feet wide. A trashrack would be installed over the cut-out section to prevent trash from entering the turnout. A 36-inch-diameter pipe would enter the side of the East Branch of the California Aqueduct. Water would flow into the pipeline, through a flow meter, then through the Raw Water / Return Water Pipeline to the recharge basins (both the pipeline and recharge basins are discussed in more detail below). The new turnout structure would be composed of reinforced concrete. Stop logs and a motor-actuated sluice gate would control the flow entering the pipeline.
- **Recharge Site:** The Recharge Site is 160 acres and is defined by East Avenue L to the north, East Avenue L-8 to the south, 100th Street East to the west, and 105th Street East to the east. The basins at the Recharge Site would consist of four 20-acre cut-and-fill earth embankment recharge basins with shotcrete interior slopes. The basins would occupy approximately 80 acres in the center of the 160-acre Recharge Site and would be surrounded by an 8-foot-high chain-link security fence topped with three-strand barbed wire. The fenced area would include the recharge basins and the sloped berms surrounding the basins, covering approximately 110 acres of the 160-acre site. The side slope of the embankments at the site would be 3:1, with a maximum height of approximately 8 feet. Each basin would have an emergency spillway. The entire 80 acres of recharge basins would be surrounded by a 26-foot-wide access road. An access road 20 feet wide would also be located between each basin.
- **Raw Water Conveyance:** The Raw Water / Return Water Pipeline would be approximately 8.5 miles in length and would connect the Recharge Site with the East Branch of the California Aqueduct at the proposed SWP Turnout described above. The 36-inch Raw Water / Return Water Pipeline would travel north along 106th Street East from the SWP turnout for approximately 2.3 miles. It would then traverse west along East Avenue S for approximately 0.1 mile and then north along 105th Street East for approximately 1.5 miles to the terminus of 105th Street East at East Palmdale Boulevard.

The Raw Water / Return Water Pipeline would continue north from the intersection of 105th Street East and East Palmdale Boulevard, along the future 105th Street East alignment through undeveloped land for approximately 4.6 miles to connect with the recharge basins at the Recharge Site.

- **Recycled Water Pipeline:** The Recycled Water Pipeline includes the construction of a 30-inch recycled water pipeline. The pipeline would connect to an existing 48-inch recycled water pipeline at the intersection of 105th Street East and East Avenue M. The proposed 30-inch pipeline would traverse north for approximately 0.1 mile along 105th Street East, paralleling the 36-inch Raw Water / Return Water Pipeline, until reaching the Distribution Box at the Distribution Site (Distribution Site is discussed in more detail below).
- **Recovery Wells:** The proposed Project would include 16 Recovery Wells occurring in two phases, with all wells having an estimated capacity of 1,200 gallons per minute (gpm). The Recovery Wells are intended to be phased one half at a time with eight wells installed during the preliminary phase and the additional eight wells installed in the second phase. The Recovery Wells would be configured surrounding the Recharge Site, located on an approximately 1.5-mile by 1.5-mile square, centered around the Recharge Site. The wells are set back a minimum of 0.5 mile on each side of the Recharge Site to provide more than 1 year of travel time, as required by the California Department of Drinking Water, for recycled water traveling from the recharge basins to the Recovery Wells. Four wells would be located along 95th Street East, between Avenue M and Avenue K-8; five wells would be located along 110th Street East, between Avenue M and Avenue K-8; three wells would be located along Avenue K-8, between 95th Street East and 110th Street East; and four wells would be located along Avenue M, between 95th Street East and 110th Street East. One of the wells located along Avenue M would be located within the fenced Distribution Site (discussed in more detail below). All 16 wells would be approximately 200 horsepower, housed in buildings, and would operate up to 97 percent of the year. Approximately 6 miles of piping would connect the Recovery Wells to the pump station. The piping for the preliminary phase is sized to deliver water from the wells in both phases to the recharge basins and is located either in existing or future street alignments. The pipeline would vary in size, ranging from 12 inches in diameter at the north of the site to 36 inches at the south of the site. The proposed Project would also include five temporary percolation ponds on parcels in close proximity to Recovery Wells for water collection and percolation into the groundwater basin during Recovery Well testing. These parcels would be bermed using soil within each parcel and would temporarily store water pumped up during Recovery Well testing. The water would remain on each parcel until it percolated back into the groundwater basin. The berms on each parcel would then be redistributed around the parcel.
- **Distribution Site:** The 1-million-gallon head tank, pump headers, and Pump Station Building would be located on a 2-acre parcel approximately 0.5 mile south of the recharge basins, at the northwestern corner of Avenue M and 105th Street East intersection. A 48-inch Combined Recharge Supply Pipeline would convey water between the Distribution Site and the recharge basins. This 48-inch Combined Recharge Supply Pipeline would be approximately 0.5 mile in length and would convey water from the distribution box at the

pump station to the Splitter Box at the Recharge Site. An access road would connect the Recharge Site and the Distribution Site.

- **Potable Water Pump Station and Potable Water Pipeline:** The Potable Water Pump Station is intended to accommodate the ultimate demand. However, the pumps themselves are to be phased, meaning the four 3,000 gpm, 400-horsepower pumps (plus one additional pump as a spare) are intended to accommodate the 14,125 AFY demand, and the ultimate demand would be supplied through an additional two pumps of the same size and capacity. Although most phasing for the proposed Project is intended to be within two parts, the Potable Water Pump Station is capable of being implemented through multiple phases as demand increases. The Potable Water Pump Station would be located on the same 2-acre parcel as the 1-million-gallon head tank, pump headers, and Chlorination Room. The proposed Project would also include the installation of a 30-inch Potable Water Pipeline that originates at the Potable Water Pump Station and proceeds south along the same alignment as the Raw Water / Return Water Pipeline and then traverses west along East Palmdale Boulevard, until 60th Street East. The Potable Water Pipeline would be approximately 9 miles long. The Potable Water Pump Station would operate continuously to meet PWD's potable demands. There would be a bathroom in the control room, which would require an on-site septic tank and leach field.
- **Return Water Pump Station:** The optional Return Water Pump Station is being designed to accommodate a water banking partner or partners in order to pump back to the East Branch of the California Aqueduct. The Return Water Pump Station would be located adjacent to the 1-million-gallon head tank and discharge back into the 30-inch-diameter Raw Water / Return Water Pipeline. The Pump Station Building would house both the raw water and potable water pumps in a single building. It is not required for this pump station to be implemented until a water banking partnership is achieved. The Raw Water Pump Station may be combined with the Potable Water Pump Station, resulting in a six-pump, 3,750 gpm, 600-horsepower pump station, with one additional pump as a spare. The pump station, if it is implemented, would operate the majority of the year for an anticipated 4 out of 10 years, which is the anticipated frequency of dry years.

1.2 AREA OF POTENTIAL EFFECT

The Area of Potential Effect (APE) refers to the geographic area within which the proposed Project has the potential to directly or indirectly cause alternations to historic properties per 36 CFR 800.16(d). For the purposes of the current cultural resource study, the APE is defined as the limits of the proposed Project area, which encompass the 160-acre Recharge Site; the 2-acre parcel containing the pump stations, head tank, pump headers, and Chlorination Room; the 16 recovery well locations; and the nearly 24 miles of proposed pipelines (see Figure 1-3). The APE for the proposed Project consists of approximately 311 acres. The anticipated maximum depth of the APE varies by proposed Project component. The maximum anticipated depth of excavation for the recharge site is 5 feet beneath the current surface. The maximum anticipated depth of excavation necessary for the pipelines is 7 feet beneath the current surface. The maximum anticipated depth of excavation necessary for the pump stations is 15 feet beneath the current surface. And finally, the maximum anticipated depth of for each of the wells is 1,000 feet beneath the current surface.

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1.3 REGULATORY CONTEXT

1.3.1 Federal

1.3.1.1 National Historic Preservation Act

It is anticipated that the proposed Project will be considered a federally licensed “undertaking” per 36 CFR 800.16(y). As such, the proposed Project will be subject to compliance with Section 106 of the NHPA of 1966, as amended. The NHPA established a national policy for historic preservation and instituted a multifaceted program, administered by the Secretary of the Interior, to encourage the achievement of preservation goals at the federal, state, and local levels. The NHPA authorized the expansion and maintenance of the National Register of Historic Places (NRHP), established the position of State Historic Preservation Officer (SHPO), provided for the designation of State Review Boards, set up a mechanism to certify local governments to carry out the purposes of the NHPA, assisted Native American tribes in preserving their cultural heritage, and created the Advisory Council on Historic Preservation (ACHP).

National Register of Historic Places

The NHPA of 1966 established the NRHP as “an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the Nation’s cultural resources and to indicate what properties should be considered for protection from destruction or impairment” (36 CFR 60.2). The NRHP recognizes properties that are significant at the national, state, and local levels. 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 also possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:

- A) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- B) that are associated with the lives of persons significant in our past; or
- C) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D) that have yielded, or may be likely to yield, information important in prehistory or history [36 CFR 60.4].

If a cultural resource is determined to be an eligible historic property under 36 CFR 60.4, then Section 106 requires that the effects of the proposed undertaking be assessed and considered in planning the undertaking. Ordinarily, cemeteries, birthplaces, or graves of historic figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; and properties that are primarily commemorative in nature are not considered eligible for the NRHP, unless they satisfy

certain conditions. In general, a resource must be 50 years of age to be considered for the NRHP, unless it satisfies a standard of exceptional importance.

1.3.2 State

1.3.2.1 California Environmental Quality Act

The proposed Project is subject to compliance with CEQA, as amended. Therefore, cultural resource management work conducted as part of the proposed Project shall comply with the CEQA Statutes and Guidelines (California 2013), which directs lead agencies to first determine whether cultural resources are “historically significant” resources. 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 (California Code of Regulations [CCR], § 15064.5[b]). Generally, a cultural resource shall be considered “historically significant” if the resource is 45 years old or older, possesses integrity of location, design, setting, materials, workmanship, feeling, and association, and meets the requirements for listing on the California Register of Historical Resources (CRHR) under any one of the following criteria (Title 14 CCR, § 15064.5):

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

The cited statutes and guidelines specify how cultural resources are to be managed in the context of projects, such as the proposed Palmdale Regional Groundwater Recharge and Recovery Project. Briefly, archival and field surveys must be conducted, and identified cultural resources must be inventoried and evaluated in prescribed ways. Prehistoric and historical archaeological resources, as well as built-environment resources such as standing structures, buildings, and objects, deemed “historically significant” must be considered in project planning and development.

1.4 REPORT ORGANIZATION

This report documents the results of a Phase I cultural resource investigation of the proposed Project area for the proposed Project. Chapter 1 has introduced the scope of the work, defined the proposed Project APE, and stated the regulatory context. Chapter 2 synthesizes the natural and cultural setting of the proposed Project area and surrounding region. Chapter 3 presents the results of the cultural resource literature and records search conducted at the South Central Coastal Information Center (SCCIC) of the California Historical Resource Information System (CHRIS), housed at the California State University, Fullerton. Chapter 4 summarizes the Sacred Lands File (SLF) search with the Native American Heritage Commission (NAHC) and Native American communications. The field methods employed during this investigation and findings

are outlined in Chapter 5. Significance evaluations are included in Chapter 6, with an assessment of effects and management recommendation provided in Chapter 7. This is followed by bibliographic references and appendices.

2 SETTING

This chapter describes the prehistoric and ethnographic cultural setting of the proposed Project area to provide a context for understanding the nature and significance of cultural properties identified within the Antelope Valley region. Both prehistorically and ethnographically, the nature and distribution of human activities in the region have been affected by such factors as topography and the availability of water and biological resources. Therefore, prior to a discussion of the cultural setting, the environmental setting of the area is summarized below.

2.1 ENVIRONMENTAL SETTING

The Mojave Desert covers much of southeastern California and extends into portions of Arizona and Nevada. It is bounded on the west by the Sierra Nevada Mountains, on the south by the Transverse and Peninsular ranges, on the southeast and east by the Yuma and Colorado deserts, and on the north by the Great Basin. The dividing line between the Mojave Desert and Great Basin may be arbitrarily defined by climate and the distribution of vegetation (Sutton 1996:222–223). The western Mojave Desert includes Antelope Valley, Fremont Valley, Victor Valley, Lucerne Valley, the Mojave River, and the Barstow area.

Within the Mojave Desert, the oldest identified rock formations consist of various metamorphosed sedimentary rocks, including gneiss, marble, quartzite, mica schist, gabbro, and conglomerates of pre-Cambrian age. Rock types of the Paleozoic era (245–570 million years old) include scattered sedimentary and carbonate rock, chert, limestone, sandstone, gypsum, and dolomite. Such materials, which formed at the bottom of an ocean, also yield fossils. Paleozoic-era materials are not abundant within the Mojave block of the western Mojave Desert, although thick sections occur within the El Paso Mountains (Hewett 1954:9–13).

Sandstone and limestone deposits of the Mesozoic era (245 to 70 million years ago) also occur within the El Paso Mountains area and near Barstow. The limited distribution of thick masses of Paleozoic and Mesozoic and early Cenozoic (ca. 70 million years ago) rock older than the Miocene (23.8 to 5.3 million years ago) provide evidence that this area rose 15,000 to 20,000 feet during the late Mesozoic and early Cenozoic. This resulted in vigorous erosion of the pre-Miocene Tertiary rock formations with external drainage (Hewett 1954:14–15). A few areas of Eocene (54.8 to 33.7 million years ago) fossils have been noted in the El Paso Mountains and in the Palmdale area to the south. Pliocene-age (5.3 to 1.8 million years ago) vertebrate fossils have been identified in the El Paso Mountains and Red Rock Canyon area, found within sediments designated the “Ricardo” formation. During the Oligocene (33.7 to 23.8 million years ago) and Miocene epochs, volcanism dominated the landscape, with volcanic activity occurring near Ridgecrest and Red Rock Canyon. Volcanic material from this time may be found atop the Ricardo formation (Monastero 1996:164). Basalt and rhyolite flows also formed north of Indian Wells Valley and into the Coso Mountains about two to three million years ago.

Following the late middle Pliocene (about 3 million years ago), the Mojave Desert region witnessed significant erosion (Hewett 1954:18). This was followed by the extrusion of Red Mountain andesite in the Randsburg area of the western Mojave. During the subsequent Pleistocene or glacial period, beginning about 1.64 million years ago, erosion helped form the long southward-trending valleys including Searles, Panamint, and Death valleys. Streams flowing from these valleys, including the Owens River, likely flowed south across the Mojave block successively filling Owens Lake, China Lake, Searles Lake, Panamint Lake, and Death Valley. Water then likely followed the Leach trough (Garlock Fault) and flowed southward to Sliver Lake, Soda Lake, and Bristol Lake. Beyond this point, the water joined the Colorado River estuary (Hewett 1954:18). Finally a number of basalt flows were created during the Pleistocene and early Holocene epochs. Such lava flows extend from the Little Lake area east to the Coso Mountains, and include the cinder cone known as Red Hill. Presently, erosion of the Sierra Nevada and other surrounding mountains is actively filling the valleys with sediments, with such material as deep as 7,000 feet in Indian Wells Valley (Monastero 1996:166).

The Mojave is a warm-temperature desert situated between the subtropical Sonoran Desert to the south and the cold-temperature Great Basin to the north. The arid Mojave Desert is characterized by sparse rainfall, generally ranging from 5 to 25 centimeters (2 to 10 inches) per year. Some areas receive as little as 2.5 centimeters (1 inch) of annual precipitation, while others receive more than 25 centimeters (10 inches) (Warren 1984:342). The Cantil area of the Mojave Desert receives just over 3 inches of precipitation annually. The present day climate and concomitant vegetation within the Mojave Desert was substantially different during the so-called Wisconsin Glacial Stage (60,000 to 10,500 years before present [B.P.]), where the climate was influenced by the massive continental ice sheets that resulted in cooler summer and warmer winter temperatures than at present (Bupp et al. 1998, as cited in Basgall and Overly 2004).

The Joshua tree is often used as the common vegetative marker of the Mojave Desert (Sutton 1996:223), although the creosote bush is the dominant plant of both the Mojave and Colorado deserts (Grayson 1993; Warren 1984:342). Open desert scrub habitats such as this typically contain scattered assemblages of broad-leaved evergreen or deciduous microphyll shrubs that are usually between 0.5 and 2 m (1.5 and 6.5 ft) in height. Bare ground is common between plants (Laudenslayer and Boggs 1988:114). Overall, desert scrub habitats are characterized by low species diversity. While the lower elevations are dominated by creosote bush, higher elevations give way to yuccas and agaves and then to piñon-juniper habitats. Other vegetation may include catclaw acacia, white brittlebush, white bursage, barrel and hedgehog cactus, littleleaf krameria, ocotillo, desert sand verbena, branched pencil and teddybear cholla, coastal bladderpod, desert agave, Douglas and rubber rabbit brush, Mojave yucca, beavertail, prickly pear, jojoba, desert senna, and Anderson's wolfberry. Various forbs and grasses also vary but can be found throughout desert scrub habitats (Mayer and Laudenslayer 1988:88).

Large game animals are rare in the Mojave Desert, as evidenced by deer (*Odocoileus hemionus*) and black bear (*Ursus americanus*), which make infrequent treks from the nearby Sierra Nevada slopes. More common to the desert floor are various rodents and reptiles. Primary resident species may include Couch's spadefoot toad (*Scaphiopus couchii*), desert tortoise (*Xerobates* [*Gopherus*] *agassizii*), desert iguana (*Dipsosaurus dorsalis*), chuckwalla (*Sauromalus obesus*), leopard lizard (*Crotaphytus wislizenii*), horned lizard (*Prynosoma platyrhinos*), banded gecko (*Coleonyx variegatus*), western whiptail (*Cnemidophorus tigris*), common kingsnake

(*Lampropeltis getulus*), Mojave rattlesnake (*Crotalus scutulatus*), sidewinder (*C. cerastes*), gopher snake (*Pituophis melanoleucus*), various pocket mice (*Perognathus* spp.), whitetail antelope squirrel (*Ammospermophilus leucurus*), and kangaroo rats (*Dipodomys* spp.). Other species found in the Mojave include blacktail jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus audubonii*), kit fox (*Vulpes macrotis*), coyote (*Canis latrans*), and bobcat (*Lynx rufus*) (Laudenslayer and Boggs 1988:114; Martyn and Moore 1996).

More than 300 species of birds inhabit the northern Mojave Desert. Common to the open desert of Indian Wells Valley are the prairie falcon (*Falco mexicanus*), burrowing owl (*Athene cunicularia*), lesser nighthawk (*Chordeiles acutipennis*), horned lark (*Eremophila alpestris*), roadrunner (*Geococcyx californianus*), cactus wren (*Campylorhynchus brunneicapilla*), and black-throated sparrow (*Amphispiza bilenata*) (Moore 1996:117). Within canyons, chukar (*Alectoris chukar*) California quail (*Lophortyx californicus*), great horned owl (*Bubo virginianus*), rock wren (*Salpinctes obsoletus*), mountain bluebird (*Sialia currucoides*), and others are found. Marshes and lakes in the Mojave Desert area may contain the long-billed marsh wren (*Cistothorus palustris*), snow goose (*Chen caerulescens*), Canada goose (*Branta Canadensis*), red-winged blackbird (*Agelaius phoeniceus*), eared grebe (*Podiceps nigricollis*), white pelican (*Pelecanus erythrorhynchos*), mallard (*Anas platyrhynchos*), ruddy duck (*Oxyura jamaicensis*), California gull (*Larus californicus*), and many other species (Moore 1996:117-118). Canada geese, pelicans, ruddy ducks, and pintails (*Anas acuta*) are known to frequent Little Lake during the spring and fall migrations (Bateman et al. 1962).

2.2 PREHISTORIC SETTING

Prehistoric archaeological sites in California are places where Native Americans lived or carried out activities during the prehistoric period before 1769 A.D. These sites contain artifacts and subsistence remains, and they may contain human burials. Artifacts are objects made by people and include tools (such as projectile points, scrapers, and grinding implements), waste products from making flaked stone tools (debitage), and nonutilitarian artifacts (beads, ornaments, ceremonial items, and rock art). Subsistence remains include the inedible portions of foods, such as animal bone and shell, and edible parts that were lost and not consumed, such as charred seeds.

Over the past century, archaeologists have generally divided the prehistory of the Western Mojave Desert into five distinct periods or sequences distinguished by specific material (i.e., technological) or cultural traits. Early cultural chronologies were proposed by Amsden (1937), Campbell et al. (1937), and Rogers (1939), that were later adapted by Warren and Crabtree in 1972 (later published in 1986 and further detailed by Warren in 1984), in what many consider to be the most influential cultural sequence proposed for the region. Alternative sequences have since emerged (e.g., Bettinger and Taylor 1974; Hall 1993; Yohe 1992) proposing new nomenclature (e.g., Newberry Period vs. Rose Spring Period vs. Saratoga Springs), slightly adjusted cultural chronologies, or attempting to link the Great Basin chronological framework to the Mojave Desert.

Recently, Sutton and others (2007:233) proposed a cultural-ecological chronological framework based on climatic periods (e.g., Early Holocene) “to specify spans of calendric time and cultural complexes (e.g., Lake Mojave Complex) to denote specific archaeological manifestations that

existed during (and across) those periods.” The new sequence draws heavily from Warren and Crabtree (1972, 1986) and Warren (1984), as well as from the vast body of recent archaeological research conducted in the region.

2.2.1 Pleistocene (ca. 10,000 to 8000 cal B.P.)

The earliest cultural complex recognized in the Mojave Desert is Clovis, aptly named for the fluted projectiles often associated with Pleistocene megafaunal remains. Arguments for pre-Clovis Paleoindian human occupation in the Mojave Desert rely on relatively sparse evidence and unpublished data, although in light of the growing body of evidence suggesting a pre-Clovis occupation of the Americas, the argument cannot simply be ruled out. Paleoindian culture is poorly understood in the region due to a relative dearth of evidence stemming from a handful of isolated fluted point discoveries and one presumed occupation site on the shore of China Lake. Archaeologists tend to interpret the available data as evidence of a highly mobile, sparsely populated hunting society that occupied temporary camps near permanent Pleistocene water sources.

2.2.2 Early Holocene (ca. 8000 to 6000 cal B.P.)

Two archaeological patterns are recognized during the Early Holocene: the Lake Mojave Complex (sometimes referred to as the Western Pluvial Lakes Tradition) and the Pinto Complex. The Lake Mojave Complex is characterized by stemmed projectile points of the Great Basin Series, abundant bifaces, steep-edged unifaces and crescents. Archaeologists have also identified, in less frequency, cobble-core tools and ground stone implements. The Pinto Complex, on the other hand, is distinguished primarily by the presence of Pinto-style projectile points. Although evidence suggests some temporal overlap, the inception of the Pinto Complex is assigned to the latter part of the Early Holocene and is generally considered a Middle Holocene cultural complex.

During this period, the Lake Mojave cultural complex utilized more extensive foraging ranges, as indicated by an increased frequency of extralocal materials. Spheres of influence also expanded, as potential long-distance trade networks were established between desert and coastal peoples. Groups were still highly-mobile, but they practiced a more forager-like settlement-subsistence strategy. Residential sites indicate more extensive periods of occupation and recurrent use. In addition, residential and temporary sites also indicated a diverse social economy, characterized by discrete workshops and special-use camps (e.g., hunting camps). Diet also appears to have diversified, with a shift away from dependence upon lacustral environments such as lakeside marshes, to the exploitation of multiple environments containing rich resource patches.

2.2.3 Middle Holocene (ca. 7000 to 3000 cal B.P.)

The Pinto Complex is the primary cultural complex in the Mojave Desert during the Middle Holocene. Once thought to have neatly succeeded the Lake Mojave Complex, a growing corpus of radiocarbon dates associated with Pinto Complex artifacts suggest that its inception could date as far back into latter part of the Early Holocene. Extensive use of toolstone other than obsidian and high levels of tool blade reworking were characteristic of this complex and the earlier Lake

Mojave Complex. A reduction in toolstone source material variability, however, suggests a contraction of foraging ranges that had expanded during the Early Holocene. Conversely, long-distance trade with coastal peoples continued uninterrupted, as indicated by the presence of *Olivella* shell beads.

The most distinguishing characteristic of the Pinto Complex is the prevalence of ground stone tools, which are abundant in nearly all identified Pinto Complex sites. The emphasis on milling tools indicates greater diversification of the subsistence economy during the Middle Holocene. Groups increased reliance on plant processing while continuing to supplement their diet with protein from small and large game animals.

Recent archaeological research in the Mojave Desert suggests there was a greater degree of regional cultural diversity during the Middle Holocene than once previously thought. Sutton et al. (2007) have proposed a new Middle Holocene cultural complex associated with sites exclusively located at Twentynine Palms in the southeastern Mojave Desert. Artifacts recovered from Deadman Lake Complex sites, such as *Olivella* Dama from the Sea of Cortez, and contracting-stem and lozenge-shaped projectiles similar to those recovered from Ventana Cave in Arizona, may suggest closer cultural contact with Southwest Archaic cultures than Pinto cultures to the north and west. However, it is also possible that the proposed complex simply reflects a technologically distinct segment of the Pinto, rather than a distinct culture.

2.2.4 Late Holocene (ca. 2000 cal B.P. to Contact)

The Late Holocene in the greater Southern California region is characterized by increases in population, higher degrees of sedentism, expanding spheres of influence, and greater degrees of cultural complexity. In the Mojave Desert, the Late Holocene is divided into several cultural complexes; namely the Gypsum Complex (2000 cal B.C. to cal A.D. 200), the Rose Spring Complex (cal A.D. 200 to 1100), and the Late Prehistoric Complexes (cal A.D. 1100 to contact).

The Gypsum Complex is defined by the presence of side-notched (Elko series), concave-based (Humboldt series), and well-shouldered contracting stem (Gypsum series) projectile points. Other indicative artifacts include quartz crystals, paint, rock art, and twig figures, which are generally associated with ritual activities. Warren (1984) considers the appearance of these artifact types at Gypsum Complex sites as evidence of the Southwest's expanding influence in the region. Conversely, Sutton and others (2007) opt to associate Gypsum sites, which tend to cluster in the northern Mojave Desert, with temporal sequences modeled for the adjacent Great Basin. It is most likely, however, that the Gypsum Complex was exposed to various cultural influences stemming from long-distance exchange and social interaction networks that linked groups occupying the Mojave Desert to those on the Pacific Coast, and in the American Southwest and the Great Basin.

The Rose Spring Complex can also be defined by the presence of distinct projectile points (i.e., Rose Spring and Eastgate series) and artifacts, including stone knives, drills, pipes, bone awls, milling implements, marine shell ornaments, and large quantities of obsidian. Of greater significance, however, are the characteristic advancements in technology, settlement strategies, and evidence for expanding and diverging trade networks.

The Rose Spring Complex marks the introduction of the bow and arrow weapon system to the Mojave Desert, likely from neighboring groups to the north and east. As populations increased, groups began to consolidate into larger, more sedentary residential settlements as indicated by the presence of well-developed midden and architecture. West and north of the Mojave River, increased trade activity along existing exchange networks ushered in a period of relative material wealth, exhibited by increased frequencies of marine shell ornaments and toolstone, procured almost exclusively from the Coso obsidian source. East and south of the Mojave River, archaeological evidence suggests there was a greater influence from Southwest and Colorado River cultures (i.e., Hakataya; Patayan).

Between approximately A.D. 1100 and contact, a number of cultural complexes emerged that archaeologists believe may represent prehistoric correlates of known ethnographic groups. During the Late Prehistoric Cultural Complex, material distinctions between groups was more apparent, as displayed by the distribution of projectile point styles (e.g., Cottonwood vs. Desert Side-notched), ceramics, and lithic materials. Long-distance trade continued, benefiting those occupying “middleman” village sites along the Mojave River where abundant shell beads and ornaments, and lithic tools were recovered from archaeological contexts (Rector et al. 1983). Later on, however, trade in Coso obsidian was significantly reduced as groups shifted focus to the procurement of local silicate stone.

The Late Prehistoric Cultural Complex was also a time of increasing regional influence and territorial expansion. Warren (1984) noted “strong regional developments” in the Mojave Desert that included Anasazi interest in turquoise in the Mojave Trough, Hakatayan (Patayan) influence from the Colorado River, and the expansion of Numic Paiute and Shoshonean culture eastward. These developments led Sutton (1989) to propose that a number of interaction spheres were operating in the Mojave Desert during the Late Prehistoric. Sutton (1989) delineated interaction spheres based on the distribution of projectile point styles, ceramics, and obsidian and argued that the spheres broke along geographical lines that reflected the territorial boundaries of known ethnohistoric groups.

2.3 ETHNOGRAPHIC SETTING

2.3.1 Tataviam

The Tataviam, which means, “People who face the sun,” are a Native American group that resided in and around the area encompassing the proposed Project area. They belong to the family of Serrano people who migrated down into the Antelope, Santa Clarita, and San Fernando valleys some time before 450 A.D. They settled into the upper Santa Clara River Drainage. Some Tataviam settlements in the Santa Clarita and upper valleys were Nuhubit (Newhall); Piru-U-Bit (Piru); Tochonanga, which is believed to have been located at the confluence of Wiley and Towsley Canyons; and the very large village of Chaguibit, the center of which is buried under the Rye Canyon exit of Interstate-5. The Tataviam also lived where Saugus, Agua Dulce, and Lake Elizabeth are located today. This places the Serrano among the larger “Shoshonean” migration into Southern California that occurred 2,000 to 3,000 years ago (Higgins 1996).

The Tataviam people lived primarily on the upper reaches of the Santa Clara River drainage system, east of Piru Creek, but they also marginally inhabited the upper San Fernando Valley,

including present day San Fernando and Sylmar (which they shared with their inland Tongva/Gabrieleño neighbors). The traditional Tataviam territory lies primarily between 1,500 and 3,000 feet above sea level. Their territory also may have extended over the Sawmill Mountains to include at least the southwestern fringes of the Antelope Valley, which they apparently shared with the Kitanemuk, who occupied the greater portion of the Antelope Valley. The Tataviam were hunters and gatherers who prepared their foodstuffs in much the same way as their neighbors did. Their primary foods included yucca, acorns, juniper berries, sage seeds, deer, the occasional antelope, and smaller game such as rabbits and ground squirrels. There is no information regarding Tataviam social organization, though information from neighboring groups shows similarities among Tataviam, Chumash, and Gabrieleño ritual practices. Like their Chumash neighbors, the Tataviam practiced an annual mourning ceremony in late summer or early fall which would have been conducted in a circular structure made of reeds or branches. At first contact with the Spanish in the late eighteenth century, the population of this group was estimated at fewer than 1,000 persons. However, this ethnographic estimate of the entire population is unlikely to be accurate, since it is based only on one small village complex and cannot necessarily be indicative of the entire population of Tataviam. Given the archaeological evidence at various Tataviam sites, as well as the numbers incorporated into the Spanish Missions, pre-contact population and early contact population easily exceeded 1,000 persons (Blackburn 1962; Johnston 1962).

The Tataviam people lived in small villages and were semi-nomadic when food was scarce. The Tataviam were hunter-gathers who were organized into a series of clans throughout the region. Jimsonweed, native tobacco, and other plants found along the local rivers and streams provided raw materials for baskets, cordage, and netting. Larger game was generally hunted with the bow and arrow, while snares, traps, and pits were used for capturing smaller game. At certain times of the year, communal hunting and gathering expeditions were held. Faunal resources available to the desert dwelling Serrano included deer, mountain sheep, antelope, rabbit, small rodents, and several species of birds (quail being their favorite). Meat was generally prepared by cooking in earth ovens, boiling, or sun-drying. Cooking and food preparation utensils consisted primarily of lithic (stone) knives and scrapers, mortars and metates, pottery, and bone or horn utensils. Resources available to the desert dwelling Tataviam included honey mesquite, piñon nuts, yucca roots, mesquite and cacti fruits (Solis 2008).

These resources were supplemented with roots, bulbs, shoots, and seeds that, if not available locally, were traded for with other groups. Labor was divided between the sexes. Men carried out most of the heavy but short-term labor, such as hunting and fishing, conducted most trading ventures, and had as their central concerns the well-being of the village and the family. Women were involved in collecting and processing most of the plant materials and basket production. The elderly of both sexes taught children and cared for the young.

2.3.2 Kitanemuk

The Kitanemuk belonged to the northern section of the people known as the “Serrano.” The name, “Serrano,” however, is only a generic term meaning “mountaineers” or “those of the Sierras.” Ethnographers group the Kitanemuk with the Serrano based on linguistic similarities though the Kitanemuk did not identify themselves as Serrano. They lived on the upper Tejon and Paso creeks and also held the streams on the rear side of the Tehachapi Mountains, the small

creeks draining the rear slope of the Liebre and Sawmill Range, with Antelope Valley and the westernmost part of the Mojave Desert. The extent of their territorial claims in the desert region is not certain.

The Kitanemuk lived in permanent winter villages of 50 to 80 people or more. During the late spring, summer, and fall months they dispersed into smaller, highly-mobile gathering groups. They followed a seasonal round, visiting different environmental regions as the important food producing plants became ready for harvest. Some staple foods important to the Kitanemuk include acorns and piñon pine nuts (Antelope Valley Indian Museum) and yucca, elderberries, and mesquite beans were available as well (Duff 2004).

While traveling in the Antelope Valley in 1776, Spanish explorer and Franciscan priest Francisco Garcés encountered the Kitanemuk living in a communal tule house. His written account describes that dwelling as consisting of a series of individual rooms surrounding a central courtyard. Each room housed a family and its own door and hearth.

The Kitanemuk appeared to share certain cultural fundamentals with the surrounding Serrano groups. While some customs differed, more specifically the ritualistic practices honoring their dead, the Kitanemuk appear to have buried their dead, while the Serrano cremated them.

Garcés also relates that the Kitanemuk had extensive trade relations with sometimes distant groups. For example, he writes that the Kitanemuk traded with the “Canal” (Chumash of the Santa Barbara Channel region) and describes wooden vessels with inlays of *Haliotis* that bore stylistic similarities to decorations found on the handles of Chumash knives and other objects (Kroeber 1953).

2.4 HISTORICAL SETTING

2.4.1 County of Los Angeles

Los Angeles was first recorded in 1542 when Portuguese navigator Juan Rodriguez Cabrillo, sailing under the flag of Spain, noted in the ship’s log a bay he called Bahia de Los Fumos (Bay of the Smokes), referring to the smoke from Tongva campfires. In 1603, Spanish explorer Sebastian Vizcaino named the inlet San Pedro, in honor of St. Peter, the second century bishop of Alexandria. In 1749, Gaspar de Portolá, Governor of the Californias, led a Spanish land party to scout for sites for Franciscan missions and civilian settlements. The Franciscan missions were established to secure the region for Spain through occupation, and to bring Christianity to the Native Americans. The Franciscans founded Mission San Gabriel Archangel in 1771 (Los Angeles Cultural Heritage Masterplan 2000:14–15).

Fertile soil, good climate, ample water and a large supply of Native American laborers brought prosperity and led to Spanish government sponsorship of a pueblo on the banks of the Porciúncula River. On September 4, 1781, El Pueblo de la Reina de Los Angeles (the Village of the Queen of the Angels) was founded by 44 settlers. These Mexican Colonials were skilled miners, farmers, laborers, and artisans, all trades necessary for the settlement to flourish. By the end of the eighteenth century, the pueblo produced more grain harvests and herded more cattle, sheep, and horses than any other place in California. In 1797, a second mission, the San

Fernando Rey de España Mission, was established in present day city of Mission Hills, Los Angeles County (Los Angeles Cultural Heritage Masterplan 2000:15).

The Mexican War of Independence from Spain began in 1810. The Mexicans were victorious in 1821 and declared the Republic of Mexico in 1823. California was made a territory of the Republic in 1825. During Mexican rule, from 1825 to 1847, the rancheros became wealthy from trade in hides, tallow, wine, and brandy. The missions' properties were redistributed between 1834 and 1836, making the rancheros even wealthier. American traders, drawn by low prices for cowhides and other raw materials, made contacts with the Californios. Some married the daughters of the rancheros, started business enterprises, and became increasingly influential in the finance and commerce of the region (Los Angeles Cultural Heritage Masterplan 2000:15).

During the Mexican-American War, on August 13, 1846, Captain John Fremont entered the pueblo of Los Angeles and declared it an American territory. The Treaty of Cahuenga ended the conflict in California in 1847. The Treaty of Guadalupe Hidalgo officially ended the war in 1848 (Los Angeles Cultural Heritage Masterplan 2000:15).

Los Angeles became one of California's original 27 counties, created by the State's first Legislature in February 18, 1850. Los Angeles County was named for the territory's largest city, Los Angeles. Los Angeles County comprised lands that encompassed 4,340 square miles, and originally contained all of San Bernardino County, a large portion of Kern County, and all of Orange County. During the 1850s and 1860s, Los Angeles underwent several boundary changes: in 1853, California's Legislature extracted the eastern portion of Los Angeles County to form San Bernardino County; in 1866, an act created Kern County from territory that previously was part of Tulare and Los Angeles counties; and in 1889, a similar act created Orange County from Los Angeles County lands lying southeast of Coyote Creek (Coy 1923:116, 140, 196, 216).

2.4.2 Antelope Valley

The Antelope Valley is a 3,000-square-mile high desert closed basin that straddles northern Los Angeles County and southern Kern County. The Antelope Valley was a trade route for Native Americans traveling from Arizona and New Mexico to California's coast. Exploration began in the early 1770s, but it was not until the 1840s that the Valley was first settled permanently. The 1854 establishment of the Fort Tejon military post near Castaic Lake and Grapevine Canyon created a gateway for Valley traffic (Antelope Valley Community History 2010).

During the nineteenth century, gold mining at the town of Acton and cattle ranching contributed to the growth of Antelope Valley. When news broke that gold was discovered in the Soledad Canyon (located in between Palmdale and Santa Clarita), a number of miners arrived and set up various mining camps near the canyon's rich mineral and silver discoveries. The area grew to the point that a post office was needed. The U.S. Postal Service rejected the area's informal name of "Soledad City" to avoid confusion with Soledad in Monterey County. The city was named "Ravenna" in honor of a local merchant and saloon keeper, Manuel Ravenna. Ravenna became a shipping point from which the canyon's gold, silver and copper ores were hauled off to port in San Pedro. Freight wagons drawn by oxen or mules were used at first, then gave way to the Southern Pacific Railroad linking San Francisco to Los Angeles through the Antelope Valley in

1876. Ravenna became a ghost town shortly thereafter, as the miners moved up the canyon to new rail sidings where Acton now stands (City of Acton 2010).

The Butterfield mail station, the Los Angeles to San Francisco telegraph line, and the Southern Pacific Railroad brought people and communication through the Valley during the 1860s and 1870s. Antelope Valley produced alfalfa and grain for some time until several dry years ensued. Mining near Acton helped residents sustain during the drought between 1874 and the Great Depression of the 1930s. By 1897 nearly everyone had left the Valley. Mining continues in and around the Antelope Valley today (County of Los Angeles 1986).

2.4.3 City of Palmdale

The Antelope Valley, through which the proposed Project area is located, was settled once the Southern Pacific Railroad line between San Francisco and Los Angeles was completed in 1876. The region was dependent on stock raising, dry farming, and fruit orchards. The origins of the city of Palmdale are in two early communities: Harold and Palmenthal. Harold (also known as Alpine Station) was at the intersection of the Southern Pacific Railroad tracks and Fort Tejon Road (now Barrel Springs Road). Palmenthal was settled in 1886 by approximately 55 Swiss and German families, mostly from Nebraska and Illinois. The name is supposedly from the settlers' misidentification of the Joshua trees (City of Palmdale 2009). A drought in the 1890s stifled growth. In 1899, residents from Harold and Palmenthal relocated to a new site, which became Palmdale, near the railroad station and the stagecoach line between San Francisco and New Orleans.

In 1895, the Harold Reservoir, now known as Palmdale Lake, was formed after the South Antelope Valley Irrigation Company constructed an earthen dam. A wooden ditch, flume, and wooden trestle were constructed at the same time to connect Littlerock Creek to the reservoir. The primary purpose of the reservoir was to supply water for agriculture in the area. Beginning in the 1950s, the reservoir's water was also used to supply residences. The Palmdale Irrigation District agreed to purchase water from the then-new California Aqueduct in 1963. Subsequently, the lake was expanded to contain the increased water supply, and a new treatment facility adjacent to the lake was built (Palmdale Water District 2009).

In 1917, electricity was introduced in the area, and deep wells were constructed to provide a steady water supply. In 1912 and 1913, the construction of the Los Angeles Aqueduct attracted workers to the area. In 1919, a bond issue passed to construct the Littlerock Dam, which is approximately 11 miles southeast of Palmdale within the Angeles National Forest (Los Angeles County Department of Regional Planning 2009:6).

Beginning in the 1930s, the aerospace industry contributed toward the development of Palmdale. The establishment of Muroc Air Base (now Edwards Air Force Base) in 1933 caused the population of the Antelope Valley to double. In addition, the Palmdale Airport was built in 1940. In 1950, the Federal government took over the airport for a jet testing facility and renamed it U.S. Air Force Plant 42 (Los Angeles County Department of Regional Planning 2009:6). The Skunk Works, an alias for Lockheed Martin's group that develops extremely confidential and advanced products, primarily for the U.S. military, is located at Air Force Plant 42. The Skunk Works was formed in 1943 and led by Clarence L. "Kelly" Johnson to create the airframe for the

XP-80, a powerful jet designed to answer the German jet threat during World War II. Over the years, the Skunk Works has designed many more famous aircraft designs for the U.S. military (Lockheed Martin 2009).

2.4.4 California Aqueduct

The California Aqueduct is part of the SWP, which brings water to Southern California from the Sacramento River in Northern California. The California Department of Water Resources operates the SWP. It is the largest state-built water and power project in the United States. Beginning at Lake Davis in Northern California and traveling south to Southern California, it includes 34 storage facilities; 20 pumping plants; 4 pumping-generating plants; 5 hydroelectric power plants; and about 700 mi of canals, tunnels and pipelines (Aquaformia 2008). The SWP provides drinking water for 23 million people and irrigation water for 750,000 acres of farmland. The aqueduct splits in southern Kern County, with the West branch leading to Castaic Lake, and the East Branch of the California Aqueduct heading through Antelope Valley and south to Lake Perris in Riverside County. Construction of the California Aqueduct began in the early 1960s, but construction of the East Branch of the California Aqueduct through the Antelope Valley did not occur until the early 1970s. The nearest SWP facility to the proposed Project area is the Pearblossom pumping plant.

3

CULTURAL RESOURCE LITERATURE AND RECORDS SEARCH

Prior to the systematic cultural resource survey of the proposed Project APE, a series of literature and records searches was conducted at the SCCIC, housed at the California State University, Fullerton. These searches included the entire proposed Project APE with an additional quarter-mile radius buffer. An initial record search was conducted on May 2014, with refinements to the proposed Project prompting two additional records searches in November 2014 and June 2015. The objective of these records searches was to determine whether any prehistoric or historical cultural resources have been recorded previously within the proposed Project APE, or within a quarter-mile radius of it, prior to the intensive pedestrian survey. Additional sources consulted during the archaeological literature and records search include the NRHP, the Office of Historic Preservation Archaeological Determinations of Eligibility, and the Office of Historic Preservation Directory of Properties in the Historic Property Data File.

Information on cultural resources within the proposed Project APE was also obtained from reconnaissance level archaeological surveys that had been conducted for portions of the proposed Project area by Æ in June and November 2014 (Thomas and Mirro 2014). Cultural resources identified in the proposed Project area during these reconnaissance surveys are presented in this chapter with results of the SCCIC record searches.

3.1 PREVIOUS CULTURAL RESOURCE INVESTIGATIONS

Results of the record searches indicate that no less than 16 investigations have been conducted previously within a quarter-mile radius of the proposed Project APE; 11 of the previous investigations encompassed portions of the proposed Project APE (Table 3-1).

Table 3-1
Previous Cultural Studies within 1/4 Mile of the Proposed Project APE

SCCIC Document #	Date	Author(s)	Title
LA-00017*	1973	Eggers, A.V., R.W. Robinson, and C.F. Forbes	Preliminary Impact Report on Portions of the Proposed Palmdale Intercontinental Airport, Los Angeles County, California
LA-00410*	1976	Arthur D. Little, Inc.	Palmdale International Airport: Amended Draft Environmental Impact Statement, Vol. 3, Chapter III: the Human Environmental Impacts
LA-00703*	1980	Dosh, Steven G., and Donald E. Weaver Jr.	Archaeological Survey of the Proposed Palmdale International Airport, Los Angeles County, California
LA-01909*	1981	Greenwood, Roberta S., and Michael J. McIntyre	Class III Cultural Resources Inventory: Adelanto-Rinaldi 500 Kv Transmission Line Corridors 1, 2, and 3 Los Angeles
LA-01938*	1989	Padon, Beth, S. Crownover, J. Rosenthal, and R. Conard	Cultural Resources Assessment Southern California Gas Company Proposed Line 335 Los Angeles and San Bernardino Counties

Table 3-1 (continued)
Previous Cultural Studies within 1/4 Mile of the Proposed Project APE

SCCIC			
Document #	Date	Author(s)	Title
LA-02617*	1992	Campbell, Mark M.	Archaeological Reconnaissance Report of a 1 Acre Parcel Located on the Northeast Corner of 90th Street East and Palmdale Blvd. in the Northern Los Angeles County, California
LA-04141*	1997	Love, Bruce	Cultural Resources Report Bakersfield-rialto Fiberoptic Line Project Kern, Los Angeles, and San Bernardino Counties, California
LA-06706*	1980	Weaver, Donald E., Jr.	Archaeological Investigations Archaeological Survey of the Proposed Palmdale International Airport Los Angeles County, California
LA-08427	2007	Cooley, Theodore G.	Archaeological Survey Report for Southern California Edison Company 66Kv Antelope Bus Split Project Los Angeles County, California
LA-09001*	2004	Hudlow, Scott M.	A Phase I Cultural Resource Survey for Property at 65th East and Palmdale Boulevard, City of Palmdale, California
LA-9197	2005	Kirkish, Alex	Archaeological Survey Report for the SR-138 Segment 7 Road Widening Project KP90.4/92.0 Los Angeles County, California
LA-10518	2000	Van Bueren, Thad M. and Jill Hupp	Searching for Utopia: Results of Archaeological and Historical Investigations at the Llano del Rio Colony (CA-LAN-2677H) near Pearblossom, Los Angeles County, California
LA-10634*	2010	Bray, Madeleine	Preliminary Archaeological Survey Report for 98 linear Miles of the East Branch Extension of the California Aqueduct for the DWR East Branch Enlargement Project, Los Angeles and San Bernardino Counties
LA-11455	2011	Orfila, Rebecca	Archaeological Survey for the Southern California Edison Company: Nineteen deteriorated power poles near Lancaster, Los Angeles County, California
LA-12783	2013	Tang, Tom and Michael Hogan	Historical/Archaeological Resources Survey Report SEPV Palmdale East Project (Pre-Application No 13-002) City of Palmdale Los Angeles, California
Pending*	2014	Thomas, Roberta and Vanessa Mirro	Phase I Cultural Resource Assessment for the Littlerock Creek Groundwater Recharge and Recovery Project, City of Palmdale, Los Angeles County, California

*Previous studies that intersect the proposed Project area

3.2 CULTURAL RESOURCES REPORTED WITHIN THE PROPOSED PROJECT APE

The cultural resources records search also indicated that 20 cultural resources have been identified previously within a quarter-mile radius of the proposed Project APE (Table 3-2). Seven of these previously identified cultural resources are reported to be located within the proposed Project APE. These cultural resources include the East Branch of the California Aqueduct (19-004154), five historic-period archaeological sites (19-004323, Æ-2829-17H, Æ-2829-18H, Æ-2829-19H, and Æ-2829-20H), and an isolated historical occurrence (19-100581).

The examination of the NRHP, the Office of Historic Preservation Archaeological Determinations of Eligibility, and the Office of Historic Preservation Directory of Properties in the Historic Property Data File found that only the East Branch of the California Aqueduct (19-004154) has been determined eligible for listing on the NRHP or the CRHR. A description of each of the known cultural resources within the proposed Project APE is described below.

**Table 3-2
Cultural Resources within 1/4 Mile of the Proposed Project APE**

Primary	Trinomial/Temp	Description
P-19-001610	CA-LAN-1610H	The Sinner Complex; historic-period homestead remains
P-19-003761	CA-LAN-3761H	Historic-period refuse scatter
P-19-004078	CA-LAN-4078	Historic-period foundation/structural remains with refuse scatter
P-19-004133	CA-LAN-4133H	Historic-period refuse scatter
P-19-004134	CA-LAN-4134H	Historic-period refuse scatter
P-19-004139	CA-LAN-4139/H	Historic-period refuse scatter with isolated prehistoric artifact
P-19-004154*	CA-LAN-4154H	East Branch of the California Aqueduct; 98-mile segment
P-19-004323*	CA-LAN-4323	Historic-period refuse scatter
P-19-100581*		Isolated historic-period abandoned well head on a cement pad
Pending	Æ-2829-1H	Small, low-density historic-period can scatter
Pending	Æ-2829-2H	Small, low-density historic-period can scatter
Pending	Æ-2829-3H	Small, low-density historic-period can scatter
Pending	Æ-2829-4H	Small, low-density historic-period can scatter
Pending	Æ-2829-5H	Small, low-density historic-period can scatter
Pending	Æ-2829-6H	Small, low-density historic-period can scatter
Pending	Æ-2829-7H	Small, low-density historic-period can scatter
Pending*	Æ-2829-17H	Large, diffuse historic-period refuse scatter
Pending*	Æ-2829-18H	Large, diffuse historic-period refuse scatter
Pending*	Æ-2829-19H	Large, diffuse historic-period refuse scatter
Pending*	Æ-2829-20H	Small, low-density historic-period can scatter

*Reported to be located within the proposed Project area

3.2.1 EAST BRANCH OF THE CALIFORNIA AQUEDUCT (19-004154/CA-LAN-4154H)

The East Branch of the California Aqueduct is part of the SWP, which brings water to Southern California from the Sacramento River Delta in Northern California. The California Department of Water Resources operates the SWP. It is the largest state-built water and power project in the United States. The SWP includes a Delta pumping plant, 22 dams and reservoirs, and a 444-mile-long aqueduct that carries water from the Delta through the San Joaquin Valley to southern California. At the Tehachapi Mountains, giant pumps lift the water from the California Aqueduct some 2,000 feet over the mountains and into southern California (Water Education Foundation 2014). The SWP provides drinking water for 23 million people and irrigation water for 750,000 acres of farmland. The aqueduct splits in southern Kern County, with the West branch leading to

Castaic Lake, and the East Branch heading through Antelope Valley and south to Lake Perris in Riverside County. Construction of the California Aqueduct began in 1963, and the East Branch through the Antelope Valley was constructed beginning in 1966 and operational by 1973 (Anderson 2009). Researchers have argued that while portions of the California Aqueduct do not meet the 50-year age restriction for listing on the NRHP and CRHR, the property represents “one of the most ambitious public works projects undertaken by the State of California” (JRP Historical Consulting Services 2000). As such, it has been argued that the aqueduct is eligible for NRHP listing because it satisfies Criteria Consideration G (Schultz and Vanderslice 2007). Anderson (2009:9–13) evaluated and recommended the East Branch of the California Aqueduct as eligible for the NRHP under Criteria A and C for its association with an important historic event and its engineering merits; the resource was also noted as having excellent historical integrity. Its period of significance is posited as spanning 1955–1973, which corresponds with its period of construction. Ambacher and Bowen (2011) came to the same finding regarding the historical significance and integrity of the East Branch of the California Aqueduct and recommended that the resource is also eligible for the CRHR (under Criteria 1 and 3) for these same merits.

3.2.2 CA-LAN-4323H (19-004323)

Recorded in 2013, this historic-period archaeological resource consists of a large domestic refuse deposit with four distinct loci dating to the 1940s and 1950s (Ballester et al. 2013). The more than 1,300 artifacts that make up this site are predominantly food refuse, tableware items, and some building materials including hundreds of glass fragments from bottles and jars, sanitary cans, tobacco cans, meat cans, coffee cans, evaporated milk cans, beverage cans, and sardine cans. In addition, items such as plates, cups, saucers, lumber, metal nails, barbed wire, chicken wire, and concrete fragments are also present in the scatter. While Ballester and others (2013) made note that the site is likely not eligible for listing in the NRHP or the CRHR, the resource is not listed on the Office of Historic Preservation Archaeological Determinations of Eligibility. This finding suggests that the resource was not formally evaluated for its significance.

3.2.3 19-100581

This resource consists of an isolated historical wellhead and two associated cement pads (Lloyd and Price 2007). The wellhead sits on a cement pad that is covered with oil and lubricant. The internal gear structure is exposed because the wellhead housing is damaged. As evidenced by the internal gears observed, the wellhead was likely powered by a diesel engine that is no longer present; the engine likely sat on an extant cement pad which sits approximately 15 feet from the wellhead (Lloyd and Price 2007). There are several patent dates embossed on the side of the wellhead including 10/4/1921, 10/11/1921, 9/5/1922, 12/5/1922, and 3/9/1926 (Lloyd and Price 2007).

3.2.4 Æ-2829-17H

The site consists of a large and diffuse scatter of historical refuse that was initially recorded by Æ during an earlier reconnaissance survey within the proposed Project area (Thomas and Mirro 2014). Although Æ-2829-17H is located in close proximity to a large modern refuse scatter, the site contains concentrations of historic-period artifacts (i.e., hole-in-top metal cans, pull tab

beverage cans, amber glass Clorox bottle fragments, and bottle bases with early to mid twentieth-century maker's marks, etc.). The portion of the site documented during the reconnaissance survey consisted of two distinct refuse concentrations surrounded by a diffuse scatter of historical artifacts. The site extended well beyond the limits of the reconnaissance survey boundary and as such, the full dimensions of the Æ-2829-17H could not be determined.

3.2.5 Æ-2829-18H

The site consists of a large, dense historical can scatter that was documented by Æ during an earlier reconnaissance survey within the proposed Project area (Thomas and Mirro 2014). The site contains approximately 150 cans of various types and sizes over an approximately 220-square-foot area. Some of the cans are partially buried in sandy loam alluvium. Hole-in-top metal cans, church-key opened metal cans, and identifiable maker's marks on bottle bases suggest the refuse scatter dates to the early to mid-twentieth century. The site also contains various other domestic refuse items including glass and bottle fragments of various colors (green, blue, amber, clear, aqua, and milk glass), dishware fragments, rubber/tire fragments, cement pieces, wood fragments, and ceramic pot fragments.

3.2.6 Æ-2829-19H

The site consists of a dense historical can scatter that was documented by Æ during an earlier reconnaissance survey within the proposed Project area (Thomas and Mirro 2014). The site contains approximately 300 cans of various types and sizes over an approximately 155-foot by 170-foot area. Hole-in-top metal cans, church-key opened metal cans, a porcelain base fragment with "MADE IN OCCUPIED JAPAN" painted on it, and identifiable maker's marks on bottle bases suggest the refuse scatter dates to the early to mid-twentieth century. The site also contains various other domestic refuse items including glass and bottle fragments of various colors (green, blue, amber, clear), dishware fragments, rubber/tire fragments, cement pieces, wood, clothing, light bulbs, and ceramic insulator fragments.

3.2.7 Æ-2829-20H

This site consists of a historical can scatter that was documented by Æ during an earlier reconnaissance survey within the proposed Project area (Thomas and Mirro 2014). The scatter contains 13 sanitary metal cans with lapped side seams and two hole-in-top metal cans along with clear and amber glass bottle fragments, and blue pattern china fragments. Æ-2829-20H appears to represent a single episode of domestic refuse disposal dating to the early twentieth century.

NATIVE AMERICAN CONSULTATION

As part of the initial reconnaissance survey effort for the proposed Project, Æ contacted the Native American Heritage Commission (NAHC) on May 8, 2014, and on July 7, 2014, for a review of the Sacred Lands File (SLF) (see Thomas and Mirro 2014). The purpose of the SLF search request was to determine if any known Native American cultural properties (e.g., traditional use or gathering areas, places of religious or sacred activity, etc.) are present within or adjacent to the proposed Project area. The NAHC responses, which were received on May 19, 2014 and July 15, 2014, respectively, both stated that no Native American cultural resources are known to exist within the immediate proposed Project area. The NAHC requested that Native American individuals and organizations be contacted to elicit information and/or concerns regarding cultural resource issues related to the proposed Project. These individuals and organizations were contacted by email or letter on July 23, 2014, with follow-up phone calls conducted on July 29, 2014. Individuals/organizations contacted include: Beverly Salazar Folkes of Chumash, Tataviam, and Fernandeño descent; Larry Ortega, Chairperson of the Fernandeño Tataviam Band of Mission Indians; Ron Andrade, Director of the Los Angeles City/County Native American Indian Commission; Delia Dominguez, Chairperson of the Kitanemuk and Yowlumne Tejon Indians; John Valenzuela, Chairperson of the San Fernando Band of Mission Indians; Randy Guzman-Folkes of Chumash, Fernandeño, Tataviam, Shoshone Paiute, and Yaqui descent; Daniel McCarthy, Director of the Cultural Resources Management Department of the San Manuel Band of Mission Indians; Kathy Van Meter, Cultural Resource Team Leader of the Tejon Indian Tribe; and Robert Robinson, Co-Chairperson of the Kern Valley Indian Council. An example of this letter, the list of contacts, and the responses received are included in Appendix A.

A total of three responses were received from the nine groups and/or individuals that were contacted. Beverly Salazar Folkes, an individual of Chumash, Tataviam, and Fernandeño descent, stated that Littlerock was a drawing area for Native people. As such, she suggested that an archaeological and Native American monitor be present for new development in undisturbed areas. Robert Robinson commented on behalf of the Kern Valley Indian Community tribal members and noted that the proposed Project area has been occupied continuously by their Native American ancestors. Therefore, they are recommending a culturally affiliated Native American monitor to be present during all ground disturbing activities in order to identify artifacts before they are destroyed. Finally, Kimia Fatehi, Tribal Historic and Cultural Preservation Representative for the Fernandeño Tataviam Band of Mission Indians, indicated that the proposed Project area is located in what the Tribe considers to be a culturally sensitive area. She also requested more information about the proposed Project in order to further assist with the proposed Project. In her response, Ms. Fatehi included a map illustrating the tribe's culturally sensitive areas. Upon inspection of the provided map, the proposed Project area was found to be located outside of the illustrated tribal boundary (see Appendix A). As of the date of this report, no response has been received from Ron Andrade, Director of the Los Angeles City/County Native American Indian Commission; Delia Dominguez, Chairperson of the

Kitanemuk and Yowlumne Tejon Indians; John Valenzuela, Chairperson of the San Fernando Band of Mission Indians; Randy Guzman-Folkes, of Chumash, Fernandeano, Tataviam, Shoshone Paiute, and Yaqui descent; Daniel McCarthy, Director of the Cultural Resources Management Department of the San Manuel Band of Mission Indians; and Kathy Van Meter, Cultural Resource Team Leader of the Tejon Indian Tribe. A Table of Responses summarizing consultation with Native American groups and/or individuals consulted is presented in Appendix A.

A supplemental SLF search request was submitted on November 10, 2014, after alternatives had been added to the proposed Project. The response received from the NAHC on November 21, 2014, confirmed the initial responses received on May 19, 2014, and July 15, 2014, respectively, stating that no Native American cultural resources are known to exist within the immediate proposed Project area. Given the results of the supplemental SLF search, no additional Native American coordination was conducted for the proposed Project.

It is anticipated that the SWRCB will consult with Native American groups as part of the Section 106 process. The final results of the Section 106 consultation efforts are to be documented by SWRCB.

5 PHASE I CULTURAL RESOURCE SURVEY

5.1 SURVEY METHODS

A Phase I cultural resource survey of the proposed 160-acre recharge and distribution sites, 2-acre pump station location, five 2.5-acre percolation ponds, 16 well site locations, and the nearly 24 miles of proposed pipeline alignment that make up the proposed Project APE was conducted between June 3 and 9, 2015, and September 22, 2015 by Æ archaeologists Josh Smallwood with the assistance of Julia Carvajal. The survey effort was carried out by the one- and two-person crew walking a series of 10- to 15-meter-wide spaced parallel transects. Alterations were made to the proposed Project's APE resulting in survey coverage of approximately 601 acres. All areas likely to contain or exhibit archaeologically or historically sensitive cultural resources were inspected carefully to ensure that visible, potentially significant cultural resources were discovered and documented. Additionally, surveyors investigated any unusual landforms, contours, soil changes, features (e.g., road cuts, drainages), and other potential cultural site markers. A Daily Work Record was completed each day by the Field Supervisor that documented survey personnel, hours worked, weather, ground surface visibility, vegetation, soils, exposure/slope, topography, natural depositional environments, and identified cultural resources.

The proposed recharge and distribution sites and the pump station encompass rural undeveloped land. Although these areas have historically been used for growing alfalfa, today they have returned to an almost native state (Figure 5-1). The majority of the 16 proposed well site and five percolation pond locations are also located on undeveloped land, although some of these locations are within existing agricultural fields (Figure 5-2). All areas of undeveloped land were intensively surveyed by walking parallel transects spaced no more than 15 meters apart. Agricultural fields were not surveyed for cultural resources as they were covered with dense crops, were often soaked with water, and appeared to have a low potential for containing any intact cultural resources.

Finally, approximately 12 miles of the 24 miles of proposed pipeline alignment are located within the right-of-way of existing paved roadways (Figure 5-3). Within these areas, the proposed Project alignment was surveyed at a reconnaissance level by driving along the route. These roadways have a low potential for buried archaeological resources due to previous road grading, widening, and construction of the roadways, shoulders, and sidewalks, and installation of utilities. These roads include Palmdale Boulevard, 30th Street East, 105th Street East, 106th Street East, and East Avenue R-8. While most of the roads originated from historic-period predecessors, today they are completely modern in their design, construction, and appearance, having been widened and paved with asphalt-concrete, striped with paint, bordered by recently graded shoulders or concrete sidewalks, and featuring modern streetlamps, signal lights, reflectors, and signage. Thus, none of the roadways were recorded as historic-period cultural resources.



Figure 5-1. View to the north at a potential well site location north of Avenue K-8.



Figure 5-2. View to the north at a potential well site location north of Avenue K-8.



Figure 5-3. View looking west along Palmdale Boulevard toward the intersection of 70th Street East.

Soils throughout the area consist mostly of medium to coarse, light-brown sandy loam, interspersed with medium to fine grained tan sands and poorly sorted river sands in the drainage areas. Vegetation consists of creosote bushes (*Larrea tridentata*), Joshua trees (*Yucca brevifolia*), Mormon tea (*Ephedra funerea*), Russian thistle (*Salsola tragus*), sage (*Artemisia tridentata*), and teddy bear cholla (*Cylindropuntia bigelovii*). Observed fauna included desert chipmunk (*Ammospermophilus leucurus*), black-tailed jackrabbit (*Lepus californicus*), and various raptors and insects.

During the field investigation, systematic efforts were made to characterize and define the areal extent of each cultural resource. For purposes of this survey, one or more cultural features or three or more artifacts greater than 45 years of age within a 30-meter (98-foot) radius was deemed to constitute a cultural resource (or site). Cultural features or clusters of artifacts more than 30 meters away from the nearest known cultural resource were generally considered a separate site area. Less than three prehistoric or historical artifacts within a 30-meter radius, but outside of a known site, were considered to be an isolated find, and were recorded appropriately as such.

Æ personnel attempted to re-identify any cultural resources recorded previously within the proposed Project APE. If the current site record was deemed inadequate or incorrect, the site record for these resources was updated appropriately using the methods described below. When encountered, any newly identified cultural resources were recorded on State of California Department of Parks and Recreation Primary Records and Archaeological Site Forms (DPR 523

[1995]). Systematic efforts were made to characterize and define the boundaries of each archaeological site, as well as discrete activity loci and cultural features. Site locations were plotted on the appropriate 1:24,000 scale USGS 7.5' quadrangle using a Trimble GeoXH hand-held global positioning system (GPS) unit using real-time satellite based augmentation system (SBAS) corrections achieving sub-meter accuracy. The GPS unit was also used to determine and document the precise locations and Universal Transfer Mercator (UTM) coordinates of all activity loci, cultural features, and temporally or functionally diagnostic artifacts identified within site areas. Site maps of each archaeological resource were drawn to scale, indicating the location of activity loci, features, and temporally or functionally diagnostic artifacts. Digital site overview photographs were also taken; in addition, digital overview photographs were taken of each activity locus, cultural feature, and temporally or functionally diagnostic artifacts. All cultural features were documented fully, inventoried, and mapped by UTM coordinates. No artifacts were collected during survey.

5.2 SURVEY RESULTS

The cultural resource literature and records search noted seven previously recorded historic-period resources within the proposed Project APE (Figure 5-4). Each of these resources was visited during the field survey to assess their current condition and their location relative to the proposed Project APE. These cultural resources include one built-environment resource (East Branch of the California Aqueduct [19-004154]) and six archaeological resources, the latter of which includes five historic-period refuse scatters (19-004323, Æ-2829-17H, Æ-2829-18H, Æ-2829-19H, and Æ-2829-20H) and an abandoned wellhead (19-100581). The intensive Phase I cultural resource survey of the proposed Project APE also documented 11 newly identified archaeological resources that includes nine historic-period sites, one historic-period isolated artifact, and one prehistoric isolated artifact (Figure 5-4). A description of each resource is presented below (Table 5-1); additional information is included in the site records in Appendix B.

**Table 5-1
Cultural Resources Identified in the Proposed Project Area**

Site No.	Description	Size (feet)
P-19-004154	East Branch of the California Aqueduct	98-mile segment
P-19-004323	Historic-period refuse scatter	980 x 690
P-19-100581	Isolated historic-period wellhead on a cement pad	N/A
Æ-2829-17H	Large, diffuse refuse scatter	230 x 330
Æ-2829-18H	Large, diffuse refuse scatter	220 x 220
Æ-2829-19H	Large, diffuse refuse scatter	155 x 170
Æ-2829-20H	Small, low-density can scatter	20 x 30
Æ-2829-JS-1H	Small historic-period refuse deposit	102 x 56
Æ-2829-JS-ISO-2H	Isolated historic-period wellhead	N/A
Æ-2829-JS-3H	Small, low-density can scatter	23 x 23
Æ-2829-JS-4H	Small historic-period refuse deposit	16 x 20
Æ-2829-JS-ISO-5	Isolated prehistoric chalcedony flake	N/A

Table 5-1 (Continued)
Cultural Resources Identified in the Proposed Project Area

Site No.	Description	Size (feet)
Æ-2829-JS-6H	Small, low-density can scatter	26 x 23
Æ-2829-JS-7H	Historic-period refuse scatter	230 x 82
Æ-2829-JS-8H	Small historic-period refuse deposit	82 x 33
Æ-2829-JS-9H	Historic-period farmstead	1300 x 240
Æ-2829-JS-10H	Large historic-period refuse deposit	558 x 66
Æ-2829-JS-11H	Historic-period farmstead	1300 x 1375

Confidential Figure Redacted

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Figure 5-5. View to the east at an artifact concentration and associated scatter of artifacts at AE-2829-17H .



Figure 5-6. Two diagnostic dated bottle bases found at AE-2829-17H . Left: Owens-Illinois with date of 1946; right: Knox Glass Bottle Company with date of 1944.



Figure 5-7. Two diagnostic dated bottle bases found at Æ-2829-17H. Left: Armstrong Glass Company with date of 1944; right: Owens-Illinois Glass Company with date of 1944.

bottle glass fragments, and other items spread over an area measuring approximately 220 feet east-west by 210 feet north-south. Some of the artifacts are partially buried in sandy loam alluvium and small dune deposits. Identifiable maker's marks and dates on bottle bases suggest the refuse scatter dates from about 1945 to 1956. These dates are based on the presence of Owens-Illinois Glass Company, Latchford-Marble, Glass Containers Inc., and Maywood Glass manufacturers' date codes found on the bottle bases (see Toulouse 1971). The site contains various domestic refuse items including glass bottle fragments of various colors (green, blue, amber, clear, aqua, and milk glass), metal cans, ceramic kitchenware fragments, rubber tire fragments, a 15-amp house fuse, household battery cores, and concrete and wood fragments. Metal cans at the site represent consumed products such as motor oil, cooking oil, machine oil, coffee, tobacco, beer and other beverages, food cans, evaporated milk, and juice. Bottles at the site represent products such as beer and soda, medicine, bleach, salve, condiments, spice, and preserves. Kitchenware include china serving ware and glazed earthenware and milk glass containers. The site appears to be the result of opportunistic dumping by local area residents, as this parcel remained undeveloped and uninhabited throughout the historic period. The site contains little to no potential for substantial subsurface cultural deposits.

Æ-2829-19H (update). The site consists of a large, dense historic-period domestic household refuse deposit

-2829-19H contains approximately 300 metal cans, bottle glass fragments, and other items spread over an area measuring approximately 155 feet east-west by 170 feet north-south. Solder-dot condensed milk cans, church-key opened cans, and identifiable maker's marks and dates on bottle bases suggest the refuse scatter dates from about 1949 to 1955. These dates are based on the presence of Owens-Illinois, Latchford-Marble, Glass Containers Inc., and Maywood Glass manufacturers' date codes found on the bottle bases (see Toulouse 1971). The site contains various domestic household refuse items including glass bottle fragments of various colors (green, blue, amber, clear), metal cans, kitchenware/ serving ware fragments, rubber/tire fragments, cement pieces, wood, clothing, light bulbs, sewer pipe, barbed wire, chicken wire, and ceramic insulator fragments. Metal cans at the site represent consumed products such as condensed milk, coffee, ham, tobacco, beer and other beverages, canned foods, paint, juice, aerosol sprays, cooking oil, and meat. Bottles at the site represent products such as beer and soda, condiments, medicine, and preserves. Among the ceramic kitchenware fragments is a porcelain tea cup and saucer fragment stamped with "MADE IN OCCUPIED JAPAN" which dates it to immediately following World War II. The site appears to be the result of opportunistic dumping by local area residents, as this parcel remained undeveloped and

uninhabited throughout the historic period. The site contains little to no potential for substantial subsurface cultural deposits.

Æ-2829-20H (update). This site consists of a small historic-period domestic household refuse deposit measuring 20 feet by 30 feet. [REDACTED]

[REDACTED] The deposit contains 13 sanitary metal cans and one rectangular meat can along with clear and amber glass fragments and blue transfer pattern china fragments. The bottle glass represents food and beverage containers, including one “Hires Root Beer” bottle. Dates found on several of the bottle bases are 1951. These dates are based on the presence of Owens-Illinois and Maywood Glass manufacturers’ date codes found on the bottle bases (see Toulouse 1971). The site appears to be the result of opportunistic dumping by local area residents, as this parcel remained undeveloped and uninhabited throughout the historic period. The site contains little to no potential for substantial subsurface cultural deposits.

Æ-2829-JS-1H. The site consists of a small discrete historic-period domestic household refuse deposit dating to the early 1930s. [REDACTED]

[REDACTED] The site measures approximately 102 feet east-west by 56 feet north-south. Numerous dates on glass bottle bases include 1930, 1931, and 1932. These dates are based on Owens-Illinois manufacturers’ date codes found on the glass bottle bases (Toulouse 1971:403). The site contains various domestic household refuse items including metal cans, glass bottle fragments, ceramic kitchenware fragments, and a broken oil lamp chimney. Consumed products represented at the site include tobacco, beverages, liquor, Perrier soda water, condiments, preserves, canned food and beverages, and condensed milk. Ceramic kitchenware at the site are limited to a few pieces of china serving ware, stoneware crockery, and glazed earthenware. The site appears to be the result of opportunistic dumping by local area residents, as this parcel remained undeveloped and uninhabited throughout the historic period. The site contains little to no potential for substantial subsurface cultural deposits.

Æ-2829-JS-3H. This historical refuse deposit measures approximately 23 feet east-west by 23 feet north-south [REDACTED]

[REDACTED] The site consists of 14 metal cans and one Coca-Cola bottle that is embossed “Ventura, CA” with an Owens-Illinois manufacturing date of 1935. The cans include nine solder-dot condensed milk cans and five sanitary food cans, all of which appear to be contemporaneous with the 1935 soda bottle. The site appears to be the result of opportunistic dumping by local area residents. The site contains little to no potential for substantial subsurface cultural deposits.

Æ-2829-JS-4H. [REDACTED]

[REDACTED] t consists of a small discrete historic-period domestic household refuse deposit dating to the 1920s and 1930s. *Æ-2829-JS-4H* measures approximately 26 feet east-west by 20 feet north-south and contains various domestic household refuse items including two condensed milk cans; fragments of one glass milk bottle; and ceramic kitchenware fragments from at least one cup, one bowl, one plate, and one saucer. One of the bowl fragments is a light-blue glazed earthenware with grapevines embossed along the rim. Some of the china fragments are stamped with an “Edwin M. Knowles” mark; however, the

stamp is fragmented and could not provide an accurate date. The milk bottle is embossed with an Owens Bottle Company maker's mark used from 1911 to 1929 (Toulouse 1971:393). One whole condensed milk can measures 4 6/16 inches tall by 2 15/16 inches diameter, which dates to a period of use from 1915 to 1930 (Simonis 1989:107). The general appearance of the refuse and diagnostic items suggest the deposit dates to the 1920s and 1930s. The site appears to be the result of opportunistic dumping by local area residents, as this parcel remained undeveloped and uninhabited throughout the historic period. The site contains little to no potential for substantial subsurface cultural deposits.

Æ-2829-JS-6H. This historical archaeological site consists of 15 metal cans in a single concentration that measures approximately 26 feet north-south by 23 feet east-west. [REDACTED]

[REDACTED] he metal cans include 12 solder-dot condensed milk cans, one sanitary food can, one rectangular cooking-oil can with pour spout, and a 4-pound size lard bucket. The condensed milk cans measure 4 inches tall by 2 15/16 inches diameter, which dates to a period of use from 1917 to 1929 (Simonis 1989:107); the cans exhibit knife-punched and ice-pick punched holes where they were opened and drained of their contents. *Æ-2829-JS-4H* appears to be the result of opportunistic dumping by local area residents or possibly a campsite used by sheepherders, as maps and records indicate this parcel remained undeveloped and uninhabited throughout the historic period. The site contains little to no potential for substantial subsurface cultural deposits.

Æ-2829-JS-7H. The site consists of a moderate-size diffuse historic-period domestic household refuse deposit containing one distinct concentration amid a diffuse, widely scattered collection of refuse. [REDACTED]

[REDACTED] he site measures approximately 230 feet east-west by 82 feet north-south. Identifiable maker's marks and numerous dates on bottle bases include 1949, 1951, and 1952, which suggests the refuse deposit dates to 1949 to 1952 (Figure 5-8). The site contains various domestic household refuse items including metal cans, glass bottle fragments, ceramic kitchenware fragments, and other items that represent a wide array of household consumed products. Metal cans at the site represent products such as motor oil, cooking oil, coffee, tobacco, beer and other beverages, food cans, paint, condensed milk, and Log Cabin Syrup. Bottles at the site represent products such as beer and soda, bleach, salve, condiments, and preserves. Kitchenware at the site include china serving ware, colored glassware, and a flour-sifter. The refuse deposit appears to be the result of opportunistic dumping by local area residents. The site contains little to no potential for substantial subsurface cultural deposits.



Figure 5-8. Two Owens-Illinois Duraglas dated bottle bases found at *Æ-2829-JS-7H*. Left: 1949; right: 1952.

Æ-2829-JS-8H. This site consists of a small discrete historic-period domestic household refuse deposit dating to around the mid-1930s. It measures approximately 82 feet northwest-southeast by 33 feet southwest-northeast [REDACTED]

[REDACTED] *Æ-2829-JS-8H* contains various domestic household refuse items including approximately 40 metal cans, two glass bottle fragments, and the remains of what appears to be a 1930s-model toy metal truck. The metal cans are primarily food containers, but also include condensed milk cans, coffee cans, and a powdered cleanser can. One whole condensed milk can measures 3 14/16 inches tall by 2 15/16 inches diameter, which dates to a period of use from 1917 to 1929 (Simonis 1989:107). Another can is an early church-key opened beverage can which could only date as early as 1935, as steel beverage cans were first introduced that year (IMACS 2001:471.3). A glass ketchup bottle was found that is embossed with an unknown maker's mark (K in a triangle); a wide-thread screw-top that generally resembles a 1930s-era ketchup based on morphological characteristics. Another bottle is a liquor bottle base with an Owens-Illinois mark but the date is illegible. Owens-Illinois only used this style of mark after 1929 (Toulouse 1971:403). The general appearance of the refuse and diagnostic items suggest the deposit dates to the 1930s result of opportunistic dumping by local area residents, as the parcel remained vacant and undeveloped throughout the historic period. The site contains little to no potential for substantial subsurface cultural deposits.

Æ-2829-JS-9H. This site appears to be the remains of a small 1950s-era farmstead that measures approximately 1,300 feet north-south by 240 feet east-west. [REDACTED]

[REDACTED] It contains a well, pump, residential slab foundation, fence posts, piles of discarded lumber, and ancillary slab foundations, as well as a light scatter of domestic household consumer refuse in the form of metal cans and glass bottles (Figure 5-9). The cans are primarily food and beverage cans. Two of the bottles are brown beer bottles embossed with dates of 1959 (Figure 5-10). Another bottle is a liquor bottle embossed with a date of 1958. Fragments of a 7-Up bottle exhibited an Owens-Illinois mark and date of 1960. An older medicine bottle was found with an Owens-Illinois mark and date of 1944. A Kerr Glass preserve jar base was found with a patent date of August 31, 1915; however, this jar design



Figure 5-9. A well casing, pump, and concrete irrigation standpipe found at Æ-2829-JS-9H (view to the south).



Figure 5-10. Two diagnostic dated bottles found at Æ-2829-JS-9H. Left: a beer bottle found at with a Thatcher Glass Manufacturing Company mark and date of 1959 (Toulouse 1971:496); right: a liquor bottle found at Æ-2829-JS-9H with a Glass Containers, Inc. mark and date of 1959 (Toulouse 1971:220).

was used for a number of years, and the jar itself could have been reused within the household for several decades.

The historic parcel containing Æ-2829-JS-9H measures 80 acres in size and comprises the west half of the southeast quarter of Section 33. As only a small portion of this parcel was examined during the Phase I survey, it is possible that there are additional features and artifacts associated with Æ-2829-JS-9H that lie outside of the proposed Project area. A total of eight features were documented within the survey area at the site. One of the features is a 4-foot by 3-foot

rectangular board-formed poured concrete stand that measures 3.5 feet tall with hexagonal lag bolts protruding at the top. It was probably a mount for a heavy gas-powered well pump. Near this mount is a 15-inch-diameter steel well casing that extends into the ground by at least 100 feet. The opening is centered within a 5-foot square concrete pad. Next to the well casing is a steel pump that measures approximately 27 inches tall and 21 inches in diameter. The steel pump is situated near a concrete irrigation standpipe that measures 6.5 feet tall and 12 inches in diameter. Adjacent to this is a steel angled standpipe that measures 8 inches in diameter, projecting 38 inches from the ground surface. Farther south of these features are two partially buried concrete slabs of unknown, but likely ancillary use. They are spaced a short distance away from each other. South of these features is a residential concrete slab foundation. The main mass of this foundation measures 24 feet by 20 feet, with two additional rooms measuring 13 feet by 13 feet and 13 feet by 10 feet, and a smaller utility space measuring 8 feet by 4 feet (altogether totaling 811 square feet). The site contains little to no potential for substantial subsurface cultural deposits.

Æ-2829-JS-10H. The site consists of a large and diffuse historic-period domestic household refuse deposit containing four distinct concentrations (Figure 5-11). [REDACTED]

[REDACTED] he site is situated along an unsigned dirt road that winds its way around several large dunes with refuse deposits located around each bend of the road. This site measures approximately 558 feet north-south by 66 feet east-west (east-west measurement is confined by the proposed Project boundary). Additional refuse deposits were observed in the distance to the east. The site is likely larger than documented but recording efforts did not extend beyond the proposed Project boundary. *Æ-2829-10H* appears to be the result of opportunistic dumping by local area residents, as the parcel remained vacant and undeveloped throughout the historic period. It appears to be a favored site for periodic dumping by local area residents. Numerous dates on bottle bases suggest the refuse was deposited over a long period of time from about 1945 to 1956.



Figure 5-11. A deposit of cans and glass bottles found at *Æ-2829-JS-10H* (view to the south).

The northernmost concentration contains more than 50 metal cans and four bottles with dates of 1952 and 1956. The cans include products such as tobacco, condensed milk, beer, food, oil, brake fluid, and an oil filter; glass bottles are from wine and beer. A second concentration to the south contains more than 100 food cans, aerosol cans, broken bottles, broken ceramic kitchenware, broken furniture parts, plastic items, and other artifacts that appear to be relatively modern, circa 1970s or later. A third concentration further south contains more than 100 metal cans and more than 10 bottle fragments with dates of 1953 and 1954. The cans include types that once contained foods, beverages, coffee, and condensed milk. Bottles include bleach, wine, milk, and condiments. One white plate fragment stamped “Franciscan Ware/Made in California” was found. Other artifacts in this concentration include light bulbs, window glass, window screen, nails, and a large stoneware dog water bowl. The southernmost concentration contains more than 20 food cans and broken bottles with dates of 1944 and 1945. The bottle fragments are from wine, beer, and condiments. The cans are primarily from food and condensed milk. In addition, numerous pieces of highly fragmented bottle glass are scattered about. Ceramic kitchenware fragments are also present, representing white, yellow, and turquoise plates. This deposit appears to have been looted, as there are several pits that have been recently dug to extract artifacts.

Æ-2829-JS-11H. This site appears to be the remains of a small mid- to late-twentieth-century farmstead that measures approximately 1,300 feet north-south by 1,375 feet east-west. [REDACTED]

[REDACTED] t contains a well casing, perimeter footing for a pump house, remnants of perimeter and slab foundations for ancillary buildings, irrigation standpipes, piles of discarded

lumber, and a scatter of broken concrete nails and glass as well as a walnut tree and a peach tree (Figure 5-12). A light scatter of highly fragmented pieces of bottle glass was observed, but these pieces appeared modern and the result of vandals and target shooting. No historic-period domestic household refuse was observed at this site.



Figure 5-12. A well casing, concrete footing, and concrete irrigation standpipe at Æ-2829-JS-11H (view to the west).

The historic parcel containing Æ-2829-JS-11H measures 80 acres in size and comprises the south half of the northeast quarter of Section 29. As only a small portion of this parcel was examined during the Phase I survey, it is possible that there are additional features and artifacts associated with Æ-2829-JS-11H that lie outside of the proposed Project area. A total of 12 features were documented within the survey area at the site. Feature 1 is an 8-foot square concrete perimeter footing that appears to be the remains of a well house. Within the perimeter footing is a 14-inch-diameter steel well casing embedded in a small square of concrete. About 50 feet east of Feature 1 is a 10- by 15-foot rectangular perimeter footing (Feature 2) constructed of a single course of recycled chunks of concrete and rocks. The floor of Feature 2 is packed dirt; the foundation appears to have once supported a small ancillary structure. A recycled railroad tie is used as a fence post at the west end of Feature 2, and a 7-inch-diameter galvanized steel pipe is situated at the south side of the feature. The adjacent roadway of Avenue K-8 has been widened in the area immediately east and south of Feature 2. As a result, the roadway has partially cut through any features that once existed in the area and created scattered piles of dirt along the side of the roadway.

To the west and north of Features 1 and 2 is a large scatter (230 by 200 feet in area) of broken concrete, nails, glass and wood. In the southern extent of the scatter, the remnants of a concrete slab and footing were identified (Feature 3); historical maps and aerial photographs indicate that a residence once stood at this location. The western extent of the artifact scatter contains a perimeter foundation (Feature 4) that measures 22 feet east-west by 18 feet north-south. The foundation appears to have once supported an ancillary building.

There are two 24-inch-diameter (Features 5 and 6), and two 10-inch-diameter (Features 7 and 8) concrete irrigation standpipes present in situ at the site as well as a pile of six 10-inch-diameter standpipes laying on the ground near a partially filled earthen reservoir (Feature 9). The earthen reservoir (Feature 10) measures 75 feet east-west by 45 feet north-south and is filled with soil and graded nearly level to the ground so that it is almost completely demolished. The reservoir appears on aerial photographs dating back to 1948.

At the northeast portion of the site next to 100th Street East is a single walnut tree (Feature 11) and a single peach tree (Feature 12) of apparent historical age. The walnut tree measures 2 feet in diameter at the base and has a canopy that measures 30 feet in diameter. The peach tree measures nearly 2 feet in diameter at the base and has a canopy that measures 24 feet in diameter. The site contains little to no potential for substantial subsurface cultural deposits.

5.2.3 ISOLATED OCCURRENCES

P-19-100581 (update). This resource was previously recorded as a single historic-period wellhead with a gas-powered pump motor and two associated concrete pads (Lloyd and Price 2007). [REDACTED] A revisit to the site indicates that the pump motor has since been removed and all that remains is a 4-inch diameter well head pipe. Next to the pipe is a 4.5-foot square concrete pad with lag bolts along the perimeter which appear to have once supported a pump motor. Within close proximity to the well head is a broken clear glass soda bottle with an applied color label that reads “Antelope Beverage/Antelope Valley Distributing.” The bottle base is embossed with a Glass Containers, Inc. mark that dates to after 1945 (Toulouse 1971:220).

Æ-2829-JS-ISO-2H. This is an isolated historical wellhead consisting of a 5-inch diameter steel pipe protruding about 8 inches from ground level (Figure 5-13). [REDACTED] o other features or artifacts were observed at the location. It is an isolated feature of unknown age presumably dating to the historic period.



Figure 5-13. View to the north at AE-2829-JS-2H.

AE-2829-JS-ISO-5. This is a prehistoric isolated artifact consisting of a single chalcedony flake [REDACTED] [REDACTED] [REDACTED]. The artifact measures 2.1 centimeters by 1.6 centimeters by 0.6 centimeter. The isolated artifact is a secondary-stage reduction with flake scars and less than 10 percent cortex on its dorsal surface (Figure 5-14). The flake has sharp edges but does not exhibit any readily apparent edge modification. There is no source of the chalcedony material at or near the location of the isolated artifact. The sharp flake appears to have been an expendable light-duty cutting or scraping tool that was discarded after minimal use.



Figure 5-14. Isolated chalcedony flake found at Æ-2829-JS-ISO-5.

5.3 ARCHIVAL RESEARCH

In order to obtain additional information on the historical archaeological sites identified during the Phase I survey, archival research on these resources was conducted by Æ archaeologist Josh Smallwood. The historical research focused on Sections 32 and 33, T7N, R10W which contained the majority of identified cultural resources (Figure 5-15). General Land Office (GLO) patents records available through the Bureau of Land Management (BLM) (BLM 2015) were examined to identify landowners within the proposed Project area. Supplemental data on landownership was acquired from the Los Angeles County Assessor's Office. U.S. Census records, U.S. Cities Directories, and California Death Index records available at Ancestry.com were also searched to obtain specific information on the land owners. Finally, several historical maps were consulted including the Alpine Butte, CA (1945) and Lancaster, CA (1933, 1958) 15' USGS Quadrangle maps and Alpine Butte, CA (1957), Lancaster East, CA (1958), Little Rock, CA (1930, 1957), and Palmdale, CA (1958) 7.5' USGS Quadrangle maps were examined to identify historical roads and structures in the vicinity of the archaeological remains. A summary of the findings of this work is provided below.

5.3.1 South Half of the Northeast Quarter of Section 29

LO patent records in 1856 reveals that the entirety of Section 29 as well as the entirety of Township 7 North, Range 10 West, of the San Bernardino Meridian was unoccupied and devoid of any human modifications when it was surveyed in 1855–1856 (GLO 1856). The GLO records also indicate that the entirety of Section 29 was part of a 5,443.20-acre land grant issued to the Southern Pacific Railroad Company on May 14, 1903 (BLM 2015).

Confidential Figure Redacted

Assessor records indicate that the title to the south half of the southeast quarter of Section 29, comprising 80 acres, [REDACTED] was held by the Southern Pacific (SP) Land Company from 1903 to the mid-1930s (Los Angeles County Assessor 1926–1933, 1933–1940). The SP Land Company sold the 80-acre property to Sheman Simon in 1933 (Los Angeles County Assessor 1933–1940). That same year, improvements were assessed for buildings and alfalfa. Sheman Simon and his wife, Rosie, continued to hold the title to the property through at least 1964 (Los Angeles County Assessor 1933–1964). Simon, an immigrant from Romania, was born in 1889 and came to the United States in 1922 (Ancestry.com 2015). By 1926, he and Rosie were in Los Angeles and gave birth to a daughter, Cecilia. Sheman petitioned for U.S. citizenship in 1927, which was granted in December, 1934 while a resident of California. Sheman Simon died December 6, 1965, in Los Angeles. Despite extensive research, no record could be found to suggest that Sheman and Rosie Simon ever resided in the Palmdale area. They are not listed in any of the U.S. Census records or voter registrations available at Ancestry.com, and they are also not mentioned in any local history sources.

The first improvements were assessed in 1933 after the 80-acre parcel had been sold by the SP Land Company to Sheman Simon. According to the 1930 USGS West Alpine Butte topographic quadrangle, surveyed in 1930, a single building had existed on the property within the Project area as early as 1930 (USGS 1930). A U.S. Army map dated 1945, prepared in 1943–1944, depicts a building and a well where this site is located (U.S. Army 1945). A USGS map dated 1957, based on aerial photographs taken in 1955, and field-checked in 1957, only depicts a single building at this location (USGS 1957). A 1992 photo-revision to this map does not depict any buildings or structures at this location (USGS 1992).

Aerial photographs available through HistoricAerials.com provide a glimpse of how buildings and structures were arranged [REDACTED] over time from 1948 to 1974. In 1948, a large rectangular residence was situated about 100 feet to the east of the earthen reservoir, in the area where the remnants of concrete slab and footings (Feature 3) exists today. There appears to be at least three ancillary buildings at that time, none of which matches the foundations observed during the field survey. By 1956, there are as many as 10 ancillary buildings and structures located on the property, including locations where foundations associated with Features 1, 2, and 4 were encountered during the field survey. These structures were still present in the 1974 aerial photograph, but were no longer extant by the time of the 1994 photograph. Based on the information gathered through historical background research, it appears a single building (Feature 3) may have existed on the property as early as 1930. The property had developed to include several buildings and structures by 1945, and the farmstead continued to prosper through the late 1950s. The farmstead was still present in the 1970s, but began its decline over the years to follow. Based on the information gained during this study, it appears this 80-acre farmstead once produced hay/grain or possibly other row crops. Historic aerial photographs and field inspection reveal a series of concrete irrigation standpipes and laterals spread across the former agricultural field. Tax assessment records indicate that the historical land owners Albert and Earl Hull were alfalfa farmers in the Palmdale region.


5.3.2 Southwest Quarter of Section 32

GLO records indicate that the southwest quarter of Section 32, [REDACTED] was patented to Clarence C. Ritchey on July 24, 1923 as a Homestead claim, while the [REDACTED]

southeast quarter of Section 32 was patented to Thomas J. Dolan on December 28, 1925 as a Homestead claim. Assessor records indicate that neither Ritchey nor Dolan had made any improvements to their land to meet the requirements of the Homestead Act, and they must have paid cash for the land (Los Angeles County Assessor Book 121, page 4). Ritchey subdivided his property and sold the south 80 acres of the southwest quarter of Section 32 to A.R. Eppanauer by 1926 (Los Angeles County Assessor Book 121, page 9). Eppanauer made no improvements through 1940, at which time the title was transferred to Robert J. and Harold B. Hughes (Los Angeles County Assessor Book 121, page 11). They in turn subdivided the property the following year to absentee owners who never made any improvements to the land (Los Angeles County Assessor Book 121, page 28; Book 3155, page 29). Thomas Dolan held onto his homestead parcel through 1950 (Los Angeles County Assessor Book 121, page 9; Book 121, page 11; Book 121, page 28). He established a well on the property by 1926 and was taxed for alfalfa production through 1942, at which time he subdivided the property to absentee owners who never made any improvements to the land (Los Angeles County Assessor Book 3155, page 29).

The USGS and U.S. Army topographic quadrangle maps of this area do not depict any buildings, structures, or other evidence of any human endeavors at this location during the early, middle, and late twentieth century (USGS 1930; U.S. Army 1945; USGS 1957; USGS 1992).

5.3.3 West Half of Northwest Quarter of Section 33

 GLO records indicate that the entirety of Section 33 was part of a 5,443.20-acre grant issued to the Southern Pacific Railroad Company on May 14, 1903. Assessor records indicate that the title to the west half of Section 33 was held by the Southern Pacific (SP) Land Company from 1903 to the early 1930s (Los Angeles County Assessor Book 121, page 9). The SP Land Company sold the west 80 acres of the northwest quarter of Section 33 to Lillian W. Van Meter in 1948 (Book 121, page 11). Van Meter held title to the property through at least 1960. No improvements were assessed on the property throughout the historic period. USGS and U.S. Army maps do not depict any buildings or structures on the property throughout the historic period (U.S. Army 1945; USGS 1930, 1957). U.S. Census records, U.S. Cities Directories, and California Death Index records do not provide any indication that Lillian Van Meter ever resided on the subject property. In fact, no matches for Lillian Van Meter living anywhere in Los Angeles County could be found. It appears Van Meter was an absentee property owner. There is no indication that the property was ever used for agriculture, but it may have been used periodically for sheep grazing. By 1960, the entire northwest quarter of Section 33 had been subdivided into primarily 2.5-, 5-, and 10-acre lots; none of which contained any improvements (Book 3160, page 13). All were held by absentee owners speculating on the investment value of the land.

A review of archival maps indicates no buildings, structures, or other evidence of any human occupation were located the west half of the northwest quarter of Section 33 during the historic period. A 1992 photo-revision to this map indicates that the northern portion of the west half of Section 33 has been subdivided and dirt roads cross it.

5.3.4 East Half of Northwest Quarter of Section 33

Originally owned by the SP Land Company, the east 80 acres of the northwest quarter of Section 33 was sold to Clarence M. Stevenson on July 28, 1936. A tax on alfalfa was assessed that same year. Clarence Stevenson added his wife, Minnie, and Virginia S. Marshall to the deed in 1940 and was taxed on alfalfa until 1943. Clarence was removed from the title that year, and Joseph C. Ullo was added to the title in 1952. No improvements were assessed on the property from 1943 through 1960. In 1960, the entire east half of the northwest quarter of Section 33 was subdivided into primarily 2.5-, 5-, and 10-acre lots; none of which contained any improvements (Book 3160, page 13). The property may have been used for sheep grazing during the historic period. It has been used for grazing in recent years, as skeletal remains of sheep were observed in the area.

5.3.5 East Half of Southwest Quarter of Section 33

Under the SP's ownership, a tax assessment for a house on the east 80 acres of the southwest quarter of Section 33 was recorded in 1930 and tax on alfalfa was assessed by 1933. The east 80 acres of the southwest quarter, , was acquired by Albert M. and Earl J. Hull in 1935 and they continued to grow alfalfa and maintain the farmhouse through 1940 (Book 121, page 11). Title to the property was deeded to Joseph D. Griffin on November 22, 1941. Tax assessments on the farmhouse and alfalfa continued under Griffin's ownership through 1950, at which time the property was sold to the Alfalfa Grain & Cattle Company/George Schilling (Book 121, page 28). U.S. Census records, U.S. Cities Directories, and California Death Index records available at Ancestry.com do not provide any indication that Albert or Earl Hull or Joseph Griffin ever resided on the subject property. In fact, it appears they were all absentee owners who lived elsewhere. Albert and Alice Hull resided at 1219 Beech Avenue in Antelope during the 1930s and 1940s. Albert Hull was a construction contractor who worked in the Antelope Valley. Joseph Griffin lived and worked in Los Angeles during the 1940s.

The property was subsequently subdivided in 1955 and the farmhouse was apparently removed sometime thereafter. Bert B. and Rita C. Ramos acquired 4.46 acres on which the former building once stood, and a small tax assessment was made for a minor improvement such as a well or alfalfa field (Book 121, page 28). No matches for Bert B. and Rita C. Ramos could be found in the U.S. Census records, U.S. Cities Directories, and California Death Index records. By 1960, the entire east half of the southwest quarter of Section 33 had been subdivided into primarily 2.5-, 5-, and 10-acre lots; none of which contained any improvements (Book 3160, page 13). All were held by absentee owners speculating on the investment value of the land.

The 1930 USGS West Alpine Butte topographic quadrangle, surveyed in 1930, does not depict any buildings, structures, or other evidence of any human endeavors at this location (USGS 1930). A U.S. Army map dated 1945, prepared in 1943–1944, depicts a farmhouse in the far southeast corner of the southeast quarter of Section 33 in the vicinity of the isolated wellhead. This building is also shown on a USGS map dated 1957, based on aerial photographs taken in 1955, and field-checked in 1957 (USGS 1957). As stated above, the farmhouse appears to have

been removed in the late 1950s or thereafter. A 1992 photo-revision to this map confirms this conclusion as no buildings or structures are shown in this location (USGS 1992).

5.3.6 West Half of Southeast Quarter of Section 33

[REDACTED] Assessor records indicate that the title to the west half of the southeast quarter of Section 33 was held by the SP Land Company from 1903 to the early 1930s (Los Angeles County Assessor Book 121, page 9). The SP Land Company sold the property to Albert M. and Earl J. Hull in 1935 and they held title until 1940 when it was relinquished back to SP Land Company (Los Angeles County Assessor Book 121, page 11). The property was taxed for alfalfa beginning in 1933 and continuing through 1940. The SP Land Company held title through 1949 at which time it sold to Joseph C. Rinehart. It was relinquished to SP Land Company one year later. By 1951, the property was owned by Joseph D. Griffin et al. under the Alfalfa Grain and Cattle Company (Los Angeles County Assessor Book 121, page 28). They sold it to Louis J. and Marion P. Koenig in 1952. The first improvements to the property were assessed in 1952 under the Koenig's ownership. A spike in improvements occurred in 1955 and the parcel was taxed for improvements through 1961 (Los Angeles County Assessor Book 3160, page 13). No improvements were assessed on the property after 1961, indicating that the property may have fallen into disuse at that time.

[REDACTED] The 1930 USGS Alpine Butte topographic quadrangle, surveyed in 1930, does not depict any buildings or structures at this location (USGS 1930). A USGS map dated 1957, based on aerial photographs taken in 1955, and field-checked in 1957, reveals a building in the southwest corner of the east half of Section 33 [REDACTED] (Figure 5-14). This building appears to have been demolished sometime after 1957, as indicated by the 1992 photo-revision to the USGS map (USGS 1992).

6 SIGNIFICANCE EVALUATIONS

The intensive pedestrian survey by Æ resulted in the identification and documentation of 18 cultural resources within the proposed Project APE. To evaluate the significance of these cultural resources, data obtained during the fieldwork effort were supplemented with archival information collected on historic-period cultural resources. Results of the significance evaluation indicate only one of the identified cultural resource – the East Branch of the California Aqueduct (19-004154) – is eligible for listing on the NRHP and the CRHR.

6.1 EVALUATION CRITERIA

The criteria with which cultural resources are evaluated for eligibility for listing on the NRHP and the CRHR are provided in Sections 1.3.1 and 1.3.2, respectively. To qualify for listing in the NRHP, a property must represent a significant theme in American history, archaeology, architecture, engineering, or culture, and it must be a good representative of that theme. Similarly, the CRHR recognizes properties of local, state, or national importance with evaluative criteria and procedures similar to the NRHP standards.

To be eligible for listing in the NRHP or CRHR, a resource must possess both significance and integrity. Only after significance is established can the issue of integrity be addressed. The NRHP recognizes seven aspects or qualities that, in various combinations, that define integrity:

1. **Location**—the place where the historic property was constructed or the place where the historic event occurred.
2. **Design**—the combination of elements that create the form, plan, space, structure, and style of a property.
3. **Setting**—the physical environment of a historic property.
4. **Materials**—the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
5. **Workmanship**—the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
6. **Feeling**—a property’s expression of the aesthetic or historic sense of a particular period of time.
7. **Association**—the direct link between an important historic event or person and a historic property [NPS 2002:44-45].

The integrity of a cultural resource may be appraised and classified as “retained,” “impaired,” or “lacking.” Resources in the first class are largely undisturbed. Typically, “retained” integrity bespeaks original location, intact setting, and data potentials not significantly reduced by post-

depositional factors. Cultural resources with “impaired” integrity are disturbed (e.g., partly removed, plowed, excavated, covered, eroded, etc.) but not destroyed. Their general locations are original; settings, however, may be considerably altered. Original research values have been compromised to some extent; nonetheless, significant data potentials may remain. Because research potentials may exist even in severely disturbed sites (Talmage et al. 1977), careful assessment of integrity is required. Finally, a property “lacking” integrity is one whose removal or complete destruction has eliminated the context essential for interpretation. Properties lacking integrity have lost all potential to yield important information. To be significant, a cultural resource must have integrity (“retained” or “impaired”) and satisfy at least one of the four criteria of NRHP eligibility (i.e., 36 CFR 60.4 [a-d]).

A point worth emphasizing is that NRHP or CRHR eligibility is being assessed, but not determined, in this document. The professional evaluations offered here are subject to final concurrence by the federal, state, and local regulatory agencies. The lead federal agency that is responsible for an undertaking, in consultation with the SHPO, determines NRHP eligibility. If the SHPO and agency agree that a property is eligible or ineligible, it is treated as such for the purposes of Section 106 compliance. The Keeper of the NRHP also may become involved in the eligibility determination process if requested, or if an objection is raised by the Advisory Council on Historic Preservation. Similarly, the CEQA lead agency makes determinations regarding significance and eligibility for listing in the CRHR. Accordingly, the present task is to render a professional assessment rather than an administrative determination.

6.2 RESULTS OF EVALUATION OF RESOURCE SIGNIFICANCE

6.2.1 Built-Environment Resource

P-19-004154 (East Branch California Aqueduct). The East Branch of the California Aqueduct is intersected by the proposed Project at the south end of 106th Street East. This resource has previously been determined eligible for the NRHP and the CRHR under Criteria A/1 and C/3 for its association with an important historic event and its engineering merits. The East Branch of the California Aqueduct within the proposed Project APE retains its integrity. Modifications and maintenance activity along this section of the canal have been designed and implemented in a manner keeping with the function and character of the canal and its associated features. As such, these alterations do not detract from the overall integrity of the system in terms of design, materials, workmanship, feeling, and association. As this portion of the East Branch of the California Aqueduct also follows its original alignment, it retains integrity of location and setting. Based on these findings, Æ concurs with the previous determination and recommends that the East Branch of the California Aqueduct within the APE be considered a historic property as defined by the NHPA and a historical resource under CEQA.

6.2.2 Archaeological Sites

CA-LAN-4323H/19-004323. This historical refuse deposit site was previously recommended as not eligible for listing on the CRHR. The property containing CA-LAN-4323H has now been developed and replaced by a solar farm. Development of the solar farm destroyed much of CA-LAN-4323H. A low density of scattered artifact fragments was observed along the western perimeter fence of the solar farm. However, these artifacts appear to have been largely displaced

from their original locations. The removal of the major site components and displacement of artifacts have resulted in a loss of site's integrity of location, setting, materials, and feeling. Given its lack of integrity, CA-LAN-4323H is not eligible for listing on the NRHP or the CRHR.

Æ-2829-17H, Æ-2829-18H, Æ-2829-19H, AE-2829-20H, AE-2829-JS-1H, AE-2829-JS-3H, AE-2829-JS-4H, AE-2829-JS-6H, AE-2829-JS-7H, AE-2829-JS-8H, and AE-2829-JS-10H. Each of these sites consists of scatters of domestic household refuse dating to the early to mid-twentieth century. The refuse deposits appear to be the result of opportunistic dumping by local area residents. Archival research found that none of these sites can be associated with specific individuals or households. The artifacts that comprise the scatters appear to be of mainstream American origin, and reflect local consumer practices of agriculturalists and ranchers.

Results of survey and archival work indicate that the refuse deposits cannot be not associated with events that have made significant contributions to the broad patterns of our history (Criterion A/1), nor can they be associated with the lives of persons significant in our past (Criterion B/2). The sites do not embody the distinctive characteristics of a type, period, or method of construction, and thus is not recommended eligible under Criterion C/3. Finally, the sites dates to a period of time in the twentieth century for which much information about farmstead practices, ranching, rural economy, daily life, and general local and regional history is already known. The artifacts that comprise the refuse deposits have not provided, nor do they have the potential to provide, important information that is not already available through traditional methods of study, such as published literature, archival documents, newspapers, magazines, and other sources of historical information. Furthermore, most of the sites appear to lack the potential to contain substantial subsurface cultural deposits beyond the surface that could yield important historical information. As such, *Æ-2829-17H, Æ-2829-18H, Æ-2829-19H, AE-2829-20H, AE-2829-JS-1H, AE-2829-JS-3H, AE-2829-JS-4H, AE-2829-JS-6H, AE-2829-JS-7H, AE-2829-JS-8H, and AE-2829-JS-10H* are not considered significant to the study of the local or regional history and settlement of this part of the Mojave Desert (Criterion D/4).

Æ-2829-JS-9H. This site represents the remains of a small 1950s-era farmstead that contains a well, pump, residential slab foundation, fence posts, piles of discarded lumber, and ancillary slab foundations, as well as a light scatter of domestic household consumer refuse. Archival information suggests that the farmstead may have initially been established on the property by Louis J. and Marion P. Koenig in the early 1950s. Tax records indicate that the farmstead was occupied until the early 1960s, at which time the property fell into disuse. The farmstead was demolished sometime thereafter with *Æ-2829-JS-9H* representing the remnants of the historical buildings and associated structures.

No information has been found to suggest that the 1950s era farmstead remains found at *AE-2829-JS-9H* is directly associated with events or persons that are significant in local, state, or national history (Criteria A/1 and B/2). The features and artifacts that comprise *Æ-2829-JS-9H* are common to abandoned rural farmstead parcels across the nation, the state, and the region, and are these particular examples are of standard design and construction. The well, pump, and foundation remains are so highly fragmented or minor in their construction that they offer no important insights into early and middle twentieth century building practices. As such, the site does not exhibit any architectural or engineering merits that would qualify it as significant under Criterion C/3.

The site dates to the middle twentieth century, a period of which much information about farmstead practices, ranching, rural economy, daily life, and general local and regional history is already known. The artifacts and features at the site have not provided, nor do they have the potential to provide, important information that is not already available through traditional methods of study, such as published literature, archival documents, newspapers, magazines, and other sources of historical information. Furthermore, the site appears to have little potential to contain subsurface cultural deposits beyond the surface that could yield important historical information. As such, Æ-2829-JS-9H is not considered significant to the study of the local or regional history and settlement of this part of the Mojave Desert (Criterion D/4).

Æ-2829-JS-11H. This site represents the remains of a small mid- to late-twentieth-century farmstead that contains a well casing, perimeter footing for a pump house, remnants of perimeter and slab foundations for ancillary buildings, irrigation standpipes, piles of discarded lumber, and a scatter of broken concrete nails and glass as well as walnut and peach trees. Archival information suggests that a single building of unknown function may have been present on the property as early as 1930, but the farmstead does not appear to have been established until around 1933 under the ownership of Sheman and Rosie Simon. Tax records indicate that the farmstead continued to prosper through the mid-twentieth century, but appears to have suffered a decline once Sheman Simon died in 1965. The farmstead was demolished sometime thereafter with Æ-2829-JS-11H representing the remnants of the historical buildings and associated structures.

No information has been found to suggest that the mid- to late-twentieth-century farmstead remains found at Æ-2829-JS-11H is directly associated with events or persons that are significant in local, state, or national history (Criteria A/1 and B/2). The features and artifacts that comprise Æ-2829-JS-11H are common to abandoned rural farmstead parcels across the nation, the state, and the region. These particular examples are of standard design and construction. The well casing, pump house, and foundation remains are so highly fragmented or minor in their construction that they offer no important insights into early and middle twentieth-century building practices. As such, the site does not exhibit any architectural or engineering merits that would qualify it as significant under Criterion C/3.

The site dates to the early and middle twentieth century, a period of which much information about farmstead practices, ranching, rural economy, daily life, and general local and regional history is already known. The artifacts and features at the site have not provided, nor do they have the potential to provide, important information that is not already available through traditional methods of study, such as published literature, archival documents, newspapers, magazines, and other sources of historical information. Furthermore, the site appears to have little potential to contain subsurface cultural deposits beyond the surface that could yield important historical information. As such, Æ-2829-JS-11H is not considered significant to the study of the local or regional history and settlement of this part of the Mojave Desert (Criterion D/4).

6.2.3 Isolated Occurrences

P-19-100581. This resource consists of a single historic-period wellhead with two associated concrete pads. Property records suggest that the wellhead was part of a farmstead that dates to

the first half of the twentieth century. The well at P-19-100581 was likely used to irrigate alfalfa that was grown on the property. Archival research on the property containing P-19-100581 was owned by absentee owners, and therefore, the structural remains have no known direct association with their lives or livelihood. Because the resource is not directly associated with events or persons that are significant in local, state, or national history, it cannot be considered significant under Criteria A/ or B/2. Moreover, the wellhead is of standard design and construction and does not exhibit any architectural or engineering merits that would qualify it as significant under Criterion C/3. Finally, this type of ancillary remnant feature is common to abandoned rural farmstead parcels across the nation, the state, and the region. The wellhead is so highly fragmented and minor in construction that it offers no important insights into early and middle twentieth century building practices. As such, the resource lacks the potential to provide any information that would be considered significant to the study of the local or regional history and settlement of this part of the Mojave Desert (Criterion D/4).

AE-2829-JS-ISO-2H. This is an isolated historical wellhead consisting of a 5-inch diameter steel pipe protruding about 8 inches from ground level. No other features or artifacts were observed at the location. Archival research on the property containing AE-2829-JS-ISO-2H was owned by absentee owners, and therefore, the well remnants have no known direct association with their lives or livelihood. Because the resource is not directly associated with events or persons that are significant in local, state, or national history, it cannot be considered significant under Criteria A/1 or B/2. Moreover, the wellhead is of standard design and construction and does not exhibit any architectural or engineering merits that would qualify it as significant under Criterion C/3. Finally, this type of ancillary remnant feature is common to abandoned rural farmstead parcels across the nation, the state, and the region. The wellhead is so highly fragmented and minor in construction that it offers no important insights into early and middle twentieth century building practices. As such, the resource lacks the potential to provide any information that would be considered significant to the study of the local or regional history and settlement of this part of the Mojave Desert (Criterion D/4).

AE-2829-JS-ISO-5. This isolated artifact is a prehistoric chalcedony flake. It is not unique, unusual, rare, or otherwise exceptional. As an isolated flake with no data potential or known important associations, it has no archaeological or scientific value, does not meet any NRHP or CRHR criteria, and therefore, is not a significant resource under the NHPA or CEQA.

EFFECT ASSESSMENT AND MANAGEMENT RECOMMENDATIONS

As noted in the previous section, one cultural resource, the East Branch of the California Aqueduct, is eligible for listing on the NRHP and the CRHR. In accordance with 36 CFR 800.5, if a cultural resource is determined to be a historic property and is eligible for listing on the NRHP, then the potential adverse effects of the undertaking on the property must be assessed. Towards this end, the Criteria of Adverse Effect [36 CFR 800.5(a)(1)] will be applied to the historic property to determine whether the undertaking may alter, directly or indirectly, any of the characteristics of the property that qualify it for the NRHP. Similarly, if a cultural resource is found to be a historical resource and is eligible for listing on the CRHR, then the impacts of the project on the historical resource need to be determined. In those cases where a project's impacts may cause substantial adverse change in the significance of a site, potentially feasible measures shall be identified that mitigate the significant adverse changes in the significance of the historic resource to less than significant.

In this section, an assessment of impacts is presented that analyzes the potential adverse effect of the proposed Project on the East Branch of the California Aqueduct. In addition, management recommendations for cultural resources located within the proposed Project APE are provided.

7.1 CRITERIA OF ADVERSE EFFECT

The Criteria of Adverse Effect under Section 106 [36 CFR 800.5(a)(1)] states that an undertaking has an adverse effect on a historic property:

... when the undertaking may alter, directly or indirectly, any of the characteristics of the property that may qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of the historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register.

If under the above Criteria of Adverse Effect it is determined that an undertaking will not alter the characteristics that qualify the property for the NRHP, it is appropriate to find that the undertaking will not have an adverse effect. Examples of adverse effects on historic properties include, but are not limited to:

- i. Physical destruction of or damage to all or part of the property;
- ii. Alteration of a property that is not consistent with the Secretary of the Interior's Standards for treatment of historic properties (36 CFR 68) and applicable guidelines;
- iii. Removal of the property from its historic location;

- iv. Change in the character of the property's use or of physical feature within the property's setting that contribute to its historic significance;
- v. Introduction of visual, audible, or atmospheric elements that are out of character with the property or later its setting;
- vi. Neglect of a property resulting in its deterioration or destruction; and
- vii. Transfer, lease, or sale of the property.

7.1.1 Proposed Project Effects

An assessment of effects indicates that the proposed Project has no potential to adversely affect the East Branch of the California Aqueduct. PWD proposes to construct a new SWP turnout in the vicinity of 106th Street East. The turnout will connect to the side of the East Branch of the California Aqueduct in order to draw water from the aqueduct to the proposed recharge water supply line. The construction of the turnout will not adversely affect the historic property as it has little potential to impair the historical significance or integrity of the East Branch of the California Aqueduct.

The East Branch of the California Aqueduct was built to bring water to the Southern California region and its customers. The proposed turnout will tie into the existing system in order to extract water from the aqueduct. As originally planned, designed, and engineered, the aqueduct system was expected to undergo this type of alteration over time to meet future growth and demand. Given this, the construction and operation of ancillary features, such as proposed turnout, is consistent with the long-term plan and design of the East Branch of the California Aqueduct. As the proposed work to the East Branch of the California Aqueduct will be implemented in a manner keeping with the function and character of the canal and its associated features, the addition of a new turnout will not substantially alter any of the seven aspects of historical integrity, including location, design, setting, materials, workmanship, feeling, and association that relate to the aqueduct's historical significance. Because the proposed modifications will not alter the characteristics that qualify the East Branch of the California Aqueduct for the NRHP and CRHR, a finding of no adverse effect is recommended for the proposed Project.

7.2 MANAGEMENT RECOMMENDATIONS

The findings of this study indicate that of the 18 identified cultural resources, the East Branch of the California Aqueduct is the only historic property/historic resource located within the proposed Project APE. No further management is recommended for the 17 cultural resources that do not meet criteria for listing on the NRHP or the CRHR. Moreover, an assessment of effects indicates that the proposed Project will not have an adverse effect or impact on the significance of the East Branch of the California Aqueduct. Therefore, no further management of this cultural resource is recommended.

If future modifications to the proposed Project have the potential to result in additional impacts to the East Branch of the California Aqueduct, then supplemental cultural resource studies may be required. Additional analyses may also be necessary if the proposed Project area is expanded to include areas not covered by this survey or other recent cultural resource assessments. In the

unlikely event that potentially significant buried archaeological materials are encountered during construction activities, all work must be halted in the vicinity of the archaeological discovery until a qualified archaeologist can visit the site of discovery and assess the significance of the archaeological resource. As well, Health and Safety Code § 7050.5, *State CEQA Guidelines* 15064.5(e), and PRC § 5097.98 mandate the process to be followed in the unlikely event of an accidental discovery of any human remains in a location other than a dedicated cemetery. Specifically, in accordance with PRC § 5097.98, the Los Angeles County Coroner must be notified within 24 hours of the discovery of potentially human remains. The Coroner must then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she must contact the NAHC by phone within 24 hours, in accordance with PRC § 5097.98. The NAHC then designates a Most Likely Descendant (MLD) with respect to the human remains within 48 hours of notification. The MLD will then have the opportunity to recommend to the proposed Project proponent means for treating or disposing, with appropriate dignity, the human remains and associated grave goods within 24 hours of notification.

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APPENDIX A

Native American Coordination

NATIVE AMERICAN HERITAGE COMMISSION

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West Sacramento, CA 95891
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May 9, 2014

Ms. Joan George, RPA
Applied EarthWorks, Inc.
3550 East Florida Avenue, Suite H
Hemet, CA 92544

Sent by FAX to: 951-766-0029
No. of Pages: 3

RE: Sacred Lands File Search and Native American Contacts list for the "**Little Rock Creek Groundwater Recharge Project (#2829)**;" located in northeastern Los Angeles County, California

Dear Ms. George:

A record search of the NAHC Sacred Lands Inventory failed to indicate the presence of Native American traditional sites/places of the Project site(s) or 'areas of Potential effect' (APE), submitted to this office. However, there are Native American cultural resources in close proximity to the APE. Note also that the absence of archaeological resources does not preclude their existence at the subsurface level.

In the 1985 Appellate Court decision (170 Cal App 3rd 604), the Court held that the NAHC has jurisdiction and special expertise, as a state agency, over affected Native American resources impacted by proposed projects, including archaeological places of religious significance to Native Americans, and to Native American burial sites.

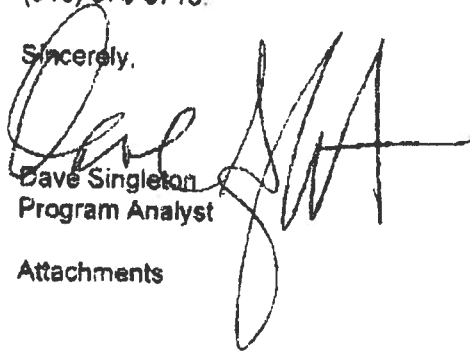
When the project becomes public, please inform the Native American contacts as to the nature of the project (e.g. residential, renewable energy, infrastructure or other appropriate type). Attached is a list of Native American tribes, Native American individuals or organizations that may have knowledge of cultural resources in or near the proposed project area (APE). As part of the consultation process, the NAHC recommends that local government and project developers contact the tribal governments and Native American individuals on the list in order to determine if the proposed action might impact any cultural places or sacred sites. If a response from those listed on the attachment is not received in two weeks of notification, the NAHC recommends that a follow-up telephone call be made to ensure the project information has been received.

California Government Code Sections 65040 12(e) defines 'environmental justice' to provide "fair treatment of people...with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations and policies." Also,

Executive Order B-10-11 requires that state agencies "consult with Native American tribes, their elected officials and other representatives of tribal governments in order to provide meaningful input into...the development of legislation, regulations, rules and policies on matter that may affect tribal communities."

If you have any questions or need additional information, please contact me at (916) 373-3715.

Sincerely,

A handwritten signature in black ink, appearing to read "Dave Singleton". The signature is stylized and overlaps with the typed name below it.

Dave Singleton
Program Analyst

Attachments

**Native American Contacts
Los Angeles County California
May 8, 2014**

Beverly Salazar Folkes
1931 Shadybrook Drive
Thousand Oaks, CA 91362
folkes9@msn.com
805 492-7255
(805) 558-1154 - cell
folkes9@msn.com

Chumash
Tataviam
Fernandeño

San Fernando Band of Mission Indians
John Valenzuela, Chairperson
P.O. Box 221838
Newhall, CA 91322
tsen2u@hotmail.com
(661) 753-9833 Office
(760) 885-0955 Cell
(760) 949-1604 Fax

Fernandeño
Tataviam
Serrano
Vanyume
Kitanemuk

Fernandeno Tataviam Band of Mission Indians
Larry Ortega, Chairperson
1019 - 2nd Street, Suite #1
San Fernando CA 91340
(818) 837-0794 Office

(818) 837-0796 Fax

Fernandeno
Tataviam

Randy Guzman - Folkes
4676 Walnut Avenue
Simi Valley, CA 93063
ndnRandy@yahoo.com
(805) 905-1675 - cell
(805) 520-5915-FAX

Chumash
Fernandeño
Tataviam
Shoshone Paiute
Yaqui

LA City/County Native American Indian Comm
Ron Andrade, Director
3175 West 6th St, Rm. 403
Los Angeles, CA 90020
randrade@css.lacounty.gov
(213) 351-5324
(213) 386-3995 FAX

San Manuel Band of Mission Indians
Daniel McCarthy, M.S., Director-CRM Dept.
26569 Community Center, Drive
Highland, CA 92346
(909) 864-8933, Ext 3248
dmccarthy@sanmanuel-nsn.
gov
(909) 862-5152 Fax

Serrano

Kitanemuk & Yowlumne Tejon Indians
Delia Dominguez, Chairperson
115 Radio Street
Bakersfield, CA 93305
daedominguez@juno.com
(626) 339-6785

Yowlumne
Kitanemuk

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7650.3 of the Health and Safety Code, Section 4667.04 of the Public Resources Code and Section 5097.08 of the Public Resources Code.

This list is only applicable for contacting locative Americans with regard to cultural resources for the proposed Little Rock Creek Groundwater Recharge Project (AE#2829); located in the Lancaster area; northeastern Los Angeles County, California for which a Sacred Lands File search and Native American Contacts list were requested.

NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691
(916) 373-3715
Fax (916) 373-5471
Web Site www.nahc.ca.gov
Ds_nahc@pacbell.net



July 15, 2014

Ms. Joan George

Applied Earth Works, Inc.

3550 E. Florida Avenue, Suite H
Hemet, CA 92544

RE: Native American Consultation pursuant to California Government Code Sections 6540.2, 65092, 65351, 65352.3, 65352.4, 65562.5 et seq. for the “**Littlerock Creek Groundwater Recharge Project (AE #2829)**” located near the City of Palmdale; Los Angeles County; California

Dear Ms. George:

Government Code Sections 65351, 65352.3, 65562.5, *et seq.* incorporates the protection of California traditional tribal cultural places into land use planning for cities, counties and agencies by establishing responsibilities for local governments to contact, refer plans to, and consult with California Native American tribes as part of the adoption or amendment of any general or specific plan proposed on or after January 1, 2005. California Native American tribes are identified on a list maintained by the Native American Heritage Commission (NAHC).

In the 1985 Appellate Court decision (170 Cal App 3rd 604), the court held that the NAHC has jurisdiction and special expertise, as a state agency, over affected Native American resources impacted by proposed projects, including archaeological places of religious significance to Native Americans, and to Native American burial sites. Note that the NAHC does NOT APPROVE General or Specific Plan; rather, it provides a list of tribal governments with which local jurisdictions must consult concerning any proposed impact to cultural resources as a result of the proposed action.

The NAHC did conduct a Sacred Lands file search of the ‘area of potential effect’ or APE and **failed to identify** Native American cultural resources in the ‘area of potential effect (APE), the Plan Area. The NAHC recommends that local governments and project developers contact the tribal governments, on the attached list, in order to determine if any cultural places might be impacted by the proposed action and Mitigation & Monitoring Plan, as appropriate. Also, the absence of specific site information in the sacred lands file does not preclude their existence. Other sources of

cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a consultation list of tribal governments with traditional lands or cultural places located in the vicinity the Project Area (APE). The tribal entities on the list are for your guidance for **government-to-government consultation** purposes.

A Native American tribe or individual may be the only source of the presence of traditional cultural places. For that reason, a list of Native American Contacts is enclosed as they may have knowledge of cultural resources and about potential impacts, if any, of the proposed project.

If you have any questions, please contact me at (916) 373-3714.

Best regards,



Gayle Totton
Program Analyst

Attachment

**Native American Contacts
Los Angeles County
July 15, 2014**

Kitanemuk & Yowlumne Tejon Indians
Delia Dominguez, Chairperson
115 Radio Street Yowlumne
Bakersfield , CA 93305 Kitanemuk
deedominguez@juno.com
(626) 339-6785

San Fernando Band of Mission Indians
John Valenzuela, Chairperson
P.O. Box 221838 Fernandeno
Newhall , CA 91322 Tataviam
tsen2u@hotmail.com Serrano
(661) 753-9833 Office Vanyume
(760) 885-0955 Cell Kitanemuk
(760) 949-1604 Fax

San Manuel Band of Mission Indians
Daniel McCarthy, M.S., Director-CRM Dept.
26569 Community Center Drive Serrano
Highland , CA 92346
dmccarthy@sanmanuel-nsn.gov
(909) 864-8933 Ext 3248
(909) 862-5152 Fax

Tejon Indian Tribe
Kathy Van Meter, Cultural Res. Team Leader
14035 Rosedale Hwy #112 Yowlumne
Bakersfield , CA 93314 Kitanemuk

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting locative Americans with regard to cultural resources for the proposed Littlerock Creek Groundwater Recharge Project, near the city of Palmdale, Los Angeles County, California for which a native American Consultation list was requested.

**Native American Contacts
Los Angeles County
July 17, 2014**

LA City/County Native American Indian Comm
Ron Andrade, Director
3175 West 6th St, Rm. 403
Los Angeles , CA 90020
randrade@css.lacounty.gov
(213) 351-5324
(213) 386-3995 Fax

Kern Valley Indian Council
Robert Robinson, Co-Chairperson
P.O. Box 401
Weldon , CA 93283
brobinson@iwvisp.com
(760) 378-4575 Home
(760) 549-2131 Work
Tubatulabal
Kawaiisu
Koso
Yokuts

Kitanemuk & Yowlumne Tejon Indians
Delia Dominguez, Chairperson
115 Radio Street
Bakersfield , CA 93305
deedominguez@juno.com
(626) 339-6785
Yowlumne
Kitanemuk

San Fernando Band of Mission Indians
John Valenzuela, Chairperson
P.O. Box 221838
Newhall , CA 91322
tsen2u@hotmail.com
(661) 753-9833 Office
(760) 885-0955 Cell
(760) 949-1604 Fax
Fernandefio
Tataviam
Serrano
Vanyume
Kitanemuk

San Manuel Band of Mission Indians
Daniel McCarthy, M.S., Director-CRM Dept.
26569 Community Center Drive
Highland , CA 92346
dmccarthy@sanmanuel-nsn.gov
(909) 864-8933 Ext 3248
(909) 862-5152 Fax
Serrano

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting locative Americans with regard to cultural resources for the proposed Littlerock Creek Groundwater Recharge Project (AE #2829); located near the City of Palmdale, Los Angeles County, California for which a Sacred Lands File search and Native American Contacts list were requested.

STATE OF CALIFORNIAEdmund G. Brown, Jr., Governor**NATIVE AMERICAN HERITAGE COMMISSION**

1550 Harbor Blvd., ROOM 100
West SACRAMENTO, CA 95691
(916) 373-3710
Fax (916) 373-5471



November 21, 2014

Roberta Thomas
APPLIED EARTHWORKS INC.
133 N. San Gabriel, Ste 201
Pasadena, CA 91107

Sent by FAX: 626-204-5590

2 Pages

RE: Littlerock Creek Groundwater Recharge Project (AE#2829), Los Angeles County

Ms. Thomas:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 373-3712.

Sincerely,

A handwritten signature in cursive script that reads "Katy Sanchez for".

Katy Sanchez

Associated Government Program Analyst

**Native American Contacts
Los Angeles County
November 21, 2014**

San Manuel Band of Mission Indians
Lynn Valbuena, Chairwoman
26569 Community Center Serrano
Highland , CA 92346
(909) 864-8933
(909) 864-3724 Fax
(909) 864-3370 Fax

San Fernando Band of Mission Indians
John Valenzuela, Chairperson
P.O. Box 221838 Fernandefio
Newhall , CA 91322 Tataviam
tsen2u@hotmail.com Serrano
(661) 753-9833 Office Vanyume
(760) 885-0955 Cell Kitanemuk
(760) 949-1604 Fax

San Manuel Band of Mission Indians
Daniel McCarthy, M.S., Director-CRM Dept.
26569 Community Center Drive Serrano
Highland , CA 92346
dmccarthy@sanmanuel-nsn.gov
(909) 864-8933 Ext 3248
(909) 862-5152 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.6 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting locative Americans with regard to cultural resources for the proposed Littlerock Creek Groundwater Recharge Project (AE#2829), Los Angeles County.

July 23, 2014

Ron Andrade, Director
LA City/County Native American Indian Community
3175 West 6th Street, Room 403
Los Angeles, CA 90020
Transmitted via email to randrade@css.lacounty.gov

Re: Littlerock Creek Groundwater Recharge and Recovery Project, City of Palmdale, Los Angeles County, California

Dear Mr. Andrade,

On behalf of HELIX Environmental Planning, Inc., Applied EarthWorks, Inc. (Æ) is conducting a cultural resources study, in compliance with CEQA and Section 106 of the National Historic Preservation Act, for the proposed Littlerock Creek Groundwater Recharge and Recovery Project (Project) in the city of Palmdale, in Los Angeles County, California. Palmdale Water District plans to develop banking programs with new spreading grounds to recharge imported water and potentially recycled water, as well as recovery facilities to help meet future water demands and improve reliability. The proposed Project will deliver raw imported water from the East Branch of the California Aqueduct to new spreading basins in or adjacent to Littlerock Creek. The Project area is located on the Lancaster East, Alpine Butte, Palmdale, and Littlerock, Calif. 7.5' USGS quadrangle maps, within Section 35 in T7N/R11W; Sections 2, 11-14, 24, 25, 35, and 36 in T6N/R11W; Sections 7, 18, 19, 20, 30, and 31 in T6N/R10W; and Sections 1, 2, and 11-14 in T5N/R11W (see attached map).

A cultural resources literature and records search conducted at the South Central Coastal Information Center (SCCIC) housed at the California State University, Fullerton, indicates that as many as 66 cultural resources studies have been conducted within a one-mile radius of the Project area; 40 of these studies intersect the Project area. The records search also indicated that 37 cultural resources have been identified within a one-mile radius of the Project area; however, only 18 cultural resources have been recorded within or immediately adjacent to the Project boundaries.

Æ performed a reconnaissance level archaeological survey of 10 percent the Project area between June 17 and June 20, 2014. During the pedestrian survey, parallel transects spaced 30 meters apart were walked back-and-forth across approximately 285 acres of the Project area. Close attention was paid to soils, vegetation, and natural and human-modified landforms. Naturally occurring rocks were inspected for any indication of prehistoric or historic human modification. 12 historic archaeological resource sites were identified, most of which are small can scatters, and one prehistoric isolated artifact was identified during the survey.

As part of the cultural resources assessment of the Project area, Æ requested a search of the Native American Heritage Commission's (NAHC's) *Sacred Lands File* on July 7, 2014. The NAHC responded on July 15, 2014 indicating that no Native American traditional cultural places were identified within the Project location. However, should your records show that cultural properties exist within or near the Project area shown on the enclosed map, please contact me at (626) 578-0119 (ext. 116) or via a letter. You may also e-mail me at rthomas@appliedearthworks.com. If I do not hear from you within in the next two weeks, I will contact you with a follow-up phone call.

Your comments are very important to us, and to the successful completion of this Project. I look forward to hearing from you in the near future. Thank you, in advance, for taking the time to review this request.



Respectfully yours,

Roberta Thomas

Roberta Thomas, M.A., RPA
Associate Archaeologist
Applied Earthworks, Inc.

LIST OF NATIVE AMERICAN CONTACTS AND RECORD OF RESPONSES

Name	Date & Time of Correspondence	Responses
Beverly Salazar Folkes Chumash Tataviam	July 23, 2014 July 29, 2014 4:51pm	Scoping letter sent via email. No response received. Telephone follow-up effort for correspondence. Ms. Folkes stated that Littlerock was a drawing area to Native people and her tribe has ancestry to that area. She specified that working in undisturbed (non-developed) areas Native American cultural resources may be encountered. Ms. Folkes suggested an archaeological and Native American monitor for new development in undisturbed areas.
Larry Ortega Chairperson Indians	July 23, 2014 July 29, 2014 4:57pm July 29,2014	Scoping letter sent via United States Postal Service (USPS). No response received. Telephone follow-up effort for correspondence. Message left with office personnel. No response received. Letter received August 4, 2014 (dated July 29, 2014) from Kimia Fatehi states that the Project area is located in a culturally sensitive area. Ms. Fatehi included a map illustrating culturally sensitive areas and requested more information about the Project in order to provide further assistance.
Ron Andrade Director LA City/County Native American Indian Commission	July 23, 2014 July 29, 2014 4:59pm	Scoping letter sent via email. Telephone follow-up effort for correspondence. Message left. No response received.
Delia Dominguez Chairperson Kitanemuk & Yowlumne Tejon Indians	July 23, 2014 July 29, 2014 5:00pm	Scoping letter sent via email. Telephone follow-up effort for correspondence. Message left. No response received.

Name	Date & Time of Correspondence	Responses
John Valenzuela Chairperson San Fernando Band of Mission Indians	July 23, 2014 July 29, 2014 5:01pm	Scoping letter sent via email. Telephone follow-up effort for correspondence. Office phone number listed on NAHC Contact List is not in service. Message left on Cell phone number listed. No response received.
Randy Guzman Folkes Chumash Tataviam Shoshone Paiute Yaqui	July 23, 2014 July 29, 2014 5:04pm	Scoping letter sent via email. Telephone follow-up effort for correspondence. Message left. No response received.
Daniel McCarthy Director - Cultural Resources Department San Manuel Band of Mission Indians	July 23, 2014 July 29, 2014 5:06pm	Scoping letter sent via email. Telephone follow-up effort for correspondence. Message left. No response received.
Kathy Van Meter Cultural Resource Team Leader Tejon Indian Tribe	July 23, 2014	Scoping letter sent via United States Postal Service (USPS). No follow-up effort for correspondence attempted because the NAHC Contact List does not contain an email address or telephone number.

Name	Date & Time of Correspondence	Responses
Robert Robinson Co-Chairperson Kern Valley Indian Council	July 23, 2014 July 29, 2014 5:08pm	Scoping letter sent via email. Telephone follow-up effort for correspondence. Mr. Robinson commented as Tribal Historic Preservation Officer and noted that the project area has been occupied continuously by their Native American ancestors. Therefore, they are recommending a culturally affiliated Native American monitor to be present during all ground disturbing activities. He stated that their desire was to identify artifacts before they are destroyed and having a Native American monitor present ensured that would be the case. He gave a few examples where Native American monitors had aided cultural investigations recently. Mr. Robinson also stated his concern was primarily for potential grave sites.



Roberta Thomas <rthomas@appliedearthworks.com>

Re: Littlerock Creek Groundwater Recharge and Recovery Project

2 messages

Kimia Fatehi <kfatehi@tataviam-nsn.us>
To: rthomas@appliedearthworks.com

Mon, Aug 4, 2014 at 11:00 AM

Re: Littlerock Creek Groundwater Recharge and Recovery Project

Good Morning,

Thank you for your consultation request. Given the site's location, the tribe agrees that this project is considered culturally sensitive. We will accept your request for our consultation.

We will be needing more information, however. Attached are two permits approved by the County of Los Angeles. Before each permit is a separate cover letter which describes their purpose. You will only need to fill out the Oak Tree Burden of proof document if there are any oak trees on the property or any adjacent property.

I have also attached a tribal territory map that illustrates culturally sensitive areas. I look forward to working with you. Please let me know if there's anything else I may provide.

Cheers,
Kimia

—

Kimia Fatehi

Tribal Historic and Cultural Preservation

(949) 235-2838

Fernandeño Tataviam Band of Mission Indians

1019 Second Street, Suite 1
San Fernando, California 91340

Phone: (818) 837-0794

Website: <http://www.tataviam-nsn.us>

5 attachments

Cultural Resource Review Application Cover Letter.doc
140K



Cultural Resource Review Permit.pdf
1762K



Oak Tree Burden of Proof Cover Letter.doc
140K



Oak Tree Burden of Proof.pdf

186K



Tataviam Tribal Territory Map 2014.pdf

1161K

Roberta Thomas <rthomas@appliedearthworks.com>
To: Kimia Fatehi <kfatehi@tataviam-nsn.us>

Mon, Aug 4, 2014 at 11:52 AM

Ms. Fatehi,

Thank you very much for your response. At this time we are only requesting information regarding Native American resources within the area, we are not initiating or requesting consultation. Applied Earthworks, Inc. will pass on the information you have provided to the Lead Agency for the project and it will be included in the cultural resource report we are drafting.

We do appreciate the map you included, however, it appears the Project area is located right where the page cuts off. The Project area is located east of Palmdale and slightly east-northeast of Highway 138 as depicted on your map (Highway 138 actually bisects the Project further east).

Best,

Robbie

Roberta Thomas | [Applied EarthWorks, Inc.](#)
626-578-0119 ext.116 office

From: Kimia Fatehi [mailto:kfatehi@tataviam-nsn.us]
Sent: Monday, August 04, 2014 11:01 AM
To: rthomas@appliedearthworks.com
Subject: Re: Littlerock Creek Groundwater Recharge and Recovery Project

[Quoted text hidden]

APPENDIX B

Confidential Archaeological Site Records

Confidential Appendix Redacted