

Appendix D
Cultural Resources Study

Cultural Resources Study for the City of Ridgecrest Wastewater Treatment Plant Project, Kern and San Bernardino Counties, California

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MANAGEMENT SUMMARY

The City of Ridgecrest (City) is proposing to construct new wastewater treatment facilities as part of its Wastewater Treatment Plant Project (Project) in Kern and San Bernardino Counties, California. The project requires compliance with the California Environmental Quality Act and Section 106 of the National Historic Preservation Act, which requires that impacts/adverse effects to cultural resources be considered in project planning and analysis.

To meet state and federal requirements, on behalf of the City and under subcontract to Provost and Pritchard Consulting Group, Applied EarthWorks, Inc. (Æ), provided cultural resources services in support of the Project. These services included an archaeological records search and background research, Native American consultation and outreach, archaeological pedestrian survey, documentation of any newly discovered cultural resources, and preparation of this technical report.

The inventory revealed two previously recorded resources - a transmission line (P-15-013824/P-36-021497) and a historic access road (P-15-017353). Four newly identified isolated resources were discovered within the Project's Area of Potential Effects. These include one historical glass fragment (AE-3182-ISO-01), two historic tin cans (AE-3182-ISO-02), and two spatially separate obsidian flakes (AE-3182-ISO-03 and AE-3182-ISO-04).

Neither of the two previously recorded resources has been evaluated for inclusion on either the federal or state registers. However, as currently designed, the project will not impact either resource and no further management is recommended. By convention, the four isolated artifacts are not considered significant resources and are, therefore, not eligible for inclusion in the California Register of Historical Resources or National Register of Historic Places. No further management of these resources is recommended.

A copy of this report and the associated cultural resource records will be transmitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield and the South Central Coastal Information Center at California State University, Fullerton for inclusion in the California Historical Resources Information System. Field notes and photographs are on file at Æ office in Fresno, California.

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1 INTRODUCTION

The City of Ridgecrest (City) is proposing to construct new wastewater treatment facilities as part of its Wastewater Treatment Plant (WWTP) Project (Project) in Kern and San Bernardino Counties, California (Figure 1-1). The Project will consist of new influent pumps, headworks, operations and maintenance buildings, sludge handling and disposal facilities, and effluent disposal sites which encompass the two project alternatives discussed in the Environmental Impact Report (EIR). However, all the areas encompassed by each alternative are covered by one Areas of Potential Effects (APE) for the purposes of this inventory. The APE encompasses a seven acre area on the Naval Air Weapons Station (NAWS) China Lake just west of the current City WWTP facilities, a 240 acre area of land to the south on City property surrounding the current WWTP facilities, fairgrounds, and adjacent vacant parcels, and a corridor encompassing approximately three miles of existing pipeline that currently connect the northern and southern WWTP facilities where a new pipeline is proposed. The entire APE is 312 acres and includes land in Kern and San Bernardino Counties. The Project lies within Township 26 South, Range 40 East, Sections 14, 23, 26, and 35 and Township 27 South, Range 40 East, Sections 1 and 2 of the Mt. Diablo Base Meridian as depicted on the Ridgecrest North, CA and Ridgecrest South, CA U.S. Geological Survey (USGS) 7.5-minute quadrangles (Figure 1-2).

The project requires compliance with the California Environmental Quality Act and Section 106 if the National Historic Preservation Act, which requires that impacts/adverse effects to cultural resources be considered in project planning and analysis.

To assist the City with their compliance efforts, Applied EarthWorks, Inc. (Æ), under subcontract to Provost and Pritchard Consulting Group, conducted a cultural resources study for the Project. These services included an archaeological records search and background research, Native American consultation and outreach, archaeological pedestrian survey, documentation of any newly discovered cultural resources, and preparation of this technical report.

Æ Senior Archaeologist Jay Lloyd (M.A.), a Registered Professional Archaeologist (RPA), served as project manager, providing technical and administrative oversight for all aspects of the cultural resource investigations. Associate Archaeologist Katie Asselin (M.A., RPA) supervised the cultural resources survey and is the primary author of the technical report. Résumés for key personnel are provided in Appendix A.

The archaeological work documented in this report was carried out to satisfy the requirements of the CEQA and NHPA, and the results are presented in accordance with *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format* (Office of Historic Preservation 1990). Following this introduction, Chapter 2 provides information about the natural and cultural setting of the APE. Methods employed to identify cultural resources are discussed in Chapter 3, and Chapter 4 presents the results of Æ's background research and field investigations. A summary of findings and recommendations are offered in Chapter 5. A bibliography of references cited throughout the report is provided in Chapter 6. Personnel

qualifications are detailed in Appendix A. Results of the records search are provided in Appendix B. Details of the Native American outreach efforts are provided in Appendix C. Appendix D contains the record forms for cultural resources discovered during fieldwork.

2 SETTING

2.1 ENVIRONMENTAL SETTING

The project lies within the northern Mojave Desert, a triangle shaped area bounded by the southern extent of the Sierra Nevada, Garlock Fault, Owens Valley and the Great Basin province to the north and west with the San Andras fault as the boundary to the south (Norris and Webb 1990; Schoenherr 1992). The Mojave extends east into Nevada and Arizona. Average elevation is approximately 3500 feet (1200 meters); however, Death Valley, the lowest elevation in the United States is contained within the Mojave. Vegetation of the area is characterized by Joshua Trees, Creosote Bush and various cacti at warmer, lower elevations with more cold resistant sagebrush and pinyon pine at higher elevations (Schoenherr 1992). Cold resistant vegetation continues into the Great Basin; however, warm weather flora tends to only occur in the Mojave (Schoenherr 1992). The Mojave is a hot desert with very little precipitation, which occurs primarily in the winter months. The dry climate and sandy coarse soils mean vegetation is very drought resistant. This Project is located in the City of Ridgecrest, which lies in the Indian Wells Valley, bounded by the Coso Range to the north, which separates it from the Owens Valley to the north with the El Paso Mountains bounding it to the south.

Although ecologically the Mojave Desert is distinct from the Great Basin, geologically in California the Basin and Range province has also included the area of the eastern Sierra Nevada extending to the Nevada stateline, encompassing both regions (Norris and Webb 1990).

2.2 PREHISTORY AND ARCHAEOLOGY

Various cultural chronologies have been proposed for the Mojave Desert, Western Great Basin, and Sierra Nevada, all of them somewhat applicable to the APE and vicinity. These schemes generally overlap, although regional and local differences make concordance difficult. In order to facilitate discussions of regional prehistory, this document follows Sutton and others (2007) in dividing prehistory up by geologic periods (Pleistocene, Early Holocene, Middle Holocene, and Late Holocene) and using the terms for cultural phases and complexes only when these are useful for noting change within a time period. In keeping with both Sutton and others (2007) and Moratto (1984), Owens Valley is treated culturally as a part of the larger Mojave and Great Basin province, and the terminology for these regions will be given preference over Sierra Nevada terminology.

2.2.1 Terminal Pleistocene (12,000–10,000 B.P.)

Although evidence of earlier occupation is accumulating, the earliest confirmed evidence of humans in much of the Americas comes in the form of Clovis points, distinctive fluted projectile points, identified throughout the Americas. Clovis points are generally recovered from contexts dating to approximately 10,000–8000 B.C. Clovis points have been discovered in the Great Basin, Mojave, and Sierra Nevadas, and on the beaches of Owens Lake (Busby et al. 1980; Moratto 1984; Rondeau 2009). Clovis points in the Mojave and Great Basin are often found in

dry lakebeds, including Owens Lake, and near streams (Rondeau 2009; Sutton et al. 2007). Dating cultural remains to the Terminal Pleistocene is often difficult as most of the recovered Clovis points are isolated occurrences and many of the sites lack datable organic materials or obsidian. Due to these data limitations, it is difficult to say much about the people who inhabited the region during this time, other than that they were likely highly mobile hunter-gatherers, leaving behind little in the way of material remains.

2.2.2 Early Holocene (10,000–8500 B.P.)

Mojave and Great Basin sites dating to the period are typically marked by Lake Mojave and Silver Lake projectile points, numerous bifaces, unifacial tools, crescents, cobble-core tools and ground stone implements (Busby et al. 1980; Sutton et al. 2007). Sometimes referred to as Lake Mojave Culture sites, Early Holocene sites include tools manufactured from a wide range of materials (Basgall and McGuire 1988; Sutton et al. 2007), suggesting that either raw materials were gathered during annual foraging far away from the home base, or raw materials were moved through exchange networks. Marine shell beads appear in the archaeological record, indicating a broad exchange network (Sutton et al. 2007). The type and designs of Early Holocene tools are consistent with long-term curation and transport. Researchers have proposed, variously, that Early Holocene peoples in the region were focused on hunting (and that hunting itself focused on different types of game) or on the gathering of plant materials (Busby et al. 1980; Sutton et al. 2007). It is likely that there was considerable regional variation in subsistence regimes during this period. Data from excavations at the Lubkin Creek site (CA-INY-30), south of Lone Pine, suggest a reliance on large game hunting and high residential mobility during the Early Holocene stretching into the Middle Holocene (Basgall and McGuire 1988).

2.2.3 Middle Holocene (8500–4000 B.P.)

A transition from Early Holocene to Middle Holocene adaptations appears to have occurred during the period from 7000 to 6000 B.C., but for simplicity's sake, the separation between these periods is set at 6000 B.C. Middle Holocene sites conforming to the Pinto Complex cultural pattern are widespread throughout the Mojave Desert and Great Basin by 6000 B.C. These sites exhibit a general continuity of flaked stone tool manufacture and use, although the switch to Pinto points may indicate a shift from reliance on projectiles such as darts to a reliance on thrusting spears (Sutton et al. 2007: 238). Ground stone is relatively common in Middle Holocene sites, indicating that plant foods were increasingly important, though there is evidence of local variation. Sites located near perennial water sources tend to be large, with well-developed middens. These findings may indicate the development of a collector-type subsistence strategy focused on lacustrine and riparian locations, with reliance on logistical forays into the surrounding area and into the Sierra Nevadas (Moratto 1984: 333; Sutton et al. 2007:238–239; Warren 2002).

Data from Basgall and McGuire's excavations at the Lubkin Creek site indicate that the Early Holocene practices, including high residential mobility and a focus on the hunting of large game to the exclusion of plant resources, may have continued through the Middle Holocene in Inyo County, and specifically in the northern Owens Valley (Basgall and McGuire 1988). Bettinger (1975a; 1976) proposed that 3500 B.C. marked the beginning of the Clyde Phase (which Bettinger placed as occurring between 3500 B.C. and 1200 B.C.) in the Owens Valley, during

which base camps were settled on the rivers, with vital resources being collected at logistical camps in the uplands (Garfinkel 1976).

Traditionally, researchers have argued for a hiatus in occupation of the Owens Valley between 6000 and 4000 B.C., but it is likely that this apparent hiatus may reflect a lack of data rather than an actual occupation hiatus (Busby et al. 1980). Interestingly, Sutton and others (2007:241) suggest that there may have been a general hiatus in occupation of the Mojave ca. 3000 to 2000 B.C., a period during which there is evidence of increasing cultural change in the Owens Valley (Basgall and McGuire 1988; Bettinger 1976; Busby et al. 1980). The relationship, if any, between these hiatuses is unclear.

2.2.4 Late Holocene (4000 B.P. to Present)

Sutton and others (2007) describe the Gypsum Complex as the earliest known cultural complex in the northern and western Mojave Desert, dating to ca. 2000 B.C. through A.D. 200. However, Lanning (1963) identifies the onset of the Little Lake phase in the Owens Valley at 3000 B.C. Little Lake sites contain Pinto, Lake Mojave, and Silver Lake projectile points; chipped stone disks, stone saws, core tools, leaf-shaped knives, narrow round-based drills, and milling stones (Moratto 1984:375–376). As described above, Bettinger (1976) identified the onset of an Owens Valley Late Holocene cultural phase that he called the Clyde phase somewhat earlier, in 3500 B.C.

Sutton and others (2007) describe northwestern Mojave (inclusive of Inyo County) sites from this period as being more numerous, but generally smaller in size, than earlier sites. Settlements dating to this period appear to have been centered on drainages. An elaboration of ritual life is attested to by the presence of quartz crystal, paint, and rock art (and a good deal of rock art, specifically petroglyph panels, is present in the volcanic tablelands near Bishop [BLM n.d.; Chalfant 1922]). Large and small game continued to be important to the people of the Mojave (Sutton et al. 2007). Within the Owens Valley, sites dating to this period show continuity with the earlier Little Lake sites, though there is a drop-off in the volume of core tools after 1500 B.C. Around 500 B.C., central California “Middle Horizon” shell beads appear in the Owens Valley, accompanied by pumice shaft smoothers and slate tablets. Accompanying these artifacts are also the Rose Spring projectile points, chipped ovals, and expanding base drills, suggesting changes in the manufacture of goods (Moratto 1984:376). Bettinger (1975b; 1977; see also Garfinkel 1976) argued that the people of the Owens Valley began to more intensively exploit dry land rather than riparian habitats beginning around 1200 B.C. (a period that he termed the Cowhorn Phase, lasting until ca. A.D. 600).

After A.D. 200, the bow and arrow diffused across the western United States (probably ca. A.D. 500 [Justice 2002]), and it appears that populations increased, producing sites based near springs, drainages, and lakeshores. Sites occupied in the period following A.D. 200 typically contain well-developed middens and the remains of residential and utilitarian structures. A variety of artifacts has been recovered from these sites including Eastgate and Rose Spring projectile points (made primarily out of chert or Coso obsidian), stone knives, drills, pipes (possibly indicating changes to ritual activity), bone awls, and an array of milling tools (possibly indicating a greater reliance on a broad range of vegetal foods). Core tools essentially vanished from the toolkit, and

cobble pestles and both steatite and split and punched *Olivella* beads appeared (Moratto 1984:376; Sutton et al. 2007).

Locally, pinyon exploitation appears to have become more important around A.D. 600, and may have been used to compensate for a growing population (Bettinger 1976; Busby et al. 1980:207). Hunting focused on lagomorphs and rodents, possibly indicating that the increased human population had depleted larger game (Busby et al. 1980:205–207; Sutton et al. 2007). The presence of marine shell in sites dating to this period indicates that the study area was part of a large exchange network leading all the way to the coast (Sutton et al. 2007:241). The onset of the Medieval Climatic Anomaly ca. A.D. 950 resulted in the dessication of lakes and the drying of once active drainages (Sutton et al. 2007:242). The changing climate may have pushed populations out of the northern Mojave Desert and into other regions, including the study area (Bouey 1979; Busby et al. 1980:205).

Hester (1973:127) holds that the Late Prehistoric complex (or, more accurately, complexes, as pointed out by Sutton and others [2007:242]) marks the migration of Numic speaking peoples into the northern Mojave area and expanding north and east. This hypothesis is supported by linguistic studies that indicate the arrival of Numic speakers into the Project vicinity ca. A.D. 1000 (Busby et al. 1980:207; Sutton et al. 2007:243). Sites dating to this time contain brownware ceramics, Desert Side-notched and Cottonwood projectile points, and trade beads (Busby et al. 1980:206–207).

Post-A.D. 1000, there is evidence that pinyon increased in importance as a staple food, and that intensification of pinyon use resulted in the re-organization of society around nuclear families by A.D. 1400 (Eerkens 2004; Santy and Eerkens 2010). Winter pinyon-gathering camps dating from A.D. 1300 through the nineteenth century have been identified in the Inyo Mountains (Bettinger 1975a). Further evidence of economic change includes the appearance of broad triangular and leaf-shaped knives, as well as expanded base drills at around A.D. 1300 (Moratto 1984:376).

Additional changes occurred at about A.D. 1840, likely resulting from both the further intrusion of European settlers into California and concurrent social change among the native populations. Artifacts imported from outside Owens Valley, including shell beads, represent late prehistoric types. There is evidence of the entrance into the valley of a small number of Native Californians fleeing European encroachment (Chalfant 1922).

Prehistoric archaeological sites and features that might be expected within the APE include flaked stone scatters (primarily obsidian and chert), ceramic scatters, irrigation structures, hunting blinds, rock art (both pictograms and petroglyphs), and residential sites with well-developed middens.

The Coso Range to the north of the APE is the site of numerous petroglyphs and prehistoric resources, depicting anthropomorphic figures and bighorn sheep (Grant 1968). Site CA-IYN-5491 is also located in the Coso Range and contains the only archaeological deposit of wooden bows known in California and the Great Basin (Hildebrandt and Ruby 2004). These were recovered at a small habitation site and were located cached underneath a granite ledge. Dating suggests that these artifacts were approximately 300 years old, being cached at the site before contact with Euro-American settlers (Hildebrandt and Ruby 2004).

Approximately 70 miles to the south of the APE is Antelope Valley where numerous sites could offer more of a context for archaeology in the Mojave Desert. CA-LAN-192, the Lovejoy Springs site, is a deeply stratified large village site that has been extensively excavated and studied (Price et al. 2007). This site shows associations with cultures on the south coast of California. One burial located at the site, dated to 2,700 B.P., is of a child buried with 3,000 *Olivella* shell beads, which are associated with the Santa Barbara Channel (Price et al. 2007). There is also obsidian at the site that is sourced to the Coso volcanic field and dating to 2,700 B.P., suggesting associations and trade networks to the north (Price et al. 2007).

Approximately 35 miles to the southwest of the APE is Kelso Valley located in southeastern Kern County is nestled just to the east of the Sierra Nevada. Two sites were recorded here and contained midden and milling features, pictograph and petroglyph panels, and obsidian (Lloyd 2005). Although the milling features are likely associated with acorn subsistence, which would not be seen further north in the Mojave and Great Basin contexts, the other features could be similar to resources and show associations to sites further north in the project vicinity.

2.3 ETHNOGRAPHY

The project lies within the traditional territory of the Koso, an area that stretches from the Sierra Nevada crest in the west 1,500 miles across the deserts of California and into Nevada. It is one of the largest areas, yet the least populated (Kroeber 1976). The boundaries are not well defined, but it appears that Owens Lake was the northern boundary of their territory with the Mono to the north (Kroeber 1976:589). To the south were the Kawaiisu, who occupied a similar habitat, that of the barren resource scarce Mojave Desert, as the Koso (Kroeber 1976). Kroeber notes that the Coso Range, to the north of the APE, was one of the four successive ranges in the area (Kroeber 1976:590).

Primary subsistence was from the Nevada pine nut and desert sand grass with various seeds and cacti known to be processed and eaten (Kroeber 1976:591-592). Subsistence from local fauna was rare and would have consisted of rabbits, rats, lizards and birds (Kroeber 1976:592).

There has been detailed research conducted within the Coso Range regarding pinyon pine nut exploitation (Hildebrandt and Ruby 2006). The archaeological record indicated that subsistence reliant on pine nut occurred later in the Owens Valley than other places in the Great Basin, and it has been suggested that this is due to other resources being depleted and population growth (Bettinger 1991). The detailed analysis considered numerous previous studies (Bettinger 1976; 1989; Delacourt 1990; Reynolds 1997), which suggested that subsistence was based on hunting large game during the Newberry period (4,000-1,350 B.P.) and less on pine nut procurement. Hildebrandt and Ruby (2006) compare the archaeological assemblages identified during survey efforts in 1998, which included numerous diagnostic projectile points and pinyon pine nut processing features, the dates of which suggest that pine nut processing and subsistence was much more significant during the Newberry period than is suggested by previous studies. Additionally, it appears that pine nut procurement and subsistence continued later into the Haiwee period (1,350-650 B.P.) possibly due to the exploitation of the large game population (Hildebrandt and Ruby 2006).

2.4 HISTORY

Joseph Rutherford Walker was an explorer and expedition leader across the west, becoming the first Euro-American to traverse the Sierra Nevada, over the pass that bears his name, and proceeded into Indian Wells Valley in 1834 (Gilbert 1985). He used this route many times, including in 1843, when he led the Joseph B. Chiles emigrant party, with the first covered wagons to come to California from the east (Di Pol 2013). Walker also served as the guide for Captain John Charles Frémont's expedition that came over Walker Pass (Di Pol 2013).

In the last quarter on the 19th century, Indian Wells Valley was dotted with various stage and freight routes. The first permanent settlement was in 1873 at Coyote Holes; however, the first land patent was not filed until 1894 (Di Pol 2013). In 1905, the announcement was made that Los Angeles aqueduct would be built between 1908 and 1913 and subsequently, the Southern Pacific Railroad built a line from Mojave to Indian Wells Valley in 1909 (Di Pol 2013; Weals 2001).

In 1912, the Robertson family became the first settlers in the Ridgecrest area. After World War I there was an increase in settlers and land patents filed in the area. This influx was focused around the plan to create an irrigation district to bring water into Indian Wells Valley from Mono Lake, as part of the City of Los Angeles' Mono Extension Project (Di Pol 2013).

In 1943, the U.S. Navy established the Naval Ordnance Test Station (NOTS), later to become China Lake Naval Air Weapons Station (NAWS) and the settlement of Ridgecrest grew as a result (Di Pol 2013). The Indian Wells Valley was relatively sparsely populated during the latter half of the 19th century and into the 20th century. Historically, growth in the area was influenced greatly by military installations at China Lake and Inyokern in the last 70 years.

3 METHODS

3.1 RECORDS SEARCH

On June 11, 2015, Æ requested a records search of the California Historical Resources Information System through the Southern San Joaquin Valley Information Center at California State University, Bakersfield and the South Central Coastal Information Center at California State University, Fullerton. The request included any previously recorded sites and cultural resource studies within the APE and 0.5 mile vicinity.

Information Center staff consulted cultural resource location and survey base maps, reports of previous investigations, cultural resource records, the National Register of Historic Places Historic Property Data File (3/18/13), California Historical Landmarks, the California Register of Historical Resources, the California Inventory of Historical Resources, and the California Points of Historic Interest (Appendix B).

3.2 NATIVE AMERICAN OUTREACH

Æ sent a request to the Native American Heritage Commission (NAHC) on June 11, 2015 for a Sacred Lands File search to identify any known Native American Resources in the APE. Æ additionally requested a list of parties that may have interest in the project or knowledge of any unrecorded Native American resources in the area.

On July 1, 2015, Æ sent a letter describing the project and its location to each of the following contacts identified by the NAHC:

- Julie Turner, Secretary, Kern Valley Indian Council;
- Robert Robinson, Co-chairperson, Kern Valley Indian Council;
- Delia Dominguez, Chairperson, Kitanemuk and Yowlumne Tejon Indians;
- John Valenzuela, Chairperson, San Fernando Band of Mission Indians; and,
- Katherine Montes Morgan, Chairperson, Tejon Indian Tribe.

A contact log and copies of the Native American outreach documentation are included in Appendix C.

3.3 PEDESTRIAN SURVEY

Æ Associate Archaeologist Katie Asselin led the pedestrian survey assisted by archaeologists Mark King, Josh Tibbet, Chuck Pansarosa, and Kathleen Jernigan on June 8, 2015, between July 13 and 16, 2015, and on July 22, 2015. The crew surveyed the APE using parallel and meandering transects spaced no more that 15-20 meters apart. The surveyors photographed the APE and survey conditions with a digital camera and collected Global Positioning System (GPS)

data using a Trimble unit. They documented their observations and findings on survey record forms. Copies of photographs, field notes, and GPS data are on file at Æ's office in Fresno, California.

3.4 CULTURAL RESOURCE DOCUMENTATION

When an artifact was encountered that appeared to be of historic age (i.e., 50 years old or older), surveyors marked its position and closely examined the surrounding area for associated artifacts or features. Once the extent of the resource was determined, it was assigned a temporary number and recorded on the appropriate California Department of Parks and Recreation (DPR) forms (523 series). Æ photographed each resource using a digital camera and collected GPS data using a Trimble unit. Copies of the DPR forms are provided in Appendix D.

4 FINDINGS

4.1 RECORDS SEARCH

In its June 24, 2015 response to Æ’s records search request, the SSJVIC identified a number of previous cultural resource studies (12) and sites (10) within the APE and 0.5 mile vicinity in Kern County. The SCCIC responded to Æ’s records search request on July 1, 2015 and identified four projects and two resources within the APE and 0.5 mile vicinity in San Bernardino County.

When the results were cross referenced, it was deduced that in total there are two previously recorded resources within the Project’s APE and nine previously recorded resources within the 0.5 mile vicinity (Table 4-1 and 4-2). The two previously recorded resources include a historic transmission line that has been maintained and still in operation extending through the APE at its southern end in both Kern and San Bernardino Counties (P-15-013824/P-36-021497). The other site is a historic access road leading to the WWTP facilities located on the NAWS China Lake base, adjacent to the northern end of the APE (P-15-017353). This road is still utilized, maintained and is currently paved.

**Table 4-1
Previously Recorded Resources within the Ridgecrest WWTP APE**

Identifier	Date Recorded	Temporal Association	Type
P-15-013824; P-36-021497	2010	Historic	Structure; Other, transmission line
P-15-017353	2012	Historic	Site; Roads/trails/railroad grades

**Table 4-2
Previously Recorded Resources within 0.5 miles of the Ridgecrest WWTP APE**

Identifier	Date Recorded	Temporal Association	Type
P-15-011152	2003	Prehistoric	Site; Trail
P-15-011153	2003	Prehistoric	Site; Lithic scatter
P-15-012768	2007	Historic	Site; Privies/dumps/trash scatters
P-15-014686	2011	Prehistoric	Site; Lithic scatter
P-15-014687	2011	Prehistoric/ Historic	Site; Lithic scatter; Historic trash scatter
P-15-015209	1999	Historic	Site; Roads/trails/railroad grades
P-15-017203	2009	Prehistoric/His toric	Site; Privies/dumps/trash scatters (historic); Isolated obsidian flake (prehistoric)
P-15-017778	2012	Historic	Building; Educational building
P-36-004134	1975	Prehistoric	Site; Lithic scatter

Additionally, there are six previously cultural resource studies within the APE and nine previous studies within the 0.5 mile vicinity (Table 4-3). These projects appear to mainly be cultural resources inventories associated with projects on the China Lake NAWS base.

**Table 4-3
Previous Cultural Resources Studies within the Ridgecrest WWTP APE and
0.5 Mile of the APE**

Report No.	Report Author(s)	Report Date	Report Title
Within APE			
KE-00144	Weaver	1992	Negative archaeological survey report DOT-9-KERN-178, PM 0.0/0.16, 103.51/104.6, Charge Unit 140, EA 212300
KE-02054	Love and Tang	1997	Cultural Resources Overview: Water System General Plan, Indian Wells Valley Water District, Kern and San Bernardino Counties, CA
KE-02976; SB-05828	Deis and Underwood	2004	Cultural Resources Survey and Evaluation, South Range and Mainsite Management Unit, Naval Air Weapons Station China Lake, CA
KE-04199	Baskerville	2009	South China Lake Solar Farm Project NAWS Cultural Project Number: NAWS-2009-16
KE-04384	Duran, Trevino, and Johnson	2010	Downs Substation Cultural Resources Survey, San Bernardino and Kern Counties, California, Vols. I and II
SB-00278	Panlaqui	1975	Environmental Impact Statement: Archaeological Values, Tract 5875
Within 0.5 Mile of APE			
KE-01547	--	1994	Review of Building Conditions of "Old North Duplexes" – Historic Resource Inventory
KE-02140	Shepherd	1997	Survey, Inventory, and Evaluation of Buildings and Structures at Naval Air Weapons Station, China Lake, Kern County
KE-02736	Shepherd	1999	Demolition of 18 Miles of Abandoned Railroad Track, Naval Air Weapons Station, China Lake, Kern County
KE-03551	Hudlow	2007	A Phase I Cultural Resource Survey for Property, East of Gateway Boulevard, APNs 343-01-27 and 31, Ridgecrest, Kern County, CA
KE-04416	McKenna	2013	Archaeological Survey Report Public Safety Improvements for Three School Sites in the City of Ridgecrest, Kern County, California
KE-04541	Neal	2012	Cultural Resources Inventory Negative Report – High Energy Laser Laboratory, NAWS China Lake
KE-04568	Snow	2012	Murray Middle School Historic Resource Assessment
SB-02762	Weaver	1992	Richmond Road 4-Lane Project
SB-05827	D’Arcangelo	2004	Archaeological Survey of the Southern and Western Portions of the Security Perimeter Fence Line, Naval Air Weapons Station, China Lake.

4.2 NATIVE AMERICAN OUTREACH

In its July 1, 2015 response to Æ's request for information, the NAHC stated that the search of the Sacred Lands File did not indicate the presence of resources within the APE (see Appendix C). Also on July 1, 2015, Æ sent letters describing the Project to the five individuals identified in the NAHC response. These letters were followed up with telephone contact.

On August 5, 2015, Æ received a letter from Colin Rambo the Tribal Historic Preservation Officer of the Tejon Indian Tribe. Mr. Rambo requested that the Tejon be notified if any resources were identified as part of the cultural resources survey and recommends Cultural Resources Sensitivity Training for the Project.

On September 23, 2015, Æ followed up outreach with telephone calls to each of the remaining on the list provided by the NAHC. There have been no additional responses to date. A summary of the Native American outreach efforts and documentation is provided in Appendix C.

4.3 PEDESTRIAN SURVEY

Pedestrian survey was conducted of the entire APE, apart from a small area that was fenced off adjacent to the City of Ridgecrest animal shelter and one of the alfalfa fields that was being irrigated with effluent water. The total area surveyed was 312 acres (Figure 4-1). Survey consisted of parallel and meandering transects spaced no more than 15-20 meters apart.

The survey area was primarily either developed land that had structures, buildings, and/or cultivation on the land, or was typical desert landscape associated with the northern Mojave (Figure 4-2). Ground visibility was highly variable throughout the APE, with some areas heavily vegetated or cultivated (Figure 4-3), with less than five percent visibility; to areas that had excellent visibility between 80-90 percent (Figure 4-4), where the vegetation was sparse and land undeveloped. Vegetation consisted primarily of sagebrush, creosote bush, and low lying desert grasses and weeds. There was an occasional cactus or yucca, but these were very sparse. Soils were sandy and gravelly with very few cobbles.

Much of the land situated on China Lake NAWS and associated with pipeline was undeveloped; however, these areas have been impacted by activities on the base and it was noted that there was plenty of modern debris and trash. The lands adjacent to the current City WWTP facilities, west of San Bernardino Boulevard, have been heavily impacted. Much of this area includes effluent disposal facilities, modern dumped debris, and the fairground facilities that appear to have been developed for dirt bike racing (Figures 4-5, 4-6, and 4-7)

The land in San Bernardino County, to the east of San Bernardino Boulevard, and the plot of land on APN 343-014-22 was relatively undisturbed, although there was plenty of modern and borderline historic trash and debris noted throughout (Figure 4-8). Considering this land is adjacent to the local cemetery and a modern housing development, the refuse is a likely a result of modern littering.



Figure 4-2 Overview of survey conditions adjacent to the China Lake NAWS WWTP facilities, facing south.



Figure 4-3 Overview of alfalfa field with poor visibility, facing east. These fields were being irrigated with effluent water from the existing City of Ridgecrest WWTP facilities.



Figure 4-4 Overview of survey conditions on the China Lake NAWS along the pipeline alignment, facing south.



Figure 4-5 Overview of empty ponding basins adjacent to the full basins at the City of Ridgecrest WWTP facilities, facing northwest.



Figure 4-6 Overview of fairgrounds area developed into a dirt bike racing facility, facing west.



Figure 4-7 Overview of typical debris/riprap deposited throughout the APE in the south, adjacent to the City's WWTP facilities, facing north.



Figure 4-8 Overview of survey conditions in the parcels of land in San Bernardino County, east of the City's current WWTP facilities, facing east.

4.4 CULTURAL RESOURCES

The two previously recorded sites identified by the records search were located and brief notes taken, discussed below in section 4.4.1. A \AA identified four newly discovered resources during the pedestrian survey (Figure 4-1). All four resources were isolated artifacts and are discussed below in section. Further information is provided on the cultural resources records provided in Appendix D.

4.4.1 P-15-013824/P-36-021497

The Inyokern-Searles-McGen No. 2 115kV transmission line was recorded in 2010 and is composed of T-type utility poles with two cross-members. It runs through the southern portion of the APE, along the east side of County Line Road, and then turns and runs west along the northern project boundary and then bisecting the APE, before continuing west out of the APE.

The resource location was verified in the field as is accurate. As the resource was recently recorded (5/20/2010) and the documentation is still accurate, the site record was not updated. The site record is included as part of the records search results in Appendix B. The transmission line is currently in working order and had been subject to routine maintenance. This resource has not been evaluated for either the California or National Registers.

4.4.2 P-15-017353

This historic road was recorded in 2013 and is a paved access road, orientated north-south, still used to access the current WWTP facilities on NAWs China Lake. The site is 1,265 feet long and has undergone routine maintenance throughout the years; therefore, no original segment of the road has been left undisturbed. It first appears on 1944 engineering drawings for the installation.

The resource location was verified in the field and is accurate; however, since it was recently recorded (8/5/2013) and the site record is still accurate, the site record was not updated. The site record is included as part of the records search results in Appendix B. Additionally, this resource has not been evaluated for either the California or National Registers.

4.4.3 AE-3182-ISO-01

The artifact is a colorless glass base bottle fragment (Figure 4-9). Embossed on the bottom is: “T 120 277/AG[makers mark]/14 A411”. The fragment measures 2 ½ inches in diameter and is a ¼ inch thick. It is very weathered and sand blasted and no other artifacts were found in the vicinity. This artifact was located in an area of natural desert with sagebrush and creosote bush and was immediately south of a dirt access road running through the area.



Figure 4-9 Detail of AE-3182-ISO-01, colorless glass bottle base fragment.

4.4.4 AE-3182-ISO-02

This resource consists of two isolated cans dating between 1930 and 1975 (Figure 4-10). Artifact 1 is a vent hole can, with stamped ends and an internal rolled seam. It has been knife cut opened

and measures 2 15/16 inches in diameter by 3 15/16 inches tall, typical of a Carnation brand condensed or evaporated milk can dating between 1930-1975 (Simonis 1997). Artifact 2 is a Hills Brother Coffee can with a key opening and re-closable lid; however, the lid was missing. Some lithography was still visible, namely the “HILLS” name in impact font and all capitalized, which dates this can between 1945-1963 (Lanford and Mills 2006). The can measures 5 inches in diameter by 3 ¼ inches tall.

These two artifacts were located approximately 25 meters apart and there was a sparse array of other tin cans in a 30 by 30 meter area; however, these additional cans all appeared to date to the 1960s-70s and were not considered to be part of any deep historical assemblage. The maximum density of cans was three cans per square meter with the average density of one can per five meters squared. There were various cans noted throughout this parcel and it appears as if these deposits are all a result of casual littering. Additionally, there were no other artifacts, such as glass or ceramic, associated with these can that would indicate it as a historical refuse scatter that was utilized over a long period of time; however, these artifacts have been recorded to indicate that these types of resources (borderline historic cans) are located in the area.



Figure 4-10 Location overview, AE-3182-ISO-02, facing south.

4.4.5 AE-3182-ISO-03

This resource is an isolated obsidian biface thinning flake with a snap fracture (Figure 4-11). Its dimensions are 2.3 x 1.3 x 0.2 centimeters. It was located in an area of natural desert vegetation, primarily sagebrush with sparse grasses and a few creosote bushes. It was adjacent to residential houses to the south and a recreational vehicle park to the east and it appears this entire area has been disturbed from these adjacent developments. No other artifacts were observed in the vicinity.

4.4.6 AE-3182-ISO-04

This resource is an isolated obsidian biface thinning flake fractured down the middle (Figure 4-12). Its dimensions are 4.3 x 2.5 x 0.6 centimeters. It appears large for a secondary flake and it could have been a primary flake, but there is no cortex present. Additionally, one edge may have been utilized. It was located approximately 10 meters east of a paved road and in an area dominated by tumbleweed and that appears to have been previously disturbed with push piles and debris present. No other artifacts were observed in the vicinity.



Figure 4-11 **Detail AE-3182-ISO-03, obsidian biface thinning flake.**



Figure 4-12 **Detail AE-3182-ISO-04, obsidian biface thinning flake.**

5

SUMMARY AND RECOMMENDATIONS

5.1 SUMMARY OF INVESTIGATIONS

The City proposed to build new waste water treatment facilities and possibly three miles of pipeline in the city of Ridgecrest in northeastern Kern County and San Bernardino County. The Project is subject to CEQA and Section 106 of the NHPA. Accordingly, Æ conducted background research, requested and reviewed the archaeological records search, contacted the Native American Heritage Commission, and performed a pedestrian survey to identify cultural resources within the APE.

A records search of the California Historical Resources Information System performed by the regional information centers revealed that approximately 80 percent of the APE has been previously surveyed. The records search also revealed that there were two previously recorded resources within the APE, the Inyokern-Searles-McGen No. 2 115kV transmission line (P-15-013824/P-36-021497) and a historic road (P-15-017353). Æ's pedestrian survey identified and documented four previously unrecorded resources, all isolated artifacts: one historical glass fragment (AE-3182-ISO-01), two historic tin cans (AE-3182-ISO-02), and two spatially separate obsidian flakes (AE-3182-ISO-03 and AE-3182-ISO-04).

5.2 MANAGEMENT RECOMMENDATIONS

5.2.1 Previously Recorded Resources

Neither the Inyokern-Searles-McGen No. 2 115kV transmission line (P-15-013824/P-36-021497) or the historic road (P-15-017353) have been evaluated for eligibility to the California Register of Historical Resources. Although both resources intersect with the APE, neither will be impacted or effected by the project. The pipeline will pass under P-15-013824/P-36-021497 and will not alter its location or setting. As noted in Chapter 4, P-15-017353 is currently used to access the existing treatment plant. As currently designed, the project will continue to use the road to access the plant but will not alter its configuration or location. Further, as noted on the Primary form "No portion of this road is left undisturbed, as decades of road maintenance has been taking place on the paved road itself and its dirt road shoulders." Because neither resource will be impacted or effected by the project, no further management is required.

5.2.2 Isolated Artifacts

Isolated artifacts by themselves are not eligible for listing in the CRHR because they lack association and context with other archaeological materials. Recording the physical description and location exhaust their research potential. Therefore, isolates AE-3182-ISO-01, AE-3182-ISO-02, AE-3182-ISO-03, and AE-3182-ISO-04 are not considered eligible for listing on the California Register of Historical Resources.

5.2.3 Human Remains

If human remains are uncovered, or in any other case where human remains are discovered, the Kern or San Bernardino (where applicable) County Coroner is to be notified to arrange their proper treatment and disposition. If the remains are identified – on the basis of archaeological context, age, cultural associations, or biological traits – as those of a Native American, California Health and Safety Code 7050.5 and Public Resource Code 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendant who will be afforded an opportunity to make recommendations regarding the manner in which the remains are treated.

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