

Apple Valley Airport Detention
Basin Project San Bernardino
County, California

CULTURAL RESOURCES SURVEY

DRAFT

March 2018 | CSE-06.01

Prepared for:

C & S Engineers, Inc.
2020 Camino Del Rio North, Suite 1000
San Diego, CA 92108

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

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National Archaeological Database Information

Authors: Stacie Wilson and Kristina Davison

Firm: HELIX Environmental Planning, Inc.

Client/Project: C & S Engineers, Inc. / Apple Valley Airport Detention Basin

Report Date: March 2018

Report Title: Cultural Resources Survey for the Apple Valley Airport Detention Basin Project, San Bernardino, California

Submitted to: County of San Bernardino

Type of Study: Cultural Resources Survey

New Sites: P-36-XXXXXX (isolated flake)

Updated Sites: P-36-024897 (CA-SBR-15935H)

USGS Quad: Apple Valley North 7.5' Quadrangle

Acreage: Approximately 20.42 acres

Key Words: Positive Archaeological Survey; Apple Valley Airport; Town of Apple Valley; San Bernardino County; Township 6 North, Range 3 West; Papago Road; P-36-024897; Historic Refuse; P-36-XXXXXX; Isolated chalcedony flake; Mojave Desert; Serrano

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AMSL	above mean sea level
APE	Area of Potential Effects
APN	Assessor's Parcel Number
BLM	Bureau of Land Management
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CHRIS	California Historical Resources Information System
CFR	Code of Federal Regulations
CRHR	California Register of Historical Resources
Cy	cubic yards
GLO	General Land Office
SCCIC	South Central Coastal Information Center
HELIX	Helix Environmental Planning, Inc.
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NRCS	Natural Resources Conservation Service
SLF	Sacred Lands File
USGS	U.S. Geological Survey

EXECUTIVE SUMMARY

HELIX Environmental Planning, Inc. (HELIX) was contracted by C & S Engineers, Inc. to provide cultural resources services for the Apple Valley Airport Detention Basin Project (project) in the County of San Bernardino, California. The project proposes to construct a storm water detention basin to provide improved control of runoff from the Apple Valley Airport. A cultural resources study including a records search, Sacred Lands File search, Native American outreach, a review of historic aerial photographs and maps, and a pedestrian survey was conducted for the project's Area of Potential Effects (APE). This report details the methods and results of the cultural resources study and has been prepared to comply with the California Environmental Quality Act (CEQA) and Section 106 of the National Historic Preservation Act (NHPA), as amended.

The records search conducted at the South Central Coastal Information Center (SCCIC) on December 7, 2017 indicated that 10 previous cultural resources studies have been conducted within one mile of the project APE, including two that covered the APE. The records search results also indicated that a total of 10 cultural resources have been previously recorded within one mile of the project APE; one of which, P-36-024897 (CA-SBR-15935H; a historic refuse scatter), is located within the APE.

The field investigations included intensive pedestrian survey of the approximately 20.42-acre APE by a HELIX archaeologist and a Native American monitor on January 5, 2018. The survey resulted in the identification of previously recorded site P-36-024897 (CA-SBR-15935H) and a newly recorded prehistoric isolate, P-36-XXXXXX, a tertiary flake of chalcedony material.

Based on the results of the current study, no historical resources or historic properties will be affected by the project. P-36-024897 (CA-SBR-15935H) has been previously recommended as ineligible for inclusion in the California Register of Historical Resources (CRHR) or the National Register of Historic Places (NRHP) (Cisneros 2011), and the current survey, while expanding the site boundaries, did not determine that the resource exhibits further research potential beyond its recorded cultural material. P-36-XXXXXX is an isolated artifact, and as such, is not eligible for listing on the CHRH or NRHP.

As such, no significant impacts to cultural resources are anticipated, and no mitigation measures are required.

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1.0 INTRODUCTION

1.1 PROJECT LOCATION

The Apple Valley Airport Detention Basin Project (project) is located in the Town of Apple Valley (Town) in southwestern San Bernardino County (Figure 1, *Regional Location*). The project is located north of Papago Road, south of Corwin Road, and east of Ramona Road within Section 33 of Township 6 North, Range 3 West, on the U.S. Geological Survey (USGS) 7.5' Apple Valley North quadrangle (Figure 2, *USGS Topography*). The approximately 20.42-acre project site is located within Assessor Parcel Number (APN) 0463-381-77; the project site's northwestern corner is located within the Apple Valley Airport property and extends to the southern edge of Runway 8-26 (Figure 3, *Aerial Vicinity*).

1.2 PROJECT DESCRIPTION

The project proposes to construct a storm water detention basin to provide improved control of runoff from the Apple Valley Airport. The detention basin would be installed in the northern portion of APN 0463-381-77 (Figure 4, *Site Plan/Proposed Storm Water Detention Basin*). On-site runoff from the airport property combines with off-site runoff from surrounding desert areas and generally flows in a southerly direction towards Runway 8-26. Three existing storm drains along Runway 8-26 direct flows into a swale that runs parallel to the runway. Flows within the swale then continue westward and currently discharge to the natural ground surface. A proposed drainage channel/swale would connect to the swale near the west end of Runway 8-26 and direct flows to the proposed detention basin. Storm water would then be retained in the basin and released slowly to natural drainage channels to the south.

The proposed maximum dimensions of the detention basin are 265 feet wide by 509.5 feet long by 4 feet deep, with a total volume of 540,070 cubic feet. The proposed drainage channel/swale would be 600 feet long and 20 feet wide, with a channel depth of 2.9 feet. The detention basin would include an approximately 200-foot long emergency spillway/outlet near the southwestern corner of the basin that would discharge to an existing drainage channel. Construction of the detention basin would involve excavation and removal of fill material. Approximately 25 percent of the excavated fill would be used to construct the side slopes of the basin, and the remaining material would be hauled off site to an appropriate disposal facility. An estimated 800 cubic yards (cy) per day would be removed, with a total of approximately 54 truck trips (at 15 cy-capacity per truck).

1.3 REGULATORY FRAMEWORK

Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, and/or scientific importance. Significant resources are those resources which have been found eligible to the California Register of Historical Resources (CRHR) and National Register of Historic Places (NRHP), as applicable.

Federal regulations that would be applicable to the project consist of the National Historic Preservation Act (NHPA) and its implementing regulations (16 United States Code 470 et seq., 36 CFR Part 800). Section 106 of the NHPA requires Federal agencies to take into account the effects of their undertakings on NRHP-eligible historic properties. To be eligible for the NRHP, a historic property must be significant at the local, state, or national level under one or more of the following four criteria:

- A. associated with events that have made a significant contribution to the broad patterns of our history;
- B. associated with the lives of persons significant in our past;
- C. embodies 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; and/or
- D. has yielded or may be likely to yield, information important in prehistory or history.

The California Environmental Quality Act (CEQA), Public Resources Code 21084.1 and CEQA Guidelines, California Code of Regulations (CCR) Title 14 Section 15064.5 discuss significant cultural resources as “historical resources,” and defines them as:

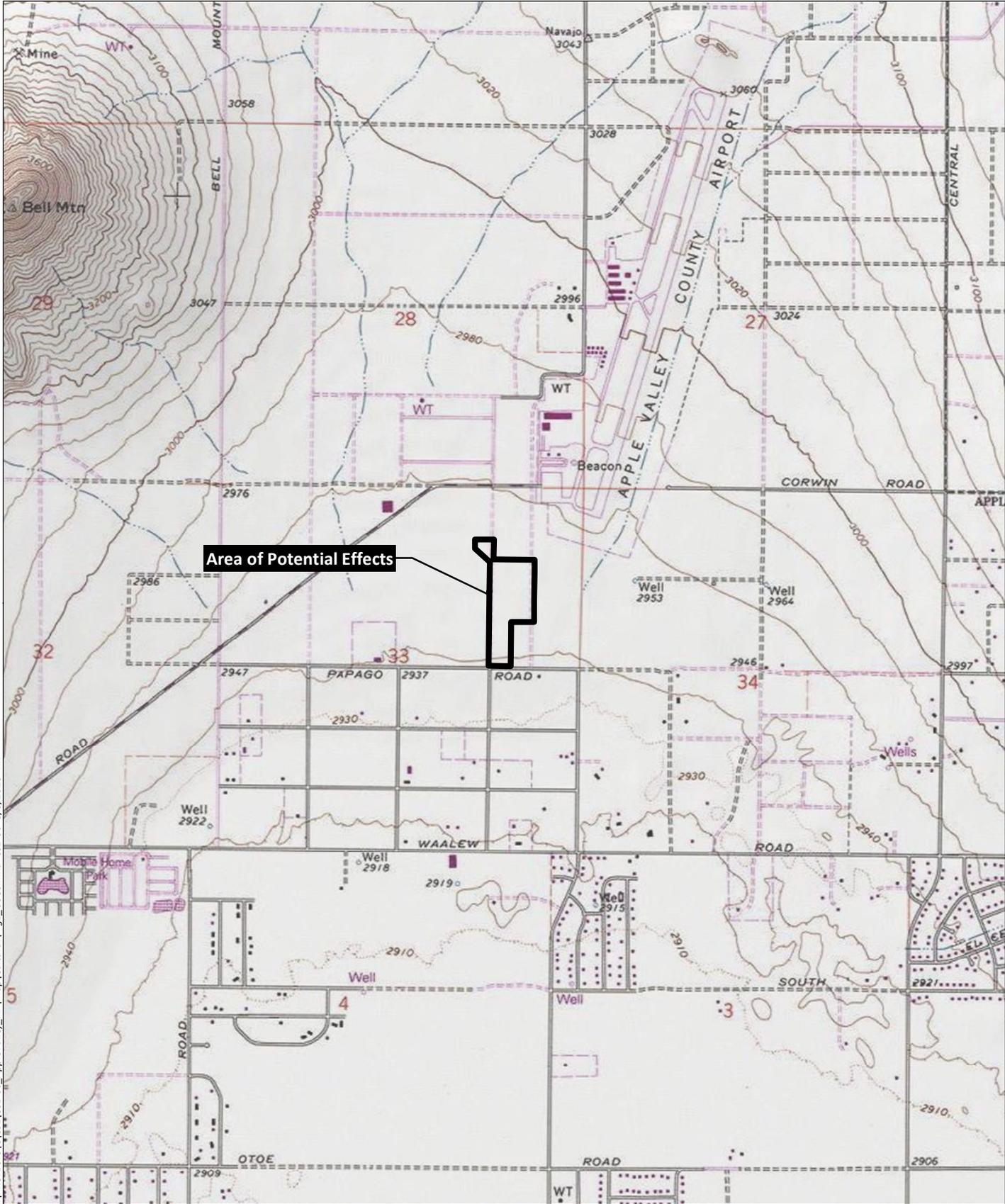
- resource(s) listed or determined eligible by the State Historical Resources Commission for listing in the CRHR (14 CCR Section 15064.5[a][1])
- resource(s) either listed in the National Register of Historic Places (NRHP) or in a “local register of historical resources” or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless “the preponderance of evidence demonstrates that it is not historically or culturally significant” (14 CCR Section 15064.5[a][2])
- resources determined by the Lead Agency to meet the criteria for listing on the CRHR (14 CCR Section 15064.5[a][3])

For listing in the CRHR, a historical resource must be significant at the local, state, or national level under one or more of the following four criteria:

- A. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
- B. It is associated with the lives of persons important to local, California, or national history;
- C. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values;
- D. It has yielded or has the potential to yield information important to the prehistory or history of the local area, California, or the nation.

Under 14 CCR Section 15064.5(a)(4), a resource may also be considered a “historical resource” for the purposes of CEQA at the discretion of the lead agency.

All resources that are eligible for listing in the NRHP or CRHR must have integrity, which is the authenticity of a historical resource’s physical identity evidenced by the survival of characteristics that existed during the resource’s period of significance. Resources, therefore, must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting,



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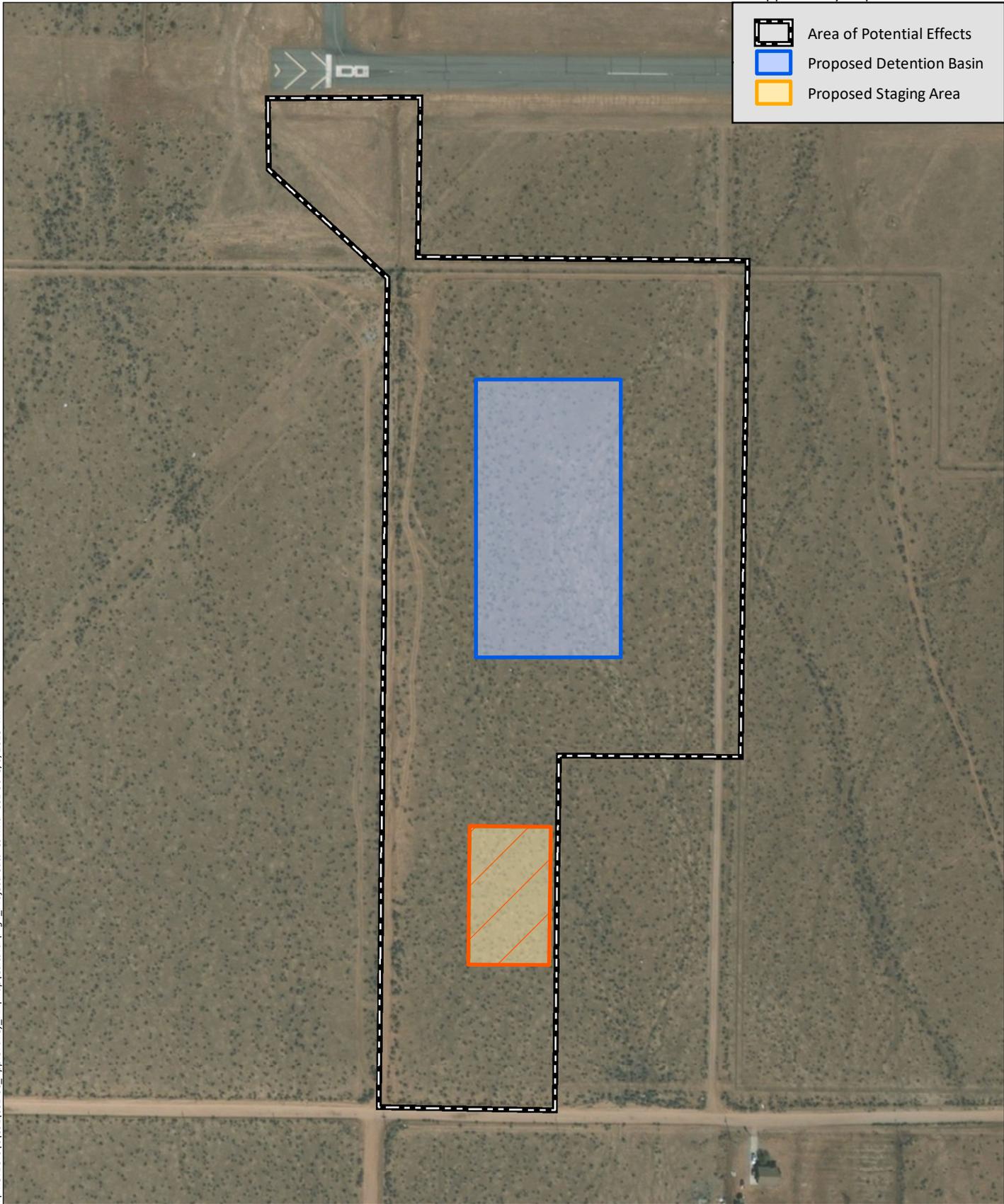
Source: Apple Valley North 7.5' Quad (USGS)



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Aerial (Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community)

-  Area of Potential Effects
-  Proposed Detention Basin
-  Proposed Staging Area



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Aerial (Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community)

materials, workmanship, feeling, and association. In an archaeological deposit, integrity is assessed with reference to the preservation of material constituents and their culturally and historically meaningful spatial relationships. A resource must also be judged with reference to the particular criteria under which it is proposed for nomination. Under Section 106 of the NHPA, actions that alter any of the characteristics that qualify a property for eligibility for listing in the NRHP “in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association” (36 CFR 800.5[a]) constitute an adverse effect to the historic property.

California State Assembly Bill (AB) 52 revised PRC Section 21074 to include Tribal Cultural Resources as an area of CEQA environmental impact analysis. Further, per new PRC Section 21080.3, a CEQA lead agency must consult with any California Native American tribe that requests consultation and that is traditionally and culturally affiliated with the geographic area of a proposed project to identify resources of cultural or spiritual value to the tribe, even if such resources are already eligible as historical resources as a result of cultural resources studies.

1.3.1 City/County General Plans/Guidelines etc,

The Town of Apple Valley’s General Plan, adopted in 2009, follows guidelines set forth under CEQA and Section 106 of the NHPA, described above. Section III of the General Plan, *Archaeological and Historic Resources Element*, states:

The Town, when acting as Lead Agency, is required to ensure that archaeological, historical and cultural sites within its jurisdiction, are located, identified, and evaluated to the greatest extent feasible. The possibility of documenting and preserving archaeological and historic sites and artifacts will diminish as the development continues in the community. The Town should encourage the research and registration of appropriate sites and structures within its jurisdiction in order to maintain its important traditions and heritage for future generations. Where future development has the potential to negatively impact sensitive cultural resources, it will be required to conduct site-specific cultural resources studies and mitigate any potential impacts [Town of Apple Valley 2009].

A cultural resources sensitivity map provided in the General Plan does not place the Apple Valley Airport or the project area in an area of elevated sensitivity for prehistoric or historic-period sites (Town of Apple Valley 2009: Exhibit III-7).

1.3.1.1 North Apple Valley Industrial Specific Plan

The project site is located within the North Apple Valley Industrial Specific Plan (NAVISP) area. The NAVISP is a tool for implementing the goals of the Town’s General Plan related to the 6,221-acre area that includes and surrounds the Apple Valley Airport. The Specific Plan is consistent with the Town of Apple Valley’s General Plan and implements the goals of the General Plan related to the Airport Influence Area (Town of Apple Valley 2012).

1.3.2 San Bernardino County Development Code

The San Bernardino County Development Code implements the goals and policies of the General Plan by regulating land uses within the unincorporated areas of the County. As such, the Development Code includes Cultural Resources Preservation (CP) Overlays, which are intended to provide for the

identification and preservation of important archaeological and historical resources (County of San Bernardino 2016:82.12). The CP Overlay may be “applied to areas where archaeological and historic sites that warrant preservation are known or are likely to be present.” The identification of such cultural resources is determined by a listing in one or more of the following:

- a) California Archaeological Inventory;
- b) California Historic Resources Inventory;
- c) California Historical Landmarks;
- d) California Points of Historical Interest; and/or
- e) National Register of Historic Places.

The ordinance includes provisions for projects proposed within a CP Overlay, which include a report prepared by a qualified professional that determines the absence or presence of archaeological and/or historical resources on the project site and within the project area and recommends appropriate data recovery or protection measures. These protection measures may include:

- a) Site recordation;
- b) Mapping and surface collection of artifacts, with appropriate analysis and curation;
- c) Excavation of sub-surface deposits when present, along with appropriate analysis and artifact curation;
- d) Preservation in an open space easement and/or dedication to an appropriate institution with provision for any necessary maintenance and protection; and/or
- e) Proper curation of archaeological and historical resource data and artifacts collected within a project area pursuant to federal repository standards. Such data and artifacts shall be curated at San Bernardino County Museum. Pursuant to State Historical Resources Commission motion dated February 2, 1992, the repository selected should consider 36 C.F.R. 79, Curation of Federally-owned and Administered Archaeological Collection, Final Rule, as published Federal Register, September 12, 1990, or a later amended for archival collection standards.

The ordinance further states that:

- a) The proposed project shall incorporate all measures recommended in the report required by § 82.12.030 (Application Requirements).
- b) Archaeological and historical resources determined by qualified professionals to be extremely important should be preserved as open space or dedicated to a public institution when possible.

Lastly, the CP Overlay chapter states that “if Native American cultural resources are discovered during grading or excavation of a development site or the site is within a high sensitivity Cultural Resources Preservation Overlay District, the local tribe will be notified. If requested by the tribe, a Native American Monitor shall be required during such grading or excavation to ensure all artifacts are properly protected and/or recovered.”

1.4 AREA OF POTENTIAL EFFECT

Pursuant to 36 CFR 800.4(a)(1), the APE is the geographic area within which an undertaking may directly or indirectly alter the character or use of historic properties. The APE for the project consists of the proposed detention basin, proposed staging area, and construction site access, totaling approximately 18.86 acres (see Figures 3 and 4).

1.5 PROJECT PERSONNEL

Stacie Wilson, M.S., RPA served as principal investigator and is the primary author of this technical report. Ms. Wilson meets the qualifications of the Secretary of Interior's Standards and Guidelines for archaeology. Kristina Davison, B.A., conducted the field survey and assisted in the preparation of this technical report. Kyle Martinez of the San Manuel Band of Mission Indians participated in the pedestrian survey. Senior technical review was provided by Mary Robbins-Wade, M.A., RPA. Resumes for key project personnel are presented in Appendix A.

2.0 PROJECT SETTING

2.1 NATURAL SETTING

The project area is situated between Sidewinder Valley to the north and Apple Valley to the south, in the Western Mojave Desert of southwestern San Bernardino County. The San Bernardino mountains lie approximately 11 miles to the south, and the Mojave River is located approximately 5.5 miles to the west. Several smaller mountains and hills are found in the surrounding vicinity of the project, including Bell Mountain, located approximately 1.5 miles to the northwest; Black Mountain, located approximately 5.5 miles to the northeast; Fairview Mountain located approximately 2.3 miles to the east; and Catholic Hill, located approximately 2.3 miles to the southwest of the project site. The project is situated within a flat valley plain among the prominent mountains and hills described above. The floor within Mojave Desert is primarily alluvial fill eroded from the surrounding mountains (Schoenherr 1992).

The climate of the Mojave Desert is characterized as a "high desert" with large fluctuations in daily temperatures and low humidity and rainfall. Almost all rainfall occurs in the winter, but the region can also experience occasional summer thunderstorms [Schoenherr 1992]. Seasonal wind is also a strong feature of the desert. The project APE is generally flat, with range in elevation of 2,945 to 2,960 feet above mean sea level (amsl), and the project's location amongst the surrounding hills and the habitats and wildlife supported by them would have made subsistence somewhat attainable to local inhabitants of the area.

Geologically, the project area is underlain by young (Quaternary) alluvial deposits (Bortugno and Spittler 1986). Old alluvial deposits are mapped to the north of the project site. The nearby hills to the west, east, and north of the valley in which the project site is situated are composed of Jurassic/Cretaceous granodiorite and quartz monzonite, Triassic monzonite, and Cretaceous granitic rocks (Bortugno and Spittler 1986). One soil type is mapped for the project site: Helendale-Bryman loamy sands, 2 to 5 percent slopes (NRCS 2018). Soils in the Helendale and Bryman series are characterized by very deep, well-drained soils on terraces and alluvial fans, formed in alluvium derived dominantly from granitic material. The surface layer of these soils is typically loamy fine sand, while the subsoils are composed of sandy loam, sandy clay loam, sand, and loamy sand (NRCS 2015a; NRCS 2015b). The native vegetation community in the project area is white bursage scrub, an open low shrub community that is dominated by white bursage (*Ambrosia dumosa*) (HELIX 2018). Other species associated with this habitat include California croton (*Croton californicus*), cholla (*Cylindropuntia spp.*), Mojave yucca (*Hesperoyucca schidegera*), creosote bush (*Larrea tridentata*), saltbush (*Atriplex spp.*), and other desert species. Within the project APE, this community's shrub layer is a near monoculture of white bursage. Other shrub species observed within the project area include pencil cholla (*Cylindropuntia ramosissima*), California

croton, slender buckwheat (*Eriogonum gracile*), and a few rubber rabbitbush in the northeast corner (HELIX 2018).

The current natural setting is much different from that reconstructed for the distant past, with an essentially modern fauna established in the area at the beginning of the Holocene period (Shackley 1992). Prior to 10,000 years ago, the Mojave Desert was much cooler and wetter, and the lowland plains would have supported now extinct fauna including bison, mammoth, horse, dire wolf, short-faced bear, and saber-toothed cat (Moratto 1984). Throughout both the Pleistocene and Holocene periods, seasonally active drainages in the vicinity would have made fresh water accessible to native populations living in the area and native vegetation and animal species would have been used by local inhabitants for food, medicine, tools, ceremonial, and other uses (Bean and Smith 1978).

2.2 CULTURAL SETTING

2.2.1 Prehistory

Proposed dates for the earliest human occupation in California vary from around 20,000 years ago to 10,000 years ago. Carter (1957, 1978, 1980), Minshall (1976) and others (e.g., Childers 1974; Davis 1968, 1973) have long argued for the presence of Pleistocene humans in California. However, these sites identified as "early man" are all controversial. The material from the sites is generally considered nonartifactual, and the investigative methodology is often questioned (Moratto 1984). The most widely recognized timeline for the prehistory of the Western Mojave Desert was proposed by Warren and Crabtree (1986) and divided the region's prehistory into five main periods: the Lake Mojave Period (12,000 to 7,000 years ago), the Pinto Period (7,000 to 4,000 years ago), the Gypsum Period (4,000 to 1,500 years ago), the Saratoga Springs Period (1,500 to 800 years ago), and the Late Prehistoric Period (800 years ago to European contact). More recently, these periods have been updated by Sutton et al. (2007), with a Paleoindian period from 12,000 to 10,000 BP being added, reducing the length of the Lake Mojave period; the Pinto period beginning as early as 8,000 years ago; and the Saratoga Springs period being renamed as Rose Spring and shortened by 250 years, with the Late Prehistoric period beginning earlier. The Paleoindian period is the only cultural period dating to the Pleistocene in the Mojave Desert, with the Clovis complex being the only identified cultural complex, distinguished by a fluted projectile point, also called Clovis (Sutton et al. 2007).

Assemblages attributed to the Lake Mojave complex include large Lake Mojave points, Silver Lake points, and flaked stone crescents (Warren and Crabtree 1986; Sutton et al. 2007). The traditional view of the Lake Mojave complex holds that large game animals were of primary importance in the subsistence strategy (Kelly and Todd 1988; Warren 1986), with plants and smaller animals contributing much less to the overall economy. However, recent studies at Fort Irwin suggest a more generalized economy, based on analysis of flaked stone tools, the presence of small amounts of ground stone at most sites, and faunal assemblages indicative of significant use of small mammals and reptiles (Giambastiani et al. 1998). According to Sutton et al., the Lake Mojave settlement organization "appears to reflect a forager-like strategy organized around relatively small social units" (2007:237).

Many archaeologists have also suggested that the Lake Mojave complex is typified by a specialized orientation to lacustrine resources, since numerous Lake Mojave complex sites tend to be situated around now dry pluvial lakes (Susia 1964; Tuohy 1974; Warren 1980a). Recent information, however, suggests that the drying of pluvial lakes during the Pleistocene/Holocene transition resulted in the

beginning of a gradual shift to a more diversified subsistence strategy that exploited “rich resource patches in a host of environmental situations” (Sutton et al. 2007:237), evident by Lake Mojave material also occurring in a wide variety of other settings and in areas with no direct connection to water (Basgall and McGuire 1988; Davis 1973; Rogers 1939).

As with the debate in southern California regarding the shift from San Dieguito to La Jollan patterns representing the same people using different environments and subsistence techniques, or whether they are separate cultural patterns (e.g., Bull 1983; Ezell 1987; Warren et al. 1998), there has also been considerable debate about whether the central Mojave was abandoned during the shift from the Lake Mojave period to the Pinto period (Donnan 1964; Kowta 1969; Wallace 1962) or whether occupation continued (Jenkins 1987; Jenkins and Warren 1984; Sutton 1996; Warren 1984) but with changes in population density, subsistence practices, and technology (Warren 1986). Some of the changes seen at the end of the Lake Mojave period may be better attributed to the characteristics associated with the Pinto complex, which indicate that “it becomes increasingly difficult to deny the possibility that the beginning of the Pinto Complex dates sometime during the early Holocene” (Sutton et al. 2007:238).

The environmental changes seen in the latter part of the Lake Mojave period, from pluvial to arid conditions, resulted in a decrease in lake and river levels and a transformation of the animal and plant life seen in the Mojave Desert. These changes resulted in the Pinto subsistence being broader and more generalized than Lake Mojave, with sites occurring in a large range of environmental and geographical locations (Sutton et al. 2007), and the assemblages indicating a greater reliance on small animals and plants (Warren 1980b, 1984). The artifact assemblages associated with this period include Pinto points; heavy-keeled scrapers; choppers; small, flat milling stones; and manos (Warren 1986). The presence of ground stone milling equipment is what most distinguishes the Pinto period from the Lake Mojave period. The appearance of ground stone artifacts in Pinto assemblages is attributed to the exploitation of hard seeds, which is seen by Warren (1984) as part of the process of subsistence diversification brought on by the increased aridity and decreasing game populations. According to Wallace, “a changeover from hunting to the collection of seed foods is clearly reflected in the archaeological record for the period between 6000 and 3000 B.C. The importance of seeds in the diet of the prehistoric peoples can be seen in the numbers of food-grinding implements present at their settlements” (Wallace 1978:28).

Toward the end of the Pinto period, an extremely hot and dry period occurred in the Mojave Desert. During this time, population density in the region was low, as evidenced by few sites dating to between 5,000 and 4,000 years ago (Sutton et al. 2007). Following this period, approximately 4,000 to 2,000 years ago, a time of increased moisture occurred in the Mojave Desert, which marks the onset of the Gypsum period.

The increase in cooler and wetter conditions in the western Mojave allowed for an expansion of human activity to the area. In the Gypsum period, settlements are generally smaller and more numerous than during the Pinto period, which had seen larger settlements established around more reliable water sources (Sutton 1996; Sutton et al. 2007). Several cultural adaptations are seen in the Gypsum period, such as an increase in social complexity and trade, as indicated by the presence of *Haliotis* and *Olivella* shell beads from the California coast (Warren 1986). The artifact assemblage diversified, as well, and includes several projectile point types (Elko Eared and Corner-notched, Gypsum Cave, and Humboldt Concave Base), increased use of manos and metates, and the introduction of new technologies such as the mortar and pestle (Warren 1984). Evidence for increased ritual activity, including rock art, is also apparent during this period (Sutton 1996).

Population and settlement increases that began in the Gypsum period continue in the Rose Spring/Saratoga Springs period. Changes in artifact assemblages and well-developed middens indicate major population increases during this period, with settlements being situated near streams or washes, and along lakeshores (Sutton 1996; Sutton et al. 2007). Artifacts typical of the Rose Spring period include Rose Spring and Eastgate series projectile points, stone knives, drills, pipes, bone awls, milling implements, marine shell ornaments, and artifacts of obsidian material (Warren and Crabtree 1986; Sutton 1996; Sutton et al. 2007). Additionally, the introduction of small projectile points into assemblages appears to mark the diffusion of the bow and arrow into the Mojave Desert region (Sutton 1996).

The Late Prehistoric period in southern California is characterized by the incursion of Uto-Aztecan -speaking people who occupied large portions of the Great Basin and an area stretching from southern Arizona and northwest and central Mexico into Nevada, Oregon, and Idaho (Miller 1986). The expansion of the Takic group into southern California is unrefined, but several scholars have hypothesized as to when and how the so-called “Uto-Aztecan wedge” occurred. Sutton (2009) argues that the Takic group expanded into southern California from the San Joaquin Valley about 3,500 years ago. Moratto (1984) also proposes that Takic expansion into the Southern Coast region occurred approximately 3,200 to 3,500 years ago, while Golla (2007) suggests an expansion of Uto-Aztecan speakers into southern California at approximately 2,000 years ago.

Great Basin influence within the Mojave Desert during the late Holocene is evident in the similarity of point types between the Mojave and the Great Basin (Bettinger and Taylor 1974; Clewlow *et al.* 1970; Heizer and Berger 1970; Hester 1973; Lanning 1963). Cottonwood Triangular and Desert Side-notched points and Brownware ceramics become more widely distributed throughout both the Mojave Desert and the Great Basin during this period. Other artifacts characteristic of the Late Prehistoric period include Lower Colorado Buff Ware ceramics, unshaped hand stones and milling stones, incised stones, mortars, pestles, and shell and steatite beads (Warren and Crabtree 1986; Sutton et al. 2007).

2.2.2 Ethnohistory

At the time of European contact, the project vicinity was occupied by the Serrano and Vanyume. The Vanyume and the Serrano both spoke a language of the Takic family, which belongs to the Uto-Aztecan language stock (Bean and Smith 1978; Shipley 1978; Sutton 2009). The generic term “Serran” has been applied to four groups of the Takic branch of the Uto-Aztecan stock, which include the Aliklik or Tataviam, Kitanemuk, Vanyume, and Serrano (Kroeber 1976:611; Shipley 1978:88). The Serrano occupied a large area between the Cajon Pass and Twentynine Palms that included the San Bernardino Mountains, and seasonally exploited resources in the nearby desert (Bean and Smith 1978; Benedict 1924; Strong 1929). The Vanyume occupied the area surrounding the Mojave River, immediately north of the Serrano (Bean and Smith 1978). The word “Serrano” is a Spanish word meaning “mountaineer” or “highlander” and was given to the occupants living in the highlands, passes and mountains in the region (Johnston 1980).

Whether the Vanyume spoke a dialect of Serrano or a separate Takic language cannot be determined from the brief word list available (Bean and Smith 1978). In fact, little is known about the Vanyume, except as a recognized subgroup of the Serrano. Father Francisco Garcés traveling up the Mojave River in the 1770s, reported on the Vanyume, calling them the Beñeme, the name he also used for the Serrano (Kroeber 1976). Garcés described the groups along the Mojave River as inhabiting only a few sparse settlements. While the two groups may have shared social political organizational features, they

may have diverged politically (Bean and Smith 1978). For example, the Vanyume had good relations with the Chemehuevi and the Mojave, their neighbors to the east; the mountain-dwelling Serrano did not.

Settlement patterns of the Serrano and Vanyume were centered around the seasonal variation of plant and water resources (Bean and Smith 1978). Following the pattern found among most Takic groups in Southern California, social organization occurred at the family level, with several extended families coming together into larger social groups, or clans, during certain times of the year (Johnston 1980). Villages consisted of lineages united through marriage or economic ties and shared ritual (Bean and Smith 1978).

The Serrano collected piñon nuts and acorns from the mountain slopes as their primary staple vegetal foods. Additionally, chia and grass seeds, bulbs, roots, and tubers were typically collected by the women. Seasonal burning to encourage seed production was practiced (Bean and Smith 1978). For the Vanyume, it is likely that honey mesquite, piñon nuts, yucca, and cacti fruits were important resources. The lowland Vanyume groups may have traveled to the foothills to trade cacti fruits and other lowland foods for pine nuts and acorns with the Serrano. The principal game hunted by the Serrano and the Vanyume were deer, mountain sheep, antelope, rabbits, small rodents, and various birds. No part of the game animals went to waste. The blood of game animals was drunk either cold or after cooking it into a thick broth (Bean and Smith 1978). Meat bones were boiled and the marrow extracted and consumed. Surplus meats and plants were dried to be eaten later (Driver 1937).

2.2.3 Historical Background

During the mid-eighteenth century, Spain escalated its involvement in California from exploration to colonization (Weber 1992). In 1769, a Spanish expedition headed by Gaspar de Portolá and Junípero Serra traveled north from San Diego seeking suitable locations to establish military presidios and religious missions in order to extend the Spanish Empire into Alta California. The Presidio of San Diego and Mission San Diego de Alcalá were established in 1769 followed by the Presidio of Monterey and Mission San Carlos Borromeo de Carmelo in 1770 in northern California. The missions and presidios stood, literally and figuratively, as symbols of Spanish colonialism, importing new systems of labor, demographics, settlement, and economies to the area. Agriculture and animal husbandry were the main pursuits of the Missions.

Early Euro-American activity in the southern Mojave Desert area was minimal. The earliest European reference to the area was made by Father Francisco Garcés, who traveled west along the Mojave River in the 1770s, recording his impressions in his diary (1968 [1854]). However, the Spanish explorers were the first of a long series of travelers through this western transportation corridor. Most travel throughout the next hundred years in or out of Southern California passed through the Barstow and Victorville areas and the region remained a major link between Los Angeles and points east until the railroad arrived in the desert in the 1880s.

Initially, the arrival of the Spanish had limited direct impact on the native inhabitants of the Mojave Desert, due to its geographic isolation from the nearest mission at San Gabriel approximately 55 miles away. The Spanish were never able to exert control over the Mojave Desert, and the areas north of the San Bernardino Mountains became known as a haven for Native Americans who escaped from the missions at San Gabriel and San Fernando (Lyman 2000).

Although Mexico gained its independence from Spain in 1821, Spanish patterns of culture and influence remained for a time. The missions continued to operate as they had in the past, and laws governing the distribution of land were also retained in the 1820s. The establishment of an *assistencia* in Redlands, an outpost of the San Gabriel Mission, resulted in many of the Serrano to be forcibly moved to missions between 1819 and 1834, but small outlying groups were able to evade assimilation (Kroeber 1976; Bean and Smith 1978).

Following secularization of the missions in 1834, the Euro-American society made a transition from one dominated by the church and the military to a more civilian population, with people living on ranchos or in pueblos. With the numerous new ranchos that were once held by the Spanish missions in private hands, cattle ranching expanded and prevailed over agricultural activities. By the time of secularization, however, too few Serrano and Vanyume people remained to re-establish their native lifeways (Bean and Smith 1978).

American governance began in 1848, when Mexico signed the Treaty of Guadalupe Hidalgo, ceding California to the United States at the conclusion of the Mexican–American War. California’s acquisition by the United States substantially increased the growth of the population in California. The California gold rush, the end of the Civil War, and the passage of the Homestead Act implementing the United States’ manifest destiny to occupy and exploit the North American continent brought many people to the region. Initially southern California was divided into only two counties: Los Angeles and San Diego. In 1853, San Bernardino County was added, placing what is now Riverside County primarily within San Diego County and partially within San Bernardino County.

Southern California was developed by Americans and other immigrants who migrated to the western frontier in pursuit of gold and other mining, agriculture, trade, and land speculation (Lech 2004). The population influx led to increased travel through the Mojave Desert. Some who passed through returned to stay, beginning the first nonnative settlement of the Mojave Desert and Victor Valley. In 1858, Aaron G. Lane became the first permanent white resident of Victor Valley, establishing a ranch and way station on the west bank of the Mojave River at what is now Adelanto. Lane was quickly followed by others who filed claims on the fertile soil adjacent to the Mojave River. However, hostilities between whites, Paiutes, and possibly the Kawaiisu kept the area from being truly permanently settled until almost 1870 (Lyman 2000).

The development in the area was directly connected to the arrival and growth of the railway lines. In 1882, the railway network in southern California expanded to connect the California Southern Railway (part of the Santa Fe) that began in San Diego to the Mojave area and beyond; the decision was made to route the train to the new town of Waterman. After years of planning required to navigate the rail line through the difficult terrain of the Cajon Pass, Southern Pacific Railroad tracks passed through Victor Valley and reached Waterman Junction (later named Barstow) in 1882. Southern Pacific selected Calico Junction (now known as Daggett) for its depot, telegraph office, and eating establishment (Moon 1980). The arrival of the Southern Pacific Railroad contributed to a growing number of miners, merchants, and professionals in the area (Keeling 1976). In addition, the discovery of silver and borax in the Calico mines drove the construction of branch railroads.

With the completion of the railway, settlers flocked to southern California in even greater numbers and merchants, prospectors, and other hopeful settlers began arriving in the Victorville area (Lyman 2000). Many of the earliest settlers to the area hoped to find gold, silver, or oil. However, even this attempt proved futile when several groups of speculators started drilling and hit water and not oil as they had

originally hoped. However, this find proved to perhaps be as valuable and spearheaded the development of agriculture in the area. Additionally, the continued development and urbanization of Los Angeles and Orange counties pushed agricultural and dairy farm pursuits further into western San Bernardino County, which saw a land boom of farming and ranching at the turn of the twentieth century.

By the late 1880s, real estate speculation in the Victor Valley and Barstow areas flourished and local town populations were growing by hundreds of new residents each year. Pumping groundwater began in the 1880s with the colonization of the Mojave Desert by various groups. In 1888, a reporter for the *Atlantic Monthly* wrote favorably upon agricultural efforts in the California Desert: “There is nothing that will grow anywhere in the world that will not grow there in greater abundance and perfection ... perhaps even grass might be raised by constant and excessive irrigation” (*Daily Press* 1994). The Desert Land Act further enticed settlement and “stipulated that if the land so entered was irrigated and producing within three years, it could be permanently patented at that time” (Lyman 2000). The development of “dry farming” techniques allowed more crops to be grown in this dry climate.

Apple Valley gained its name from such agricultural pursuits, when Ursula M. Poates planted apples on her property to prove to prospective land-owners that the fruit tree could be grown in the desert (Gudde and Bright 1998). However, other theories exist on how the name was achieved, including Poates originally naming the valley after John F. Appleton, a hero of the American Civil War, with the apples growing in valley proving to be more popular than the colonel (*Daily Press* 2011). Another theory is that the valley’s name originated from the Appleton Land Company, that was based in the vicinity in the early twentieth century (Town of Apple Valley 2018). Poates is “credited with saying, ‘There were some apples being raised along the river in those early days, but not by the ton, so I just cut it down and called it Apple Valley!’” (Town of Apple Valley 2018).

By the 1920s, apples were grown at numerous award-winning orchards (Town of Apple Valley 2018). However, when the Great Depression occurred, irrigation proved too costly to maintain, and the orchards died off. In the 1930s and 1940s, several ranches were developed that were marketed for health services:

With a pleasant climate and lots of land, many types of ranches were built in the area. They touted the dry desert air as a cure for ailments of all sorts, including tuberculosis and asthma. Other ranches provided a haven for shell-shock victims of World War I, while still others developed into guest ranches. People would come to Apple Valley to enjoy the western lifestyle where they could ride horses, attend rodeos and just get away from the big city [Town of Apple Valley 2018].

In 1946, Newton T. Bass and B.J. “Bud” Westlund formed the Apple Valley Ranchos Land Company and marketed the area as “The Golden Land of Apple Valley” (Town of Apple Valley 2018). They envisioned the valley as quality residential community and a destination resort and built the Apple Valley Inn and Hilltop House. The Apple Valley Airport was constructed in the late 1940s as small land strip located next to the Apple Valley Inn (Cisneros 2011). A post office was established in Apple Valley in 1949, which by that time hosted “banks, churches and a school, along with a golf course, hospital and 180 businesses” (Town of Apple Valley 2018). With the growth of the town, the airport was moved to its present location, and the Apple Valley County Airport opened in 1970 (Cisneros 2011).

3.0 ARCHIVAL RESEARCH AND CONTACT PROGRAM

3.1 RECORDS SEARCH

HELIX staff conducted a record search of the California Historical Resources Information System (CHRIS) at the South Central Coastal Information Center (SCCIC) on December 7, 2017. The records search covered a one-mile radius around the project area and included archaeological and historical resources, locations and citations for previous cultural resources studies, and a review of the state Office of Historic Preservation historic properties directory. The records search summary and map are included as Appendix B (Confidential Appendices, bound separately).

3.1.1 Previous Surveys

The records search results identified 10 previous cultural resource studies within the record search limits, two of which overlap with the project APE (Table 1, *Previous Studies within One Mile of the Project APE*). Eight of the studies were cultural resource assessments or reconnaissance surveys; the remaining two studies include an architectural survey report and a literature study. The two studies that cover the APE are archaeological surveys conducted for the Apple Valley Airport Master Plan (Cisneros 2011; Sundberg and Whitney-Desautels 1991).

Table 1
PREVIOUS STUDIES WITHIN ONE MILE OF THE PROJECT APE

Report No. (SB-#)	Report Title	Author, Date	Report Type
00859	Cultural Resources Assessment: A Portion of Sec. 18, T1S R6E, Yucca Valley Area	Simpson, 1979	Cultural Resources Assessment
01613	Final Report: Cultural Resource Inventory and Evaluation for Proposed Williams Telecommunication Company's Fiber Optic Cable Right-Of-Way: California-Nevada State Line to Etiwanda	Budy, 1986	Cultural Resources Assessment
01642	Cultural Resource Field Reconnaissance: Watanabe Minor Subdivision, Victorville Area	Lerch, 1987	Reconnaissance Study
02168	An Archaeological Reconnaissance (Negative Declaration) for the Proposed Corwin Substation, San Bernardino County, California	White, 1986	Reconnaissance Study
02278*	Archaeological and Paleontological Survey for The Apple Valley Airport Master Plan, San Bernardino County, California	Sundberg and Whitney-Desautels, 1991	Cultural Resources Survey
03123	An Archeological Assessment of The Aztec Road Extension and Overlay and Sewer Pipeline Extension Project; Town of Apple Valley, California	Parr, 1996	Cultural Resources Assessment

**Table 1 (cont.)
PREVIOUS STUDIES WITHIN ONE MILE OF THE PROJECT APE**

Report No. (SB-#)	Report Title	Author, Date	Report Type
04557	An Archaeological & Paleontological Resources Assessment of 13,700' Navajo Road Sewer Project, Town of Apple Valley, California	Dice, 2002	Cultural Resources Assessment
07116*	Cultural Resources Survey for the Apple Valley Airport Master Plan Project, San Bernardino County, California	Cisneros, 2011	Cultural Resources Survey.
07838	Records Search Results for the Proposed AT&T Wireless Telecommunications Site ES0327 (Reid Trust) located at 21430 Waalew Road, Apple Valley, San Bernardino County, California 92307	Wlodarski, 2013	Literature search
07839	Architectural Survey Report of the Reid Trust Project, AT&T Mobility Site No. ES00327, 21430 Waalew Road, Apple Valley, San Bernardino County, California 92307	Supernowicz, 2014	Architectural/Historical, Field Study

* Overlaps project APE.

3.1.2 Previously Recorded Resources

The EIC has a record of 10 previously recorded cultural resources within a one-mile radius of the project, one of which is located within the project APE (Table 2, *Previously Recorded Resources within One Mile of the Project APE*). The resources include six historic trash scatters or dumps, one historic structure, a multicomponent site consisting of a historic trash dump and a lithic scatter, a prehistoric artifact scatter, and a prehistoric isolate consisting of a lithic flake. Seven of the 10 previously recorded resources located within the search area were documented during the archaeological surveys conducted for the Apple Valley Airport Master Plan (Cisneros 2011; Sundberg and Whitney- Desautels 1991). The resource documented within the project APE is P-36-024897 and is described in further detail below.

**Table 2
PREVIOUSLY RECORDED RESOURCES WITHIN ONE MILE OF THE PROJECT APE**

Primary Number (P-36-#)	Trinomial (CA-SBR-#)	Description	Recorder, Date
006840	6840H	Historic structure. Wood-lined square depression.	Sundberg and Desautels, 1990
006841	6841H	Historic site. Trash dump bisected by dirt road, several loci of trash within the general area.	Sundberg and Desautels, 1990
006843	6843H	Historic site. Trash scatter.	Sundberg and Desautels, 1990

Table 2 (cont.)
PREVIOUSLY RECORDED RESOURCES WITHIN ONE MILE OF THE PROJECT APE

Primary Number (P-36-#)	Trinomial (CA-SBR-#)	Description	Recorder, Date
010860	10860	Prehistoric site. Sparse artifact scatter; probably represents a temporary encampment. Artifacts include one pumice manuport, one wood scraper, and two greenstone flakes. Testing was conducted resulting in the recovery of one chert tertiary flake.	Dice, 2002
021470	13782/H	Multicomponent site. A large historic trash dump and 20 flaked stone artifacts. After the site was revisited in 2014, the prehistoric component of the site was no longer present, and fresh grading was apparent.	Ballester, 2010; Chmiel, 2011; Peterson and Cogstone, 2014
024894	15932H	Historic site. Trash scatter consisting of 273 historic artifacts.	Cisneros and Covert, 2011
024895	15933H	Historic site. Trash scatter consisting of 62 historic-era artifacts.	Cisneros and Covert, 2011
024896	15934H	Historic site. Widely dispersed trash scatter.	Cisneros and Covert, 2011
024897*	15935H	Historic site. Widely dispersed refuse scatter.	Cisneros and Covert, 2011
026808	--	Prehistoric isolate. One primary chalcedony flake.	Chmiel et al., 2011

* Within project APE.

P-36-024897 (CA-SBR-15935H)

This resource was record by C. Cisneros and J. Covert in 2011 during the survey for the Apple Valley Airport Master Plan project. The site measured 107 meters (m) by 67 m (351 feet [ft.] by 220 ft.) and consisted of a widely dispersed refuse scatter. Over 120 historic artifacts were identified, primarily within two concentrated areas; however, scattered debris was documented throughout the recorded site boundary. Artifacts documented include glass fragments, white ware sherds, cans, and construction debris. The scatter “likely represents the remains of residential activities. Temporally diagnostic feature of these artifacts suggest a twentieth-century occupation for the site” (Cisneros 2011:34). No buildings or structures were noted as directly associated with the scatter, but several structures are shown in the vicinity on the 1957 Apple Valley (1:62,500) USGS topographic map. Cisneros recommended the site as ineligible for listing in the CRHR (2011:34) and ineligible for inclusion in the NRHP (2011:Table 4).

3.2 OTHER ARCHIVAL RESEARCH

Various archival sources were also consulted, including historic topographic maps, aerial imagery (NETR Online 2017) and the Bureau of Land Management (BLM) General Land Office (GLO) Records. The purpose of this research was to identify historic structures and land use in the area.

The 1857 GLO plat map for the original survey does not contain any cultural data; however, the southeast area of the plat is illustrated as “Abrupt Mountains.” In 1919, a resurvey was published of these three sections (24, 25 and 36), with several houses indicated in the northern half of section 24. The 1919 resurvey did not cover the section in which the project APE is situated, nor did the subsequent resurveys in 1961 and 1963. A search of the land patents on file with the BLM GLO only resulted in land grants made to the Southern Pacific Railroad, issued in 1918.

The earliest USGS topographic map available is the 1932 (1:125,000) Barstow map. Several roads surround the project area, including a road running north-south located to the east of the project along the section boundary line, and what is now Papago Road, located south of the APE. Several structures and wells are depicted in the project vicinity, but none are shown within the project APE. The 1957 (1:62,500) Apple Valley and the 1970 (1:24,000) Apple Valley North maps show substantial increase in roads and structures in the project vicinity, and the Apple Valley County airport is depicted on the 1970 map. As with the topographic maps, the available aerials from 1952, 1968, and 1969 show increasing residential and agricultural development in the project vicinity but no indication of a structure or historic development within the APE specifically.

3.3 NATIVE AMERICAN CONTACT PROGRAM

HELIX contacted the Native American Heritage Commission (NAHC) on February 9, 2018 for a Sacred Lands File (SLF) search and list of Native American contacts for the project area. The NAHC indicated in a response dated February 12, 2018 that no known sacred lands or Native American cultural resources are within the project area. Letters were sent on February 14, 2018 to Native American representatives and interested parties identified by the NAHC. One response has been received to date (Table 3, *Native American Contact Program Responses*). If any additional responses are received, they will be forwarded to San Bernardino County staff. Native American correspondence is included as Appendix C (Confidential Appendices, bound separately).

**Table 3
NATIVE AMERICAN CONTACT PROGRAM RESPONSES**

Contact/Tribe	Response
San Manuel Band of Mission Indians (SMBMI)	Responded on February 20, 2018. The proposed project area exists within Serrano ancestral territory and, therefore, is of interest to the Tribe. They note that there are lithic scatters across the landscape, but that their records show minimal previous survey coverage in the surrounding area, so postulate that there is likely plenty of data missing from the archaeological record. Given the sensitivity of the landscape within Serrano territory, their department generally suggests that testing be completed on site during the Phase I process, using existing and proposed subsurface disturbance as a guideline for the testing plan. They further state that SMBMI may request this during consultation, depending on the results of the records search and the coverage of previous survey and request that those maps be provided with this technical report.

4.0 METHODS

4.1 SURVEY METHODOLOGY

A pedestrian survey of the project site was conducted on January 5, 2018 by HELIX staff archaeologist Kristina Davison and Kyle Martinez from the San Manuel Band of Mission Indians. The project area was walked in transects spaced approximately 5 m apart.

Ground visibility throughout the project area ranged from 75 to 100 percent (Plate 1). A majority of the survey area supported creosote bushes and other shrubs and forbs; within these areas the ground visibility was generally 75 percent. Dirt roads and the drainage bottom had 100 percent ground visibility. Evidence of routine light grading of the dirt roads along the Airport fence line and along the eastern project boundary was observed, consisting of low berms on the sides of the dirt roads. Modern refuse (concrete, asphalt, plastic, modern glass, modern bullet shells) was abundant throughout the project APE, though the debris was somewhat sparser toward the central portion of the survey area, away from the existing roads. In addition, several areas contained dirt spoils piles. Within the northern portion of the APE, the southern portion of the drainage channel just north of the fence line appeared to have been recently graded.



Plate 1. Overview of the APE, view to the northeast.

4.1.1 Documentation

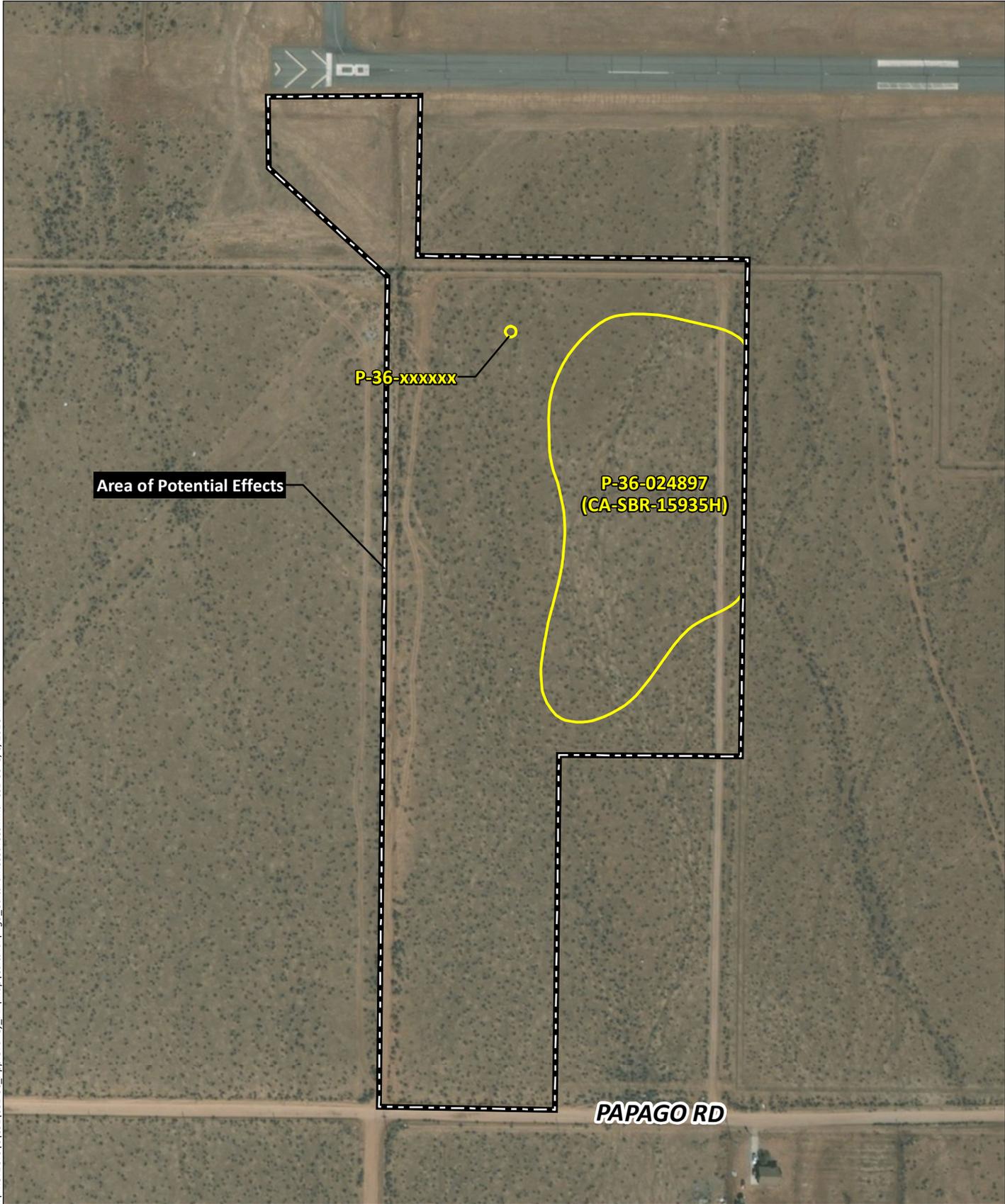
Cultural resources identified during the survey were recorded or updated on appropriate Department of Parks and Recreation (DPR) 523 forms. All completed DPR site forms were submitted to the SCCIC.

5.0 RESULTS

One archaeological site, P-36-024897 (CA-SBR-15935H), has been previously documented within the APE (Table 4, *Cultural Resources Identified within the Project APE*). This resource was relocated within the APE. In addition, one new isolate, P-36-XXXXXX, was identified. Maps of the project APE and cultural resource locations are provided on Figure 5 (*Cultural Resources Identified within Project APE*). Copies of the DPR forms for the archaeological sites are included in Appendix D (Confidential Appendices, bound separately).

Table 4
CULTURAL RESOURCES IDENTIFIED WITHIN THE PROJECT APE

Resource Number	Age	Description	Status
P-36-024897 (CA-SBR-15935H)	Historic	Trash scatter	Relocated within APE
P-36-XXXXXX	Prehistoric	Isolated flake	Newly identified



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Aerial (Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community)

5.1 SITE DESCRIPTIONS

P-36-024897 (CA-SBR-15935H)

This resource, described as a widely dispersed refuse scatter when it was initially recorded in 2011, was relocated during the current survey, and appeared as previously recorded in, but with expanded boundaries. As indicated during the initial recordation, the site is comprised of several concentrated areas of debris, with a widespread, light scatter surrounding the concentrations (Plate 2). None of the concentrations appeared to contain embedded artifacts or subsurface features.



Plate 2. Overview of concentration #2 of P-36-024897, view to the east.

Two additional concentration areas were identified during the survey along the north-south running dirt road on the eastern boundary of the APE (Plate 3). The concentrations contained cans, glass bottles, and porcelain teacup shards with modern debris also present in the deposit areas. Within one of the concentrations, a cobalt blue glass bottle shoulder and neck with an intact embossed metal screw-top lid attached (reading EMERSON'S BROMO-SELTZER), was identified; this same artifact was documented in the 2011 recordation as being located over 90 m to the west of where it was observed during the current survey.



Plate 3. Overview of newly identified roadside concentration, P-36-024897, view to the north.

Two ephemeral drainages are situated within the central portion of the site (HELIX 2018). These drainages, which are barely detectable and are potentially historic, may be responsible for some the artifacts being spread throughout the area. Additionally, the presence of modern trash and debris within the concentrations may be indicative of disturbances to the debris deposits that may have been initially dumped during historic times.

P-33- XXXXXX

This isolated artifact is a chalcedony tertiary flake that was identified on the surface (Plate 4).



Plate 4. Overview of P-36- XXXXXX.

6.0 SUMMARY AND MANAGEMENT RECOMMENDATIONS

A study was undertaken to identify cultural resources that are present in the Apple Valley Airport Detention Basin Project APE and to determine the effects of the project on historic properties. The cultural resources survey identified two resources within the project area, a previously recorded historic trash scatter (P-36-024897) and a newly identified prehistoric isolated flake (P-36- XXXXXX).

6.1 ELIGIBILITY RECOMMENDATIONS

Potential project effects to the cultural resources identified within the APE and their eligibility recommendations are provided in Table 5, *NRHP Eligibility Recommendations of Cultural Resources*.

In summary, the cultural resources within the project APE do not meet the criteria for listing on the CRHR or NRHP, and thus are not historic properties or significant cultural resources.

**Table 5
NRHP/CRHR ELIGIBILITY RECOMMENDATIONS OF CULTURAL RESOURCES**

Resource Number	Description	Location	NRHP/CRHP Eligibility Recommendation	Potential Effect
P-36-024897 (CA-SBR-15935H)	Historic trash scatter	Within proposed detention basin	Not eligible	No effect
P-36-XXXXXX	Prehistoric isolated flake	Within proposed detention basin	Not eligible	No effect

P-36-024897 (CA-SBR-15935H)

This site has been previously recommended as ineligible for listing in the CRHR or the NRHP (Cisneros 2011). The site does not appear to contain a subsurface presence and does not exhibit further research potential beyond its recorded cultural constituents. While additional artifacts were observed, expanding the site boundary, the historic refuse is intermixed with modern debris, making the original context of the deposits difficult to ascertain. As such, HELIX concurs with the ineligible status of the resource.

P-33- XXXXXX

This is an isolated artifact; isolates by definition do not possess the characteristics necessary to be considered resources eligible for listing on the NRHP or CRHR.

6.2 MANAGEMENT RECOMMENDATIONS

Based on the results of the current study, no historic properties will be affected by the project, and no mitigation measures are required. While the Native American contact program resulted in the suggestion of testing being conducted in the areas proposed for subsurface disturbance, the survey results do not support this recommendation. All areas of the APE were accessible and ground visibility was excellent, ranging from 75 to 100 percent, with the lower ranges being in the areas where bushes or scrub were located. In addition to the current survey, the entire APE was previously surveyed as part of the 2011 survey for the Apple Valley Airport Master Plan project (Cisneros 2011) and partially surveyed in 1991 (Whitney-Desautels 1991). As concluded in the 2011 report, “because the resources encountered during the current survey consist of surface-level historic resources, and because overall visibility during the survey was very good, the likelihood of encountering previously unrecorded resources is low” (Cisneros 2011:38). The current 2018 survey supports this conclusion.

Additional archaeological survey will be needed if project limits are extended beyond the present APE. Although unanticipated, if previously unidentified cultural materials are unearthed during construction, work should be halted in that area until a qualified archaeologist can assess the significance of the find. In the unlikely event that human remains are encountered during ground-disturbing activities, all work will cease, and the county coroner will be contacted, per the California Public Resources Code 5097.98. Should the remains be identified as Native American, the NAHC will be contacted within 48 hours to provide a Most Likely Descendent to determine appropriate actions.

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Appendix A

Resumes

Summary of Qualifications

Ms. Wilson has been professionally involved in cultural resources management for 14 years and has more than 16 years of unique experience in both archaeology and Geographic Information Systems (GIS). She has served as principle investigator on numerous cultural resources management projects, and regularly coordinates with local, state, and federal agencies and Native American tribal representatives. She is skilled in project management, archaeological inventories and excavation, and report documentation and has broad experience on private, municipal, federal, utility, and renewable energy projects. She is experienced at creating, organizing, and analyzing GIS data; technical skills include ArcGIS 10.3, Spatial Analyst, Geostatistical Analyst, and working with datasets in Microsoft Word and Excel. Ms. Wilson is detail oriented and has strong organizational and coordination capabilities.

Selected Project Experience

San Diego Gas & Electric (SDG&E) As-Needed Services (2011 - 2016). Project manager and principal investigator for cultural resources on-call services for SDG&E pole replacement, operation and maintenance, transmission line planning, and other projects in San Diego and Imperial counties on private, local agency, and federal lands. Activities included task coordination and management of field survey, monitoring, and archaeological documentation for project task orders.

County of San Diego Department of Parks and Recreation As-Needed Consulting Services (2012 - 2016). Cultural Resources Task Lead and principal investigator for on-call CEQA and NEPA support. Duties included coordination of archaeological monitors, site assessments, survey, DPR documentation, and reporting efforts.

Southern California Edison (SCE) As-Needed Environmental Compliance Support (2015 - 2016). Task manager, principal investigator, and field director for various small cap on-call projects located within SCE territory throughout several counties. Duties included coordination of cultural records searches, surveys, monitoring, and reporting efforts for capital improvement and Transmission Line Rating Remediation (TLRR) program projects.

Valley South Subtransmission Project (2012 - 2015). Field director and report author for a cultural resources inventory of the Valley South Subtransmission Project located in western Riverside County. Covering over 20 miles, the Phase I inventory included compilation of record searches, a Native American contact program, field surveys, and completion of a Cultural Resources Survey Report and PEA section. Work performed for Southern California Edison (SCE), with the California Public Utilities Commission as the lead agency.

Otay Truck Route (2013 - 2014). Task lead for a cultural resources study for the Otay Truck Route (OTR) project. The OTR fronts a portion of the U.S./Mexico border in the Otay Mesa community of the City of San Diego. Duties included conducting an

Education

Master of Science,
Applied Geographical
Information Science,
Northern Arizona
University, 2008

Bachelor of Arts,
Anthropology,
University of California,
San Diego, 2001

Bachelor of Science,
Biological Psychology,
University of California,
San Diego, 2001

Registrations/ Certifications

Register of Professional
Archaeologists, RPA,
2008

Professional Affiliations

Society for California
Archaeology

Society for American
Archaeology

Stacie Wilson, RPA

Senior Archaeologist

archaeological survey of approximately 18.4 acres, recording prehistoric and archaeological sites, and reporting efforts that included a Historic Property Survey Report, Archaeological Survey Report, and City of San Diego Archaeological Resource Report Form. The project proponent was the City of San Diego, with local assistance funding from the Federal Highway Administration (FHWA). The City of San Diego was the lead agency for CEQA compliance and CalTrans was the lead agency for NEPA.

RE Astoria Project (2013). Principle investigator for a cultural resources study of a 2,050 acre solar power project in Kern County. Duties included the organization of a records search, conducting a Native American contact program, overseeing archaeological and built environment surveys, the recordation of cultural resources, and the preparation of a Phase I cultural resources technical report. Work was performed for Recurrent Energy (RE) Astoria LLC, with the County of Kern as the lead agency.

Path 42 Transmission Line Project (2012 - 2013). Field director for a cultural resources survey of the proposed Path 42 Transmission Line Project in Riverside County. Covering 233 acres, the Class III study included compilation of record searches, a Native American contact program, field surveys, and completion of a cultural resources investigations class III report. Work was performed for Imperial Irrigation District (IID), with the BLM as the lead agency.

Antelope Valley Solar Project (2011 - 2012). Field director, GIS specialist, and report author for solar electric-generating facilities proposed on an approximately 5,000 acre site in Kern and Los Angeles counties. The project included the organization of a records search, Native American contact program, archaeological and built environment surveys, the recordation of cultural resources, and the preparation of cultural resources reports. Work was performed for Renewable Resources Group, Inc., with the Kern County as the lead agency.

BLM National Historic Trails Inventory, AZ, CA, CO NM, NV, UT, WY (2010 - 2012). GIS Task Lead for a multi-state initiative that focused on identifying, field inventorying, and assessing the cultural and visual resources of six National Historic Trails located on BLM lands. The inventory includes examining high potential route segments and high potential historic sites of the Old Spanish, El Camino Real de Tierra Adentro, California, Oregon, Mormon Pioneer, and Pony Express National Historic Trails. Task Lead duties include technical guidance; development of methodology; establishment of protocols and standards for field work; and reviewing of technical work for the GIS-related tasks.

Mojave Solar Project and Lockhart Substation Connection & Communication Facilities (2010 - 2011). Project manager, field director, and class III report author for a cultural resources survey of the Lockhart Substation Connection & Communication Facilities for the proposed Mojave Solar Project. The project was located on private, BLM, and Edwards Air Force Base (EAFB) lands in San Bernardino County and included surveying 85 linear miles in the Mojave Desert region of California. Work was performed for Mojave Solar, LLC, with the BLM as the lead agency.