

**APPENDIX I**  
**Cultural and Historical Resources**  
**Survey and Evaluation Report**

**CULTURAL AND HISTORICAL RESOURCES SURVEY  
AND EVALUATION REPORT  
FOR THE SAN LUIS REY INDIAN  
WATER RIGHTS SETTLEMENT AGREEMENT,  
ESCONDIDO CANAL UNDERGROUNDING,  
SAN DIEGO COUNTY, CALIFORNIA**

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## NADB TITLE PAGE

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Escondido Canal Undergrounding, San Diego County, California

**Submitted by:** ASM Affiliates, Inc.

**Submitted to:** PBS&J

**USGS 7.5' Quadrangles:** Boucher Hill and Rodriguez Mountain, California

**Acres:** Approximately 10-acres

**Keywords:** Escondido Canal, Rincon Penstock, Bedrock Milling, SDI-257,  
SLR-Rincon-1, SLR-Rincon-2, SLR-Rincon-7, SLR-Rincon-9,  
SLR-Rincon-10, P-37-014670, Rincon Powerplant

**New Resources:** SLR-Rincon-1, SLR-Rincon-2, SLR-Rincon- 7, SLR-Rincon-9,  
SLR-Rincon-10

**Updated Sites:** SDI-257, P-37-014670

## MANAGEMENT SUMMARY

The San Luis Rey Indian Water Rights Settlement Agreement (SA) among the United States, the City of Escondido (Escondido), the Vista Irrigation District (VID), the La Jolla, Pala, Pauma, Rincon and San Pasqual Bands of Mission Indians (Bands), and the San Luis Rey Indian Water Authority (a permanent intertribal entity established by the Bands- (SLRIWA)) is designed to provide for a complete resolution of all disputes among the above parties involved in pending proceedings in the United States District Court for the Southern District of California and before the Federal Energy Regulatory Commission (FERC). Implementation of the SA requires the removal, relocation, and replacement of a portion of the Escondido Canal within portions of the San Pasqual Indian Reservation and the County of San Diego. There are five potential alignments for the location of the underground Canal. In addition, due to corrosion and structural deterioration of the existing non-operational Rincon Penstock, as part of the overall settlement the Rincon Penstock will also be replaced. Since the planned undergrounding of the Escondido Canal and the replacement of the Rincon Penstock are the only two ground disturbing projects currently scheduled as part of the overall settlement, the five potential alignments for the location of the underground Escondido Canal and the area effected by the Rincon Penstock replacement make up the Area of Potential Effect (APE) for the implementation of the settlement.

This report presents the results of a cultural and historical resource inventory and evaluation conducted within the APE. This study was completed in compliance with Section 106 of the National Historic Preservation Act (NHPA) and the California Environmental Quality Act (CEQA). The lead agency for Section 106 review is the Bureau of Indian Affairs (BIA) and the lead agency for CEQA review is VID. In addition, several other public and semipublic agencies have discretionary approval over the proposed action and are considered to be “Responsible Agencies” as identified by CEQA (§15096) or “Cooperating Agencies” as identified by NEPA (40 CFR 1501.6).

ASM Affiliates, Inc. (ASM) received permission to perform a record search and cultural resource survey on the Rincon Indian Reservation from the Rincon Band of Luiseño Indians (Rincon Band) on December 20, 2010, and the San Pasqual Indian Reservation from the San Pasqual Band of Diegueño Mission Indians of California (San Pasqual Band) on March 4, 2011. ASM was granted a Archaeological Resources Protection Act (ARPA) Permit by the Bureau of Indian Affairs (BIA) on March 15, 2011.

This study included a cultural resource record search, literature reviews, archival research, Native American consultation, field survey, and resource documentation of the project APE; and an eligibility evaluation of the Escondido Canal and Rincon Penstock, for the National Register of Historical Places (NRHP) and the California Register of Historic Resources (CRHR).

Sixty-one cultural resources have been previously recorded within the APE and 1-mile record search radius. One cultural resource has been previously recorded within the APE, SDI-257. SDI-257 was first recorded by D.L. True in 1954 as a bedrock mortar area containing lithics and pottery sherds. The site was subsequently relocated and the site boundaries were expanded in 1974, 1984, 1995, and 2000. SDI-257 was tested in 1996 by Alter, Gross, and Shultz, who found a diversity of prehistoric and historical materials, including probable human bone. The site was found eligible for listing on the NRHP.

The field survey was performed on March 22, 2011, and March 29, 2011. One new prehistoric archaeological site, SLR-Rincon-1, was recorded, and four historical buildings, SLR-Rincon-2, SLR-Rincon- 7, SLR-Rincon-9, SLR-Rincon-10, were newly recorded. SDI-257 was relocated and the site boundaries were expanded. In addition a portion of the Escondido Canal (P-37-14670) and the Rincon Penstock were recorded and evaluated for eligibility for listing on the NRHP and the CRHR. ASM recommends that the segments of the Escondido Canal assessed by ASM are not eligible for listing on the NRHP or CRHR. It is also recommended that the Rincon Penstock is not eligible for listing on the NRHP or CRHR.

Field notes and photographs are on file at ASM's office in Carlsbad. No artifacts were collected during this survey. DPR forms for each resource documented are provided as a confidential appendix to this report, and have been submitted to the South Coastal Information Center (SCIC) of the California Historical Resources Information System (CHRIS) at San Diego State University.

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# 1. INTRODUCTION

## 1.1 UNDERTAKING INFORMATION

The San Luis Rey Indian Water Rights Settlement Agreement (SA), among the United States, the City of Escondido (Escondido), the Vista Irrigation District (VID), the La Jolla, Pala, Pauma, Rincon and San Pasqual Bands of Mission Indians (Bands), and the San Luis Rey Indian Water Authority (a permanent intertribal entity established by the Bands- (SLRIWA)) is designed to provide for a complete resolution of all disputes among the above parties involved in pending proceedings in the United States District Court for the Southern District of California and before the Federal Energy Regulatory Commission (FERC). Implementation of the SA requires the removal, relocation, and replacement of a portion of the Escondido Canal within portions of the San Pasqual Indian Reservation and the County of San Diego. There are five potential alignments for the location of the underground Canal. In addition, due to corrosion and structural deterioration of the existing non-operational Rincon Penstock, as part of the overall settlement the Rincon Penstock will also be replaced. Since the planned undergrounding of the Escondido Canal and the replacement of the Rincon Penstock are the only two ground disturbing projects currently scheduled as part of the overall settlement, the five potential alignments for the location of the underground Escondido Canal and the area effected by the Rincon Penstock replacement make up the Area of Potential Effect (APE) for the implementation of the settlement.

The purpose of the cultural and historical resource inventory and evaluation is to aid in compliance with Section 106 of the National Historic Preservation Act (NHPA). Section 106 is applicable to federal undertakings, including projects financed or permitted by federal agencies, regardless of whether the activities occur on land that is managed by federal agencies, other government agencies, or private landowners. This project is also subject to the California Environmental Quality Act (CEQA). The lead agency for Section 106 review is the BIA and the lead agency for CEQA review is the VID. In addition, several other public and semipublic agencies have discretionary approval over the proposed action and are considered to be “Responsible Agencies” as identified by CEQA (§15096) or “Cooperating Agencies” as identified by NEPA (40 CFR 1501.6). Actions on tribal lands are often subject only to tribal and federal permits and approvals. Therefore, state and local permits and approvals may not apply to activities on tribal lands.

ASM Affiliates, Inc. (ASM), received permission to perform a record search and cultural resource survey on reservation land from the Rincon Band on December 20, 2010, and from the San Pasqual Band on March 4, 2011. ASM was granted an Archaeological Resources Protection Act (ARPA) Permit by the BIA on March 15, 2011 (Appendix A).

The APE, including the Rincon Penstock and the five potential alignments for the underground Escondido Canal, are located within San Diego County, California (Figure 1). The Rincon Penstock located within the Rincon Reservation and on adjacent U.S government land is currently subject to Escondido's FERC license for Project No.176. , and is shown on the Boucher Hill U.S. Geological Survey (USGS) 7.5-minute quadrangle in Township 11 South, Range 1 West, San Bernardino Base and Meridian, Sections 1 and 2.

The five potential alignments for the underground Escondido Canal are located on the San Pasqual Reservation and on unincorporated County of San Diego land, and are shown on the Rodriquez Mountain USGS 7.5-minute quadrangle in Township 11 South, Range 1 West, San Bernardino Base and Meridian, Sections 15 and 22 (Figure 2).

The Settlement would remove, relocate, and replace a 2.5-mi section of the Escondido Canal. There are five potential alignments for the location of the new underground section of the Canal. All of the potential alignments propose to be located in North Lake Wohlford Road, but vary in their starting location north of South Canal Road, and whether the alignment's connection between South Canal Road and North Lake Wohlford Road would be located in Armstrong Ranch Road, or north of Armstrong Ranch Road (Figure 3). The pipeline ranges from 54- to 56-inches in diameter. No pumping would be required to convey flows through the proposed underground pipeline. The portion of the existing Canal that would be replaced by the underground pipeline would be removed as part of the proposed action. Following removal of this portion of the Canal, the disturbed land would be reclaimed through grading and reestablishment of drainage.

The Settlement would also replace the existing, but non-operational, 2,130- ft long Rincon Penstock (Figure 4). The Rincon Penstock would be replaced with a 20-in. diameter pipeline. The old Penstock pipeline would be removed and the new pipeline would be installed within the same alignment and existing right-of-way. The new Penstock would be located below-grade and consist of welded-steel pipe with a maximum capacity of 12 cfs. The project also includes the replacement of an intake structure, a new "Y"-shaped stub and blind flange at the lower portion of the Penstock, and use of solar power for the Canal control gates. The existing intake structure would be replaced with a new intake structure. The new Penstock would run parallel to the existing hydroelectric facility. It would terminate nine feet beyond the north end of the building with a blind flange. The stub in the Penstock would be installed and capped for a potential future connection to a rebuilt hydroelectric facility. Two feet from the blind flange connection would be a pressure reducing valve and parshall flume. It is anticipated that as part of the Settlement Escondido would surrender its FERC license for the Rincon Penstock and that complete control of that part of the Rincon Reservation would be returned to the Rincon Band.

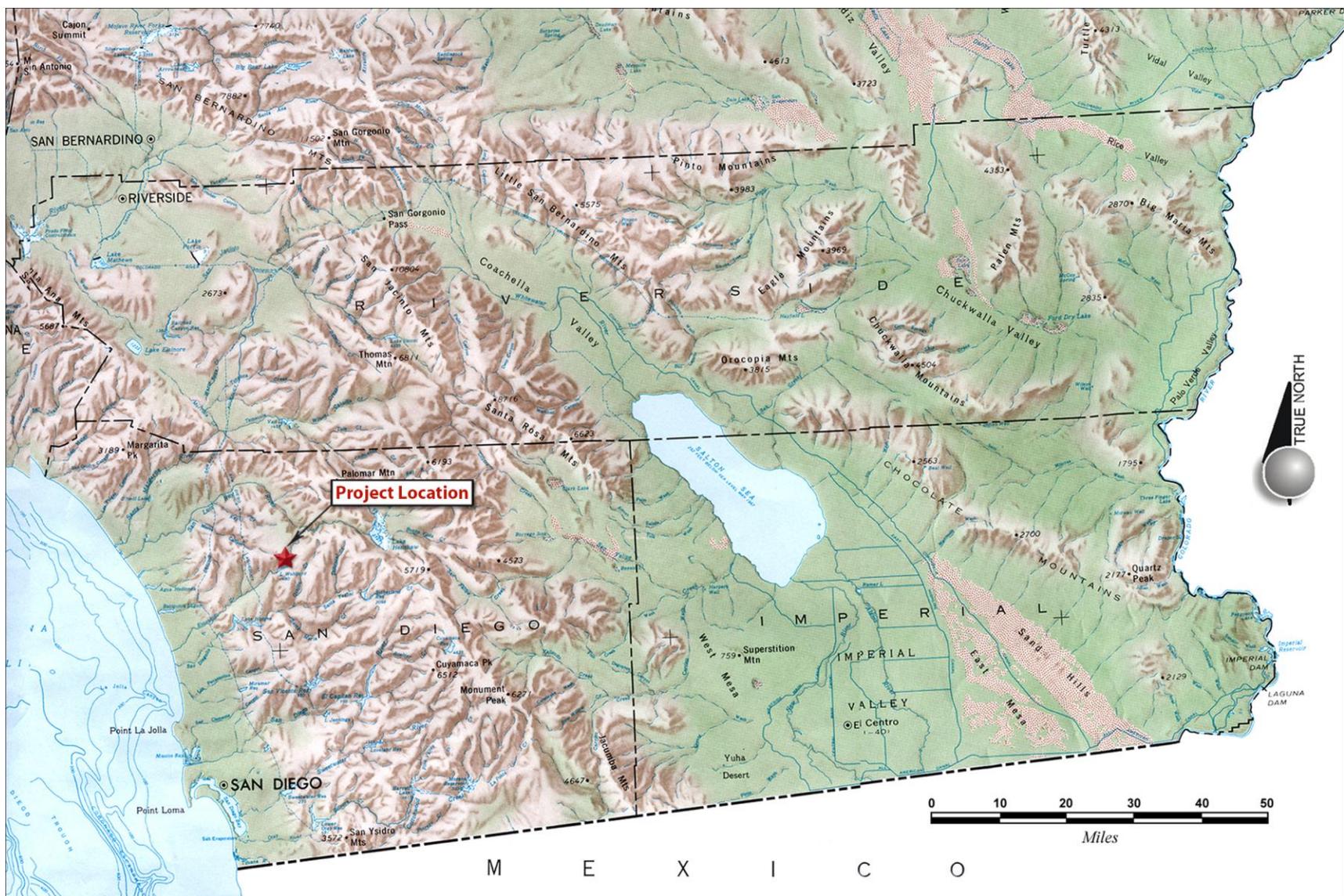


Figure 1. Regional project location.

1. Introduction

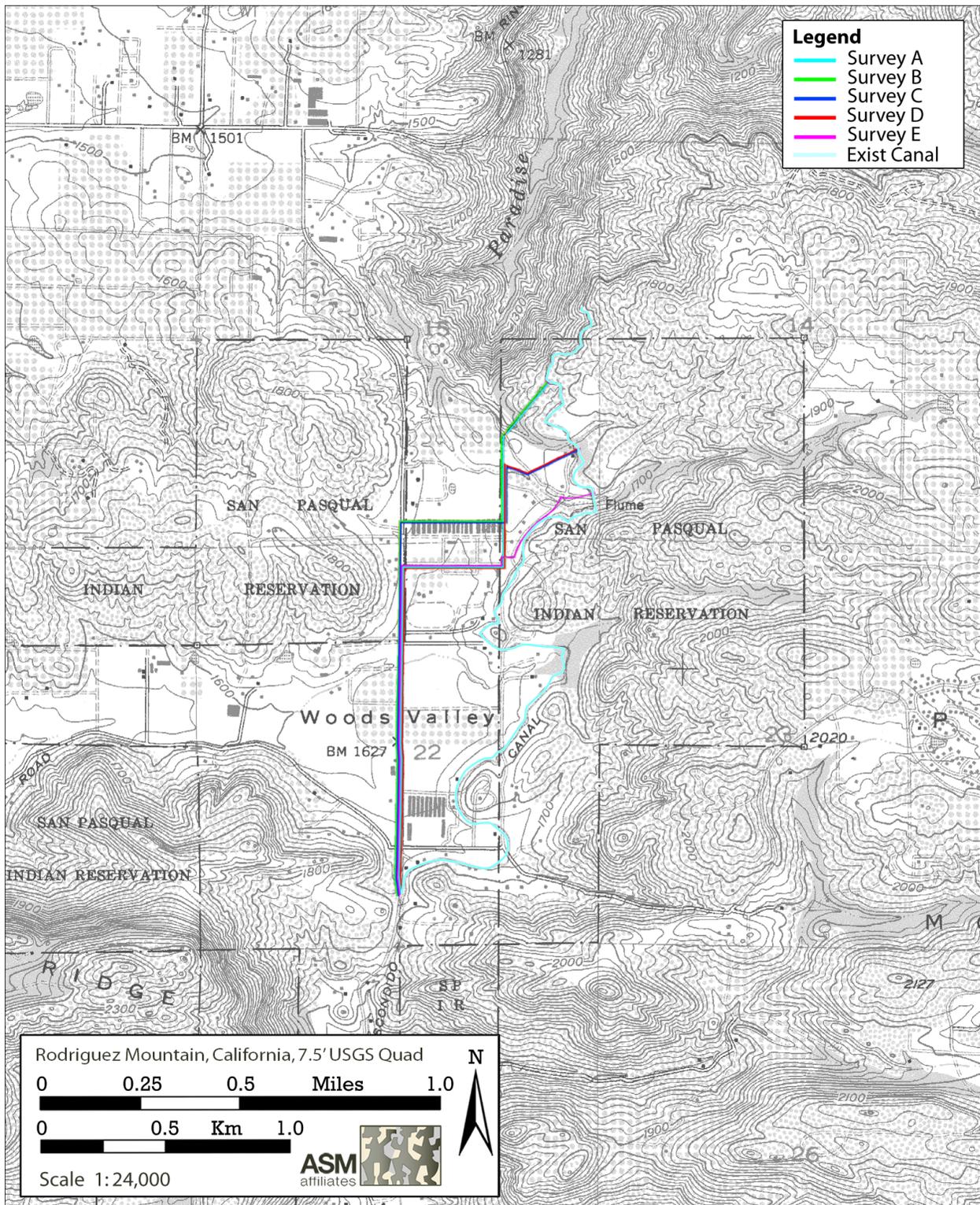


Figure 2. Project vicinity shown on USGS 7.5' quadrangles.

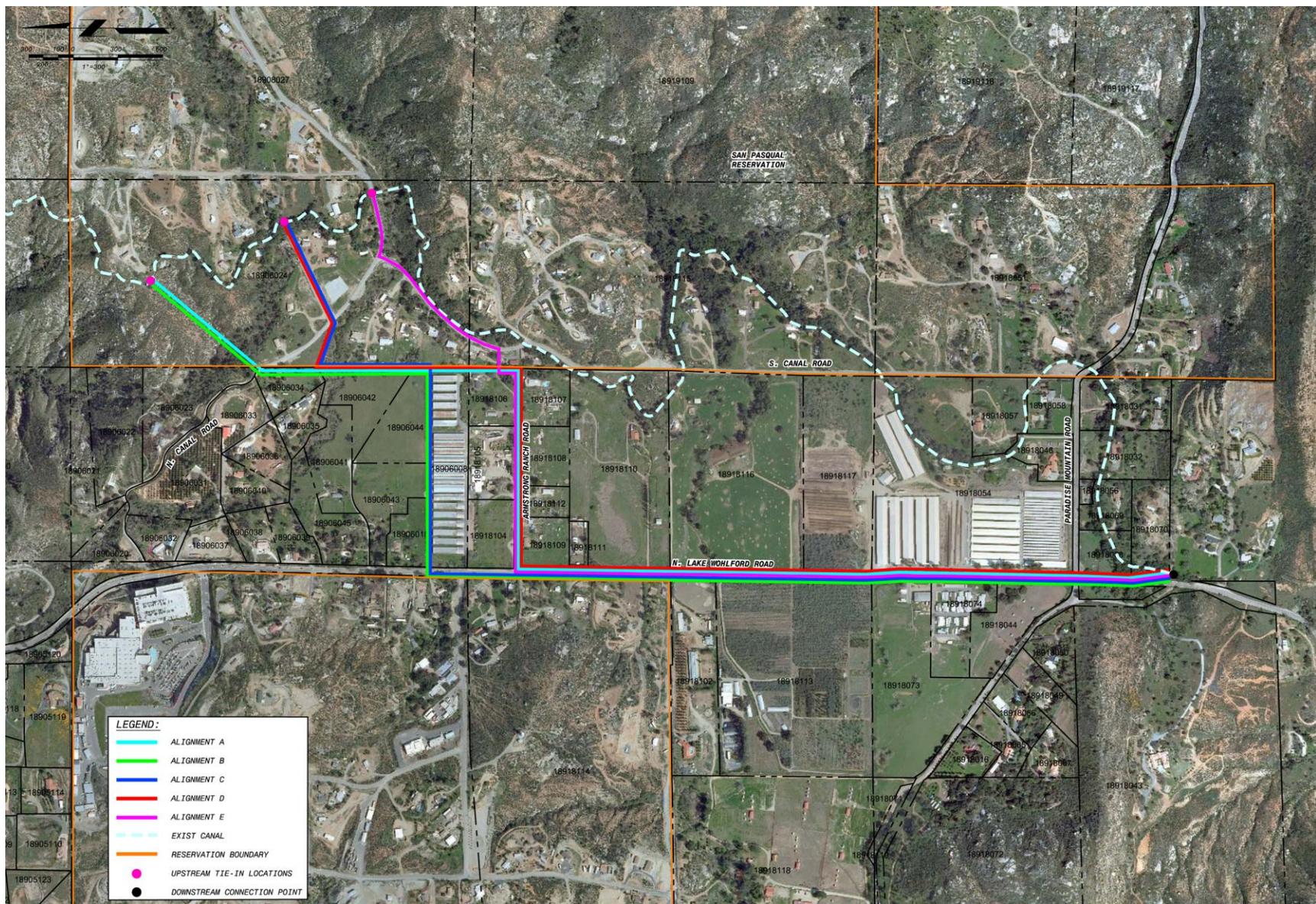


Figure 3. Escondido Canal undergrounding five potential alignments.

1. Introduction

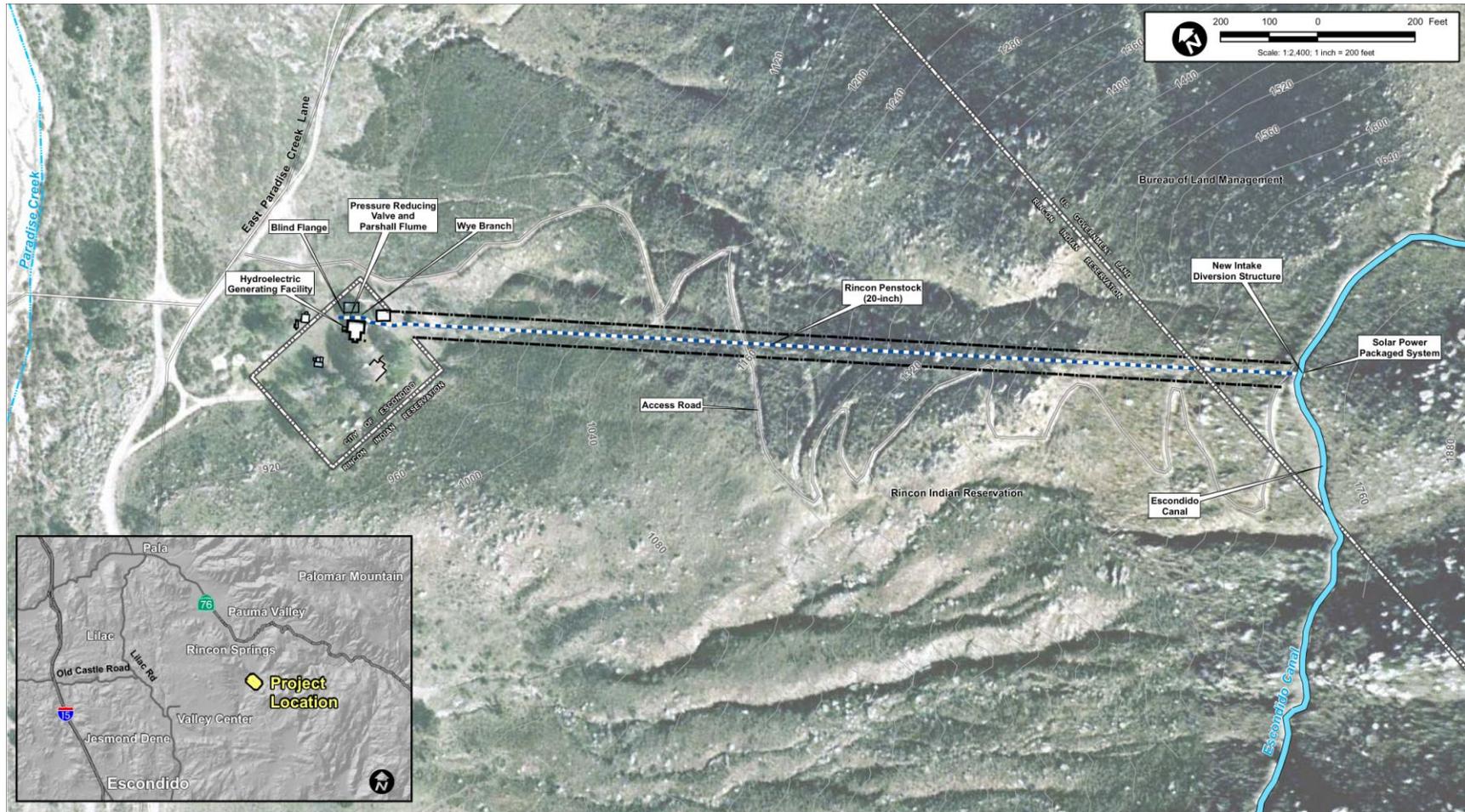


Figure 4. Rincon Penstock alignment.

ASM conducted a Phase I survey of the APE in March of 2011. The cultural resource survey of the APE included the entire Rincon Penstock project area shown on Figure 4 and a 30-ft corridor around each of the five potential alignments of the underground Escondido Canal, shown on Figure 3. This Phase I cultural resources survey was completed to identify and map existing resources in accordance with CEQA and Section 106 of NHPA.

This report also includes an evaluation of eligibility for listing on the NRHP and the CRHR of the Escondido Canal and the Rincon Penstock. The evaluation includes a historical context for the construction and use of the Escondido Canal and the Rincon Penstock, a field survey, photographic documentation, and a detailed description of the Canal and Penstock, a description of the study methods, and the evaluation of eligibility.

The Phase I cultural resources survey was conducted by ASM Associate Archaeologists Shelby Gunderman, M.A., RPA, and Scott Wolf, B.A. ASM Senior Historian Sarah Stringer-Bowsher, M.A., RPH, prepared the evaluation of the Escondido Canal and the Rincon Penstock and ASM Principal Micah Hale, Ph.D., RPA, acted as the Project Manager and Principal Investigator. Personnel qualifications are included in Appendix B. Tiffany Wolfe was the Native American Monitor from the Rincon Band and Wehay “Junior” Quisquis was the Native American Monitor from the San Pasqual Band. .

## 2. SETTING

The APE contains a rich natural and cultural environment. The existing environmental and cultural settings are described below.

### 2.1 NATURAL SETTING

#### 2.1.1 Geography

The APE is located in the lower chaparral biotic zone in the Peninsular Ranges of southern California. Elevations in APE range from 960 ft. above sea level to 1,710 feet above sea level. The five potential alignments for the underground Escondido Canal lie within the San Pasqual Reservation and unincorporated County of San Diego lands. The southern end of the alignments adjoin the Escondido Canal, and extend northward along N. Lake Wohlford Road through Woods Valley before they rejoin the Escondido Canal north east of N. Canal Road. The Rincon Penstock lies within the Rincon Reservation and adjacent U.S. government land subject to Escondido's FERC license for Project 176. The Penstock is located on an approximately 45° northwest facing slope. The southern end of the Penstock abuts the Escondido Canal and the northern end of the Penstock, and the Powerplant area, is located on the Paradise Creek Valley floor, 150 ft south of East Paradise Creek Lane.

The Rincon Penstock is located in an area of mixed land use. The Paradise Creek Valley floor contains urban development and agriculture, while the hillsides surrounding the valley remain undeveloped. The majority of the APE for the five potential alignments of the underground Escondido Canal lie within developed urban and agricultural lands, only the northeastern end of Alignments A and B are located on undeveloped land. Paradise Creek, the San Luis Rey River, and several intermittent seasonal creeks and drainages are in the vicinity of the APE.

#### 2.1.2 Geology and Soils

Geologically, the APE lies within the Southern California Batholith and the Peninsular Ranges. Mesozoic (245-65 million years ago [MYA]) granitic and gabbroic rock and Quaternary (1.6 MYA to present) sedimentary deposits (Rogers 1965; Wagner and Maldonado 2000) are present within the APE. The granitic and gabbroic rocks were formed during the latter part of the Mesozoic Era, in the Cretaceous Period. The granitic and gabbroic rocks are part of the western zone of the Peninsular Ranges Batholith. The designation for the formation in the APE is mid-Cretaceous period *Klh* or Leucogranodiorite of Lake Hodges. It is “massive, coarse- and medium-grained biotitehornblende, leucogranodiorite” (Kennedy and Tan 2005). Previously, Kennedy and Tan (1999) had stated that the area featured mid-Cretaceous *Kg(e)* or Escondido Creek Leucograndiorite, which they described as “fine-grained light-colored rocks ranging from leucograndiorite to leucotonalite, with minor grandiorite and tonalite.”

The soils within the APE containing the Rincon Penstock are classified as well drained Greenfield sandy loam with 9 to 15 percent slopes, well drained Visalia sandy loam with 0 to 2

percent slopes, and somewhat excessively drained Cieneba very rocky coarse sandy loam with 30 to 75 percent slopes (U.S. Department of Agriculture n.d.). The soils within the APE containing the five alignments of the underground Escondido Canal are classified as well drained Visalia sandy loam with 0 to 5 percent slopes, somewhat excessively drained Cieneba, very rocky coarse sandy loam with 30 to 75 percent slopes, and well drained Fallbrook sandy loam with 5 to 9 percent eroded slopes (U.S. Department of Agriculture n.d.).

### **2.1.3 Biology**

Coastal sage scrub and mixed chaparral, which are typical of the lower chaparral biotic zone, occupy the APE. In addition, much of the APE is located within developed urban lands containing agriculture and non-native landscaping. Native plants that were observed during the Phase I survey include laurel sumac (*Malosma laurina*), warty ceanothus (*Ceanothus verrucosus*), chamise (*Adenostoma fasciculatum*), and black sage (*Salvia mellifera*). Oak trees were found within the APE, and in abundance at the northern end of the Rincon Penstock. Non-native grasses were found throughout the APE. The vegetation throughout the majority of the project area was very thick and limited the ground surface visibility to 10 percent or less. Developed roads within the APE also obscured the ground surface. Animals that were observed during the survey included horned lizards (*Phrynosoma coronatum blainvillii*), coyotes, common ravens, and rabbits.

## **2.2 CULTURAL SETTING**

### **2.2.1 Prehistoric Period**

Archaeological investigations in San Diego County and elsewhere in southern California have documented a diverse range of prehistoric human occupations, extending from the terminal Pleistocene down to the time of European contact (Erlandson and Colten 1991; Erlandson and Glassow 1997; Erlandson and Jones 2002; Jones 1992; Jones and Klar 2007; Moratto 1984). Different regional chronologies, often with overlapping and inconsistent terminologies, have been used in coastal southern California. Three general periods can conveniently be distinguished: Pleistocene/Early Holocene, Middle Holocene, and Late Holocene. These periods are characterized by changing patterns in material culture that are thought to represent distinct regional trends in the economic and social organization of prehistoric groups.

### **2.2.2 Paleoindian (pre-5500 B.C.)**

Evidence for Paleoindian occupation in coastal southern California is tenuous, especially considering the fact that the oldest dated archaeological assemblages look nothing like the Paleoindian artifacts from the Great Basin. One of the earliest dated archaeological assemblages in coastal southern California (excluding the Channel Islands) derives from SDI-4669/W-12, in La Jolla. A human burial from SDI-4669 was radiocarbon dated to 9590-9920 years before present (B.P.) (95.4 percent probability) (Hector 2007). The burial is part of a larger site complex that contained more than 29 human burials associated with an assemblage that fits the Archaic profile (i.e., large amounts of ground stone, battered cobbles, and

expedient flake tools). In contrast, typical Paleoindian assemblages include large stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of ground stone tools. Prime examples of this pattern are sites that were studied by Emma Lou Davis (1978) on Naval Air Weapons Station China Lake near Ridgecrest, California. These sites contained fluted and unfluted stemmed points and large numbers of formal flake tools (e.g., shaped scrapers, blades). Other typical Paleoindian sites include the Komodo site (MNO-679)—a multicomponent fluted point site, and MNO-680—a single component Great Basin Stemmed point site (see Basgall et al. 1990). At MNO-679 and -680, ground stone tools were rare while finely made projectile points were common.

Turning back to coastal southern California, the fact that some of the earliest dated assemblages are dominated by processing tools runs counter to traditional notions of mobile hunter-gatherers traversing the landscape for highly valued prey. Evidence for the latter—that is, typical Paleoindian assemblages—may have been located along the coastal margin at one time, prior to glacial desiccation and a rapid rise in sea level during the early Holocene (pre-7500 B.P.) that submerged as much as 1.8 km of the San Diego coastline. If this were true, however, it would also be expected that such sites would be located on older landforms near the current coastline. Some sites, such as SDI-210 along Agua Hedionda Lagoon, contained stemmed points similar in form to Silver Lake and Lake Mojave projectile points (pre-8000 B.P.) that are commonly found at sites in California's high desert (see Basgall and Hall 1990). SDI-210 yielded one corrected radiocarbon date of 8520-9520 B.P. (see Warren et al. 2004). However, sites of this nature are extremely rare and cannot be separated from large numbers of milling tools that intermingle with old projectile point forms.

Warren et al. (2004) claimed that a biface manufacturing tradition present at the Harris site complex (SDI-149) is representative of typical Paleoindian occupation in the San Diego region that possibly dates between 10,365 and 8200 B.C. (Warren et al. 2004:26). Termed San Dieguito (see also Rogers 1945), assemblages at the Harris site are qualitatively distinct from most others in the San Diego region because the site has large numbers of finely made bifaces (including projectile points), formal flake tools, a biface reduction trajectory, and relatively small amounts of processing tools (see also Warren 1964, 1968). Despite the unique assemblage composition, the definition of San Dieguito as a separate cultural tradition is hotly debated. Gallegos (1987) suggested that the San Dieguito pattern is simply an inland manifestation of a broader economic pattern. Gallegos' interpretation of San Dieguito has been widely accepted in recent years, in part because of the difficulty in distinguishing San Dieguito components from other assemblage constituents. In other words, it is easier to ignore San Dieguito as a distinct socioeconomic pattern than it is to draw it out of mixed assemblages.

The large number of finished bifaces (i.e., projectile points and non-projectile blades), along with large numbers of formal flake tools at the Harris site complex, is very different than nearly all other assemblages throughout the San Diego region, regardless of age. Warren et al. (2004) made this point, tabulating basic assemblage constituents for key early Holocene sites. Producing finely made bifaces and formal flake tools implies that relatively large amounts of time were spent for tool manufacture. Such a strategy contrasts with the expedient flake-based

tools and cobble-core reduction strategy that typifies non-San Dieguito Archaic sites. It can be inferred from the uniquely high degree of San Dieguito assemblage formality that the Harris site complex represents a distinct economic strategy from non-San Dieguito assemblages.

If San Dieguito truly represents a distinct socioeconomic strategy from the non-San Dieguito Archaic processing regime, its rarity implies that it was not only short-lived, but that it was not as economically successful as the Archaic strategy. Such a conclusion would fit with other trends in southern California deserts, wherein hunting-related tools are replaced by processing tools during the early Holocene (see Basgall and Hall 1990).

### **2.2.3 Archaic (8000 B.C. – A.D. 500)**

The more than 2,500-year overlap between the presumed age of Paleoindian occupations and the Archaic period highlights the difficulty in defining a cultural chronology in the San Diego region. If San Dieguito is the only recognized Paleoindian component in the San Diego region, then the dominance of hunting tools implies that it derives from Great Basin adaptive strategies and is not necessarily a local adaptation. Warren et al. (2004) admitted as much, citing strong desert connections with San Dieguito. Thus, the Archaic pattern is the earliest local socioeconomic adaptation in the San Diego region (see Hale 2001, 2009).

The Archaic pattern is relatively easy to identify (albeit hard to define) with assemblages that consist primarily of processing tools: millingstones, handstones, battered cobbles, heavy crude scrapers, incipient flake-based tools, and cobble-core reduction. These assemblages occur in all environments across the San Diego region, with little variability in tool composition. Low assemblage variability over time and space among Archaic sites has been equated with cultural conservatism (see Byrd and Reddy 2002; Warren 1968; Warren et al. 2004). Despite enormous amounts of archaeological work at Archaic sites, little change in assemblage composition occurs until the bow and arrow is adopted at around A.D. 500, as well as ceramics at approximately the same time (Griset 1996; Hale 2009). Even then, assemblage formality remains low. After the bow is adopted, small arrow points appear in large quantities and already low amounts of formal flake tools are replaced by increasing amounts of expedient flake tools. Similarly, shaped millingstones and handstones decrease in proportion relative to expedient, unshaped ground stone tools (Hale 2009). Thus, the terminus of the Archaic period is equally as hard to define as its beginning because basic assemblage constituents and patterns of manufacturing investment remain stable, complemented only by the addition of the bow and ceramics.

Separating the Archaic from the Late Prehistoric is primarily based on environmental changes that lead to modifications of settlement (if not assemblage composition and formality). The dessication of resource-rich bays and estuaries lead to the disappearance of large, serial occupation sites in those areas between 3500 and 2000 years ago (Crabtree et al. 1963; Gallegos 1992; Shumway et al. 1961; Warren 1964, 1968; Warren and Pavesic 1963; Warren et al. 1961). Shellfish and plants were the dominant resources while hunting and fishing were less important. Despite the changes in the littoral with the infilling of lagoons, this adaptive strategy remained largely unchanged for several thousand years. Warren et al. (1961:25) claim

that “the La Jolla Complex reached its population and cultural climax between 7,000 and 4,000 years ago when there was a plentiful supply of shellfish in the lagoons along the coast,” followed by a decline in population along the coast and tributaries. Archaeologists following this model suggest that economies intensified plant and small game exploitation to compensate for the lack of coastal resources (Christenson 1992; Crabtree et al. 1963; Gallegos 1985, 1987, 1992; Masters and Gallegos 1997; Rogers 1929:467; Warren 1964, 1968; Warren and Pavesic 1963; Warren et al. 1961). Exceptions to this pattern are thought to be rare, limited to the San Diego Bay and Mission Bay area (e.g., Warren 1964, 1968), and the Peñasquitos Lagoon/Sorrento Valley area (Gallegos 1992).

Inland Middle Holocene sites have been less extensively studied, although D. L. True and his associates established an important foundation for such studies (True 1958, 1980; True and Beemer 1982; True and Pankey 1985; Warren et al. 1961). The Pauma complex had its geographical focus on the upper San Luis Rey River, with extensions to the Valley Center area, middle San Luis Rey River, upper Santa Margarita River, and Escondido-San Marcos area. Pauma complex characteristics suggested by True included (1) a high frequency of shaped manos, (2) the presence of finely worked small domed scrapers, (3) the presence of knives and points, (4) the presence of discoidals and cogged stones, (5) a predominance of grinding tools over flaked tools, (6) a predominance of deep basin metates over slab metates, (7) a predominance of cobble hammers over core hammers, (8) a low frequency of cobble tools, (9) a scarcity of cobble choppers and cobble scrapers, (10) a predominance of volcanic rock over quartzite as a source material for flaked lithics, and (11) an extreme scarcity of obsidian. The coastal La Jolla and inland Pauma complexes have been variously interpreted as separate, contemporaneous socio-cultural units and as seasonal/functional manifestations of a single society and culture.

#### **2.2.4 Late Prehistoric (A.D. 500-1750)**

The interval following the Archaic and prior to ethnohistoric times (A.D. 1750) is commonly referred to as the Late Prehistoric (M. Rogers 1945; Wallace 1955; Warren et al. 2004). However, several other subdivisions continue to be used to describe various shifts in assemblage composition, including the addition of ceramics and cremation practices. In northern San Diego County, the post-A.D. 1450 period is called the San Luis Rey Complex (True 1980) while the same period in southern San Diego County is called the Cuyamaca Complex and is thought to extend from A.D. 500 until ethnohistoric times (Meighan 1959). Rogers (1929) also subdivided the last 1,000 years into the Yuman II and III cultures, based on the distribution of ceramics. Despite these regional complexes, each is defined by the addition of arrow points and ceramics, and the widespread use of bedrock mortars. Variations in the appearance of the bow and arrow and ceramics make the temporal resolution of the San Luis Rey and Cuyamaca complexes difficult. For this reason, the term Late Prehistoric is well suited to describe the last 1,500 years of prehistory in the San Diego region.

Explanations for the origin of innovations associated with the Late Prehistoric period have varied. A. L. Kroeber (1925:578) speculated that Shoshonean (i.e., Takic) speakers migrated from the deserts to the southern coast of California at least 1,000-1,500 years ago (but on

varied interpretations of the region's linguistic prehistory, see Golla 2007; Laylander 2007; Sutton 2009). Some archaeologists have embraced this hypothesis and correlated it with the origins of the Late Holocene archaeological complexes (Meighan 1954; Warren 1968). Rogers (1929) initially discussed the Luiseño and Kumeyaay under the rubric of the Mission Indians, and distinguished them from earlier shell-midden and scraper-maker cultures. He later argued for continuity in occupation from the Archaic to the Late Prehistoric period in the Kumeyaay area (Rogers 1945). He proposed that the Kumeyaay had appeared as the result of earlier migration of Yumans from the coast to the Colorado River (perhaps as the result of an influx of Tatic speakers into northern San Diego County), Yuman adaptation to their new riverine setting and adoption of traits from adjacent populations in the Southwest, and subsequent movement back to the coast during the Late Prehistoric period. Subsequently, scholars have proposed several cultural processes to explain Late Holocene cultural developments, including an occupational hiatus (Wallace 1955), cultural continuity with the addition of new traits (True 1966, 1970; Warren 1964, 1968), and population replacement (Bull 1987).

Despite myriad attempts to explain Late Prehistoric assemblages, temporal trends in socioeconomic adaptations during the Late Prehistoric are poorly understood. This is partly due to the fact that the fundamental Late Prehistoric assemblage is very similar to the Archaic pattern, but includes arrow points, large quantities of fine debitage from producing arrow points, ceramics, and cremations. The appearance of mortars and pestles is difficult to place in time because most mortars are on bedrock surfaces; bowl mortars are actually rare in the San Diego region. Some argue that the ethnohistoric intensive acorn economy extends as far back as A.D. 500 (Bean and Shipek 1978). However, there is no substantial evidence that reliance on acorns, and the accompanying use of mortars and pestles, occurred prior to A.D. 1400. True (1980) argued that acorn processing and ceramic use in the northern San Diego region did not occur until the San Luis Rey pattern emerged after approximately A.D. 1450. For southern San Diego County, the picture is less clear. The Cuyamaca Complex is the southern counterpart to the San Luis Rey pattern, however, and is most recognizable after A.D. 1450 (Hector 1984). Similar to True (1980), Hale (2009) argued that an acorn economy did not appear in the southern San Diego region until just prior to ethnohistoric times, and that when it did occur, a major shift in social organization followed.

### **2.3 ETHNOHISTORIC PERIOD (POST A.D. 1750)**

The Rincon Penstock portion of the APE lies within the traditional Luiseño (also termed Puyumkowitchum and Ataxum) lands while the five potential alignments of the underground Escondido Canal lie within a transition area between the traditional Luiseño and Ipai (also termed Diegueño and Kumeyaay) lands (Kroeber 1925). In 1891, the San Pasqual Band of Diegueño Mission Indians lived in and around the San Pasqual Valley, approximately 10 miles to the south of the current reservation location when the San Pasqual Reservation was incorrectly surveyed and mapped one township to the north (San Pasqual Band of Diegueño Mission Indians of California, n.d.). Therefore, the greater area surrounding the APE was occupied and used by both the Ipai and the Luiseño before European contact.

The San Diego region became increasingly multiethnic in its cultural traditions after the arrival of a permanent Spanish settlement in A.D. 1769. Written records from the historic period also shed considerable light on prehistoric lifeways in the region. Relevant documents from the Spanish and Mexican periods are very limited (Boscana 1846; Fages 1937; Geiger and Meighan 1976; Laylander 2000). However, the ethnographic record became much richer in the early decades of the twentieth century, with the rise of academic anthropology (Drucker 1937, 1941; Gifford 1918, 1931; Hicks 1963; Hohenthal 2001; Kroeber 1925; Laylander 2004; Luomala 1978; Sparkman 1908; Spier 1923; Waterman 1910; White 1963). Ethnographic information concerning the Ipai and the Luiseño is generalized, rather than referring specifically to the APE or project vicinity.

### 2.3.1 Ipai

The people living in the southern part of San Diego County at the time of Spanish contact were called the Diegueño, after the mission at San Diego (Mission San Diego de Alcalá). Many people living in the region were not affiliated specifically with the mission. The term Kumeyaay has come into common usage to identify the Yuman-speaking people who lived and live in the central and southern part of the county. Luomala (1978) used the terms Tipai and Ipai to refer to the southern and northern Kumeyaay respectively. The dividing line between the Tipai and the Ipai runs approximately from Point Loma to Cuyamaca Peak and Julian.

The area surrounding the five potential alignments of the underground Escondido Canal were associated with the Ipai during the early historic period, while prehistorically this area has been associated with both the Ipai and the Luiseño (Kroeber 1925). The Ipai spoke a language (or possibly a dialect) belonging to the Diegueño group, together with the closely related Kumeyaay and Tipai languages or dialects to the south, within the larger Yuman linguistic family. According to the debatable technique of glottochronology, the separation of the Diegueño languages from their closest relative, Cocopa in the Colorado River's delta, may date back about 1,000-1,200 years, and the separation from other Yuman groups represented in western Arizona and northern Baja California may have occurred around 1,500-2,000 years ago (Laylander 1985, 2007). Prehistorically, this area has been associated with both the Ipai and the Luiseño

Aboriginal Ipai subsistence was largely or entirely based on harvesting natural plants and animals, rather than on growing agricultural crops. Acorns were a staple for the western groups, as were agave and mesquite for eastern groups. Numerous other plants were valued for the dietary contributions from their seeds, fruit, roots, stalks, or greens, and a still larger number of species had known medicinal uses. Game animals included deer, first and foremost, but mountain sheep and pronghorn antelope were also present, as well as bears, mountain lions, bobcats, coyotes, and other medium-sized mammals. Small mammals were probably as important in aboriginal diets as larger animals, with jackrabbits and cottontails being preeminent, but woodrats and other rodents were commonly exploited. Various birds, reptiles, and amphibians were caught and eaten; food taboos were few in number and inconsistent, to judge from the surviving ethnographic record. The only pre-contact domesticated animal was the dog. It is not clear whether marine fish and shellfish were a mainstay for some coastal

groups or merely provided supplemental or emergency food sources for groups that were oriented primarily toward terrestrial resources. Interregional exchange systems are known to have linked the coast with areas to the east in particular, but exchange may have been more concerned with facilitating social and ceremonial matters than with meeting material needs (Heizer 1978).

The Ipai people established a rich cultural heritage and were organized into large groups that had base camps and an extensive territory that was exploited for specific resources. Based on ethnohistoric and ethnographic information, a large number of village sites have been identified throughout San Diego County. Some of these villages were located along the coast near river mouths; the varied resources offered by the ocean and riparian areas attracted large numbers of people to these areas. However, a study by Christenson (1992) indicates that maritime resources were not as large a part of the diet as previously believed.

The Ipai were subdivided into essentially sovereign local communities or tribelets. Community membership was generally inherited in the male line. However, in practice some degree of intermixing of these patrilineal clans was certainly present during the historic period, particularly among the Ipai, and this may have reflected a considerable degree of flexibility in community membership during prehistoric times as well. Later descriptions of the settlement systems have been inconsistent, and there may have been considerable variability in practice (cf. Laylander 1991, 1997; Owen 1965; Shipek 1982; Spier 1923). In some areas, substantially permanent, year-round villages seem to have existed, with more remote resources beyond the daily foraging range being acquired by special task groups. In other areas, communities appear to have followed an annual circuit among seasonal settlements, or to have oscillated between summer and winter villages, often with the group splitting up into its constituent families during certain seasons. Some differences in settlement strategies may have reflected local differences in resource availability or cyclical effects of variability between times of plenty and times of stress. Rights of ownership over the land and its various resources were vested both in individual families and in the clans or communities as a whole. Leadership within communities had at least a tendency to be hereditary, but it was relatively weak; authority was more ceremonial and advisory than administrative or judicial. Headmen had assistants, and shamans exerted an important influence in community affairs, beyond their role in curing individual illness.

The Ipai had developed a varied material culture. An array of tools were made from stone, wood, bone, and shell, and these served to procure and process the region's resources. Needs for shelter and clothing were minimal, but considerable attention was devoted to personal decoration in ornaments, painting, and tattooing. The local pottery was well made, although infrequently decorated. Basketry was a craft that was particularly refined (Elsasser 1978).

### **2.3.2 Luiseño**

Luiseño groups, speaking a language within the Takic branch and Cupan subgroup of Uto-Aztecan, occupied the northern San Diego, southern Orange, and southeastern Riverside

counties through the ethnohistoric period into the twenty-first century. They are linguistically and culturally related to the Cahuilla, Cupeño, Serrano, and Gabrielino.

The Luiseño inhabited areas near the Rincon Penstock. Settlement patterns of hunter-gatherers such as the Luiseño were influenced by subsistence factors. The effective exploitation of any particular resource used for food, medicine, or manufacture was tied to the seasonal availability of primary resources. The flora and fauna exploited by Native American populations of this area of southern California were diverse. The Luiseño divided the year into eight seasons (10 months) by when certain seeds and fruit were available. The season or month was named for the environmental characteristics that manifested themselves in that season or month (DuBois 1908:165; Boscana 2005:66).

Both plant and animal foods played a major part in Luiseño subsistence. The plant foods were high in fat, carbohydrates, and protein, and thus provided a high-energy diet. Some of the plants exploited for food included acorns, annual grass seeds, yucca, manzanita, sage, sunflowers, lemonade berry, chia, and various wild greens and fruits. These plants were available seasonally: elderberries are available during July and August, chia is available mainly in June, acorns are available in the fall, and many grasses are available in the spring, summer, and fall. Storage allowed these resources to be consumed throughout the year. Most ethnohistoric accounts emphasize that acorns, gathered in the highlands, were the most important food source for the Luiseño.

Exploited animal resources included deer, antelope, bear, rabbit, jackrabbit, woodrat, mice, ground squirrels, valley and mountain quail, doves, ducks and other birds, fish, and marine shellfish. The Luiseño avoided hunting all predator animals, as well as tree squirrels and most reptiles (Bean and Shipek 1978). Hunting in recent times employed a bow and arrow and was carried out individually or in groups. As in many other areas of California, deer were tracked and stalked, while smaller game, including rabbit, was caught with curved throwing sticks, nets, slings, traps, or deadfalls, or through game drives. Bones of rabbit and other small animals were dried and pounded into a powder to mix into other foods as seasoning and additional nourishment (Waugh 1986).

Coastal marine animals utilized as food included sea mammals, crustaceans, fish, and mollusks. Some fish were only available seasonally, while other fish were available throughout the year. Trout and other fish, when available in inland drainages and in mountain streams, were captured with traps, nets, or poison.

Settlement of coastal southern California followed a pattern of permanent villages and temporary hunting and gathering camps. Houses were conical structures of willow frames covered with brush, with subterranean floors and central hearths. Other structures included sweathouses, ceremonial enclosures, ramadas, and acorn granaries. Domestic implements included wooden utensils, baskets, and ceramic cooking and storage vessels, and stone milling equipment.

Seasonality and scheduling of resource exploitation were critical elements of the cultural adaptive system interwoven with the settlement patterns. Storage of both plants and animals was practiced regularly among the Luiseño and was often considered a necessity. The seasonal availability of acorns, yucca, and grasses dictated long-term planning of resource exploitation. Ethnohistoric accounts emphasize the dearth of winter resources and how people were forced to depend on stored foods including acorns, dried fish, and other plant foods. Some fish species were available in the winter but they were mainly bottom-dwelling species, small sardine schools, and mackerels (Tartaglia 1976:46). Some accounts indicate that coastal communities exploited local shellfish in the winter (Sparkman 1908). During times of scarce resources, the interior Luiseño traveled to the coast to obtain shellfish, fish, and even some land mammals (White 1963). Bean and Shipek (1978) note that most inland groups had fishing and gathering locations on the coast that they visited annually when the tides were low or when the inland resources were scarce, typically during the months of January through March.

All accounts emphasize that populations were concentrated within the highlands during the acorn harvest in October and November. Adaptations included management of resources, food storage, and migration in response to changing availabilities of resources. Fire was employed as a crop-management and path-clearing technique and for community game drives. The annual produce return from various plant resources such as grass seeds, some greens, and yucca was maintained by burning the landscape at least every third year (Bean and Shipek 1978). These techniques prevailed throughout southern California.

The settlement pattern and subsistence systems of the Luiseño, like those of other California groups, were tailored to exploit the seasonal fluctuations in resources and employed movements of populations from mountain slopes and highlands to valley floors and coastal strips. The duration and location of settlement areas were dependent on the availability of plant and animal resources. The settlement pattern was characterized by aggregation and segregation of people around plant and animal resources.

## **2.4 HISTORIC PERIOD**

### **2.4.1 Spanish Period**

Spanish explorer Juan Rodríguez Cabrillo first discovered California in 1542, claiming it for the King of Spain. More than two centuries later, Christian missionaries and soldiers arrived both by sea and overland from Baja California and founded Mission San Diego de Alcalá in 1769, the first of 21 Spanish missions (1769-1823). Charged with converting pagan Indians to Christianity, the mission system and its soldiers would protect Spain's interest in California. Soldiers protected the mission from Presidio Hill, and the Franciscans first served the new mission by overseeing its operations and assumed control over the land as trustees for the Indians. The mission system operated under the expectation that once the Indians had been Christianized and "civilized," land would become a pueblo. In 1774, the presidio became a Royal Presidio, and the mission was relocated 10 km up the San Diego River. Some Indians had already been baptized, but others revolted in 1775 by burning the mission and killing a

friar. The attack did not prompt any long-term changes to the mission system, but it heightened insecurities.

On July 20, 1769, Father Juan Crespí arrived in the San Luis Rey River valley with the Portolá expedition to Monterey. His report back to his superiors declaring it an ideal location for a mission led to the eventual founding of Mission San Luis Rey de Francia, the eighteenth California mission (Pourade 1961:115). The mission was formally dedicated June 13, 1798. Named for King Louis IX of France, this mission became known as the “King of Missions” due to its size and success. At the time of European contact, the San Luis Rey Valley was occupied by Takic-speaking Indians, who were later named Luiseño after the mission. In 1824, Mission San Luis Rey had an Indian neophyte population of 3,000 and the extensive mission lands supported 1,500 horses, 2,800 sheep, and 22,000 cattle (Pourade 1961:139). Approximately 20 mi. northeast the Mission San Luis Rey, Pala was founded in 1810, as an *asistencia*, or outpost, of Mission San Luis Rey (Pourade 1961:122). An *asistencia* is defined as a mission on a small scale that offers religious services on days of obligation but lacks a resident priest (Weber 1988a:v).

Life moved slowly on mission lands, focusing on the pursuits of cultivation. Indians living near the mission complexes worked the land, slowly transforming it into orchards (citrus and olive), vineyards, farm crop fields, and cattle ranch land. Indians in the backcountry, however, preferred to keep their distance from the mission to resist disease and retain their way of life (Engstrand 2005:50-54; Pourade 1960:xv, 18-19, 117; Robinson 1948:23-26). El Camino Real linked the otherwise-isolated missions in Alta and Baja California, and the route between Yuma and San Diego through Mountain Springs grade made San Diego more accessible, even if it crossed over difficult terrain. The San Diego Presidio and the Mission San Luis Rey grew slowly, and the earliest efforts at the mission and presidio translated into successful cultivation even with water shortages and soil problems. At the mission, work days consisted of seven hours of work with two-hour prayer sessions. Along with friars and Indians, Mexican carpenters and blacksmiths also worked at the mission.

Despite the difficulties and distance, Spanish colonists still voyaged to the new land. The first group of colonists arrived in San Diego in 1774. San Diego remained a small frontier colony. During this period, trade ships from the Canton, China, route docked in San Diego, introducing American-made goods from the New England region to the relatively isolated frontier. Before the end of the Spanish era, a dam and aqueduct had been constructed, providing a regular supply of water for the orchards and fields of Mission San Diego (Engstrand 2005:50-54; Pourade 1960; Warren and Roske 1981). By 1818 Mission San Luis Rey had become the richest and most populous of Spain’s missions in California (Heilbron 1936).

### **2.4.2 Mexican Period**

After a long struggle in Mexico, the Mexican War of Independence ended in 1821, severing the Spanish hold on the Californias. The San Diego area began transitioning from a religious and military outpost to a town. The mission movement was dwindling as 17 of the oldest

missions no longer had resident priests and the native population had drastically declined from the impact of Spanish occupation. By 1824, unpaid presidio soldiers of Mission San Diego de Alcalá began constructing homes at the base of Presidio Hill in present-day Old Town. The Mexican government continued to open up San Diego by retracting port restrictions, further expanding access to the port for the growing hide trade. Old Town became an important center for a decade, becoming a civilian town in 1834. By 1840, the town had fallen into disrepair and many left the old, decaying pueblo (Engstrand 2005:56-57; MacPhail 1971; Mills 1968; Padilla-Corona 1997; Pourade 1960; Robinson 1948:23-72).

Land grants or ranchos largely characterize the Mexican period (1821-1848). Although some land had been granted to Indians, most of the land went to military men or merchants. Granting large ranch land or ranchos remained as both a Spanish and Mexican legacy in California, but no land grants were made in San Diego during the Spanish period. Spaniards developed the idea in 1784 when the Spanish viceroy and his appointees (governors and military commanders) granted ranchos as essentially land concessions or permits for cattle grazing. The Mexican government retained those concessions for a time, but by 1828, existing and new ranchos were granted under land title. A majority of ranchos were demarcated after secularization of mission land beginning in 1833, which prompted a rush for land grants. Land granted to Mexicans between 1833 and 1846 amounted to 500 ranchos primarily granted near the coast from San Francisco to San Diego. Hand-drawn maps or *diseños* indicated the often-vague boundaries of the grants where *dons* and *doñas* constructed adobe houses on their vast lands, cultivating the land, and grazing cattle, often with the aid of *vaqueros*. Mexican Governor Pío Pico granted a great number of those ranchos prior to 1846, quickly carving up Alta California to ensure Mexican land titles survived a U.S. victory in the Mexican-American War (1846-1848) (Christenson and Sweet 2008:7; Engstrand 2005:64-66; Robinson 1948:23-72). The Helix-Lambron, Pascoe, and Cielo Azul parcels lie outside but are near, Hispanic-era land grants.

### 2.4.3 American Period

After the Mexican-American War, land ownership in California became hotly contentious despite protection under the Treaty of Guadalupe Hidalgo of February 1848. Proof of rancho land ownership with the new government often meant years of effort to obtain a federal patent, and many rancheros had difficulty maneuvering through the process. Capitalizing on the uncertainty of those transitional years, Anglo settlers increasingly squatted on land that belonged to Californios and began challenging the validity of Spanish-Mexican claims through the Board of Land Commissioners (1851) (Garcia 1975:15-16, 22-24). Meanwhile, William Heath Davis's 1850 experiment to restart San Diego as a coastal New Town failed after a short period of time. Alonzo E. Horton's second attempt at New Town in 1867 became the successful foundation for present-day downtown San Diego (MacPhail 1971; Mills 1968; Padilla-Corona 1997). An influx of Anglo squatters outside of New Town and new government taxes severely hindered Californio rancho owners, and by 1860, most did not retain their original land holdings. Unimproved farmland and substantial, often unconfirmed, ranchos characterized the largely uninhabited San Diego County (Garcia 1975:15-16, 22-24).

The confirmation of rancho's boundaries in the late 1860s and early 1870s drew additional settlers as land became officially conveyable. Small farming communities were quickly established throughout San Diego County, and a completed transcontinental railroad in November 1885 helped to initiate an unprecedented real estate boom for New Town that spilled over the county. Settlers poured into San Diego, lured by real estate promotions offering a salubrious climate, cheap land, and the potential to realize great profits in agriculture and real estate. Speculators formed land companies and subdivided town sites throughout the county, and settlers took up homestead claims on government land for both speculation and permanent settlement (Pourade 1964:167-191). In 1880, the California Southern Railroad was formed to construct a rail line between San Diego and San Bernardino. By 1882, 211 mi. of track had been constructed from National City to Fallbrook Junction, just north of Oceanside, and inland through Temecula Canyon to Colton and San Bernardino, bringing a greater level of connection to the county.

The first two decades of the twentieth century brought continuity and change to San Diego, with a continued U.S. Navy and Army presence, and the trend of populating the burgeoning New Town continued (Heilbron 1936:370, 431; U.S. Census Bureau 1920:82). Automobiles became increasingly popular as they became affordable, prompting San Diego County to grade roads to open up the backcountry (Etulain and Malone 1989:40; Kyvig 2004:27). Glenn H. Curtiss flew the first seaplane from North Island (1911), initiating a growing interest in aviation technologies in San Diego that would later be heightened by Charles Lindbergh's historic flight on the Spirit of St. Louis from Rockwell Field in San Diego to St. Louis, Missouri (1927). Balboa Park and the San Diego Zoo remained after the Panama-California Exposition in 1915, leaving San Diegans with city-defining legacies. In 1917, the U.S. Army established Camp Kearney as part of the nationwide defense campaign for World War I (Engstrand 2005).

Flourishing agricultural communities existed across the county with federal and state water development projects, harbor improvements, and high levels of construction curbing some of the effects of the Great Depression. Construction projects for the Navy and Army helped sustain the area. Social changes such as the construction of San Diego State College (1931), transition from coal-derived gas to natural gas, and the planning and hosting of the World's Fair (1935) also aided in sustaining the San Diego area (Engstrand 2005:147-155). A significant economic impact during the financial crisis was Reuben H. Fleet's decision to move Consolidated Aircraft from Buffalo, New York, to San Diego, a more suitable climate for testing planes. The company brought 800 employees and \$9 million in orders (Consolidated Aircraft 2004; Engstrand 2005:151).

San Diego County's greatest numerical growth period in the first half of the twentieth century was between 1940 and 1950 when the county grew to 556,808 inhabitants (U.S. Census Bureau 1940, 1950). It is also a period characterized by more people moving to rural areas instead of the city, as the rural population increase by 170.8 percent (U.S. Census Bureau 1950:5-12, 5-16, 5-21). At more than half a million people, San Diego had become a metropolis with attractive rural areas transitioning into new suburban communities.

Infrastructure improvements to both roadways and railroads in San Diego County became necessary to accommodate new residents, again primarily near defense centers (*Oceanside Daily Blade-Tribune*, 25 February 1941:1, 20 August 1941:1). In 1956, President Eisenhower authorized an interstate system with the Federal-Aid Highway Act, an act that further interconnected multiple state routes for increased interstate traffic flow. According to historian Iris Engstrand (2005:165), “the automobile affected almost every major decision regarding the direction taken by San Diego planners during the post-World War II decades.” A new trend of constructing retail stores outside the city center provided suburban enclaves as more houses filled in the outskirts of the city (Engstrand 2005:165-166). By 1960, 1,033,011 people lived in the county and between 1950 and 1970, bedroom communities such as El Cajon, Escondido, Chula Vista, and Oceanside experienced a tremendous growth rate (between 214 and 833 percent) (Engstrand 2005:166; U.S. Census Bureau 1960).

## **2.5 RECORD SEARCH RESULTS**

ASM conducted a records search at the South Coastal Information Center (SCIC) of the California Historical Resources Information System (CHRIS) at San Diego State University on December 21, 2010, and March 21, 2011. The records search area included a 1.0-mi. buffer zone around the APE. The records search included a search of all relevant site records on file with the SCIC, as well as a search of the NRHP, CRHR, and other local registers, to determine if significant archaeological or historical sites have previously been recorded within or near the project survey area (Confidential Appendix C).

### **2.5.1 Previous Studies**

Fifty-three previous cultural reports have addressed areas within the APE or within the 1.0-mi. records search buffer (Table 1). These reports are on file at the SCIC. Nine of the previous reports have addressed portions of the APE. The entire APE has been previously inventoried for cultural resources, however systematic archaeological surveys have only taken place on approximately half of the APE.

Table 1

In 2007, Herb Dallas of Cal Fire prepared an archaeological overview and assessment of the entire APE (Dallas 2007). Also in 2007, Charles Whatford prepared an archaeological overview and assessment of the entire Rincon Penstock project area (Whatford 2007). No other previous studies have addressed the Rincon Penstock. The five potential alignments of the underground Escondido Canal have been the previously inventoried for cultural resources by several different studies from 1974 to 2001.

Table 1. Previous Cultural Resources Reports Addressing the APE and One Mile Buffer

<b>NADB No.</b>	<b>Authors</b>	<b>Date</b>	<b>Title</b>	<b>Relation to the APE</b>
1120055	Adams, Therese E.	1979	<i>A Cultural Resource Survey Report for Paradise Mountain Avocado Ranch</i>	Outside
1120063	American Pacific Environmental Consultants, Inc.	1980	<i>Archaeological Study for Bamber Property</i>	Outside
1120121	Banks, Thomas J.	1980	<i>Archaeological Survey Surface Collection and Test Excavation At Site W-2586 Near Woods Valley, San Diego County</i>	Outside
1120133	Berryman, Stanley R.	1975	<i>Archaeological Investigation of: Ernest Thomas Lot Split TPM 11061</i>	Outside
1120300	Bull, Charles and Paul H. Ezell	1974	<i>An Archaeological Survey for the Escondido Mutual Water Company Relocated Water Line</i>	Intersect
1120504	Chace, Paul G.	1978	<i>An Archaeological Survey of the Benson Property Near Valley Center, County Of San Diego T.P.M. #14385</i>	Outside
1120593	Chace, Paul G.	1984	<i>A Cultural Resources Survey for the Central Valley Center Sewer SWCB Project No. C-06-1567</i>	Outside
1120765	Chace, Paul G. and Donna Collins	1987	<i>Addendum, A Cultural Resources Survey for the Central Valley Center Sewer</i>	Outside
1120797	Eckhardt, William T.	1981	<i>Archaeological Reconnaissance of Proposed Flood Control Improvements Along the Southern Boundary Rincon Indian Reservation San Diego County, California</i>	Outside
1121002	Fulmer, Scott, and John Cook	1977	<i>An Archaeological Reconnaissance of the Hulburt Lot Site</i>	Outside
1121146	Leeper, Karlene	1989	<i>Oak Ranch Historical Background</i>	Outside
1121284	Napton, L. Kyle and E. A. Greathouse	1984	<i>Cultural Resource Investigations, San Pasqual Indian Reservation, California</i>	Intersect
1121516	Van Horn, David M.	1978	<i>Archaeological Survey Baker Lot Split, Valley Center</i>	Outside
1121566	Smith, David D. and Associates	1973	<i>On the Archaeological Resources of the Paradise Mountain Estates Development Site San Diego, California</i>	Outside
1121827	Mooney, Brian, M. Farrell, Steven Shackley, and Carol Serr	1989	<i>Jon Wilkie Property</i>	Intersect
1121943	Napton, L. Kyle and Elizabeth Anne Greathouse	1979	<i>Reconnaissance on the Rincon Indian Reservation, San Diego County, California Supplementary Report</i>	Outside
1122075	County Of San Diego Department Of Planning & Land Use	1988	<i>Draft Environmental Impact Report North Mountain Subregional Plan Update GPA 88-03, County Of San Diego</i>	Outside
1122973	Roybal, Gerald J.	1995	<i>Reconnaissance Survey for the San Pasqual Indian Reservation Proposed Road Surfacing and Construction</i>	Outside
1125020	County Of San Diego	1983	<i>Cultural Resource Assessment of Bureau of Land Management Valley Center Site 1, San Diego County</i>	Outside
1125056	Kyle, Carolyn	2001	<i>Cultural Resource Survey for the Ehmcke Project, County Of San Diego, California</i>	Outside
1125344	Wahoff, Tanya and Christy Dolan	2000	<i>Cultural Resource Inventory for the Rincon Casino Project, San Diego County</i>	Outside

## 2. Setting

<b>NADB No.</b>	<b>Authors</b>	<b>Date</b>	<b>Title</b>	<b>Relation to the APE</b>
1125426	Pigniolo, Andrew and Michael Baksh	2000	<i>Cultural Resource Survey Report for the San Pasqual Firebreaks Project, San Pasqual Indian Reservation, California</i>	Outside
1125433	Pigniolo, Andrew	2000	<i>Resources Survey Report for the Districts A&amp;B Water System Rehabilitation Project, San Pasqual Indian Reservation, San Diego, California</i>	Intersect
1125496	Roybal, Gerald J.	1995	<i>Reconnaissance Survey for the San Pasqual Indian Reservation Proposed Road Surfacing and Construction</i>	Intersect
1125853	Crouthamel, Steven J.	1991	<i>Archaeological Site Survey in the Rincon Indian Reservation San Diego County, California</i>	Outside
1126305	Case, Robert	2000	<i>Cultural Resource Survey Of The 82 Acre Blackwell Property (TPM-20495) Near Valley Center San Diego California</i>	Outside
1126771	Napton, Kyle	1984	<i>Resource Investigations for San Pasqual Indian Reservation, California</i>	Intersect
1127418	Pigniolo, Andrew, Dustin Kay, and Stephanie Murray	2001	<i>Cultural Resources Survey Report for the San Pasqual Residential Firebreaks Project, San Pasqual Indian Reservation, San Diego County, California</i>	Intersect
1128077	Nixon, Joseph M. and Jonathan Erb	2002	<i>Report of Cultural Resource Survey for the Rincon Indian Reservation Property Improvement Projects, San Diego County, California</i>	Outside
1128114	Duke, Curt	2002	<i>Cultural Resource Assessment Cingular Wireless Facility No. SD 959-03, San Diego County, California</i>	Outside
1128428	Pigniolo, Andrew R. , Stephanie Murray, and Patrick McGinnis	2003	<i>Archaeological Survey Report for the Rincon Water Enhancement Project, Rincon Reservation, California</i>	Outside
1128478	Fulmer, Scott and John Cook	1977	<i>Archaeological Reconnaissance of the Hurlburt Lot Split</i>	Outside
1128725	Cook, John R.	1993	<i>Survey Report for the Richardson Property in Valley Center, California</i>	Outside
1128728	Patterson, Cameron C. and Marina Riley Brand	1979	<i>Biology/Archaeology Technical Reports for Indian Hills, LTD</i>	Outside
1128810	McGinnis, Patrick and Michael Baksh	2003	<i>Cultural Resource Survey of the North County Bus Stops Replacement Project, San Diego County, California</i>	Outside
1128830	Kyle, Carolyn E.	2001	<i>Cultural Resource Test For Sites CA-SDI-1066, CA-SDI-1067, CA-SDI-13398, And CA-SDI-13437, Ehmcke Project, County Of San Diego, California</i>	Outside
1128831	Kyle, Carolyn E.	2001	<i>Cultural Resource Survey For The Ehmcke Project, County Of San Diego, California</i>	Outside
1128894	Kyle, Carolyn	2001	<i>Cultural Resource Survey for the Ehmcke Project, County Of San Diego, California</i>	Outside
1128991	McGinnis, Patrick	2004	<i>Cultural Resources Survey Report for the San Pasqual 3.5-Acre Fee-To-Trust Project, San Diego County, California</i>	Outside
1129153	McGinnis, Patrick and Michael Baksh	2004	<i>Cultural Resources Survey Report for the San Pasqual 3.31 Arce Fee-To-Trust Project San Diego County, California</i>	Outside
1129391	Wright, Gail	2005	<i>Cultural Resources Survey Report for TPM 20917, Log 05-09-005 Brown's Rancho Minor Subdivision APN 189-030-38</i>	Outside
1129469	Gross, Timothy and Mary Robbins-Wade	1989	<i>Resources Survey and Significance Assessment: Ridge Ranch, Valley Center, California</i>	Outside

<b>NADB No.</b>	<b>Authors</b>	<b>Date</b>	<b>Title</b>	<b>Relation to the APE</b>
1129483	Gross, Timothy and Mary Robbins-Wade	1989	<i>Resources Survey and Significance Assessment: Live Oak Ranch, Valley Center, California</i>	Outside
1130412	McGinnis, Patrick	2006	<i>Cultural Resources Survey Report for Two Five-Acre Parcels Within the Boundaries of the Rincon Indian Reservation, California</i>	Outside
1131793	Dallas, Herb	2007	<i>Cultural Resources Narrative for the Poomacha Fire, CA-MVU-10643, San Diego County, California</i>	Intersect
1131916	Rosen, Martin D. and Kevin Hovey	2008	<i>Historic Property Survey Report for Wetland Mitigation for the Valley Center Road Bridge</i>	Outside
1131939	Hector, Susan and Linda Akyuz	2008	<i>Plan For Archaeological Resources Within The Hellhole Canyon Preserve, San Diego County.</i>	Outside
1131939	Hector, Susan and Linda Akyuz	2008	<i>Management Plan for Archaeological Resources within the Hellhole Canyon Preserve, San Diego County</i>	Outside
1131985	Tierra Environmental Services	2005	<i>Environmental Site Assessment for a 3.75-Acre Parcel, Lake Wohlford Road Valley Center, California</i>	Outside
1132106	Whatford, J. Charles	2007	<i>Cultural Resource Narrative For The Witch Fire Ca-Mvu-010432 San Diego County, California.</i>	Intersect
1132106	Whatford, J. Charles	2007	<i>Cultural Resource Narrative for the Witch Fire Ca-MVU-010432 San Diego County, California</i>	Outside
1132309	Cooley, Theodore	2005	<i>Letter Report for Cultural Resource Survey for the San Pasqual Parking Lot Near Valley Center</i>	Outside
1132438	Bowden-Renna, Cheryl and Rebecca McCorkle Apple	2008	<i>Archaeological Survey Report for the Paradise Creek Biological Mitigation Site in Support of the Valley Center Bridge Replacement Project Rincon Reservation, San Diego County, California</i>	Outside

## 2.5.2 Previously Recorded Sites

Sixty-one cultural resources have been previously recorded within the APE and the 1.0-mi, record search buffer (Table 2). One cultural resource, SDI-257, has been previously recorded within the APE. Four additional cultural resources are within 100 m of the APE: SDI-256, SDI-15667, SDI-15668, and P-37-018786.

### SDI-257

SDI-257 extends into the APE. It was first recorded by D. L. True in 1954 as a large temporary camp including bedrock milling features and artifacts. Subsequent cultural resource studies revised and expanded the site in 1974 by C. Bull, 1984 by L.K. Napton and E.A. Greathouse, 1995/1996 by Alter et al., and in 2000 by A. Pigniolo and J. Dietler. SDI-257 contains bedrock milling features with over 40 mortars and slicks, numerous milling implements and fragments, debitage, Tizon brown ware ceramic sherds, midden soils, an acorn hammer, a pestle, and a historical trash scatter. The site was tested in 1996 by Alter et al., and a diversity of prehistoric and historic materials were uncovered, including probable human bone. The site was recommended as eligible for listing on the NRHP.

## 2. Setting

Table 2. Previously Recorded Cultural Resources within the APE and One Mile Buffer

Designation		Contents	Recorder, Date	Relation to the APE
Primary Number P-37-	Trinomial CA-SDI-			
014670	-	Segment of the Escondido Canal, two wooden flumes	Jensen and Jensen, 1996	Outside
014936	-	Hammer stone	Gross et al., 1989	Outside
014937	-	Metavolcanic flake	Gross et al., 1989	Outside
014938	-	Metavolcanic flake	Gross et al., 1989	Outside
014943	-	Unifacial scraper, Santiago Peak metavolcanic	Serr, 1990	Outside
015472	-	Milky quartz interior flake and Tizon pottery sherd	James, 1993	Outside
015473	-	Two quartz interior flakes	Schultz et al., 1993	Outside
015474	-	Quartz flake, possibly utilized	James, et al., 1993	Outside
018322	-	Clear quartz fragment of angular waster	Pigniolo, 1999	Outside
018323	-	Santiago Peak Volcanic flake with multiple flake scars, possibly retouched and used as a tool	Pigniolo, 1999	Outside
018324	-	Patinated grey-green aphanitic Santiago Peak Volcanic interior flake	Pigniolo, 1999	Outside
018786	-	Granitic, bifacial, shouldered mano	Pigniolo, 1999	Outside
024355	-	U.s. Coast and Geodetic Survey marker	Pigniolo, 2001	Outside
029802	-	Escondido Canal/Flume – San Luis Rey Flume	Akyuz, 2008	Outside
000013	00013	AP2. Lithic scatter; AP3. Ceramic scatter; AP4. Bedrock milling features; AP15. Habitation area; AH2. Foundations (adobe)	True, 1959	Outside
000014	00014	AP2. Lithic scatter; AP3. Ceramic scatter; AP4. Bedrock milling features; AP15. Habitation area	True, 1959	Outside
000015	00015	AP4. Bedrock milling feature	True, 1959	Outside
000017	00017	AP4. Bedrock milling feature	True, 1959	Outside
000253	00253	AP3. Ceramic scatter; AP4. Bedrock milling feature	Williams, 2009; True, 1954	Outside
000256	00256	AP2. Lithic scatter; AP4. Bedrock milling feature; AP15. Habitation area	Pigniolo and Dietler, 1999; Napton, 1984; True 1954	Outside
000257	00257	AP2. Lithic scatter; AP3. Ceramic scatter; AP4. Bedrock milling feature; AP15. Habitation area; AP16. Possible human bone; AH4. Trash scatter; Eligible for listing on the NRHP	Pigniolo and Dietler, 2000; Napton and Greathouse, 1984; Bull, 1974; True, 1954	Within
000258	00258	AP3. Ceramic scatter; AP4. Bedrock milling feature	True, 1954	Outside
000306	00306	No information	True, n.d.	Outside
000307	00307	AP2. Lithic scatter; AP3. Ceramic scatter; AP4. Bedrock milling features; AP15. Habitation area	True, 1959	Outside
000346	00346	AP2. Lithic scatter	True, 1959	Outside

Designation		Contents	Recorder, Date	Relation to the APE
Primary Number P-37-	Trinomial CA-SDI-			
000504	00504	AP3. Ceramic scatter; AP15. Habitation area; AH2. Foundation	True, 1959	Outside
000664	00664	AP4. Bedrock milling feature; AP15. Habitation area; AH2. Foundation (adobe remains)	True, 1959	Outside
000666	00666	AP2. Lithic scatter; AP15. Habitation area	True, 1959	Outside
000670	00670	AP2. Lithic scatter; AP4. Bedrock milling feature; AP15. Habitation area	Pigniolo, 1999; American Indian Resource Organization, 1984; True 1959	Outside
000769	00769	AP6. Pictograph	True, 1960	Outside
001514	01514			Outside
005569	05569	Chalcedony blade/projectile point	Fulmer and Cook, n.d.	Outside
006702	06702	AP4. Bedrock milling feature	Harris, 1979	Outside
006703	06703	AP2. Lithic scatter; AP4. Bedrock milling features	Dietler et al., 2000; Harris, 1979	Outside
006704	06704	AP2. Lithic scatter; AP4. Bedrock milling features	Harris, 1979	Outside
006942	06942	AH3. Structure remains; AH16. Rock cairn; HP46. Rock wall	Hatley, 1978	Outside
006944	06944	AP4. Bedrock milling feature	Carrillo, 1978	Outside
009915	09915	AP2. Lithic scatter; AP4. Bedrock milling feature; AP16. Fire cracked rock	Schroth, 1986; Napton and Greathouse, 1984	Outside
009916	09916	AP2. Lithic scatter; AP3. Ceramic scatter; AP4. Bedrock milling feature; AP8. Rock alignment; AP15. Habitation area	Dietler, et al., 2000; Schroth, 1986; Napton and Greathouse, 1984	Outside
010823	10823	AP4. Bedrock milling feature; AP15. Habitation area "Rincon Village"	Williams, 2009; Smallwood and Kay, 2001; Shipek, 1976; Jackson, 1883	Outside
011513	11513	AP4. Bedrock milling feature	Serr and Shackly, 1989	Outside
011514	11514	AP2. Lithic scatter; AP4. Bedrock milling features	Serr and Shackly, 1989	Outside
011557	11557	AH2. Building remains; AH4. Trash scatter	Gross et al., 1989	Outside
011561	11561	AP2. Lithic scatter; AP12. Quarry	Gross et al., 1989	Outside
011567	11567	AP4. Bedrock milling feature	Gross et al., 1989	Outside
013427	13427	AP4. Bedrock milling feature	Schultz et al., 1993	Outside
013432	13432	AP4. Bedrock milling feature	Bark et al., 1993	Outside
013433	13433	AP4. Bedrock milling feature; HP2. Single family property; HP 46; Wall; AH5. Water tank	Bark et al., 1993	Outside
013434	13434	AP4. Bedrock milling feature	Schultz et al., 1993	Outside
013435	13435	AP4. Bedrock milling feature	James et al., 1993	Outside
018318	15279	AP4. Bedrock milling feature; AP15. Habitation area	Pigniolo, 1999	Outside
018319	15331	AP4. Bedrock milling feature; AP15. Habitation area	Pigniolo, 1999	Outside

## 2. Setting

Designation		Contents	Recorder, Date	Relation to the APE
Primary Number P-37-	Trinomial CA-SDI-			
018320	15341	AP3. Ceramic scatter	Pigniolo, 1999	Outside
018321	15342	AP2. Lithic scatter, AP11. Hearth; AP15. Habitation area	Pigniolo, 1999	Outside
018787	15665	AP4. Bedrock milling feature	Dietler et al., 2000	Outside
018788	15666	AP2. Lithic scatter; AP3. Ceramic scatter; AP4. Bedrock milling feature; AP15. Habitation area; AP16. Shell scatter; AP16. Fire affected rock; AH4. Trash scatter	Dietler et al., 2000	Outside
018789	15667	AP2. Lithic scatter; AP4. Bedrock milling feature; AP15. Habitation area	Pigniolo, 2000	Outside
018790	15668	AP2. Lithic scatter	Pigniolo, 2000	Outside
024394	16176	AP4. Bedrock milling feature	James and Briggs, 2001	Outside
025522	16944	AP2. Lithic scatter	McGinnis, 2004	Outside
031000	19675	AP4. Bedrock milling feature	Williams et al., 2009	Outside

### SDI-256

SDI-256 is adjacent to the APE. It was first recorded by D. L. True in 1954 as a temporary camp including bedrock milling features and a shallow midden deposit. Subsequent cultural resource studies revised and expanded the site in 1984 by L.K. Napton and E.A. Greathouse, 1995/1996 by Alter et al., and in 2000 by A. Pigniolo and J. Dietler. Alter et al., tested the site in 1996 and found it not potentially eligible for listing on the National Register.

### SDI-15667

SDI-15667 is adjacent to the APE. It was recorded by A. Pigniolo and J. Dietler in 2000 as a temporary camp associated with a bedrock milling station. The site contains a single bedrock milling feature, 2 flakes, 6 manos, 3 metates, and one hammerstone.

### SDI-15668

SDI-15668 is adjacent to the APE. It was recorded by A. Pigniolo and J. Dietler in 2000 as a lithic scatter containing one quartz biface fragment, two quartz flakes, and one basalt flake.

### P-37-018786

P-37-018786 is adjacent to the APE. It was recorded by A. Pigniolo and J. Dietler in 2000 as an isolated, granitic, bifacial, shouldered mano.

## 2.5.3 Previously Recorded Historic Addresses

No previously recorded historic addresses are located within the APE or within the 1.0-mi. records search buffer.

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### **3. RESEARCH DESIGN**

For a systematic, intensive, non-sampling, non-collecting survey, such as this one, in the APE, the primary objectives with respect to prehistoric and historic archaeological resources are straightforward: to identify and document all of the resources that are detectable through surface observations. For the research design, the field requirements are (1) that survey coverage include all portions of the study area that can safely be covered and that offer some realistic prospects for containing identifiable resources (excluding, for instance, areas with very steep slopes, flooded areas, areas with no ground surface visibility, or areas where modern construction has destroyed or buried the natural ground surface), and (2) that the spatial extent and general character of any identified resources be documented according to the prevailing professional standards. In addition, the research design includes documentation and evaluation of the Escondido Canal and Rincon Penstock within the project area for listing on the NRHP and the CRHR.

## **4. METHODS**

### **4.1 FIELD SURVEY METHODS**

The field survey was conducted on March 22, and 29, 2011, by ASM Associate Archaeologists Shelby Gunderman, M.A., RPA and Scott Wolf, B.A. Tiffany Wolfe participated in the survey as the Native American representative from the Rincon Band of Luiseño Indians on March 22, 2011, and Wehay “Junior” Quisquis participated in the survey as the Native American representative from the San Pasqual Band of Diegueño Mission Indians of California on March 29, 2011. Prior to the start of fieldwork, the survey area and previously recorded sites were plotted on electronic versions of U.S. Geological Survey (USGS) 7.5-minute topographic maps.

The survey was conducted by one crew of two archaeologists and a Native American representative spaced at 10-m intervals depending on terrain. All personnel walked together as a team. Upon discovery of an artifact or feature, all halted while the person who made the discovery scouted the area to determine whether the item was isolated, associated with only a few other items, or part of a larger site deposit. All isolates, sites, and features were recorded. Archaeological sites and isolates were distinguished by artifact density. All site and isolate locations were recorded in Universal Transverse Mercator (UTM) coordinates using handheld GeoExplorer Trimble units with sub-meter accuracy. Sites were plotted on project maps using NAD 83 UTM coordinates (Confidential Appendix D). Site information was recorded on State of California DPR 523 series forms to State of California standards (Confidential Appendix E). While the process of site documentation varied slightly depending on what kinds of artifacts and features were identified, the spatial boundaries of all sites were delineated, site maps were drawn, artifacts plotted, artifact inventories were completed, and material types were noted.

Field notes and photographs are on file at ASM’s office in Carlsbad. No artifacts were collected during this survey. DPR forms for each resource documented are provided as a confidential appendix to this report, and have been submitted to the SCIC of the CHRIS at San Diego State University.

### **4.2 NATIVE AMERICAN PARTICIPATION / CONSULTATION**

As lead NEPA and CEQA agencies, the BIA and VID, respectively, are responsible for performing the requisite Native American Consultation for project CEQA and NEPA compliance to identify any traditional cultural properties (TCPs) that may be affected by the project. This entails a search of the Sacred Land Files with the California Native American Heritage Commission to identify previously recorded TCPs or areas of Native American heritage significance and sending letters requesting information from tribal representatives that

#### 4. Methods

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may have knowledge of such sites within the APE. As the lead agency the BIA will conduct formal government-to-government consultation for this project.

## **5. REPORT OF FINDINGS**

One cultural resource has been previously recorded within the APE, SDI-257. During the current survey SDI-257 was relocated and the site boundaries were expanded. In addition, seven cultural resources were newly recorded during the current survey, SLR-Rincon-1, SLR-Rincon-2, SLR-Rincon-7, SLR-Rincon-9, SLR-Rincon-10, the Escondido Canal (P-37-014670) and the Rincon Penstock. Site locations are depicted on an aerial image of the APE in Confidential Appendix D. The resources are discussed individually below and in the site record forms attached in Confidential Appendix E.

During the current survey ground surface visibility of the APE was 25 percent or less due to the presence of thick vegetation and paved roads. In addition, within the APE of the five alignments of the underground Escondido Canal, the portion of Alignments A and B which extend directly west between South Canal Road and North Lake Wohlford Road (see Figure 3) were not surveyed. An attempt was made to survey this portion of the APE, however several private property fence lines and the presence of large dogs prohibited the archaeological survey of this portion of the APE.

### **5.1 PREHISTORIC ARCHAEOLOGICAL SITES**

#### **5.1.1 SLR-Rincon-1**

The site contains two granitic bedrock outcrop features containing milling slicks. Milling Feature 1 contains 4 milling slicks and Milling Feature 2 contains 1 milling slick. No artifacts were identified as ground surface visibility was less than 10 percent due to thick vegetation.

#### **5.1.2 SDI-257**

SDI-257 was relocated and the site boundaries were expanded to the south west. The site had been previously recorded, tested, and deemed eligible for the NRHP. During the current survey it was discovered that milling features 1-4 recorded by L.K. Napton and E.A. Greathouse in 1984 were located to the south west of their previously recorded locations. These features were remapped in their correct positions. In addition, six new bedrock milling features were recorded and mapped, outside of the previously recorded site boundaries. Additional debitage and ceramic sherds were also recorded and mapped, outside of the previously recorded site boundaries. The newly recorded milling features include: Milling Feature A containing six milling surfaces, Milling Feature B containing four milling surfaces, and Milling Features C, D, E, and F containing one milling surface each. Three additional light gray fined grained metavolcanic debitage pieces, 10 quartz shatter pieces, four ceramic body sherds, and one ceramic rim sherd were identified in the expanded site boundary. Additional milling features and artifacts were relocated within the previously mapped site boundaries. Ground surface visibility was less than 10 percent due to thick vegetation.

## **5.2 HISTORICAL STRUCTURES**

### **5.2.1 Escondido Canal (P-37-014670)**

A short segment of the Escondido Canal between Flume #6 and Flume #7 was recorded as P-37-014670 in 1996 by Jensen & Associates as part of a survey and inventory project. This segment contained two wooden flumes constructed circa 1904-1908. The flumes were constructed out of redwood beams and posts resting on poured concrete piers. The 1996 recording of the Canal segment stated that the original flumes were still present; however, significant modifications had been made to the flumes and the Canal. ASM surveyed a 12,414-ft segment of the Escondido Canal, which included the section between Flume #6 and Flume #7. Those flumes no longer exist. ASM evaluated the 12,414-ft segment of the Escondido Canal for eligibility for listing on the NRHP and the CRHR (see Chapter 7).

The entire Escondido Canal stretches 13.6 miles and was constructed in 1895. This 12,414 ft segment of the Canal remains in approximately the same alignment as its original construction. Over the years the Canal has been modernized and all historic features have been replaced with concrete and metal structures (Figure 5). This segment of the Canal is lined with several separate layers of concrete. Tar paper separates the concrete layers and is held in place with metal screws. Modern metal and concrete flumes, bridges, and undergroundings are found throughout this segment of the Canal. The Canal walls slope inward, and the Canal measures approximately 10 ft wide at the top, 5 ft wide at the bottom, and ranges in height from 3 to 5 ft. The exact dimensions of the Canal vary according to the landscape. The concrete walls of the Canal extend upward and in most areas they are flush with the ground surface. Along hillsides and in areas with significant runoff a concrete lip extends above the ground surface or metal and concrete debris shield cover the Canal. A chain link fence topped with barbed wire is present on both banks of the Canal

Several flumes, bridges, and underground sections of the Canal are located along this segment. However, all of the historic features along this segment of the Canal have been removed. All bridges, undergroundings, and flumes were replaced with modern concrete structures during the 1990s.

### **5.2.2 Rincon Penstock**

The Rincon Penstock is a 2,130 ft or 0.4 mile long pipe line of riveted steel ranging in diameter from 20 inches at its diversion from the Escondido Canal to 16 inches and then 12 inches as it approaches the Rincon Hydroelectric Generating Facility. The Penstock was constructed in 1914-1915 and what survives today is the same type of material as the original system and ranges from 12 to 20 inches in diameter. The main service road leading from the power plant to the Escondido Canal has largely remained in the same alignment since its grading after 1928 and before 1953.



Figure 5. View of the several concrete and tar paper layers of the Escondido Canal walls, near the Rincon Penstock.

The Penstock consists of a linear riveted steel pipe, approximately 20 in. in diameter (Figure 6). The northern end of the Penstock, where it connects to the Rincon Power Plant is located underground and is not visible. Erosion and modern construction have dislocated several sections of the Penstock and displaced them from their original alignment. The southern end of the Penstock, where it connects to the Escondido Canal, is visible above ground and is highly altered.

### 5.2.3 SLR-Rincon-2

This one-story, wood-frame ancillary building is square in plan, with a front gabled roof. The building appears to be partially constructed below ground, as the wooden front door extends approximately 3 ft below the ground surface and is accessed by several stairs. The building sits on a concrete foundation. The walls consist of vertical wood paneling. No windows are present and a wooden framed air vent is located under the roof gable. The roof is shingled with modern composition sheets. The building is in proximity to the Rincon Penstock and Rincon Powerplant. Several concrete water features surround the building, including a concrete standpipe to the northwest and a concrete standpipe to the northeast, a concrete cistern with a metal pump feature to the northwest of the building, and a concrete lined well to the northeast of the building. The building and water features were constructed prior to 1953, and possibly prior to 1928 based on historical aerial photographs (Tax Factor 1928, U.S. Department of Agriculture 1953).



Figure 6. View of the Rincon Penstock, visible above ground, facing north.

#### **5.2.4 SLR-Rincon-7 (Rincon Powerplant)**

The Rincon Powerplant is a one-story, T-shaped in plan, building. It has a cross-gabled roof shingled with corrugated metal sheeting and wide eaves. An extended porch roof, supported with metal poles, covers the entrance and a concrete porch on the southwest side of the building. The walls are constructed with concrete blocks. The multiple windows and doorways were originally wooden framed, but are now boarded up. An electrical motor is attached to the eaves of the building over the front entrance. Electrical wires extend out of multiple areas of the building and attach to the nearby electrical poles leading out to the Rincon Reservation. The building and water features were constructed prior to 1953, and possibly prior to 1928 based on historical aerial photographs (Tax Factor 1928, U.S. Department of Agriculture 1953).

#### **5.2.5 SLR-Rincon-9**

This one-story, ancillary building is rectangular in plan, with a low pitched side gabled roof. The walls, doors, and roof are constructed from corrugated metal sheeting. No windows are present. The southwest wall of the building contains a standard doorway and two large top opening garage doors. The doors are padlocked. Rain cutters line the eaves. A wooden basketball hoop has been constructed on the southwest side of the roof. The building was constructed between 1953 and 1964 based on historical aerial photographs (U.S. Department of Agriculture 1953, 1964).

### **5.2.6 SLR-Rincon-10**

This one-story, wood-frame residence is rectangular in plan with a side gabled roof which extends over the front porch. The building sits on a concrete foundation, has stucco cladding, aluminum framed sliding windows, and a composition sheet roof. Between 1953 and 1964 the building transitioned from a square to a rectangular plan, which indicates that the existing building was either constructed or remodeled during that time period (U.S. Department of Agriculture 1953, 1964). The residence has a wide porch covering the front façade. The wooden porch is supported by square wooden posts and the top half of the porch contains screening while the bottom half consists of a brick wall. The porch is covered with corrugated metal sheeting. The stucco clad residence contains an addition along the facade to the east of the porch. A white picket fence resting on a brick foundation surrounds the residence. Several fruit and oak trees surround the house and a fenced in garden and pathways are located behind the residence.

## **6. DISCUSSION / INTERPRETATION**

The chronology of prehistoric activity within the APE remains largely undefined, based on the scarcity of recorded sites. Historical activities within the APE are largely focused on the Reservation Lands of the Rincon Band of Luiseño Indians and the San Pasqual Band of Diegueño Mission Indians of California and around water and power infrastructure for the surrounding area.

### **6.1 PREHISTORIC SYNTHESIS**

The chronology of prehistoric activity within the APE remains largely undefined, as it is based primarily on surface observations and because of the scarcity of recorded sites. However, CA-SDI-257 contained extensive milling features, ceramic sherds, tools, debitage and probable human bone, likely representing activity that occurred during the final 1,000-1,500 years of prehistory.

Based on present evidence, the simple flaked lithic debitage and bedrock milling features at the surrounding sites could represent activity during any period of prehistory. It is possible that all of the prehistoric sites in the study area were in essentially contemporaneous use, but there is no reason to assume that this is true.

Functionally, the prehistoric uses of the area encompassed by the APE located along steep slopes and hillsides probably played a subordinate role to more substantial settlements located in the Paradise Creek and Woods Valley. It is likely that prehistoric habitation sites or multiple activities took place within the APE, in addition to the recorded sites of SLR-Rincon-1 and SDI-257, but that they were unidentified during the current survey because of poor visibility (10 percent or less visibility due to high vegetation and the presence of pavement and roadways in the APE).

### **6.2 HISTORICAL SYNTHESIS**

Historic-period uses of the APE and their vicinity were limited but varied (and will be discussed further in Chapter 7) and focused on water and power infrastructure and activities taking place on the Rincon and San Pasqual Reservations. Identified archaeological evidence for these activities within the APE includes the Rincon Penstock and buildings associated with the Rincon Powerplant, SLR-Rincon-7, SLR-Rincon-2, SLR-Rincon-9, and SLR-Rincon-10, and the Escondido Canal (P-37-14670). Historical aerial photographs from 1928, 1953, and 1964 were consulted in order to identify possible historical remains. No additional buildings or structures could be identified on the aerial photographs.

## **7. EVALUATIONS AND MANAGEMENT CONSIDERATIONS**

The following evaluations and management considerations assess the potential for the Escondido Canal undergrounding and the replacement of the Rincon Penstock to impact prehistoric and historical cultural resources in accordance with NEPA, CEQA and Section 106 of the NHPA.

### **7.1 EVALUATION OF THE ESCONDIDO CANAL AND THE RINCON PENSTOCK**

The Escondido Canal and Rincon Penstock were identified and recorded within the APE. The Escondido Canal was constructed in 1894-1895 and the Rincon Penstock was constructed in 1914-1915, therefore both resources meet the age threshold for eligibility for listing on the NRHP and the CRHR. The evaluation of the Escondido Canal and the Rincon Penstock included a literature search, archival research, the creation of a historical context, a field survey to document the resources within the APE, and a formal evaluation of the Canal and Penstock.

#### **7.1.1 Methods**

##### **Previous Studies**

Two sections of the Escondido Canal, outside the APE, have been previously recorded, P-37-014670 and P-37-029802. The Rincon Penstock has not been previously recorded.

##### **P-37-014670**

P-37-014670 recorded a section of the Escondido Canal, outside the APE, to the east of N. Lake Wohlford Road (Jensen & Associates, 1986). This section of the Escondido Canal contained two wooden flumes which appear to have been constructed or reconstructed just after 1900. Both flumes were constructed from “rough” milled redwood boards and posts and extend 60 and 80 feet in length. While both flumes originally had identical redwood beam and post construction, the original liners/trough and straps have been replaced with rolled aluminum. The flumes were constructed between 1904 to 1908, but they have been extensively modified over the years. This portion of the Canal was not evaluated for the NRHP or the CRHR.

##### **P-37-029802**

P-37-029802 recorded a section of the Escondido Canal, outside of the APE, within Hellhole Canyon Open Space Preserve (Hector and Akyuz 2008). This section of the Canal was part of the “previous Canal” and was originally known as the San Luis Rey Flume. This portion of the Canal was abandoned in the 1920's, when the Hellhole Siphon was built, bypassing the area.

All elements of the flume were removed, including the wooden siding. Subsequently this portion of the Canal was used as a roadway. It was bulldozed and utilized as a fire break by CalFire in 2007. This portion of the Canal was not evaluated for the NRHP or the CRHR.

### **Archival Research**

ASM was tasked with evaluating two segments the Escondido Canal, a linear feature, and the Rincon Penstock, a linear feature with hydroelectric structures. For both the Canal and Penstock, it was necessary to understand when and where they were constructed, why they were constructed, and how the two features were used. Research included contacting Carl Burgess, Canal Superintendent at the City of Escondido; Don Smith, Director of Water Resources at Vista Irrigation District; Lori Vereker at the City of Escondido; Jeffrey Epp, attorney for the City of Escondido; Donald R. Lincoln of Endeman, Lincoln, Turek, & Heater, LLP; as well as collecting materials from the Escondido Mutual Water Company collection and secondary material at the Pioneer Room of the Escondido Public Library, and reviewing available maps at the San Diego Historical Society. Aerials from 1928 were also collected from the SCIC and reviewed.

### **Fieldwork**

ASM located and documented the Rincon Penstock on March 22, 2011, and the Escondido Canal on March 29, 2011. The length of the Penstock and the Canal within the APE were surveyed. During the field survey the Penstock and Canal were mapped and photographed. The resources are evaluated individually below, and recorded on California Department of Parks and Recreation Linear Feature forms, attached as Confidential Appendix E. All records, maps, and photographs are archived at the ASM Carlsbad office.

### **7.1.2 Historical Context**

The history of any western town begins with water, especially towns with an agricultural beginning. The greater Escondido area is one such area. From Escondido's inception as a town in 1886 to its present day, the area became a major contributor to the agricultural economy of San Diego County. An assured water supply was essential for a growing and thriving agricultural town. It was the Escondido Irrigation District and its successor, Escondido Mutual Water Company, that initiated and facilitated early water development for the greater Escondido area by conveying water from the San Luis Rey through the Escondido Canal (1895). Today, the water from Lake Henshaw and San Luis Rey River still passes through the Escondido Canal providing water to Escondido and Vista, and the Rincon Reservation. Water released from storage at Lake Henshaw and seasonal contributions along the watershed feed San Luis Rey River, which is thereafter diverted into the 13.6-mile Escondido Canal. It extends across difficult mountainous terrain, zigzagging until it terminates at the outlet structure above Escondido Creek near Lake Wohlford, a regulating reservoir. The creek conveys the water for a short distance then scheduled deliveries are made from the reservoir. Historically, the Rincon Indian Reservation has received 10-15 percent of the water from the Canal via the Rincon Penstock and Powerplant, which is partially located on the reservation, east of Paradise Creek (see Figure 4). Water is delivered from Lake Wohlford via the

Wohlford Penstock and it passes through Bear Valley Powerplant (City of Escondido and Vista Irrigation District 2008:A3-A-4, A-13, A-16).

The Escondido Canal is still essential infrastructure for Escondido and Vista as it provides local drinking water for the City and the VID, which includes 120,000 residents in Vista and portions of San Marcos, Escondido, Oceanside, and some unincorporated areas. While water can be purchased from the San Diego County Water Authority, it is more costly than the local water captured in Lake Henshaw and diverted from the upper San Luis Rey River watershed. Imported water is an alternative when the reserves are low and when natural disasters such as floods and wild fires impede the natural flow of the Canal, but it is not ideal (Fried 2005; Gustafson 2005). The Canal remains in operation a majority of the year except during maintenance season in the fall. The Rincon Powerplant and Penstock, however, have not operated since 1999 and as part of the overall settlement the Penstock is proposed to be replaced (City of Escondido and Vista Irrigation District 2008:A3).

### **Escondido: Settlement and Growth**

As mentioned earlier, confirmation of rancho boundaries in the late 1860s and early 1870s across the county drew additional settlers as land became officially conveyable. Thereafter, small farming communities were established. Around 1886, El Rincon del Diablo Rancho, now generally occupied by the City of Escondido, was opened to settlement. By that time horticulture had already begun around the county with many of the earliest plantings in fruit trees and grapes. Escondido developed during that boom time as a new citrus-growing community that also developed grapes, hay, and grain, and is attributed to have planted the first avocado tree in the county (Heilbron 1936:207; San Diego County Farm Bureau 2010). By 1890, the city had grown to 541 (U.S. Census Bureau, 1900:439). While ranching and farming had been important livelihoods in San Diego County, agriculture increasingly became an important economy. Water projects developed across the county in the late nineteenth and early twentieth century that made this possible. Agricultural crops centered on avocado and other sub-tropical fruits primarily grown in more coastal areas, such as Vista, and in Escondido. Honey and winter vegetables were grown in other parts of the county. In the 1930s, the primary county exports were citrus, poultry, and dairy with Escondido supplying almost half of the county's exports. By 1936, Escondido led the county in citrus production and was the foremost producer of avocados and citrus for the state. An assured water supply for irrigation and domestic use was pivotal to the area's success. In addition to ranching, San Diegans began producing their own chicken eggs. Large producers during the heyday of chicken production (1908-1935) were in Lemon Grove, La Mesa Heights, Spring Valley, Sunnyside, Chula Vista, El Cajon, Lakeside, Escondido, and Ramona (Heilbron 1936). Escondido transitioned from a rural town of 755 in 1900 to a growing agricultural-based city of 3,421 in 1930, a significant increase of 355 percent (U.S. Census Bureau, 1900:439, 1930: 137).

Farmers across San Diego County contributed greatly during World War II, and by 1943, the farmers' income in the county had increased 230 percent (Day and Zimmerman Report 1945:136). During and following World War II, military work brought more commercial companies to the county and drew civilians and military works from all over the United States.

Agricultural communities flourished and population centers expanded with an assurance of a greater water supply through the First San Diego Aqueduct that tapped the Metropolitan Water District's Colorado River Aqueduct at San Jacinto, California. It was in operation in 1947, and the second aqueduct was completed in 1958 (Sholders 2002; USDI Bureau of Reclamation 2009). By 1960, over one million people lived in the county and between 1950 and 1970, bedroom communities such as El Cajon, Escondido, Chula Vista, and Oceanside experienced a tremendous growth rate (between 214 and 833 percent) (Engstrand 2005:166; U.S. Census Bureau 1960).

### **Water Development for Escondido**

Early homesteaders and early investors ranched, farmed, and made a profit from the old Rancho Rincon del Diablo before a local corporation, Escondido Land and Town Company, acquired the property in 1885. As was common with many early settlements in the drier regions of the western United States, water quickly became a catalyst for sustained development. Seasonal rainfall could not support an agricultural community set on growing citrus, deciduous fruits, and grapes, and quickly prompted the organization of a water company. The first attempt made by the San Luis Rey Flume Company was a large endeavor, an attempt to supply water to Escondido, San Marcos, Vista, and the entire San Luis Rey valley, Carlsbad, and Encinitas. Surveys of the area identified the possible routes for the Canal and location for the main dam at Warner Ranch. Despite the extensive planning, the boom in San Diego busted and raising capital became difficult. Those settlers that homesteaded in Escondido with the promise of water had already planted crops that were in jeopardy. In response, local pioneers organized under the Wright Irrigation Act (1887) as the Escondido Irrigation District (EID) in 1889 (Escondido Mutual Water Company 1932, Lincoln 2010). EID was one of the few successful irrigation districts that organized in the nineteenth century under that act (JRP Historical Consulting Services 2000:14; Schuyler 1901:2).

Early on the EID floundered as the board tried to identify a plan that would work and that they could agree to fund. While several other water sources were considered, it was not until 1893 that S.M. Stewart led the charge to develop the San Luis Rey for the Bear Valley at a reasonable price. W.A. Sickler surveyed a conveyance route that grew out of the survey engineer James Schuyler and his assistants E.L. Dorn and E.F. Tabor had done years earlier. Once the plan had been outlined the EMWC then filed for water rights necessary to operate the system. Bonds were then secured and bids made on the project in the summer of 1893. A mid-western contractor, E.I. Doty, won the bid and signed the contract in June 1894. Securing right-of-ways through newly designated Indian reservation lands of Rincon, and La Jolla, meant the EID agreed in turn to provide water for agricultural and domestic use via a flume. Work began in full force in the fall 1894 with the intent to have stored water in 1895 (Escondido Mutual Water Company 1932). A brush and rock dam diverted water that was conveyed via the Escondido Canal and terminated at the new rockfill dam and reservoir in Bear Valley (later known as Bear Valley/Wohlford Reservoir) (Lincoln 2010).

The original 15.56-mile Canal included a large earthen ditch section, and flume and tunnel sections (Schuyler 1901:5). Temporary camps were erected for the workers along the ditch as

they excavated the land by hand and hauled the materials by horse-drawn wagons over difficult, granite terrain. Seventy-five men were assigned to the construction of the 76-ft dam for the new reservoir comprised of blasted granite rock from the nearby mountain side. By March 1895, the Canal and reservoir were ready to receive water, but the first delivery from the reservoir was made on July 5, 1895 (Escondido Mutual Water Company 1932). Given the difficult path of the Canal, construction costs doubled to \$80,000. After exhausting the \$250,000 bond, another \$100,000 was needed for finishing the project, acquiring necessary lands, and purchasing the existing water distribution system of the City of Escondido (Escondido Mutual Water Company 1932). Releases were made along the Canal for the Rincon Reservation, as it passed through the La Jolla and Rincon Indian Reservations (Lincoln 2010). Construction of the Canal opened up Escondido to growth and development.

Mounting costs and frustrations with water delivery prompted the election of another board in 1895. The EID project was burdened with a number of concerns: the legitimacy of the Wright Act, project improvements costs (1897-1899) and farmers strapped with tremendous debt. By 1898, the City of Escondido began pumping water for the city and the EID ran out of money. No one wanted to move to Escondido with its compounding interest and water tolls. The dire situation became worse with a massive fire in the fall 1904 that consumed a large portion of the wooden flume of the Canal and meant the end of the EID. A new organization, Escondido Mutual Water Company, found the necessary funding to secure EID's assets and gave them stock in the new company that officially met in May 1905. Key figures in the transition period were A.W. Wohlford, W.M. Sickler, and Albert Bevan. The burned flume sections were repaired or replaced and water was finally delivered again (Escondido Mutual Water Company 1932). Some have indicated that Chinese immigrants and Indians may have aided in reconstructing damaged portions of the Canal (Lincoln 2010).

Once the EMWC took over it became apparent that the neglected Canal required immediate improvements to sections of the flume. Non-customer investors opposed the idea, but the EMWC won out and secured additional funds through a series of stock holder assessments beginning in 1909. Flume sections were replaced by wide, cement-lined ditches, tunnels through rock instead of around rocky ridges and old ditches were enlarged and relined, and the distribution system around the valley was also improved in an effort to upgrade the system so that it could continue to supply the amount of water it had been designed to convey (Escondido Mutual Water Company 1932). One of the improvements was a 1,900-ft tunnel blasted through Rodriguez Mountain in 1912 (*Daily Times Advocate* 1912). This series of improvements finally provided the greater Escondido area with a permanent and stable water system. Although country users reaped the benefits of the improvements, those in the city complained that needed improvements to the city distribution system were not forthcoming. EMWC agreed to sell its city infrastructure back to Escondido, but a deal was not struck until 1923 (Escondido Mutual Water Company 1932).

Harnessing hydro-electric energy from Canal drops was another possible benefit that could further stabilize the EMWC system and provide infrastructure for future growth. While a fledgling Escondido Utilities company attempted to provide limited electricity to the city

through steam generation, it was not until 1915-1916 that the Bear Valley and Rincon Powerplants began providing energy to EMWC stockholders (Escondido Mutual Water Company 1932). Construction on the Rincon Penstock began in June 1914 following a February 1914 contact between the EMWC and the United States on behalf of the Rincon Indians that stipulated a water delivery agreement and the need for the Penstock and Powerplant that would generate hydroelectricity from the drop. The agreement also provided for transmission lines across the Rincon and San Pasqual Indian reservations. Power provided to Rincon was for pumping water that in combination with the delivery from the Penstock was to provide the reservation with its agreed upon water delivery (United States 1914). In 1915, the Rincon Penstock, Powerplant, and service road were completed and the Bear Valley and Rincon Powerplants were linked by an EMWC transmission line by September 1915. Bear Valley Powerplant provided the first electricity in September 1915 and Rincon Powerplant in May 1916 via trunk distribution lines (*Daily Times Advocate* 30 May 1914; City of Escondido 2011; Don Lincoln 2010, 2011; Escondido Mutual Water Company 1932).

Bear Valley and Rincon Powerplants worked in sync with one another. Rincon Powerplant provided electricity in the winter when rain prevailed and releases were made at Rincon. In the summer, releases were made from Lake Wohlford and in this way electricity was delivered to Escondido and Rincon year round. On November 13, 1916, EMWC further secured its operations by making a deal with San Diego Consolidated Gas and Electric Company (now San Diego Gas and Electric) that it would buy from and sell excess electricity from the company in return for selling the Escondido Utilities Company. While this gave the company a portion of the City of Escondido market, it also saved EMWC the cost of building a steam standby plant to use when water was low and it further solidified the EMWC as a stable water and power provider (City of Escondido 2011; Don Lincoln 2011; Escondido Mutual Water Company 1932). Water released from the Rincon Penstock originally went from the tailrace of the Powerplant into irrigation pipelines constructed by the Bureau of Indian Affairs (BIA). Although BIA planned to irrigate 778 acres, only a fraction of that was ever irrigated. The most acres irrigated were 270 in 1931 and by 1976, only 147 acres were irrigated. Over time, pipelines became unusable and thereafter water went through the tail race and into a dry stream bed where it recharged the ground water (City of Escondido 2011; Don Lincoln 2011).

Earliest irrigation-electrification projects in the West began in the 1880s with George Chaffee's Etiwanda and Ontario agricultural communities in San Bernardino County, California. The Pomona Plant of the San Antonio Light and Power Company was the first to produce and transmit hydroelectricity in 1892 (JRP Historical Consulting Services 2000:56; Nye 1997:300). In San Diego, early waterworks were largely created for storing and delivering water and not for producing hydroelectricity (Sholders 2002). From 1910 to the end of the 1920s, electrified family farms in the United States had marginally increased from two to ten percent. Electricity had already become part of daily urban life between 1880 and 1920 attributable to the fact that most private utilities saw little profit in developing electricity for rural environs and focused on urban areas. Many rural communities only later benefited from the rural electrification projects in the southern state through the Tennessee Valley Authority (TVA) created in 1933 and the Rural Electrification Administration (REA) established the following year that produced

projects in most of the states (Nye 1997:286-294, 307). While electricity had been provided to urban environs in San Diego County, it has been argued that the Rincon and Bear Valley Powerplants were the only reliable power source in North County when it was constructed (Don Lincoln 2011).

Together Bear Valley and Rincon Powerplants quickly increased the valley's access to electricity by 1931 providing electrification for stoves, water heaters, refrigerators, and other appliances. Electrification not only provided an additional service to stockholders, but it provided an important revenue source for water operations (Escondido Mutual Water Company 1932).

During the 1920s, there were a number of changes to the EMWC system. In 1922, a new siphon constructed in Hellhole Canyon bypassed an estimated two to three miles of the original Canal. This approximately 2,000-ft siphon was constructed to avoid the breaks and slides in that area. That same year, Henshaw Dam and Lake were created as a supplemental water supply for the EMWC system. William G. Henshaw had acquired the historic Warner's Ranch and its water rights under the San Diego County Water Company years earlier in 1911. Ed Fletcher and Henshaw had collected water rights from the ranch to the ocean acquiring forms and deeds whereby riparian water rights owners agreed not to contest the planned dam on the San Luis Rey for a sum of money. Two groups held out, the BIA that represented the, Rincon, and Pala Reservations and the EMWC. The EMWC had begun seeking an expansion in their water rights in 1920, and finally made an agreement with the San Diego County Water Company. The deal gave the EMWC more water and the newly established VID, became a customer of the EMWC. San Diego County Water Company had water rights at the ranch and also beyond Escondido, but did not hold water rights between the diversion dam through Escondido, since that was EMWC territory. VID acquired the water after it went through the EMWC system, below the reservoir via their flume constructed in circa 1924-1925. More water prompted the need for upgrading the EMWC system by heightening the Bear Valley/Lake Wohlford Dam to 95 feet by adding hydraulic fill to the top of the rock fill dam, and the improving and enlarging the Escondido Canal during the summers of 1923-1925. A small, 15-ft concrete diversion dam replaced the brush and rock dam. It helped capture and divert the timed release from Lake Henshaw (Escondido Mutual Water Company 1932; Lincoln 2010; Patterson 2001; Vista Irrigation District 2011).

In the years following, improvements were made to the water and power systems as demand dictated. In June 1946, VID purchased the San Diego County Water Company and its assets: Henshaw Dam, Lake Henshaw, and Warner Ranch (VID 2011). Following a four-year drought and increasing demands on the San Luis Rey system, VID began supplementing its water supply in 1951 by drilling 38 wells and pumping the water into Lake Henshaw (Patterson 2001). The City of Escondido had already joined the SDCWA in 1950 for delivery of Colorado River water from the San Diego Aqueducts, supplementing its water system. A growing Escondido area prompting its residents to back the EMWC's application as a member of the SDCWA (Escondido Mutual Water Company 1952). Since only public companies could access the water, Escondido Mutual Water Company was not eligible. This prompted the formation of

Rincon del Diablo Municipal Water District in 1954 and the sharing of deliveries between the water district and water company. The new water district provided water to the valley lands not served by EMWC. VID also became a member of the SDCWA in 1954 (City of Escondido 2011b; McGrew 1988:42; VID 2011). In the early 1960s, the City of Escondido wanted to purchase the EMWC, but the water company did not become part of the city until 1970. By that time, a law suit had been brought against the EMWC by the Rincon and La Jolla Indians alleging breaches of certain of the water rights contracts on the San Luis Rey and sought to void certain rights-of-way and water contracts. This law suit together with the FERC proceeding are proposed to be resolved by the Settlement Agreement (City of Escondido 2011b; McGrew 1988:39). Additions to the water system in the 1970s were Dixon Dam and Lake, and a filtration plant (McGrew 1988:40). By 1982, it is estimated that the Escondido Canal provided residents of Escondido and VID with one-third of their water but at a fraction of the cost of Colorado River and Feather River water (Knight 1982).

### **7.1.3. Description of Features**

#### **Escondido Canal from Station 522+50 to 640+00**

The Escondido Canal is a 13.6-mile conduit that is often referred to as the Upper Canal (from the diversion on the San Luis Rey River to the Rincon Penstock) and the Lower Canal (from Rincon Penstock to its terminus in the Escondido Creek). Over the years, alterations and improvements have been made to the Canal including increasing its capacity in order to transport the release from Lake Henshaw. Its alignment, however, has remained essentially the same since 1895 with the exception of a large 2-3-mile section abandoned in Hellhole Canyon and replaced by a siphon (Figure 7). The segments assessed for this project have generally also retained the same alignment (Figure 8).

From the beginning, mud and rock slides impacted the Canal (Patterson 2001). Problems with leaking flumes, seepage through the unlined Canal and gopher holes prompted improvements to the Canal in 1897-1899 including cement plastering nine miles and installing miles of pipe to reduce seepage (Escondido Mutual Water Company 1932). By 1901, the Canal consisted of 12.74 miles of ditch, 2.67 miles of flume, and two short tunnels of 0.15 miles. The flume was four feet wide and three feet deep and the ditch had a bottom width of 5 feet and side slopes of 1:1 (Schuyler 1901:5). Following a 1904 brush fire that consumed a large portion of the original wooden flume, the next 25 years saw improvements to the wooden flume and ditch Canal that became a cement-lined and metal flumed conveyance system (Knight 1982; Patterson 2001). The main base of Canal reconstruction following the 1904 fire was a shack at the old Tunnel Camp (Knight 1982).

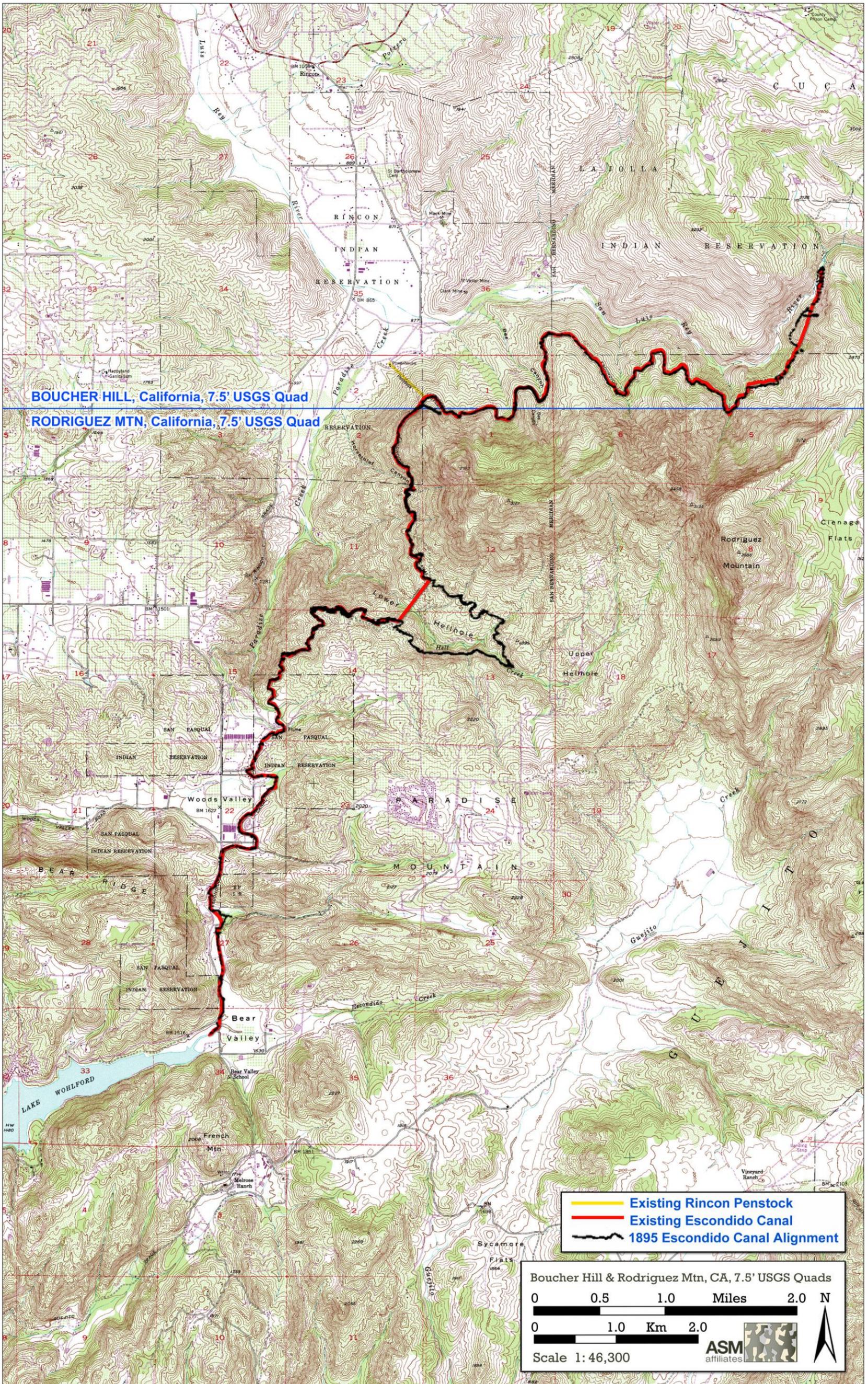


Figure 7. Topographic map showing the alignments of the Escondido Canal and the Rincon Penstock.

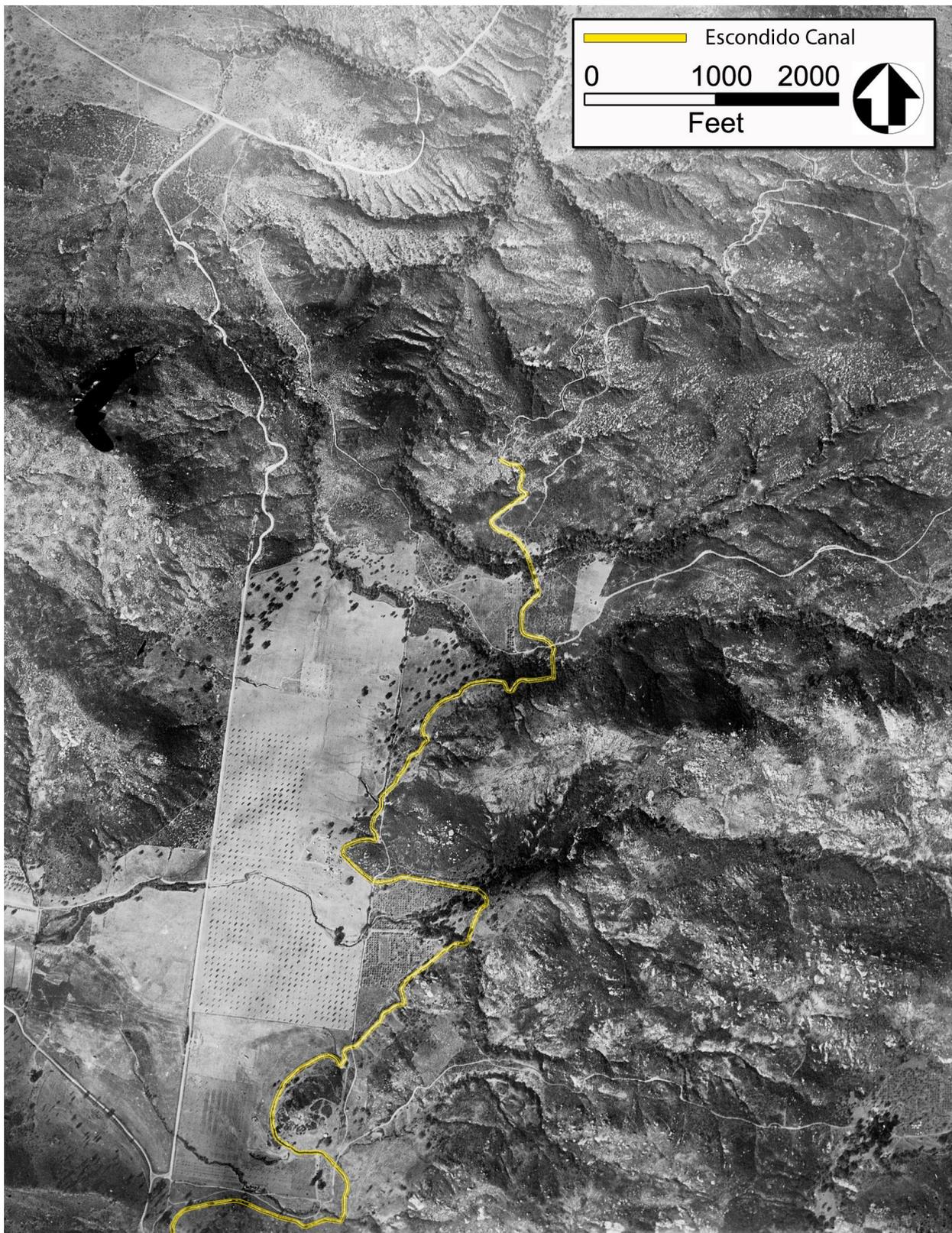


Figure 8. 1928 aerial photograph of the alignment of the Escondido Canal.

One of the most significant improvements to the system was the 1,900-ft tunnel blasted through Rodriguez Mountain in 1912. Another was the Hellhole Siphon, constructed in 1922, that shortened the Canal to 13.6 miles (Knight 1982; La Rue and Molnar 1977). Additional changes were reportedly made to the Canal in 1924 that increased its capacity (Patterson 2001). During the 1940s-1950s, roads were created or improved to reach and maintain the Canal. Only one road previously existed to serve the upper end of the system. A ½-mi. to ¾-mi. section of the Canal in San Pasqual was piped in the 1950s (Lincoln 2010). It is estimated that the last wooden sections of the Canal were replaced in 1995, but portions of the riveted steel pipe from the 1920s remained in 2001, as did four Canal tunnels (Patterson 2001). The old Tunnel Camp shack was a dilapidated structure in 1982, and it is unknown if it still remains (Knight 1982).

On March 22, 2011, the segment of the Escondido Canal which abuts the Rincon Penstock was surveyed and recorded by ASM. This short segment of the Canal is approximately 10 ft in width at the top of the Canal. The concrete walls slope inward, however, as the Canal was full of water, the width of the bottom of the Canal was not measured. The Canal is lined with several differing layers of concrete and visible patching is present along the concrete walls. Metal bolts hold in place a layer of tar paper between the concrete layers, which has eroded away in many areas (Figure 9). A modern trash rack is present along the north bank of the Canal where the Rincon Penstock begins (Figure 10). A solar power station, a drainage gate, and a concrete deck/ramp are located along the Escondido Canal approximately 400 ft east of the Rincon Penstock. The solar power station is modern, and appears to power the drainage gate. Several layers of concrete are visible on the drainage gate, and it appears that the gate has been modified and updated over the years. The concrete deck/ramp is located on the southern bank of the Canal across from the drainage gate. The concrete deck/ramp is approximately 75 ft in length and 14 ft wide. It is level with the height of the surrounding Canal wall, both ends of the deck/ramp slope downward underneath the water level of the Canal.

On March 29, 2011, the 12,414 ft segment of the Canal, which will be replaced by undergrounding, was surveyed and recorded. The Canal segment remains in its original alignment. Over the years the Canal has been modernized and all historic features have been replaced with concrete and metal structures. The condition of this segment of the Canal is the same as the condition of the Canal at the Rincon Penstock, in that the Canal is lined with several separate layers of concrete. Tar paper separates the concrete layers and is held in place with metal screws. Modern metal and concrete flumes, bridges, and undergroundings are found throughout this segment of the Canal. The Canal walls slope inward, and the Canal measures approximately 10 ft wide at the top, 5 ft wide at the bottom, and ranges in height from 3 to 5 ft. The exact dimensions of the Canal vary according to the landscape. The concrete walls of the Canal extend upward and in most areas they are flush with the ground surface. Along hillsides and in areas with significant runoff a concrete lip extends above the ground surface or metal and concrete debris shield cover the Canal. A chain link fence topped with barbed wire is present on both banks of the Canal.

As mentioned, several flumes, bridges, and underground sections of the Canal are located along this segment, but none are historic. All bridges, undergroundings, and flumes were replaced with modern concrete structures during the 1990s.



Figure 9. Photograph of the walls of the Escondido Canal at the connection between the Canal and the Rincon Penstock.



Figure 10. Photograph of the filter at the connection between the Canal and the Rincon Penstock.

## **Rincon Penstock**

The Rincon Penstock is a 2,130 ft long or 0.4 mile pipe line of riveted steel ranging in diameter from 20 inches at its diversion from the Canal to 16 inches and then 12 inches as it approaches the Rincon Hydroelectric Generating Facility (KEA Environmental 2001:8). The Penstock and Powerplant were part of the larger EMWC power system that was brought on line in 1915. While the Bear Valley Powerplant was expanded in 1928, doubling its capacity, Rincon Powerplant operated at its original 300 kW capacity until 1999, when the operations ceased. Bear Valley Powerplant was destroyed in a mudslide in the 1980 and rebuilt thereafter (Escondido Mutual Water Company 1932; Lincoln 2010; McGrew 1988:40).

Over the years, the Penstock has retained the same alignment. A scar on the hillside indicates its alignment in 1928 (Figure 11). Riveted steel pipes of 3 to 20 inches in diameter were used for the original 1895 Canal system (Schuyler 1901:15). Although the Penstock was constructed years later (1914-1915) off the Canal, the Penstock that survives today is the same type of material as the original system and ranges from 12 to 20 inches in diameter. The main service road has largely retained the same alignment since its grading after 1928 and before 1953 (U.S. Department of Agriculture, Aerial Photograph 1953, 1964, 1968, 1971, 1989, 2005).

On March 22, 2011 the Rincon Penstock was surveyed and recorded by ASM. The Penstock was accessed on the, now washed-out, original main service road. Erosion and modern construction have dislocated several sections of the Penstock which are now visible above ground. The Penstock consisted of a linear riveted steel pipe, approximately 20 inches in diameter. The northern end of the Penstock, where it connects to the Rincon power plant is not visible. The southern end, where it connects to the Escondido Canal, is visible above ground and is highly altered. The head frame for the Penstock intake is constructed of large rock with gravel-embedded cement mortar. It appears that this head frame is original (1914-1915).

### **7.1.4 Historic Resource Evaluation**

The primary goal of this study was to document the history of the 13.6-mile Escondido Canal and the Rincon Penstock, and evaluate two segments of the Canal and the Penstock in compliance with the Section 106 of the NHPA, CRHR, and other applicable federal, state, or local laws, ordinances, rules, regulations, and policies.

#### **National Register Criteria for Evaluation**

Sections 106 and 110 of the NHPA are the primary directives for cultural resource preservation. Section 106 mandates compliance with NHPA through site evaluation. Regulations that govern the Section 106 review process are stipulated in 36 CFR Part 800. These regulations specify that each Federal agency consult with the State Historic Preservation Officer (SHPO) to determine if a property is eligible for the NRHP (36 CFR 800.4). Section 110 established procedures for Federal agencies managing or controlling property. Among other things, agencies must assume responsibility for the preservation of historic properties under their jurisdiction and, to the maximum extent feasible, use historic properties available

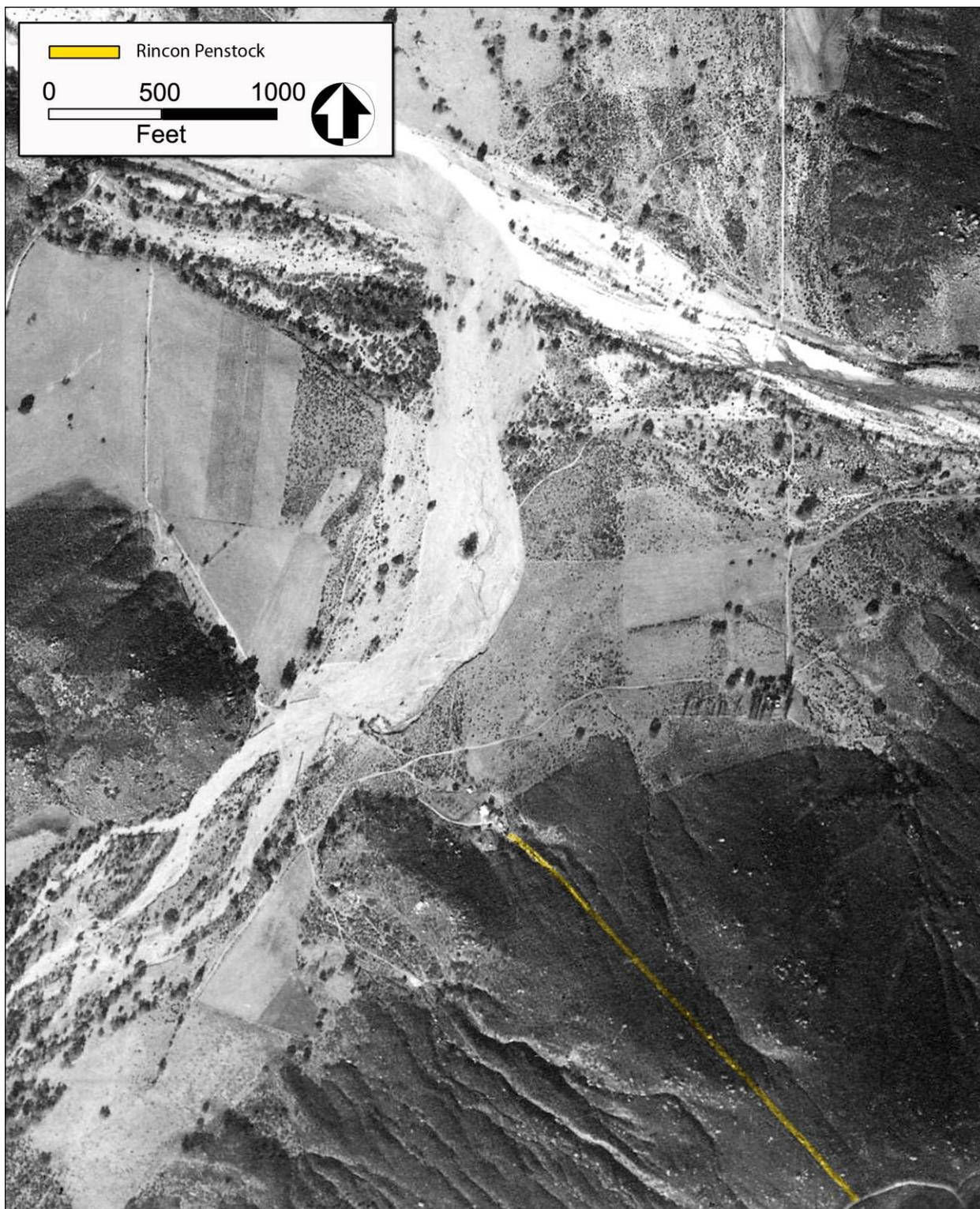


Figure 11. 1928 aerial photograph of the alignment of the Rincon Penstock.

to the agency. Amendments to Section 110 made in 1992 require each Federal agency to establish a historic preservation program. The program must provide for the identification and protection of the agency's historic properties and ensure that such properties are maintained and managed with due consideration for preservation of their historic values [16 U.S.C. § 470h-2(a)(2) (1994)].

Pursuant to the NHPA, NRHP eligibility criteria have become the standard for evaluating significance. As published in the Federal Register (November 16, 1981, 46 (220):50189) they are stated as:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that:

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

In addition to meeting at least one of the eligibility criteria, a property must also retain sufficient integrity to convey its significance. Integrity is a quality that relates to the historic authenticity of a property. The NRHP defines seven elements of integrity: location, design, setting, workmanship, materials, feeling, and association. Location and setting relate to the relationship of a property to its environment. Design, materials, and workmanship relate to construction methods and stylistic details. Feeling and association relate to the ability of the property to convey a sense of historical time and place. A significant loss of integrity will render a property ineligible for the NRHP, regardless of its level of historical significance. Evaluation of a property for listing on the NRHP requires a consideration of both historical significance as defined by the evaluation criteria and integrity. The criteria under which a property is significant is relevant to the issue of integrity, because the property must retain sufficient integrity of those elements relevant to the qualifying criteria. For example, for an engineering structure that qualifies for listing under Criterion C, integrity of design, workmanship, and materials is paramount.

### **The California Register Criteria for Evaluation**

Lead agencies have a responsibility to evaluate historical resources against the CRHR criteria prior to making a finding as to a proposed project's impacts to historical resources. Mitigation of adverse impacts is required if the proposed project will cause substantial adverse change.

Substantial adverse change includes demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired. While demolition and destruction are fairly obvious significant impacts, it is more difficult to assess when change, alteration, or relocation crosses the threshold of substantial adverse change.

The CRHR includes resources listed in, or formally determined eligible for listing in, the NRHP, as well as some California State Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts), or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be significant resources unless a preponderance of evidence indicates otherwise.

Generally, a resource shall be considered by the lead agency to be “historically significant” if the resource meets the criteria for listing on the CRHR, cited as Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852, consisting of the following:

- (1) 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; or
- (2) It is associated with the lives of persons important to local, California, or national history; or
- (3) 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; or
- (4) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

## **Evaluation**

The Escondido Canal is potentially eligible for listing on the NRHP as water infrastructure constructed during a period when small irrigation districts initiated water projects in the West for the growth and stability of an agricultural community. Construction of the Canal and necessary improvements (1895-1912) provided a stable water supply that provided the spring board for successful agricultural development in Escondido and contributed to growth in San Diego County. Over the years, the alignment has remained the same for a majority of the Canal as it zigzags through mountainous and steep terrain. Much of that difficult terrain has not been impacted by modern development. ASM only surveyed two segments of this 13.6-mile Canal, a short and longer segment. The short segment of the Canal at the intake of the Rincon Penstock remains isolated from modern development. Portions of the longer segment in Woods Valley now abut modern parcels but much of the Canal landscape is protected by tree canopies. The Canal at the Rincon Penstock is a more modern trapezoidal shape, indicating a departure from early Canal shapes of rounded bottoms and long side slopes (JRP Historical Consulting Services 2000:86). It is likely that this section was improved with the incoming Penstock in 1914-1915 or during the 1920s. Portions of the longer segment that ASM assessed retained characteristics of early Canals with narrow width and shallow depth, and some

concrete lining that could have been applied after 1909 or during the early 1920s. However, much of the concrete lining has been replaced or significantly patched and none appears to be original 1897-1899 cement plaster. A significant portion of this section is a more modern, trapezoidal shape. Historic bridges, tunnels, and flumes have been replaced by modern structures. Even though it retains the same original alignment, the overall integrity of the Canal has been compromised because of the loss of the character-defining features from its period of significance (1895-1912). Therefore, it is recommended that neither segment of the Escondido Canal is eligible for listing on the NRHP under Criterion A.

The Canal is not recommended eligible under Criterion B because there is no association with any historically important individual. Although the Canal could potentially be eligible for its method of its construction, which has been recognized as an important achievement for its time, the loss of integrity renders the Canal ineligible under Criterion C. The resource is not recommended eligible under Criterion D as data recovery would likely not yield important historical data.

Similarly, these segments of the Canal are not recommended eligible to the CRHR under Criterion 1-4.

The Rincon Penstock and Powerplant are potentially eligible for listing on the NRHP under Criterion A as an early, local electrification effort that provided electricity to the greater Escondido area when it was constructed in 1914-1915. The Penstock conveyed water to the Powerplant and the drop at the Powerplant produced electricity. This operation contributed to the electrical grid for the Escondido area until 1999. Neither the Penstock nor the Powerplant have been previously evaluated. The Penstock is not recommended as individually eligible for listing on the NRHP under Criterion A, but could potentially be eligible as a contributing resource to a Powerplant historic district. The head frame for the Penstock intake at the Canal appears to be original but significant portions of the Penstock have been uprooted from the ground near the intake, and the system has been disconnected. As such, the integrity of a potential historic district for the Powerplant has been compromised to such the degree that ASM does not recommend that the Penstock would be eligible as a contributing resource to a potential Powerplant historic district.

Furthermore, no potential for eligibility was identified under Criteria B, C or D for the Penstock. The Penstock is not recommended eligible under Criterion B as there is no association with any historically important individual. Individually, the Penstock does not embody the distinctive characteristics of a type, period, or method of construction and as such is not recommended eligible under Criterion C. The Penstock is not recommended eligible under Criterion D as it is not likely that data recovery would yield important historical data.

Similarly, the Rincon Penstock is not recommended eligible to the CRHR under Criterion 1-4.

## 7.2 MANAGEMENT CONSIDERATIONS

### 7.2.2 The Five Escondido Canal Undergrounding Alternative Alignments

An archeological survey of the five Escondido Canal undergrounding alternative alignments, Alignments A, B, C, D, and E, (see Figure 3) included a review of the literature and site records as well as an intensive pedestrian survey of the APE. Only one cultural resource, prehistoric site SDI-257, was previously recorded within the northern end of Alignments A and B, and was expanded during the current survey such that observed site deposits terminated approximately 40 m north of Alignments C and D. No new cultural resources were identified within the APE. SDI-257 has been extensively surveyed, recorded, expanded, and tested since its initial recordation by D.L. True in 1954. During testing of SDI-257 in 1995 and 1996 numerous artifacts, midden soils, and a probable human bone fragment were identified. At that time the site was deemed eligible for the NRHP.

During the current survey it was noted that the area surrounding SDI-257 is highly disturbed and the ground surface visibility is poor due to the presence of thick vegetation and development. Therefore it is possible that subsurface deposits associated with the site are more extensive than surface evidence indicates, and unanticipated deposits have the potential to contain human remains, as demonstrated during the 1995 and 1996 evaluation.

ASM recommends the avoidance of Alignments A and B to avoid any impacts to SDI-257. Furthermore, the portion of Alignments A and B extending west from South Canal Road to North Lake Wohlford Road was not able to be surveyed due to the presence of several private property fences and large dogs.

Survey of Alignments C, D, and E did not document cultural resources and these alignments are thus preferred from a cultural resource perspective. However, while site deposits were not identified within Alignments C, D, and E, it is possible that prehistoric subsurface deposits are present in within Alignments C and D since cultural deposits were observed on the surface within 40 m of Alignments C and D. For this reason, archaeological monitoring is recommended for construction of any of the alternative alignments.

Should Alignments A or B be chosen for the Escondido Canal undergrounding, it is recommended that subsurface testing, and potentially data recovery, be performed on cultural deposits associated with SDI-257 within an appropriate area of impact.

### 7.2.3 The Rincon Penstock

The Settlement proposes to replace the Rincon Penstock within its original alignment. The majority of the APE associated with the Rincon Penstock's alignment is located along a steep north west facing hillside. During the archaeological survey it was noted that the hillside contains a very thin layer of soil on top of decomposing granite bedrock. However, the APE for the Rincon Penstock also includes an approximately 1.5 acre area of land below the

hillside. One newly recorded cultural resource was identified within this area, SLR-Rincon-1. It is recommended that this site, consisting of two milling features, be avoided during any ground disturbance. If avoidance is not possible, it is recommended that subsurface testing be performed on cultural resource SLR-Rincon-1 to determine if it is significant under NEPA, CEQA and Section 106 of the NHPA.

Ground surface visibility during the current survey was poor due to the presence of thick vegetation, as a result site boundaries could have been incompletely defined. Therefore, ASM recommends that monitoring by a qualified archaeologist and a Native American monitor from the Rincon Indian Reservation be performed during all ground disturbance, taking place on a 30 degree or less slope until native soil is reached, due to the possibility of buried cultural resources within the APE.

In addition, four historic buildings were identified within the Rincon Penstock APE during the current survey. These structures include: SLR-Rincon-2 an utilitarian ancillary building with several concrete water features, constructed prior to 1953 and possibly prior to 1928; SLR-Rincon-7 the Rincon Penstock Powerplant, constructed prior to 1953 and possibly prior to 1928; SLR-Rincon-9 an utilitarian ancillary building, constructed between 1953 and 1964; and SLR-Rincon-10 the Rincon Powerplant Caretaker's Residence, constructed after 1928 but prior to 1953. These four buildings meet the age threshold for potential significance. In addition they appear to be associated with the Rincon Powerplant and Penstock. The Penstock was recommended not eligible for listing on the NRHP and CRHR, but the Rincon Powerplant has not been evaluated. The buildings have not been evaluated for significance under NHPA or CEQA. ASM recommends that these buildings be evaluated for eligibility for listing on the NRHP and the CRHR if the Settlement calls for any changes to the buildings or their immediate environment.

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## 8. CONCLUSIONS

The archaeological survey of the five alignments of the Escondido Canal undergrounding and the Rincon Penstock resulted in the identification of two prehistoric archaeological sites, four historic buildings, the Escondido Canal, and the Rincon Penstock. Prehistoric archaeological site SDI-257 had been previously recorded and found eligible for the NRHP. All other cultural resources were newly recorded.

With respect to the five alignments of the Escondido Canal undergrounding across the San Pasqual Indian Reservation, Alignment E, primarily following previously disturbed roadways, has the least impact on known cultural and historical resources. Alignments C and D are ranked second, and alignments A and B, primarily due to their proximity to SDI-257, are least preferred with respect to impacts on known cultural and historical resources.

It is recommended that known cultural resources SDI-257 and SLR-Rincon-1 be avoided during implementation of the Settlement. If avoidance is not possible, subsurface testing and data recovery is recommended. Monitoring of all ground disturbances to a depth of native soils by a qualified archaeologist and Native American monitor is recommended within the APE.

During the survey, two segments of the Escondido Canal were surveyed by ASM. One short segment was near the Rincon Penstock intake and the other longer segment was near Woods Valley. A portion of the longer segment (between Flume #6 and #7) had been previously recorded in 1996, but not evaluated. Those two flumes no longer exist. Both segments ASM surveyed are not recommended eligible for listing on the NRHP or the CRHR. Four historic buildings were also identified and recorded that were associated with the Rincon Powerplant and Penstock complex. These buildings included the Rincon Powerplant and three other associated buildings. The Powerplant, Penstock, and associated buildings had not been previously evaluated for listing on the NRHP or the CRHR. ASM was not tasked with evaluating the Rincon Powerplant or its associated buildings, but did evaluate the Rincon Penstock. The Penstock is not recommended eligible for listing on the NRHP or the CRHR. It is recommended that if implementation of the Settlement will have any effect on the four buildings, then they need to be formally evaluated for eligibility for listing on the NRHP and the CRHR.

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## REFERENCES

Basgall, M.E. and M. Hall

- 1990 *Adaptive Variation in the North-Central Mojave Desert*. Paper Presented at the 55th Annual Meeting of the Society for American Archaeology, Las Vegas.

Basgall, M. E., L. Johnson, and M. Hale

- 2002 *An Evaluation of Four Archaeological Sites in the Lead Mountain Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California*. Submitted to U.S. Army Corps of Engineers, Fort Worth, Texas.

Bean, Lowell J., and Florence C. Shipek

- 1978 Luiseño. In *California*, edited by Robert F. Heizer, pp. 550-563. Handbook of North American Indians, Vol. 8, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Boscana, Gerónimo

- 2005 *Chinigchinich, a Revised and Annotated Version of Alfred Robinson's Translation of Father Gerónimo Boscana's Historical Account by J.P. Harrington*. Malki Museum Press, Banning, California.

Bull, Charles S.

- 1987 A New Proposal: Some Suggestions for San Diego Prehistory. In *San Dieguito – La Jolla: Chronology and Controversy*, edited by Dennis R. Gallegos, pp. 35-42. San Diego County Archaeological Society Research Paper No. 1. San Diego.

Byrd, Brian F., and Seetha N. Reddy

- 2002 Late Holocene Adaptations along the Northern San Diego Coastline: New Perspectives on Old Paradigms. In *Cultural Complexity on the California Coast: Late Holocene Archaeological and Environmental Records*, edited by Jon M. Erlandson and Terry L. Jones, pp. 41-62. University of California Los Angeles Press.

Christenson, Lynne E.

- 1992 The Late Prehistoric Yuman Settlement and Subsistence System: Coastal Adaptation. In *Essays on the Prehistory of Maritime California*, edited by Terry L. Jones, pp. 217-230. Center for Archaeological Research at Davis Publications No. 10.

Christenson, Lynne Newell, and Ellen L. Sweet

- 2008 *Ranchos of San Diego County*. Arcadia Publishing, Charleston, South Carolina.

City of Escondido

- 2011a Personal communications in email thread with Pete Klein and Lori Vereker (City of Escondido) and Don Lincoln (Endeman, Lincoln, Turek, & Heater law firm), in possession of Sarah Stringer-Bowsher.
- 2011b "History of Water Supply Development." Electronic document, <http://www.escondido.org/history-of-water-supply-development.aspx>, accessed February 10, 2011.

City of Escondido and Vista Irrigation District

- 2008 "Update of Application for Minor License." Submitted to the Federal Energy Regulatory Commission.

Consolidated Aircraft

- 2004 Consolidated Aircraft History. Electronic document, <http://www.consolidatedaircraft.org/history.htm>, accessed April 30, 2009.

Crabtree, Robert H., Claude N. Warren, and Delbert L. True

- 1963 Archaeological Investigations at Baticuitos Lagoon, San Diego County, California. *University of California, Los Angeles, Archaeological Survey Annual Report 1962-1963:243-278.*

Dallas, Herb

- 2007 Cultural Resources Narrative for the Poomacha Fire, CA-MVU-10643, San Diego County California. Cal Fire. Unpublished Report on file at South Coastal Information Center, San Diego State University.

*Daily-Times Advocate*

- 1912 "The Hole is Pierced For Great Rodriguez Tunnel Today." December 19. Reprinted in August 31, 1986 edition. Folder "Water - Escondido." Escondido Public Library, Pioneer Room.
- 1914 "Water Power Electric Plants to Go In Now." May 30.

Davis, Emma Lou

- 1978 *The Ancient Californians: Rancholabrean Hunters of the Mojave Lakes Country.* Natural History Museum of Los Angeles County Science Series No. 29.

Day and Zimmerman Report

- 1945 *Volume I: Report No. 4072, Summary of Industrial and Commercial Survey, City of San Diego and San Diego County.* Prepared for the San Diego Chamber of Commerce.

Drucker, Philip

- 1937 Culture Element Distributions: V, Southern California. *Anthropological Records* 1:1-52. University of California, Berkeley.

- 1941 Culture Element Distributions: XVII, Yuman-Piman. *Anthropological Records* 6:91-230. University of California, Berkeley.

DuBois, Constance Goddard

- 1908 The Religion of the Luiseño Indians of Southern California. *University of California Publications in American Archaeology and Ethnology* 8:69-186. Berkeley.

Escondido Mutual Water Company

- 1932 "History of Escondido Mutual Water Company Up to 1933." Transcript originally held on file by the EMWC and a copy is available at Escondido Public Library, Pioneer Room in folder "MS-92-008 Water: Escondido Mutual Water Co."  
1952 "Water Group Says Public Utility Best of Escondido Area Needs." *Daily-Times Advocate*. November 11, p.4. Folder "Water - Escondido." Escondido Public Library, Pioneer Room.

Elsasser, Albert B.

- 1978 Basketry. In *California*, edited by Robert F. Heizer, pp. 626-642. Handbook of North American Indians, Vol. 8, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Engstrand, Iris

- 2005 *San Diego: California's Cornerstone*. Sunbelt, San Diego.

Erlandson, Jon M., and Roger H. Colten (editors)

- 1991 *Hunter Gatherers of Early Holocene Coastal California*. Perspectives in California Archaeology Vol. 1. Institute of Archaeology, University of California, Los Angeles.

Erlandson, Jon M., and Michael A. Glassow (editors)

- 1997 *Archaeology of the California Coast during the Middle Holocene*. Perspectives in California Archaeology Vol. 4. Institute of Archaeology, University of California, Los Angeles.

Erlandson, Jon M., and Terry L. Jones (editors)

- 2002 *Catalysts to Complexity: Late Holocene Societies of the California Coast*. Perspectives in California Archaeology Vol. 6. Institute of Archaeology, University of California, Los Angeles.

Etulain, Richard W., and Michael P. Malone

- 1989 *The American West: A Modern History, 1900 to the Present*. University of Nebraska Press, Lincoln.

Ezell, Paul

- 1983 A New Look at the San Dieguito Culture. *San Diego State University Cultural Resource Management Casual Papers* 1(3):103-109.
- 1987 The Harris Site – An Atypical San Dieguito Site or Am I Beating a Dead Horse? In *San Dieguito – La Jolla: Chronology and Controversy*, edited by Dennis R. Gallegos, pp. 15-22. San Diego County Archaeological Society Research Paper No. 1. San Diego.

Fages, Pedro

- 1937 A Historical, Political, and Natural Description of California (1775). Translated by Herbert Ingram Priestly. University of California Press, Berkeley.

Fried, David

- 2005 “Recent Rainstorms Left Canal Used by VID Plugged.” *The North County Times*. January 27.

Gallegos, Dennis R.

- 1985 Batiquitos Lagoon Revisited. *San Diego State University Cultural Resource Management Casual Papers* 2(1):1-13.
- 1987 A Review and Synthesis of Environmental and Cultural Material for the Batiquitos Lagoon Region. In *San Dieguito – La Jolla: Chronology and Controversy*, edited by Dennis R. Gallegos, pp. 23-34. San Diego County Archaeological Society Research Paper No. 1.
- 1992 Patterns and Implications of Coastal Settlement in San Diego County: 9000 to 1300 Years Ago. In *Essays on the Prehistory of Maritime California*, edited by Terry L. Jones, pp. 205-216. Center for Archaeological Research at Davis Publications No. 10. University of California, Davis.

Garcia, Mario T.

- 1975 Merchants and Dons San Diego's Attempt at Modernization, 1850-1860. *Journal of San Diego History* 21(1):53-80.

Geiger, Maynard, and Clement W. Meighan

- 1976 *As the Padres Saw Them: California Indian Life and Customs as Reported by the Franciscan Missionaries, 1813-1815*. Santa Barbara Mission Archive Library, Santa Barbara, California.

Gifford, Edward W.

- 1918 Clans and Moieties in Southern California. *University of California Publications in American Archaeology and Ethnology* 14:155-219. Berkeley.
- 1931 *The Kamia of Imperial Valley*. Smithsonian Institution Bureau of American Ethnology Bulletin No. 97. Washington, D.C.

Golla, Victor

- 2007 California Archaeology and Prehistory after Moratto: Linguistic Prehistory. In *California Prehistory: Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar, pp. 71-82. Altamira Press, Lanham, Maryland.

Griset, Suzanne

- 1996 Southern California Brown Ware. Unpublished Ph.D. dissertation, Department of Anthropology, University of California, Davis.

Gustafson, Craig

- 2005 "Old Escondido Canal Clogged for 6 Months." *Union-Tribune*. June 15.

Hale, Micah

- 2009 San Diego and Santa Barbara: Socioeconomic Divergence in Southern California. Ph.D. dissertation, University of California, Davis.

Hector, Susan M.

- 1984 *Late Prehistoric Hunter-Gatherer Activities in Southern San Diego County*. Ph.D. dissertation, Department of Anthropology, University of California, Los Angeles.
- 2007 *Archaeological Investigations at University House Meeting Center and Chancellor Residence, CA-SDI-4669 (SDM-W-12), University of California at San Diego, La Jolla, California*. ASM Affiliates.

Hector, Susan, and Linda Akyuz

- 2008 Management Plan for Archaeological Resources within Hellhole Canyon Open Space Preserve. ASM Affiliates. Submitted to San Diego County Department of Parks and Recreation. Unpublished Report on file at South Coastal Information Center, San Diego State University.

Heilbron, Carl H.

- 1936 *History of San Diego County*, San Diego Press Club, San Diego.

Heizer, Robert F.

- 1978 Trade and Trails. In, *California*, edited by Robert F. Heizer, pp. 690-693. Handbook of North American Indians, Vol. 8, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Hicks, Frederic Noble

- 1963 Ecological Aspects of Aboriginal Culture in the Western Yuman Area. Unpublished Ph.D. dissertation, Department of Anthropology, University of California, Los Angeles.

Hohenthal, William D., Jr.

- 2001 *Tipai Ethnographic Notes: A Baja California Indian Community at Mid-Century*. Ballena Press Anthropological Papers No. 48. Novato, California.

Jensen & Associates

- 1986 Archaeological Inventory Survey, Replacement of Two Wooden Flumes along the Escondido Canal, Woods Valley at San Pasqual Indian Reservation, San Diego County, California. Unpublished Report on file at South Coastal Information Center, San Diego State University.

Jones, Carleton S.

- 1992 The Development of Cultural Complexity among the Luiseño. Unpublished Master's thesis, Department of Anthropology, California State University, Long Beach.

Jones, Terry L., and Kathryn A. Klar (editors)

- 2007 *California Prehistory: Colonization, Culture, and Complexity*. Altamira Press, Lanham, Maryland.

JRP Historical Consulting Services

- 2000 Water Conveyance Systems in California. Prepared jointly with the California Department of Transportation.

KEA Environmental

- 2001 *Final Initial Study/Environmental Assessment for the Rincon and Wohlford Penstocks replacement project*. Prepared for the City of Escondido and the Federal Energy Regulatory Commission.

Kennedy, Michael P. and Siang S. Tan under California Department of Conservation

- 1999 Geologic Map of the Escondido 7.5' Quadrangle San Diego County, California: A Digital Database. Electronic document, [ftp://ftp.consrv.ca.gov/pub/dmg/rgmp/Prelim\\_geo\\_pdf/escondido.pdf](ftp://ftp.consrv.ca.gov/pub/dmg/rgmp/Prelim_geo_pdf/escondido.pdf), accessed August 22, 2008.
- 2005 Geologic Map of the Oceanside 30' X 60' Quadrangle. United States Geological Survey, Department of Earth Sciences, University of California, Riverside. Electronic document, [ftp://ftp.consrv.ca.gov/pub/dmg/rgmp/Prelim\\_geo\\_pdf/oceanside\\_map2\\_ai9.pdf](ftp://ftp.consrv.ca.gov/pub/dmg/rgmp/Prelim_geo_pdf/oceanside_map2_ai9.pdf), accessed August 22, 2008.

Knight, Tony

- 1982 "Lifeline to the Hidden Valley." *Times Advocate*. July 25.

Kroeber, A. L.

- 1925 *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin No. 78. Smithsonian Institution, Washington, D.C.

Kyvig, David E.

- 2004 *Daily Life in the United States, 1920-1940*. Ivan R. Dee, Chicago.

La Rue and Molnar

- 1977 "Water Washes Area's History." *Times Advocate*. December 12.

Laylander, Don

- 1985 Some Linguistic Approaches to Southern California's Prehistory. *San Diego State University Cultural Resource Management Center Casual Papers* 2(1):14-58.
- 1991 Organización comunitaria de los yumanos occidentales: una revisión etnográfica y prospecto arqueológico. *Estudios Fronterizos* 24-25:31-60.
- 1997 Inferring Settlement Systems for the Prehistoric Hunter-Gatherers of San Diego County, California. *Journal of California and Great Basin Anthropology* 19:179-196.
- 2000 *Early Ethnography of the Californias, 1533-1825*. Coyote Press Archives of California Prehistory No. 47, Salinas.
- 2004 *Listening to the Raven: The Southern California Ethnography of Constance Goddard DuBois*. Coyote Press Archives of California Prehistory No. 51, Salinas.
- 2007 Linguistic Prehistory and the Archaic-Late Transition in the Colorado Desert. Paper presented at the Conference on the Archaic-Late Transition in the Colorado Desert, Borrego Springs, California.

Lincoln, Don

- 2010 Phone interview with Sarah Stringer-Bowsher.
- 2011 Personal communications in email thread with Pete Klein and Lori Vereker (City of Escondido) and Don Lincoln (Endeman, Lincoln, Turek, & Heater law firm) in possession of Sarah Stringer-Bowsher.

Luomala, Katherine

- 1978 Tipai and Ipai. In *California*, edited by Robert F. Heizer, pp. 592-609. Handbook of the North American Indians, Vol. 8, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

MacPhail, Elizabeth C.

- 1971 The Davis House: New San Diego's Oldest and Most Historic Building. *Journal of San Diego History* 17(4):31-38.

Masters, Patricia M., and Dennis R. Gallegos

- 1997 Environmental Change and Coastal Adaptations in San Diego County during the Middle Holocene. In *Archaeology of the California Coast during the Middle Holocene*, edited by Jon M. Erlandson and Michael A. Glassow, pp. 11-21. Perspectives in California Archaeology, Vol. 4. University of California, Los Angeles.

References

---

McGrew, Alan B

- 1988 Hidden Valley Heritage: Escondido's First 100 Years. Blue-Ribbon Centennial History Committee, Escondido.

Meighan, Clement W.

- 1954 A Late Complex in Southern California Prehistory. *Southwestern Journal of Anthropology* 10:215-227.

Mills, James

- 1968 San Diego...Where California Began. *Journal of San Diego History* 14(1):1-73.

Moratto, Michael

- 1984 *California Archaeology*. Academic Press, Orlando, Florida.

Nye, David E.

- 1997 *Electrifying America: Social Meaning of a New Technology*. MIT Press, Massachusetts.

*Oceanside Daily Blade-Tribune*

- 1941 Population of County, 289,348. 25 February: 1. Oceanside, California. Oceanside Public Library.  
1941 Population of San Diego County Jumps 20 P.C. 20 August: 1. Oceanside, California. Oceanside Public Library.  
1941 California Led All States in Defense Work. 11 August: 6. Oceanside, California. Oceanside Public Library.  
1941 Explains Housing As Essential to Defense. 25 September: 1, 6. Oceanside, California. Oceanside Public Library.

Owen, Roger C.

- 1965 The Patrilineal Band: A Linguistically and Culturally Hybrid Social Unit. *American Anthropologist* 67:675-690.

Padilla-Corona, Antonio

- 1997 The Urban Layout of Old Town San Diego. *Journal of San Diego History*, 43(3):176-187.

Patterson, Ray

- 2001 "Going With the Flow." *San Diego Union-Tribune*. February 4.

Pourade, Richard F.

- 1960 *Time of the Bells*. Union-Tribune, San Diego.  
1964 *The Glory Years*. Union-Tribune, San Diego.

- Robinson, W. W.  
1948 *Land in California*. University of California Press, Berkeley.
- Rogers, Malcolm J.  
1929 The Stone Art of the San Dieguito Plateau. *American Anthropologist* 31:454-467.  
1945 An Outline of Yuman Prehistory. *Southwestern Journal of Anthropology* 1:167-198.
- Rogers, Thomas H.  
1965 *Santa Ana Sheet*. Geologic Map of California. California Division of Mines and Geology, Sacramento.
- San Pasqual Band of Diegueño Mission Indians of California  
n.d. "San Pasqual: The Kumeyaay Indians History." Electronic document, <http://sanpasqualtribe.com/>, accessed March 30, 2011.
- Schuyler, James Dix  
1901 *Reservoirs for Irrigation, Water-Power, and Domestic Water-Supply*. John Wiley & Sons, New York.
- Shipek, Florence Connolly  
1982 Kumeyaay Socio-Political Structure. *Journal of California and Great Basin Anthropology* 4:296-303.
- Sholders, Mike  
2002 Water Supply Development in San Diego and a Review of Related Outstanding Projects. *Journal of San Diego History* 48(1).
- Shumway, George, Carl L. Hubbs, and James R. Moriarty III  
1961 Scripps Estate Site, San Diego, California: A La Jolla Site Dated 5460 to 7370 Years Before the Present. *Annals of the New York Academy of Sciences* 93(3):37-132.
- Soto, Ondell R.  
2008 "Water Settlement Knots Finally Untangling." *San Diego Union-Tribune*. December 1, 2008.
- Sparkman, Philip S.  
1908 The Culture of the Luiseño Indians. *University of California Publications in American Archaeology and Ethnology* 8:187-234. Berkeley.
- Spier, Leslie  
1923 Southern Diegueño Customs. *University of California Publications in American Archaeology and Ethnology* 20:295-358. Berkeley.

Sutton, Mark Q.

- 2009 People and Language: Defining the Takic Expansion into Southern California. *Pacific Coast Archaeological Society Quarterly* 41(2 & 3):33-93.

Tartaglia, Louis James

- 1976 Prehistoric Maritime Adaptations in Southern California. Unpublished Ph.D. dissertation, Department of Anthropology, University of California, Los Angeles.

Tax Factor

- 1928 Aerial series. On file at the Southern California Information Center.

True, Delbert L.

- 1958 An Early Complex in San Diego County, California. *American Antiquity* 23:255-263.
- 1966 Archaeological Differentiation of Shoshonean and Yuman Speaking Groups in Southern California. Unpublished Ph.D. dissertation, Department of Anthropology, University of California, Los Angeles.
- 1970 *Investigation of a Late Prehistoric Complex in Cuyamaca Rancho State Park, San Diego County, California*. University of California, Los Angeles, Archaeological Survey.
- 1980 The Pauma Complex in Northern San Diego County: 1978. *Journal of New World Archaeology* 3(4):1-39.

True, Delbert L., and Eleanor Beemer

- 1982 Two Milling Stone Inventories from Northern San Diego County, California. *Journal of California and Great Basin Anthropology* 4:233-261.

True, Delbert L., and Rosemary Pankey

- 1985 Radiocarbon Dates for the Pauma Complex Component at the Pankey Site, Northern San Diego County, California. *Journal of California and Great Basin Anthropology* 7:240-244.

U. S. Census

- 1900 *The Twelfth Census of the United States, San Diego County*. U.S. Bureau of the Census. U.S. Government Printing Office, Washington, D.C. Microfilm, San Diego Historical Society Archives.
- 1920 *The Fourteenth Census of the United States, San Diego County*. U.S. Bureau of the Census. U.S. Government Printing Office, Washington, D.C. Microfilm, San Diego Historical Society Archives.
- 1930 *The Fifteen Census of the United States, San Diego County*. U.S. Bureau of the Census. U.S. Government Printing Office, Washington, D.C. Microfilm, San Diego Historical Society Archives.

- 1940 *The Sixteenth Census of the United States. San Diego County.* U.S. Bureau of the Census. U.S. Government Printing Office, Washington, D.C. Microfilm, San Diego Historical Society Archives.
- 1950 *The Seventeenth Census of the United States. San Diego County.* U.S. Bureau of the Census. U.S. Government Printing Office, Washington, D.C. Microfilm, San Diego Historical Society Archives.
- 1960 *The Seventeenth Census of the United States. San Diego County.* U.S. Bureau of the Census. U.S. Government Printing Office, Washington, D.C. Microfilm, San Diego Historical Society Archives.

#### U.S. Department of Agriculture

- n.d. *Web Soil Survey.* Natural Resources Conservation Service. Electronic document, <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>, accessed March 23, 2011.

#### U.S. Department of Agriculture

- 1953 Aerial photograph. Courtesy of HistoricAerials.com.
- 1964 Aerial photograph. Courtesy of HistoricAerials.com.
- 1968 Aerial photograph. Courtesy of HistoricAerials.com.
- 1971 Aerial photograph. Courtesy of HistoricAerials.com.
- 1989 Aerial photograph. Courtesy of HistoricAerials.com.
- 2005 Aerial photograph. Courtesy of HistoricAerials.com.

#### USDI Bureau of Land Management

- 1996 Plat and Historical Indices. Last updated, 1996.
- 2010 Land Patents Search.

#### USDI Bureau of Reclamation

- 2009 "The San Diego Project." Electronic document, [http://www.usbr.gov/projects/Project.jsp?proj\\_Name=San+Diego+Project](http://www.usbr.gov/projects/Project.jsp?proj_Name=San+Diego+Project), accessed April 14, 2011.

#### United States

- 1914 "Memorandum of Agreement, as furnished under Exhibit A-1 as Attachment 3-06. Folder "Ms 93-004 Series XI, Escondido Historical Society Collection, Water – Escondido Irrigation District." Escondido Public Library, Pioneer Room

#### Vista Irrigation District

- 2011 "Our History." Electronic document, <http://www.vid-h2o.org/aboutus/ourhistory.asp>, accessed February 9, 2011.

#### Wagner, David L., and Dinah D. Maldonado

- 2000 *Generalized Geologic Map of California.* Sacramento: California Geologic Survey. Electronic document, [www.conservation.ca.gov](http://www.conservation.ca.gov), accessed February 13, 2008.

Wallace, William J.

- 1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11:214-230.

Warren, Claude N.

- 1964 Cultural Change and Continuity on the San Diego Coast. Unpublished Ph.D. dissertation, Department of Anthropology, University of California, Los Angeles.
- 1968 Cultural Tradition and Ecological Adaptation on the Southern California Coast. In *Archaic Prehistory in the Western United States*, edited by Cynthia Irwin-Williams, pp. 1-14. Eastern New Mexico University Contributions in Anthropology No. 1. Portales.

Warren, Claude N., and Max G. Pavesic

- 1963 Shell Midden Analysis of Site SDi-603 and Ecological Implications for Cultural Development of Batiquitos Lagoon, San Diego County, California. *University of California, Los Angeles, Archaeological Survey Annual Report 1962-1963*:407-438.

Warren, Claude N., Delbert L. True, and Ardith A. Eudey

- 1961 Early Gathering Complexes of Western San Diego County: Results and Interpretations of an Archaeological Survey. *University of California, Los Angeles, Archaeological Survey Annual Report 1960-61*, pp. 1-106.

Warren, Claude N., Gretchen Siegler, and Frank Dittmer

- 2004 Paleoindian and Early Archaic Periods. Chapter 2 in *Prehistoric and Historic Archaeology of Metropolitan San Diego: A Historic Properties Background Study*. ASM Affiliates, Encinitas, California. Prepared for the Metropolitan Wastewater Department, City of San Diego.

Warren, Elizabeth, and Ralph J. Roske

- 1981 *Cultural Resources of the California Desert, 1776-1980: Historic Trails and Wagon Roads*. USDI Bureau of Land Management, Riverside District, California.

Waterman, Thomas T.

- 1910 The Religious Practices of the Diegueno Indians. *University of California Publications in American Archaeology and Ethnology* 8:271-358. Berkeley.

Waugh, M. Georgie

- 1986 Intensification and Land-Use: Archaeological Indications of Transition and Transformation in a Late Prehistoric Complex in Southern California. Unpublished Ph.D. dissertation, Department of Anthropology, University of California, Davis.

Weber, Harold F., Jr.

- 1963 *Geology and Mineral Resources of San Diego County, California*. County Report No. 3. California Division of Mines and Geology, San Francisco.

Whatford, Charles J.

2007 *Cultural Resource Narrative for the Witch Fire CA-MVU-010432 San Diego County, California*. California Department of Forestry and Fire Protection. Report on file at the South Coastal Information Center.

White, Raymond C.

1963 Luiseño Social Organization. *University of California Publications in American Archaeology and Ethnology* 48:91-194. Berkeley.

## **APPENDIX A**

### **Permission to Work on Reservation Lands**



January, 3, 2011

Mr. Allen E. Lawson, Tribal Chair  
San Pasqual Band of Mission Indians  
27458 North Lake Wohlford Road  
Valley Center, CA 92082-6732

CC: Ms. Tilda Green, Tribal Administrator

RE: Cultural Resources Survey for the San Luis Rey-Escondido Water Rights Settlement

Dear Mr. Lawson,

ASM Affiliates, Inc. (ASM), has been contracted by PBS&J to conduct a cultural resources study for the proposed realignment of the Escondido Canal in relation to the San Luis Rey-Escondido Water Rights Settlement. The study includes a records search for a one-mile radius around the proposed project area (i.e., proposed realigned sections of the Escondido Canal), an intensive pedestrian survey of a 30-ft. corridor for each alternative alignment, and an historical evaluation of the Escondido canal itself. ASM hereby requests access to survey San Pasqual Tribal lands that are intersected by the proposed project area. We also request permission to access confidential archaeological site records on file at the South Coastal Information Center at San Diego State University for those sites recorded within Reservation boundaries.

We are trying to complete this study by the end of this month (January 2011) and appreciate your attention to this matter. For your reference, I have attached a map showing the proposed project area in relation to San Pasqual lands. Please contact me with any questions that you may have.

Respectfully,

Micah Hale, Ph.D., RPA  
Principal



January, 3, 2011

Mr. Dan Hall  
Regional Archeologist  
Bureau of Indian Affairs  
Pacific Region  
2800 Cottage Way  
Sacramento, CA 95825

RE: Request for the determination of a need for an ARPA permit for a cultural resources survey for the San Luis Rey-Escondido Water Rights Settlement

Dear Mr. Hall,

ASM Affiliates, Inc. (ASM), has been contracted by PBS&J to conduct a cultural resources study for the proposed realignment of the Escondido Canal in relation to the San Luis Rey-Escondido Water Rights Settlement. The study includes a records search for a one-mile radius around the proposed project area (i.e., proposed realigned sections of the Escondido Canal), an intensive pedestrian survey of a 30-ft. corridor for each alternative alignment, and an historical evaluation of the Escondido canal itself. To complete this study, ASM has requested access to San Pasqual and Rincon reservation lands that are intersected by the proposed canal realignments and the Escondido canal itself within the project area. ASM has also requested access to confidential archaeological site records near the project that are on file at the South Coastal Information Center at San Diego State University. To date, ASM has received permission only from the Rincon reservation; as of the date of this letter, a formal request was sent to the San Pasqual tribe for their consideration at meeting planned for January 4, 2011.

ASM is hereby requesting a determination from the BIA of the need for an ARPA permit to conduct this cultural resources study on tribal lands. I have attached several maps showing the location of the proposed project areas, along with a one-mile records search radius required for the study. I have also attached all correspondence with the tribes that has occurred as of the date of this letter.

January 3, 2011

Mr. Dan Hall

Page 2 of 2

We are trying to complete this study by the end of this month (January 2011), although efforts to initiate communication with the tribes have been hindered by the holiday season. As such, we appreciate your attention to this matter. Please contact me with any questions that you may have.

Respectfully,

A handwritten signature in black ink that reads "Micah J. Hale". The signature is written in a cursive style with a large, stylized initial "M".

Micah Hale, Ph.D., RPA  
Principal

# Rincon Band of Luiseño Indians

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PO Box 68 • Valley Center • CA 92082 • (760) 749-1051 • Fax: (760) 749-8901



December 20, 2010

South Coastal Information Center  
4283 El Cajon Blvd., #250  
San Diego, CA 92105

Re: Rincon Reservation

Gentlemen:

ASM Affiliates, Inc. is conducting a cultural resources inventory and assessment of cultural resources in relation to the San Luis Rey Indian Water Rights Settlement Agreement Project on the Rincon Reservation.

The Rincon Band of Luiseno Indians would like South Coastal Information Center to allow ASM Affiliates, Inc. access to confidential archaeological site records that pertain to the Rincon lands adjacent to the Escondido Canal and Rincon Penstock.

If you have any questions, please feel free to contact Dick Watenpaugh, director of Tribal Administration at (760) 749-1051, ext. 2021, or myself at (760) 749-1092.

Respectfully,

Bo Mazzetti  
Chairman

BM/dkw

Cc: Micah Hale, PhD, RPA, Affiliates, Inc.



**SAN PASQUAL BAND OF DIEGUENO MISSION INDIANS OF CALIFORNIA**  
**SAN PASQUAL RESERVATION**

TRIBAL COUNCIL

March 4, 2011, 2011

Allen E. Lawson  
Chairman

Micah Hal, Ph.D., RPA  
ASM Affiliates, Inc.  
2034 Corte Del Nogal  
Carlsbad, CA 92011

Victoria Diaz  
Vice-Chairman

Tilda Green  
Secretary-Treasurer

Dear Dr. Hal:

David L. Toler  
Delegate

Vacant  
Delegate

Please except this letter as permission for ASM employees to enter The San Pasqual Band of Mission Indians Reservation to conduct the necessary surveys for the SLR-Escondido Canal realignment. If you need further assistance please contact me.

Sincerely,

Allen E. Lawson  
Chairman

**APPENDIX B**  
**Personnel Qualifications**

**Shelby Gunderman Castells, M.A., RPA**  
**Senior Archaeologist**

**Start date:** March 9, 2009

**Firm Name:** ASM Affiliates, Inc., Carlsbad, California

**Total Years of Experience:** 6

**Employment History:**

2009 Senior/Associate Archaeologist, ASM Affiliates, Inc., Carlsbad, California  
2008–2009 GIS Specialist/Archaeologist, County of San Diego, Parks and Recreation  
Department, San Diego, California  
2007-2008 Archaeologist, URS Corporation, San Diego, California  
2007-2008 Collections Manager, San Diego State University- Anthropology Department,  
San Diego, California  
2007-2008 Field Archaeologist, ASM Affiliates, Inc., Carlsbad, California  
2006-2007 Field Archaeologist, EDAW, San Diego, California  
2006 Archaeology Intern, George Washington Fredericksburg Foundation,  
Fredericksburg, Virginia  
2005-2006 Archaeologist, Professional Archaeological Services, San Marcos, California

**Education:**

M.A. 2010/Anthropology/San Diego State University  
B.A. 2003/Anthropology/University of California, San Diego

**Registrations:**

2010 Register of Professional Archaeologists

**Professional Memberships or Affiliations:**

Society for Historical Archaeology  
Society for California Archaeology

**Computer Skills:**

ArcGIS  
Pathfinder  
SPSS  
Past Perfect  
Trimble data collection and post processing  
Microsoft Office Suite

**Awards/Commendations:**

Graduate Equity Fellowship Grant, San Diego State University, 2007  
Norton Allen Scholarship, San Diego State University, Anthropology Department, 2008

**Clearances:** 40-Hour HAZWOPER

**Citizenship:** USA

**Presentations:**

2011 Society for Historical Archaeology Conference on Historical and Underwater  
Archaeology, January 2011  
Spring Valley Historical Society, February 2011  
2010 Society for California Archaeology 2010 Southern California Data Sharing  
Meeting, October 2010

**Languages:** none

**References:**

Dr. Lynne Christenson, County Historian, San Diego County Parks and Recreation,  
(619) 472-2734

Brian Glenn, Cultural Resources Group Leader, URS, (714) 345-9883

Dr. Seth Mallios, Professor, San Diego State University, smallios@mail.sdsu.edu

David Muraca, Director of Archaeology, George Washington's Fredericksburg Foundation,  
(540) 370-0742

**Professional Profile:**

Ms. Castells has six years of experience in all manners of professional archaeology in Southern California and Virginia. She earned her B.A. degree in Anthropology from the University of California, San Diego in 2003, and received a M.A. in Anthropology, concentration Archaeology, at San Diego State University in 2010. Her interests focus on historical archaeology and regional history of southern California. She has been involved with multiple survey, monitoring, testing, and data recovery projects within the City of San Diego and the counties of San Diego, Imperial, Orange, Los Angeles, Riverside, San Bernardino, and Kern, as well as in the Puget Sound region of Washington and the Chesapeake region of Virginia. Ms. Gunderman serves ASM as Senior Archaeologist.

**Selected Project Experience:**

A Cultural Resources Assessment of the Puget Sound Nearshore Ecosystem Restoration Projects (PSNERP) Area - Literature and Data Review and Synthesis, U.S. Fish & Wildlife

Service, NW Washington, 2011. As Project Archaeologist, conducted a cultural resource records/literature search for the project area, including a review and compilation of archaeological reports, field notes, and site records forms on file at the Washington State Department of Archaeology and Historic Preservation (DAHP); General Land Office (GLO) maps, notes, and surveys; government land patent records; and ethnographic notes, histories, historic maps, and environmental documentation. Assessed the potential for cultural resources in the project area based on the records search data. Provided recommendations on where future archaeological efforts should be made within the project area in the project technical report. Client Reference: Jorie Clark, U.S. Fish and Wildlife Service, (541) 737-1575.

Cultural Resources Study for the Silurian Valley Wind Project, Iberdrola Renewables, San Bernardino County, California, 2011. As Crew Chief, organized and led archaeological surveys of the project area. Identified, recorded, and mapped prehistoric and historical archaeological sites, including a historic railroad town. Prepared DPR site forms and site documentation for incorporation into a technical report. Client Reference: Harley McDonald, Iberdrola Renewables, (760) 445-3081.

Cultural and Historical Resources Survey and Evaluation Report for the San Luis Rey Indian Water Rights Settlement Agreement, Escondido Canal Undergrounding, Atkins, San Diego County, California, 2011. As Field Director organized and led archaeological field crews to perform a survey of the project area. Photographed, recorded, and evaluated the Escondido Canal and the Rincon Penstock. Identified, recorded, and mapped archaeological sites within the project area. Directed correspondence between the San Pasqual Indian Reservation, the Rincon Indian Reservation, the Bureau of Indian Affairs (BIA), and Atkins. Prepared DPR site forms and a technical report regarding the project findings. Client Reference: Diane Sandman, Atkins, (858) 514-1068

San Diego Gas & Electric Cultural Resources On-Call Contract, San Diego Gas & Electric Company, San Diego, Riverside, Imperial, and Orange Counties, California, 2009-2012. As Field Director organized and led archaeological surveys of project areas on an as-needed basis. Identified, recorded, and mapped sites within the project areas. Provided management recommendations, pole placement recommendations, and cultural resources monitoring. Wrote DPR forms and technical reports regarding project findings. Client Reference: Dr. Susan Hector, San Diego Gas & Electric, (858) 654-1279.

Archaeological Survey Report for the San Luis Rey River Park, San Diego County, California, 2011. As Field Director, organized surveys of the project area; identified, recorded, and mapped prehistoric and historical sites within the project area; performed historical research on the project area at several archives and repositories. Consulted with the Native American Heritage Commission (NAHC). Wrote DPR forms and researched and wrote a technical report regarding the project findings. Client Reference: Brock Ortega, Dudek, (760) 479-4254; Jessica Norton, County of San Diego, Department of Parks and Recreation, (858) 966-1379.

Archaeological and Historical Resources Survey and Testing Report for the Rabago Otay Technology Business Park, RBF Consulting, San Diego County, California, 2010. As Field Director, organized field crew and a Native American monitor to perform surveys and subsequent excavations of the project area. Identified, recorded, and mapped sites within the project area. Photographed and recorded historical buildings. Researched building dates and wrote building descriptions. Consulted with the NAHC. Performed laboratory work, artifact analysis, and prepared the collection for curation. Wrote DPR forms and researched and wrote a technical report regarding the project findings Client Reference: Alex Jewell, RBF Consulting, (949) 472-3505.

Archaeological Survey Report for the Escondido Creek Properties, Dudek and Associates, San Diego County, California, 2010. As Field Director, organized surveys of the project area; identified, recorded, and mapped prehistoric and historical sites; performed background historical research on the project area at several archives and repositories. Consulted with the NAHC. Wrote DPR forms and researched and wrote a technical report regarding the project findings. Client Reference: Brock Ortega, Dudek, (760) 479-4254; Jessica Norton, County of San Diego Department of Parks and Recreation, (858) 966-1379.

Archaeological Survey Report for the Pascoe, Helix-Lambron, and Cielo Azul Parcel Additions to the Del Dios Highlands Preserve, Dudek and Associates, San Diego County, California, 2010. As Field Director, organized surveys of the project area; identified, recorded, and mapped prehistoric and historical sites within the project area; performed background research on the project area at several archives and repositories. Consulted with the NAHC. Wrote DPR forms and researched and wrote a technical report regarding the project findings. Client Reference: Brock Ortega, Dudek, (760) 479-4254; Jessica Norton, County of San Diego Department of Parks and Recreation, (858) 966-1379.

Archaeological Monitoring of the Downtown Library Site Remediation Project, City of San Diego, San Diego, California, 2010. As Field Director, organized and scheduled archaeological and Native American monitoring of construction activities for the new City of San Diego Public Library. Performed historical research, consulting archives and historic maps, to evaluate the discovery of any cultural resources uncovered during construction. Researched and wrote a technical report regarding the project findings. Client Reference: Myra Hermann, City of San Diego Development Services Department, (619) 446-5372.

Cultural And Historical Inventory and Impacts Assessment Report for San Diego Association of Governments Sorrento-to-Miramar Double Track Project, David Evans and Associates, San Diego County, California, 2010. As Crew Chief, organized testing and data recovery on the ethnohistoric village site of *Ystagua*, within the project area. Excavated 1-m-by-1-m test units to a depth of 150 cm and wet-screened all excavated material. Used GPS equipment to map the site excavations. Performed laboratory work including cleaning, sorting, and cataloging artifacts. Analyzed the artifact collection, produced report quality tables and graphs describing the collection, and prepared the collection for curation. Client Reference: David Evans & Associates, Inc., (858) 614-4360.

Archaeological Resources Survey Report for the Market Street Row Homes Project, Thamyco, LLC, San Diego, California, 2010. As Project Manager and Field Director, conducted a pedestrian field survey of the project area to assess the presence or absence of potentially significant historical and prehistoric resources within the project area. Consulted with the NAHC and performed subsequent historical research. Researched and wrote a technical report regarding the project findings. Client Reference: Lien Vu, Thamyco, LLC.

Cultural Resource Study for the Hudson Ranch II Project, Environmental Management Associates, Imperial County, California, 2010. As Field Director, organized the archaeological field crew, conducted a pedestrian field survey to assess the presence or absence of potentially significant historical and prehistoric resources within the project area and contributed to a report regarding the project findings. Client Reference: Dwight L. Carey, Environmental Management Associates, Inc., (714) 529-3695.

Cultural and Historical Resources Survey and Evaluation Report for the City of San Marcos Public Works Channel Maintenance Permit Project, City of San Marcos, San Diego County, California, 2010. As Project Manager and Field Director, conducted pedestrian field surveys of the project area to assess the presence or absence of potentially significant historical and prehistoric resources and performed historical research. Consulted with the City of San Marcos regarding Section 106 and CEQA compliance. Wrote a technical report regarding the project findings. Evaluated public works for the NRHP and CRHR. Client Reference: Susan Vandrew-Rodriguez, City of San Marcos, (760) 744-1050.

Cultural And Historical Resources Existing Conditions Report for the North County Transit District Sorrento Valley Double Track And Bridge Replacement Project, BRG Consulting, Inc., San Diego, California, 2010. As Report Author, compiled record and literature search information, and historical documentation to produce a cultural and historical resource inventory, railroad bridge evaluation and recommendations for future work. Evaluated three railroad bridges for the NRHP and CRHR. Client Reference: Mary Bilse, BRG Consulting, Inc, (619) 298-7127.

Survey, Evaluation, and Update of NRHP Eligibility at Naval Weapons Station Seal Beach, Detachment Corona, NAVFAC Southwest, Norco, Riverside County, California, 2010. As Associate Archaeologist, conducted a survey of the architectural elements within the project area, including photography and GPS mapping of the buildings, structures, and landscape, developed GIS data layers, and produced report quality maps of the project area, architectural elements and landscape. Client Reference: Alex Bethke, NAVFAC Southwest, (619) 532-2789.

Sunrise Powerlink Assessment of Indirect Visual Impacts on the Historic Built Environment Properties, San Diego Gas & Electric, San Diego and Imperial counties, California, 2009-2011. As Field Director, surveyed potential historic buildings and structures for the assessment of indirect visual impacts along the area of indirect effects. Performed subsequent historical research on the structures with the project area and evaluated buildings and structures for

significance. Contributed to the final technical report and prepared over 90 DPR site forms. Client Reference: Dayle Cheever, SDG&E, (858) 654-1856.

Inventory of Cultural Resources for the La Mesa Sewer Repair and Replacement, State Revolving Fund Project, Atkins, La Mesa, San Diego County, California, 2010. As Project Manager and Field Director, conducted pedestrian field surveys of the project area to assess the presence or absence of potentially significant historical and prehistoric resources. Consulted with the City of La Mesa and the State Water Resources Control Board regarding Section 106 and CEQA compliance. Wrote a technical report regarding the project findings. Client Reference: Diane Sandman, Atkins, (858) 514-1010.

Class III Inventory of the Cultural Resources along the Approved Sunrise Powerlink Final Environmentally Superior Southern Route, San Diego Gas & Electric, San Diego and Imperial counties, California, 2009-2011. As Associate Archaeologist, conducted pedestrian surveys within the project area to assess the presence or absence of potentially significant historical and prehistoric resources. Monitored preconstruction and construction activities within the project area. Client Reference: Dayle Cheever, SDG&E, (858) 654-1856.

San Ysidro Railroad Yard Improvement Project, Helix Environmental Planning, Inc., San Diego, California, 2009-2010. As Associate Archaeologist, conducted a field survey of the 54-acre project area to assess the presence or absence of potentially significant historical and prehistoric resources for the expansion of the rail yard freight capacity. Conducted subsurface testing of prehistoric and historic sites in the project area. Identified prehistoric and historic artifacts and recorded new and previously identified sites. Performed laboratory and artifact analysis of excavated material. Client Reference: Tim Belzman, Helix Environmental Planning, Inc., (619) 462-1515.

Sunrise Powerlink Assessment of Indirect Visual Impacts on the Historic Built Environment Properties, San Diego Gas and Electric, San Diego and Imperial counties, California, 2009-2010. As Associate Archaeologist surveyed potential historic buildings and structures for the assessment of indirect visual impacts along the area of indirect effects. Performed subsequent historical research on the structures with the project area. Client Reference: Dayle Cheever, SDG&E, (858) 654-1856.

Cultural Resource Monitoring and Discovery for the El Cajon Public Safety Center Project, San Diego Natural History Museum, City of El Cajon, San Diego County, California 2009-2010. As Associate Archaeologist, performed construction monitoring and excavated the discovery of an historic-era well. Performed laboratory and artifact analysis on recovered artifacts. Client Reference: Dr. Thomas A. Demere, San Diego Natural History Museum, (619) 232-3821 ext 232.

English Road Siphon Documentation, Imperial Irrigation District, Niland, Imperial County, California, 2009. As Associate Archaeologist, recorded and photographed an historic siphon and associated canal. Performed subsequent historical research on the siphon and canals within

the project area. Client Reference: Michel D. Remington, Imperial Irrigation District, (760) 339-9279.

Cultural Resource Record Search for the El Cajon Boys and Girls Club Expansion Project, Boys and Girls Club of San Diego East County, El Cajon, San Diego County, California, 2009. As Associate Archaeologist, performed a cultural resource record search to assess the presence or absence of potentially significant historical or prehistoric resources for the construction of the El Cajon Boys and Girls Club. Client Reference: Jerry Fazio, Boys and Girls Club East County, (619) 440-1600.

Cultural Resources Inventory of the Twin Oaks Valley Elementary School Project Area, The Planning Center, San Marcos, San Diego County, California, 2009. As Associate Archaeologist, conducted survey to assess the presence or absence of potentially significant historical and prehistoric resources for the expansion and construction of the Twin Oaks Valley Elementary School by the San Marcos Unified School District. Client Reference: Andy Minton, The Planning Center, (714) 966-9220 ext 314.

Historical Resources Evaluation Report for Caltrans 805 South Segment, Caltrans District 11, San Diego County, California, 2009. As Associate Archaeologist, worked with Caltrans to produce an HRER of the built environment within the nine-mile-long project area corridor. Surveyed, screened and photographed architectural resources within the project area. Client Reference: Debra Dominici, Caltrans District 11, (619) 688-0187.

Cultural Resources Inventory of the OWD Pipeline Construction Project within Dehesa Road, Dudek, El Cajon, San Diego County, California, 2009. As Associate Archaeologist, performed a cultural resources study for the construction of a water pipeline to be included in an EIR under CEQA produced by the Otay Water District. Client Reference: Shawn Shamlou, Dudek, (760) 479-4228.

University District Survey, HDR Engineering, Inc., San Marcos, San Diego County, California, 2008. As Associate Archaeologist, conducted fieldwork, concentrating on the built environment, for the proposed City of San Marcos General Plan and Heart of the City Specific Plan to allow mixed-use development on approximately 187.38 acres. The study area lies within the Heart of the City Specific Plan area in the Barham Drive/Discovery Neighborhood; CEQA compliance. Client Reference: Sophia Mitchell, HDR Inc., (858) 712-8358.

Ramona Branch Library, HDR Engineering, Inc., County of San Diego, California, 2009. As Associate Archaeologist, conducted a field survey of the 7-acre project to assess the presence or absence of potentially significant historical and prehistoric resources for County of San Diego CEQA compliance. Client Reference: Sophia Habl-Mitchell, HDR Engineering, Inc. (858) 712-8358.

Cultural and Historical Resources Survey for the Downtown Vista Specific Plan Update Program Environmental Impact Report, Atkins, City of Vista, San Diego County, California,

2009. As Associate Archaeologist, assisted in the identification of potential historical and prehistoric resources in the Downtown Vista Specific Plan project area through a field survey and historical research. The historical resources survey identified three buildings out of over 300 located within the project area to evaluate for the CRHR. Client Reference: Diane Sandman, Atkins, (858) 514-1010.

Archaeological Resources Survey for the McAuliffe Park Vernal Pool Mitigation Project, BRG Consulting, Inc., San Diego County, California, 2009. As Associate Archaeologist, performed an archaeological survey of the 33-acre project area for the San Diego Unified School District within the Mira Mesa Community Planning area vernal pool mitigation site. Client Reference: Kathie Washington, BRG Consulting, Inc., (619) 298-7127 ext. 104.

Archaeological Resources Survey for the Jonas Salk Elementary School, BRG Consulting, Inc., San Diego County, California, 2009. As Associate Archaeologist, performed an archaeological survey of the 13-acre project area for the San Diego Unified School District within the Mira Mesa Community Planning area development of a new elementary school and mixed-use park. Client Reference: Kathie Washington, BRG Consulting, Inc., (619) 298-7127 ext. 104.

Historical Resource Study for the Proposed Land Acquisition Areas, Marine Corps Air Training Area, NAVFAC Southwest, Twentynine Palms, San Bernardino County, California, 2009. As Associate Archaeologist, conducted a guided historical survey within the 340,403-acre project area, to assess the presence or absence of potentially significant historical resources. Photographed and mapped resources. Performed historical research at several southern California repositories. Client Reference: George Herbst, NAVFAC Southwest, (619) 532-3146.

Historical Evaluation of the Valencia Park Library, Southeast Economic Development Corporation, Inc., City of San Diego, California, 2009. As Associate Archaeologist, conducted historical research to assess the significance of the historic building. Researched and prepared a historic context of the surrounding area. Client Reference: Chris Jones, Southeast Economic Development Corporation, Inc., (619) 527-7345.

University Avenue Mobility Plan, Helix Environmental Planning, Inc., City of San Diego, California, 2009. As Associate Archaeologist, conducted a survey of the project area to assess the presence or absence of potentially significant prehistoric and historic sites, performed historical research and inventoried historical buildings and the historic built environment within the project area, prepared for Helix Environmental Planning, Inc. and the Federal Highway Administration. Client Reference: Tim Belzman, Helix Environmental Planning, Inc., (619) 462-1515.

Survey and Testing for the Yokhol Ranch, Atkins, Kern and Tulare counties, California, 2008, As Archaeological Technician, conducted subsurface testing and pedestrian survey of the

Yokhol Ranch, identified and recorded prehistoric sites and artifacts and bedrock milling features.

Survey and Testing for the All American Canal Lining Project, USDI Bureau of Reclamation, Imperial County, California, 2007. As Archaeological Technician, performed a pedestrian survey and subsurface testing of prehistoric sites. Identified prehistoric artifacts, and located and re-recorded previously identified sites. Performed data recovery in a quarry area.

**Other:**

Monitoring for Rancho Guajome Tree Planting, County of San Diego Parks and Recreation, San Diego County, California, 2009. As Archaeological Monitor, monitored the planting of approximately 30 fruit trees, in the vicinity of a known archaeological site within the Rancho Guajome County Park. Identified historic artifacts. Wrote a Monitoring Log and Report for the County of San Diego. Under the direction of Dr. Lynne Christenson.

Monitoring for Rancho Penasquitos Tree Planting, County of San Diego Parks and Recreation, San Diego County, California, 2009. As Archaeological Monitor, monitored the planting of approximately 30 fruit trees, in the vicinity of a known archaeological site within the Rancho Penasquitos County Park. Identified prehistoric and historic artifacts. Wrote a Monitoring Log and Report for the County of San Diego. Under the direction of Dr. Lynne Christenson.

Monitoring for the Rancho Penasquitos Palm Tree Removal, County of San Diego Parks and Recreation, San Diego County, California, 2009. As Archaeological Monitor, monitored the removal of palm trees within a known archaeological site and current excavation within the Rancho Penasquitos County Park. Identified prehistoric and historic artifacts and historic foundation features. Directed the tree removal crew on avoiding sensitive areas and equipment use. Wrote a Monitoring Log and Report for the County of San Diego. Under the direction of Dr. Lynne Christenson.

San Diego County Site Stewardship Program, County of San Diego Parks and Recreation, San Diego County, California, 2008-2009. As Archaeologist, researched and developed a Site Stewardship Program for volunteers to participate in monitoring and managing archaeological sites within County Parks. Includes reviewing similar programs throughout the country, creating education materials for volunteers to help identify sites and artifacts, and creating forms for recording changes within known archaeological sites. Under the direction of Dr. Lynne Christenson.

GIS Mapping of Archaeological Sites within San Diego County Parks, County of San Diego Parks and Recreation, San Diego County, California, 2008-2009. As Archaeologist, created maps of archaeological surveys and sites within County Parks using GIS software. Worked with other park employees to help preserve archaeological sites and mitigate damage from activities taking place in the parks. Under the direction of Dr. Lynne Christenson.

Records Search for the Kinder Morgan Calnev Expansion Project, URS Corporation, San Bernardino County, California, 2008. As Archaeologist, compiled the CHRIS records search data and reviewed primary and secondary historic documents to develop a historic context of the project area in San Bernardino County. The report was submitted to the BLM as the lead agency for NEPA and the County of San Bernardino as the lead agency for CEQA. Under the direction of Brian Glenn and Jeremy Hollins.

Solar One Cultural Resources Assessment Report, URS Corporation, San Bernardino County, California, 2008. As Archaeologist, contributed to the Cultural Resources Assessment Report, submitted to the CEC for the Solar One Project in the Mojave Desert. Compiled the cultural resources section of the report including writing the LORS, the environmental setting, the cultural context, the records search and literature review sections, and compiling the CHRIS record search data. Under the direction of Brian Glenn and Jeremy Hollins.

Grand Avenue Widening Section 106 Compliance, URS Corporation, Orange County, California, 2008. As Archaeologist, performed the CHRIS records search at South Central Coastal Information Center for the project within the City of Santa Ana, California. Prepared a HPSR per the Caltrans guidelines. Developed and wrote a historic context. Under the direction of Jeremy Hollins.

Carrizo Energy Solar Farm AFC, URS Corporation, San Luis Obispo County, California, 2008. As Archaeologist, contributed to the Archaeology Survey Report, submitted to the CEC for the Carrizo Energy Solar Farm in San Luis Obispo County, California. Compiled the CHRIS records search data, performed the Native American consultation, reviewed primary and secondary historic research to develop and write a historic context, and completed DPR 523 series forms. Under the direction of Brian Glenn and Jeremy Hollins.

North Harbor Drive Demolition Project Survey for EIR, URS Corporation, San Diego County, California, 2008. As Archaeologist, performed a field survey for this CEQA level project regarding the Demolition of 50 structures at the San Diego International Airport. Project considered potential effects to a National Register-eligible historic district. Compiled the CHRIS records search data and the historic context for the EIR submitted to the San Diego Unified Port District. Under the direction of Jeremy Hollins.

Cavallo Farms Development Project, URS Corporation, San Diego County, California, 2007. As Archaeologist, performed a 21-acre pedestrian survey of the project area. Identified prehistoric artifacts and re-located a known site. Completed a cultural resources technical report for submission to the City of San Diego, California. Under the direction of Kevin Mock.

Technical Report for Palomar Road Widening Project, URS Corporation, Riverside County, California, 2007. As Archaeologist, contributed to a Cultural Resources Technical Report for submission to the Riverside County Department of Transportation for a proposed widening of

Palomar Road in an unincorporated area of Riverside County, California. Under the direction of Kevin Mock.

Survey for the I-215/Newport Road Interchange Improvement, URS Corporation, Riverside County, California, 2007. As Archaeologist, performed a pedestrian field survey of the project area in an unincorporated area of Riverside County, California. Completed a HPSR and an Archaeological Survey Report for Caltrans District 8. Under the direction of Kevin Mock.

Survey for the Coastal Rail Trail San Diego Segment, URS Corporation, San Diego County, California, 2007. As Archaeologist, performed a pedestrian field survey of portions of the approximately 10 mile long project area within the City of San Diego and La Jolla, California. Identified prehistoric and historic artifacts within the project area. Aided in the completion of a Preliminary Environmental Study for Caltrans and an Initial Study for the City of San Diego. Under the direction of Kevin Mock.

FEMA San Diego Vegetation Management Section 106 Compliance, URS Corporation, San Diego County, California, 2007. As Archaeologist, contributed to a Section 106 technical report for submission to FEMA and the California SHPO regarding a vegetation management project of approximately 680 acres within the City of San Diego, California. Under the direction of Kevin Mock.

Willow Street Bridge Section 106 Compliance, LADPW, URS Corporation, Los Angeles County, California, 2007. As Archaeologist, performed historical research regarding the seismic retrofit of a 1932 Warren Truss Bridge and the Union Pacific Railroad within Los Angeles County, California. Prepared a HPSR per the Caltrans guidelines and aided in the development of a historic context. Under the direction of Jeremy Hollins and Kevin Mock.

Long Beach Blvd. Bridge Section 106 Compliance, LADPW, URS Corporation, Los Angeles County, California, 2007. As Archaeologist, performed historical research regarding the seismic retrofit of a 1932 Warren Truss Bridge and the Union Pacific Railroad within Los Angeles County, California. Prepared a HPSR per the Caltrans guidelines and aided in the development of a historic context. Under the direction of Jeremy Hollins and Kevin Mock.

Monitoring for the Headlines Reserve, LLC. Development Project, URS Corporation, San Diego County, California, 2007. Archaeologist. Acted as an archaeological monitor for a 60-acre housing project. Completed an archaeological monitoring log and contributed to a monitoring report. Under the direction of Kevin Mock.

Waterman Junction 7,000 Acre Survey, EDAW, San Bernardino County, California, 2007. As Archaeological Technician, performed a pedestrian survey covering 7,000 acres in the Mojave Desert, near Barstow, California. Identified new sites and located and re-recorded previously identified sites. Identified both prehistoric and historical artifacts and features. Various responsibilities included operating GPS handheld units, drawing sketch maps, drawing

features, and photography of survey area, artifacts and features. Under the direction of Anamay Melmed.

Tertiary Treatment Plant Project Data Recovery at Camp Pendleton, EDAW, San Diego County, California, 2006. As Archaeological Technician, conducted Phase III data recovery, excavation of 30 units in Camp Pendleton, Oceanside, California. Excavated test units to an average depth of 150 cm. Water screened in addition to dry screening. Under the direction of Anamay Melmed.

Ferry Farm Excavation, George Washington's Boyhood Home, George Washington Fredericksburg Foundation, Fredericksburg, Virginia, 2006. As Archaeology Intern, participated in a five month paid internship excavating a 1740s colonial plantation home, the childhood home of George Washington, funded by National Geographic. Gained experience in excavation techniques, recording methods, artifact identification, and local history. Excavated 18th century features. Performed transit work. Provided interpretation of the site to visitors. Also gained laboratory experience cleaning and labeling both prehistoric and historic artifacts. Under the direction of David Muraca and Paul Nasca.

Various Projects, Professional Archaeological Services, San Diego, Orange, Riverside, and San Bernardino counties, California, 2005-2006. As Archaeological Technician, performed archaeological surveys and recorded historic and pre-historic sites throughout southern California. Cataloged and curated historic and prehistoric collections. Under the direction of Dr. Phil DeBarros.

### **Technical Reports:**

- 2011 Dave Iverson and Shelby Gunderman  
A Cultural Resources Assessment of the Puget Sound Nearshore Ecosystem Restoration Projects (PSNERP) Area, NW Washington, Task 1: Literature and Data Review and Synthesis. U.S. Fish and Wildlife Service.
- 2011 Shelby Gunderman, Sarah Stringer-Bowsher, and Micah Hale  
Cultural and Historical Resources Survey and Evaluation Report for the San Luis Rey Indian Water Rights Settlement Agreement, Escondido Canal Undergrounding, San Diego County, California.
- 2011 Sinéad Ní Ghabhláin, Sarah Stringer-Bowsher, and Shelby Gunderman  
Archaeological Survey Report for the San Luis Rey River Park, San Diego County, California. County of San Diego Department of Parks and Recreation.
- 2011 Jerry Schaefer, Sinéad Ní Ghabhláin, Shelby Gunderman and Shannon Davis  
Archaeological and Historical Resources Survey and Phase I Testing Report for the Rabago Otay Technology Business Park San Diego County, California.

- 2011 Sinéad Ní Ghabhláin, Sarah Stringer-Bowsher, Shelby Gunderman and Michelle Dalope  
Archaeological Survey Report for Pascoe, Helix-Lambron, and Cielo Azul Parcel  
Additions to the Del Dios Highlands Preserve San Diego County. California, County of  
San Diego Department of Parks and Recreation.
- 2011 Sinéad Ní Ghabhláin, Sarah Stringer-Bowsher, Shelby Gunderman and Michelle Dalope  
Archaeological Survey Report for Escondido Creek Preserve San Diego County,  
California. County of San Diego Department of Parks and Recreation.
- 2011 Sinéad Ní Ghabhláin, Michael P. Pumphrey, Sarah Stringer-Bowsher, and Shelby  
Gunderman  
Assessment of Indirect Visual Impacts on the Historic Built Environment Properties  
Falling Within the One-Half Mile Area of Potential Indirect Effect, San Diego Gas and  
Electric Sunrise Powerlink, San Diego and Imperial Counties, California.
- 2010 Shelby Gunderman, Sarah Stringer-Bowsher, and Sinéad Ní Ghabhláin  
Cultural And Historical Resources Existing Conditions Report for the North County  
Transit District Sorrento Valley Double Track And Bridge Replacement Project, San  
Diego, California.
- 2010 Micah Hale and Shelby Gunderman  
Archaeological Resources Survey Report for the Market Street Row Homes Project,  
San Diego, California.
- 2010 Shelby Gunderman and Sinéad Ní Ghabhláin  
Inventory of Cultural Resources for the La Mesa Sewer Repair and Replacement, State  
Revolving Fund Project, La Mesa, San Diego County, California.
- 2010 Shelby Gunderman and Sinéad Ní Ghabhláin  
Cultural and Historical Resources Survey and Evaluation Report for the City of San  
Marcos Public Works Channel Maintenance Permit Project, San Marcos, San Diego  
County, California.
- 2010 Jerry Schafer, Shelby Gunderman, and Don Laylander  
Cultural Resource Study for the Hudson Ranch II Project, Imperial County, California.
- 2010 Shelby Gunderman and Mark Becker  
Cultural Resource Monitoring and Discovery Report for the El Cajon Public Safety  
Center Project, City of El Cajon, San Diego County, California.
- 2009 Michael P. Pumphrey, Michelle Dalope, Shelby Gunderman  
Assessment of Indirect Visual Impacts on the Historic Built Environment Properties in  
the Mountain Springs Grade Area (Milepost 23-29) Falling Within the One-Half Mile

Area of Potential Indirect Effect, San Diego Gas and Electric Sunrise Powerlink, San Diego and Imperial Counties, CA.

- 2009 Shelby Gunderman  
Cultural Resources Inventory of the OWD Pipeline Construction Project within Dehesa Road, El Cajon, California. Letter Report.
- 2009 Jill Gardner and Shelby Gunderman  
Archaeological Resources Survey for the McAuliffe Park Vernal Pool Mitigation Project, San Diego California.
- 2009 Jill Gardner and Shelby Gunderman  
Archaeological Resources Survey for the Jonas Salk Elementary School, San Diego California.
- 2009 Michael P. Pumphrey and Shelby Gunderman  
Historical Evaluation Report for the Valencia Park Library, 101 50<sup>th</sup> Street, San Diego, California.
- 2009 Don Laylander and Shelby Gunderman  
Archaeological Survey for the University Avenue Mobility Plan, San Diego, California.
- 2009 Jerry Schaefer and Shelby Gunderman  
Cultural Resource Survey for the County Center II Expansion EIR, Imperial County, California.
- 2009 Shelby Gunderman, Sarah Stringer-Bowsher, and Sinéad Ní Ghabhláin  
Historic Resource Inventory and Evaluation Report for the Operations Access Red Beach Project (p-159), MCB Camp Pendleton, California. Prepared by ASM Affiliates for NAVGAC Southwest, San Diego.

**Teaching Experience:**

Teaching Assistant, Introduction to Cultural Anthropology, August to December 2007, SDSU. Led two discussion sections a week based on class lectures and readings. Created my own curriculum and assignments. Graded exams and held study review sessions.

Teaching Assistant, Introduction to Physical Anthropology, January to March 2003, UCSD. Assisted the professor with lectures and research, wrote test questions, and led discussion and review sessions with students. Led field trips to the San Diego Zoo for primate observations.

**Laboratory and Academic Field Experience:**

SCrI-333 (El Monton) Research Project, University of California Santa Barbara, August 2010. Excavated and mapped an early period Chumash house pit village on Santa Cruz Island. Excavation focused on stratigraphic layers within a Chumash house pit and a detailed mapping of the house pits and different elements of the village site. Under the direction of Dr. Lynn Gamble.

Collections Management, San Diego State University, Anthropology Department, 2007 to 2008, Collections Manager. Identified, sorted, and cataloged artifacts, worked with Microsoft Access. Prepared collections for curation and wrote site reports for collections housed at San Diego State University.

Whaley House Archaeology Project, San Diego State University, July 2008. Used a total station for archaeological mapping, datum/baseline establishment and unit layout. Excavated a well and privy area associated with the Whaley House in Old Town San Diego. Directed and assisted undergraduate students in excavation and recordation techniques. Field school directed by Dr. Seth Mallios.

Nate Harrison Historical Archaeology Project, San Diego State University, June 2008. Excavated a late 19th and early 20th century homesteader cabin on Palomar Mountain. Performed survey work to identify other features associated with the site. Curated and cataloged artifacts. Performed subsequent research focusing on ethnicity, GIS mapping, and historical settlement patterns throughout San Diego County. This research will be the basis of my thesis. Field school directed by Dr. Seth Mallios.

Cuyamaca State Park Archaeology, San Diego State University, January to May 2008. Surveyed and excavated the late prehistoric/contact period Kumeyaay village site of Dripping Springs (CA-SDI-860) in the Cuyamaca Mountains, California. Used a total station for archaeological mapping datum/baseline establishment and unit layout. Taught undergraduate students the processes of survey, excavation, flotation, and water screening. Prepared DPR forms and completed a site report. Field school directed by Dr. Lynn Gamble.

Intern to the Curator, San Diego Museum of Man, January to March 2003. Worked with the curator to inventory museum collections, proofread articles, and performed library research. Learned to identify all bones in the human skeleton, determine the age and sex of the individual, and identified many pathologies visible on the skeletal remains by participating in an osteology project studying a Native American skeletal collection from San Nicholas Island.

**Sarah Stringer-Bowsher, M.A.**  
**Senior Historian**

**Firm Name:** ASM Affiliates, Inc., Carlsbad, California

**Total Years of Experience:** 8

**Employment History:**

2007-present Associate/Project/Senior Historian, ASM Affiliates, Inc., Carlsbad, California  
2005-2006 Research Intern, Salt River Project (SRP), Tempe, Arizona  
2004-2005 Teaching Assistant, Arizona State University, Tempe, Arizona  
2004 Human Resources Assistant, United States Gypsum (USG), El Centro, California  
2003 Liaison, Downtown El Centro Association, El Centro, California  
2003-2004 Volunteer, Arizona Historical Society, Yuma, Arizona

**Education:**

M.A. 2007/History/ Public History Program/Arizona State University, Tempe  
B.A. 2000/History/University of Arizona, Tucson

**Additional Training:**

2011 Architectural Styles, California Preservation Foundation  
2008 The Advisory Council on Historic Preservation, The Section 106 Essentials  
2007 American Association for State and Local History (AASLH), The Basics of Archives  
2007 The Advisory Council on Historic Preservation, The Section 106 Essentials  
2006 Short course on museum issues with Andy Ambrose, Atlanta History Center  
2005 Short course on museum issues with James B. Gardner, Smithsonian Institution, National Museum of American History, Behring Center  
2005 Short course on museum issues with Martin Sullivan, Historic St. Mary's City Commission  
2006 Short course on museum issues with Patricia West, National Park Service

**Registrations:**

2009 Register of Professional Historians, No. 602, California Council for the Promotion of History (CCPH)

**Professional Memberships:**

National Council on Public History (NCPH)  
American Association for State and Local History (AASLH)  
Organization of American Historians (OAH)  
California Council for the Promotion of History (CCPH)  
Save Our History Organisation (SOHO)

**Other Capabilities:** Word, Excel, and Photoshop Elements

**Awards/Commendations:**

2004-2006 Graduate College Tuition Award, Arizona State University (ASU)  
2006 Max Millet Family Fund Award, Arizona State University (ASU)  
2006 Special Recognition Award, Salt River Project (SRP)  
1996-2000 Arizona Regents Tuition Award, University of Arizona

**Clearances:** N/A

**Citizenship:** USA

**Languages:** N/A

**Professional Profile:**

Ms. Stringer-Bowsher has eight years of professional experience as a historian. She earned her M.A. through public history course work in historic research methods, applied history, museology, and historic preservation. Ms. Stringer-Bowsher's thesis was an original case study of Arizona's first female Civil Engineer who worked as a sanitarian at the state laboratory and was also a director of the women's projects of the Works Progress Administration during the Great Depression. Ms. Stringer-Bowsher's thesis, now archived at the Arizona State Library, required research at local, state, and national repositories, including extensive research at the National Archives and Records Administration in College Park, Maryland. Ms. Stringer-Bowsher's professional duties have included land use histories and heritage projects for a water and power company in Arizona, archival research in small and large repositories, and numerous papers and reports written for various private and public clients. Each deliverable required that she create or implement a project design, collect pertinent primary and secondary sources, and analyze and synthesize the information into a client-appropriate product. As the Senior Historian for ASM, Ms. Stringer-Bowsher focuses on developing research-based historic contexts, which is the essential foundation for historic site assessment and evaluation. In addition to creating local, project-specific histories and historic contexts, Ms. Stringer-Bowsher prepares land use histories for a multitude of applications including ESA Phase I site assessment reports and cultural resource site assessments.

## **Selected Project Experience:**

Archaeological Survey and Evaluation for the Tierra del Sol LLC Project, Dudek, San Diego County, California, 2012. As ASM's Senior Historian, conducted research on two extant buildings including gathering land patent file information from the National Archives and Records Administration in College Park, Maryland. Prepared both a local and site-specific context for the greater Campo area and the land use of the property. Worked with ASM's Architectural Historian, Jennifer Krintz, on the evaluation of the two extant homestead buildings, one 1930s and the other circa early 1940s. Client Reference: Micah Hale, Dudek, (760) 479-4271.

Archaeological Evaluation for the Rugged Solar Project, Dudek, San Diego County, California, 2012. As ASM's Senior Historian, conducted research on the extant building including gathering land patent file information from the National Archives and Records Administration in College Park, Maryland. Prepared both a local and site-specific context for the greater Campo area and the land use of the property. Worked with ASM's Architectural Historian, Jennifer Krintz, on the evaluation of the extant homestead building that consisted of two nineteenth century buildings that were interconnected and utilized as one building. Client Reference: Micah Hale, Dudek, (760) 479-4271.

Historic Resources Survey Chula Vista, City of Chula Vista, San Diego County, California, 2012. As ASM's Senior Historian, conducted limited research, per the scope, and prepared a city-wide context that focused on the project area. The context considered agricultural development, city incorporation, industrial and military development, and commercial expansion that replaced agriculture as a primary economy. Limited research, per the scope, was also conducted on potentially eligible buildings and their potential association with significant persons in the community. Client Reference: Lynnette Tessitore-Lopez, City of Chula Vista.

Cultural Resources Survey for the 2012/2013 Construction Season of the East Columbia Basin Irrigation District Water SMART Grant Project, USDI Bureau of Reclamation, Adams, Franklin, and Grant Counties, Washington, 2012. The laterals that were surveyed were either associated with the Columbia Basin Project (CBP) East Low Canal or the CBP Potholes East Canal. The BOR had already determined that both the East Low and the Potholes East canals are eligible for the National Register of Historic Places (NRHP). As such, ASM was tasked with evaluating the laterals for their eligibility to the NRHP. As ASM's Senior Historian, conducted research by gathering primary documents on file with the BOR and the ECBID, and secondary materials available in universities and other repositories. Ms. Stringer-Bowsher prepared a historic context from her research that considered the regional significance of the CBP and evaluated the laterals for their eligibility to the NRHP based on that context and familiarity with water projects throughout the west. Client Reference: Warren Hurley, Bureau of Reclamation (BOR) Columbia Cascades Area Office, (509)575-5848 ext. 320.

National Register of Historic Places Nomination for Highway 80 in California, San Diego Gas & Electric Company, San Diego County, California, 2012. As ASM's Senior Historian, prepared a historic context that considered the national, state, and local significance of Highway 80 that originally stretched from the Pacific to the Atlantic, from San Diego to Savannah. The historic context considers the national and state road movements, construction methods, and social and political changes that impacted the highway over time from the late nineteenth century of the Good Roads movement to the incoming federal freeway system funded by the 1956 Federal Aid Highway Act. Client Reference: Dayle Cheever, SDG&E, (858) 654-1856.

Archaeological Survey Report for the Stoneridge Preserve, County of San Diego Department of Parks and Recreation, San Diego County, California, 2012. As ASM's Senior Historian, conducted research and prepared a local context and land use history of the Preserve. The context considered settlement, mining, transportation corridors, and general development. The land use history specifically considered the changes to the Preserve over time from settlement to the present day. Client Reference: Jennifer Price, County of San Diego Department of Parks and Recreation, (858) 966-1379.

Archaeological Survey Report for the Potrero-Mason Property, County of San Diego Department of Parks and Recreation, San Diego County, California, 2012. As ASM's Senior Historian, conducted research and prepared a local context and land use history of the Preserve. The context considered settlement, mining, transportation corridors, and general development. The land use history specifically considered the changes to the Preserve over time from settlement to the present day. Client Reference: Jennifer Price, County of San Diego Department of Parks and Recreation, (858) 966-1379.

Archaeological Survey Report for the Hagey and Sycamore South Properties, Additions to the Sycamore Canyon and Goodan Ranch Preserves, County of San Diego Department of Parks and Recreation, San Diego County, California, 2012. As ASM's Senior Historian, conducted research and prepared a local context and land use history of the Preserve. The context considered settlement, mining, transportation corridors, and general development. The land use history specifically considered the changes to the Preserve over time from settlement to the present day. Client Reference: Jennifer Price, County of San Diego Department of Parks and Recreation, (858) 966-1379.

Historic Resources Evaluation Report For Fenton Dairy Houses and Office San Diego, San Diego County, California, 2012. As ASM's Senior Historian, conducted research on the land owners and land use of the property over time. Research focused on dairy development in the local area and on the property.

Cultural Resource Survey Report for the Recht Property, San Diego Gas & Electric Company, Jacumba, California, 2012. As Senior Historian, researched and prepared a land use history of the parcel. Client Reference: Dr. Susan Hector, SDG&E, (858) 654-1279.

Summary Report for the Historical Resources Evaluation of Oak Ridge Ranch Parcels for the Sunrise Powerlink Phase I ESA, San Diego Gas & Electric Company, Lakeside, California, 2012. As Senior Historian, researched and prepared a land use history of the parcels. Client Reference: Dr. Susan Hector, SDG&E, (858) 654-1279.

Historical Resource Evaluation Report for the Jeff Valley Parcels, San Diego Gas & Electric Company, Palomar Mountain, California, 2012. As Senior Historian, researched and prepared a land use history of the parcels. Client Reference: Dr. Susan Hector, SDG&E, (858) 654-1279.

Historical Resources Evaluation Report for Rancho Lilac, Valley Center, California, 2012. As ASM's Senior Historian, conducted all necessary research regarding the development of Rancho Lilac from early settlement of the area, potential mining, the schools and post office to the various occupants and uses of the Rancho Lilac over time. Client Reference: Kim T. Smith, Caltrans District 11,

Historic Resource Evaluation Report for the Pine Valley Bath House, RBF Consulting, Pine Valley, San Diego County, California, 2012. As ASM's Senior Historian, conducted all research for a 1920s-era bath house originally part of a larger resort complex of historic Highway 80 in Pine Valley. Client Reference: Steve Wragg, RBF Consulting, (858) 614-5059

Historic Resources Evaluation of a Mining Site, Southern California Edison, Banning, California, 2012. An evaluation was prepared as an addendum to archeological work completed in the project area. As ASM's Senior Historian, worked collaboratively with ASM's Architectural Historian in evaluating the historical significance of a 1942-era small mine for its eligibility to the NRHP and CRHR. Research conducted focused on creating a context of mining in the region, the identification of the type of mining potentially conducted on the site, and considered potentially significant local persons associated with the site. Client Reference: Audry Williams, Southern California Edison, 626-462-8681.

Palomar Gateway District Specific Plan Cultural Resources Report, Atkins, Chula Vista, California, 2012. As ASM's Senior Historian, completed a brief context and land use history of the project area to show changes over time. Client Reference: Kim Howlett, Atkins, (858) 514-1018.

Cultural Resource Evaluation Report for Alternative 1C and 6, Sorrento to Miramar Curve Straightening and Double Track Project, David Evans and Associates, San Diego County, California, 2012. As ASM's Senior Historian, conducted preliminary research on the Pierre Bovet adobe and prepared a brief site-specific context for the property. Client Reference: David Evans & Associates, Inc.

Historic Resource Evaluation Report for the Santa Ysabel Barn, PMC, Santa Ysabel, California, 2012. As ASM's Senior Historian, conducted research on a nineteenth century barn at local repositories. Client Reference: Mark Teague, PMC, (858) 453-3602 ext 15201.

Historic Context of Ranching in Northeastern Nevada for Projects in Long Canyon, Newmont Mining Corporation, Elko County, Nevada, 2012. As ASM's Senior Historian, conducted research on and prepared a context for ranching in the nineteenth and twentieth century. Additional research interests for the project included Chinese immigrants and a site-specific context. Client Reference: Client Reference: Dan Anderson, Newmont Mining Corporation, (775) 778-2138

Evaluation of SDI-13,077H and Data Recovery at SDI-13,078 for the Rhodes Crossing Project, RBF Consulting, San Diego County, California, 2011. As ASM's Senior Historian, conducted research for a local and site-specific contexts. Resources gathered included land patent file records from the National Archives and Records Administration in College Park, Maryland; a chain of title; and other primary and secondary sources, as appropriate. Client Reference: Steve Wragg, RBF Consulting, (858) 614-5059

Inventory and Preliminary Evaluations of Archeological and Historical Resources within Selected PSNERP Project Areas, U.S. Fish and Wildlife Service (FWS) Puget Sound, Whatcom, Skagit, Snohomish counties, Washington, 2011. As Senior Historian and History team lead on the project, researched and analyzed agricultural dikes for their potential eligibility to the NRHP and the WA Heritage Register. Client Reference: Jorie Clark, FWS, (541) 737-1575.

Inventory, Evaluation and Analysis of Impacts on Historic Resources on Private Lands Within the Area of Potential Effect of the Campo Verde Solar Project, KP Environmental, Imperial County, California, 2011. As Senior Historian, researched the development of the area and created an area-specific context for the evaluation of resources and potential associations with historical events, trends, and individuals. Client Reference: Patricia Mitchell, KP Environmental, (619) 241-3330.

Historical Evaluation of the Hamlet Parcel, San Diego Gas & Electric (SDG&E), Wildcat Canyon, San Diego County, California, 2011. As Senior Historian, researched and prepared a land use history of the parcel. Client Reference: Dr. Susan Hector, SDG&E, (858) 654-1279.

First San Diego Aqueduct Evaluation, PCR Services, North San Diego County, California, 2011. As Senior Historian, researched and prepared the context and evaluation for the First San Diego Aqueduct, which supplied the first dependable and consistent water supply to San Diego County and facilitated post-World War II growth. Client Reference: Luci Hise, PCR Services, (310) 451-4488.

Camp Pendleton Historic Context Study, NAVFAC Southwest, MCB Camp Pendleton, San Diego County, California, 2011-present. As Senior Historian, shaping a master context that will be used as the base pre-installation context from 1769 to 1942. Three historical time periods (Spanish, Mexican, and American) will be developed with specific attention to three important themes on the base: transportation (trails, roads, and railroads), settlement (camps,

squatters, ranch house, estancia), and land use (fishing, ranching, farming). Archival research will answer questions posed by management. This context will aid future compliance projects. Client Reference: Danielle Page, MCB Camp Pendleton, (760) 725-9738.

Camp Pendleton Survey and Evaluation of El Camino Real, NAVFAC Southwest, MCB Camp Pendleton, San Diego County, California, 2011-present. As Senior Historian, created a context for “El Camino Real” showing its evolution and changes through three historical time periods (Spanish, Mexican, and American). Archival research yielded maps, insights through diaries, and other documentary materials. Client Reference: Danielle Page, MCB Camp Pendleton, (760) 725-9738.

Phase I Cultural Resource Survey for Furby-North Property for County of San Diego Department of Parks and Recreation, TAIC, Otay Mesa, San Diego County, California, 2011. As Senior Historian, prepared a site-appropriate historic context for the property. The historic context provided a snapshot of the general development in the area. Reference: Christina Schaefer, TAIC, (858) 300-2346.

Cultural and Historical Resources Survey and Evaluation Report for the San Luis Rey Indian Water Rights Settlement Agreement, Atkins, San Diego County, California, 2011. As Senior Historian, wrote the context of water development in the Escondido area and the role the Escondido Canal played in local development. Evaluated two segments of the canal, one of which included the Rincon Penstock, constructed circa 1915. Client Reference: Diane Sandman, Atkins, (858) 514-1010

Cultural Resources Study for the Rodriguez Solar Project, Iberdrola Renewables, King County, California, 2011. As Senior Historian, prepared a brief historic context of water development in the area. Client Reference: Amy Parsons, Iberdrola Renewables, (503) 796-7082

Cultural Resources Survey and Historic Assessment of the Escondido Canal Undergrounding Project, Atkins, San Diego County, California, 2010-2011. As Senior Historian, prepared a site-specific historic context and evaluated the Escondido Canal and Rincon Penstock for their eligibility to the CRHR and NRHP. Client Reference: Diane Sandman, Atkins, (858) 514-1010.

Cultural Resources Assessment of the Puget Sound Nearshore Ecosystem Restoration Project, U.S. Fish and Wildlife Service, Washington, 2010-2011. As Senior Historian and Project Manager, prepared the stand-alone historic context for agricultural levee development in Puget Sound during the late nineteenth and early twentieth centuries and developed criterion for evaluating such resources to the NRHP. Client Reference: Jorie Clark, U.S. Fish and Wildlife Service, (541) 737-1575.

Cultural Resource Assessment at Marine Corps Logistics Base (MCLB), NAVFAC Southwest, Barstow, San Bernardino County, California, 2011. As Senior Historian, prepared a site-

appropriate historic context for two water features by answering specific questions posed by the base regarding potential eligibility. This context explained the development of the Minneola Canal/Daggett Ditch, which confirmed that the two water features were not associated with that historic water system. Client reference: George Herbst, NAVFAC Southwest, (619) 532-3146.

Phase I Cultural Resource Survey for Escondido Creek Properties for County of San Diego Department of Parks and Recreation, Dudek, Escondido, San Diego County, California, 2011. As Senior Historian, prepared a site-appropriate historic context for properties near Harmony Grove. The historic context provided a snapshot of the general development in the area. Client reference: Brock Ortega, Dudek Engineering + Environmental (760) 942-5147.

Phase I Cultural Resource Survey of an Additional 100 Acres for Pascoe and Helix-Lambron Parcels for County of San Diego Department of Parks and Recreation, Dudek, Escondido, San Diego County, California, 2011. As Senior Historian, prepared a site-appropriate historic context for properties near Del Dios. The historic context provided a snapshot of the general development in the area. Client Reference: Brock Ortega, Dudek Engineering + Environmental (760) 942-5147.

Phase I Cultural Resource Survey for San Luis Rey River Park for County of San Diego Department of Parks and Recreation, Dudek, Oceanside, San Diego County, California, 2011. As Senior Historian, prepared a site-appropriate historic context for properties near Bonsall. The historic context provided a snapshot of the general development in the area. Client Reference: Brock Ortega, Dudek, (760) 942-5147.

Historic Context of China Lake Propulsion Laboratories, Epsilon Systems Solutions, NAWA China Lake, San Bernardino County, California, 2010. As author, prepared a historic context of China Lake Propulsion Laboratories (CLPL), comprised of two operational areas historically known as China Lake Pilot Plant (CLPP) and Salt Well Pilot Plant (SWPP). These plants first produced propellants and explosives during World War II, and then, during the Cold War, advanced them and began a new focus on propulsion systems and explosives applications. Client Reference: Phillip Esser, Epsilon Systems Solutions, (760) 446-6400.

Class III Intensive Cultural Resources Inventory near Mountain Pass, Ecology and Environment, Inc. (E&E), San Bernardino County, California. As Senior Historian, prepared a brief historical narrative on the Desert Antimony Mine. Client Reference: Ryan Clerico, Ecology and Environment, (801) 990-3320.

DET. Corona Historic Resources Survey, Evaluation, and Update, NAVFAC Southwest, NWS Seal Beach, Detachment Corona, Riverside County, California, 2010-present. As Senior Historian, prepared three historic contexts for three periods of significance that included a 1920s resort period, a 1940s-1950s Naval hospital period, and a Cold War period, and prepared a land use history to explain the general development of the property and reuse trends. The report focused on the Cold War period because potential historic resources from

that time had not been evaluated. The report discussed the national trends for missile development; the Navy's role in research, development, testing, and evaluation (RDT&E); and how the installation contributed to RDT&E during the Cold War period. Client Reference: Alex Bethke, NAVFAC Southwest, (619) 532-2789.

Sunrise Survey and Evaluation for Indirect Impacts to the Sunrise Powerlink Project, SDG&E, Imperial and San Diego counties, California, 2009-present. As Project Historian, prepared a broad historic context for portions of San Diego County that would be potentially impacted by visual effects of the planned power line. Prepared resource-specific contexts for identified historic resources that could be affected by the project. This portion of the power line project stretches from Plaster City in Imperial County to Beeler Canyon in Poway. Client Reference: Dayle Cheever, SDG&E, (858) 654-1856.

Historic Documentation Package Wullenweber Antenna Array (AN/FRD 10) and Building 1, NAVFAC Southwest, Imperial Beach, San Diego County, California, 2008-2010. As Project Historian and author, prepared the historical documentation package for the Navy's antenna array at Naval Radio Receiving Facility (NRRF), Imperial Beach as mitigation for its demolition. Historic documentation package included creating a HAER-based document and broadening an existing historic context for the Cold War era technology with appropriate historic photographs and drawings. Client Reference: Alex Bethke, NAVFAC Southwest, (619) 532-2789.

Herrmann Hall Maintenance Plan, NAVFAC Southwest, Monterey County, California 2010. As Project Historian, prepared a brief historic context for a historically significant building, Herrmann Hall, located on the campus of the Naval Postgraduate School. Client Reference: Alex Bethke, NAVFAC Southwest, (619) 532-2789.

Simon Open-Space Preserve Historic Research Project, Dudek for County of San Diego Parks and Recreation, San Diego, California, 2009-2010. As Project Historian, prepared a historic research report based on the client's need to interpret the county preserve. Themes researched included: early ranchos, ranching, farming, mining, and general development of the San Diego Country Estates. Offered recommendations for interpreting the site based on the historic evidence. Client Reference: Anita Hayworth, Dudek, (760) 479-4239

Evaluation of a Southern California Edison (SCE) 33kV Transmission Line, TEC, Inc., Twentynine Palms, San Bernardino County, California, 2009. As Project Historian and author, prepared an evaluation of the 33kV transmission line for eligibility to the National Register of Historic Places (Section 106) and the California Register of Historical Resources (CEQA). Client Reference: Craig Bloxam, TEC, Inc., (805) 564-4940.

Cultural Resource Survey, Harvey Meyerhoff Group, Irwindale, Los Angeles County, California, 2009. As Project Historian, prepared a brief context of the United Concrete Pipe Corporation and its use of the industrial site, as requested. Client reference: Elizabeth Meyerhoff, Harvey Meyerhoff Group, (760) 449-7659.

Yuima Historic Road Evaluation, Atkins, San Diego County, California, 2009. As Project Historian and author, prepared an evaluation of a road associated with Stewart Mine within the Pauma/Yuima Indian Reservation for eligibility to the National Register of Historic Places (Section 106) and the California Register of Historic Resources (CEQA). Client reference: Diane Sandman, Atkins, (858) 514-1010.

Twentynine Palms Historic Resources Context, MCAGCC Twentynine Palms, San Bernardino County, California, 2009. As Project Historian and co-author, prepared segment of a Historic Resources Context on settlement in the project area and provided oversight on the preparation of the military segment. Client Reference: Dr. Marie Cottrell, MCGACC, (760) 830-5200.

Yuma Main Canal and Yuma Valley Railroad HAER, Principle Engineering Group, Inc., Yuma County, Arizona, 2009. As Project Historian and author, prepared document based on Level II HAER documentation standards for a portion of the Yuma Main Canal and the Yuma Valley Railroad that would be impacted by a proposed bikeway project. Bureau of Reclamation required the mitigation document and provided a final review because both the canal and the railroad had originally been created and owned by the agency. Client Reference: Triguna Israel, Principle Engineering Group, Inc., (928) 782-5700

Historic Resources Survey and Evaluation of Naval Security Group Activity Skaggs Island, NAVFAC Southwest, Sonoma County, California, 2008-2009. As Cultural Resources Field Supervisor and Research Director for historical services, charged with researching the historic context of the installation as well as the buildings, structures, and objects for a survey and evaluation of Cold War-era usage. Co-authoring a report and creating the historic Cold War-era context for Skaggs Island. Client Reference: Alex Bethke, NAVFAC Southwest, (619) 532-2789.

Preserving a Record of the Coachella Canal: Documents Data Recovery for the Concrete-Lined Reach between Siphon 32 and Lake, Coachella Valley Water District and USDI Bureau of Reclamation, Coachella, Riverside County, California 2007-2009. As Project Historian, co-authored HAER-level report for data recovery for the final reaches of the 123-mile Coachella Canal and its unique underground piped irrigation system. Co-author of the HAER-level report details the construction phases of the project, including specifications, description of unique features, construction, building materials, and responsible contractors. Client Reference: Lauren Perry, Bureau of Reclamation, (702) 293-8392.

Colorado River Programmatic Agreement, USDI Bureau of Reclamation, Yuma, Arizona, 2007-present. As Project Historian, researching the histories of various Reclamation-managed projects on the Colorado River in support of establishing a Programmatic Agreement for maintaining historical resources. Preparing historical contexts and gathering research materials. Client Reference: Lauren Perry, Bureau of Reclamation, (702) 293-8392.

Documenting the Colorado River Front Work and Levee System (CRFWLS): A Historic Context and Inventory, USDI Bureau of Reclamation, Yuma, Arizona, 2007-present. As Project Historian and primary author, prepared documentation of the protective works system of the Lower Colorado River stretching nearly 253 miles. This protective works program includes levees, channel stabilization, settling basins, inlet and outlet works, maintenance roads, improved backwater areas for fish and wildlife and recreation, drainage and pumping plants, a reservoir and dam, and other smaller features. Gathered pertinent literature and primary sources for a historical context and explanation of the system, and conducted an aerial photographic inventory of the features of the CRFWLS. Client Reference: Lauren Perry, Bureau of Reclamation, (702) 293-8392

O'Neill Ditch Historic Evaluation, Proposed Santa Margarita River Conjunctive Use Project (SMRCUP), NAVFAC Southwest, MCB Camp Pendleton, San Diego County, California, 2009. As Project Historian, responded to an urgent research request and evaluated the historic integrity of an 1883-era ditch associated with the Santa Margarita Ranch.

San Marcos Elementary School and Mary Young Connor Hall Historic Context and Eligibility, Helix Environmental, San Diego County, California, 2009. As Project Historian, conducted research for the elementary school designed by a master architect and the WPA-constructed Mary Young Connor Hall building as potentially eligible historic resources. Co-authored the report that included creating separate, but associated, historic contexts for the elementary school and the WPA building, and assessed the significance of the WPA building based on the historic context. Client Reference:

San Ysidro Land Point of Entry (LPOE) Historic Context Study, Helix Environmental, San Diego County, California, 2009. As Project Historian, researched 12 buildings near the border surrounding the San Ysidro LPOE and crafted a concise historic context for evaluation of the buildings. Client Reference: Tim Belzman, Helix Environmental, Inc., (619) 462-1515.

Gheen and Martin Reservoirs Historic Evaluation, Proposed Santa Margarita River Conjunctive Use Project (SMR CUP), NAVFAC Southwest, MCB Camp Pendleton, San Diego County, California, 2008-2009. As Project Historian, responded to a research request on the historicity of Gheen and Martin reservoirs as part of the Fallbrook Public Utility District's water operations. Authored a response pertaining to the Martin Reservoir as a possible WPA-era reservoir built between 1939 and 1943, respectively. Client Reference:

Yokohl Ranch Historic Evaluation, Boswell, Atkins, Tulare County, California, 2008-2009. As Project Historian, extended previous research efforts and focused on land settlement and mining by gathering historical documentation through Land Patent Files obtained from the National Archives and Records Administration (NARA) in College Park, Maryland, and in local libraries,

the historical society, and the Tulare County Assessor and Recorder's Offices. Co-author of the final report. Client reference: Kim Howlett, Atkins, (858) 874-1810.

Palmdale Ditch Historic Context Study, P&D Consultants, Palmdale, Los Angeles County, California, 2008. As Project Historian, conducted research at the Palmdale Water District office and local repositories. Crafted a historical context of the ditch for a letter report. Client Reference: John Shih, P&D Consultants, (619) 291-1475 x 215

Green Beach Historic Context Study, NAVFAC Southwest, MCB Camp Pendleton, San Diego County, California, 2008. As Project Historian, created a historic context of the construction of two bridges built during the 1920s, one was a Santa Fe Railway bridge and the other was a bridge built as part of a Highway 101 project. Co-author of the historic evaluation report. Client Reference: Doug Billings, TEC, Inc., (805) 564-4940

Poway Site Land Use History, City of Poway, San Diego County, California, 2008. As Project Historian, researched the land use of a parcel in Poway, California to determine when known foundations may have been constructed on the land. Authored a section of the report detailing findings.

Caretaker's Residence HABS, USDI Bureau of Reclamation, Yuma, Arizona, 2008. As Project Historian, visited the site, crafted the historic context, and updated the information made available in the DPR 523. Co-author of the HABS report. Client Reference: Lauren Perry, Bureau of Reclamation, (702) 293-8392.

111 Calexico Place Historic Resource Inventory and Evaluation, City of Calexico, Imperial County, California, 2008. As Project Historian and co-author of the report, assessed the possible impacts of a new bridge and the expansion of an existing bridge to the Central Main and Dogwood canals. Client Reference: Kathie Washington, BRG Consulting, (619) 298-7127

Johnson Valley Historic Evaluation, MCAGCC Twentynine Palms, San Bernardino County, California, 2008. As Project Historian and contributing author, researched the history of mining in a large expanse near 29 Palms, specifically in the Johnson Valley area. Gathered information from various sources such as the Register of Mines and Minerals for San Bernardino County and bulletins, reports, and journals produced by the California Journal of Mines and Geology and the California State Mining Bureau/Division of Mines. Created historical context for mining in this segment of the Western Mojave Desert. Client Reference: Dr. Marie Cottrell, MCGACC, (760) 830-5200.

Edwards Phase I Cultural Resources Survey of 2,500 Acres and Phase II Evaluation of Selected Archaeological Sites, Edwards Air Force Base (EAFB), Kern and Los Angeles counties, California, 2008. As Project Historian, authored segments of site forms regarding homesteads. Research focused on Land Patent Files obtained from the National Archives and

Records Administration (NARA) in College Park, Maryland. Additional supporting research may also be necessary. Client Reference: Richard Bark, JT3, (661) 277-9144

Edwards Phase I Cultural Resources Survey of 8,100 Acres, EAFB, Kern and Los Angeles counties, California, 2008. As Project Historian, authored segments of site forms regarding homesteads. Research focused on Land Patent Files obtained from the National Archives and Records Administration (NARA) in College Park, Maryland. Client Reference: Richard Bark, JT3, (661) 277-9144

Sweetwater Union High School District Cultural Resources Inventory and Assessment, National City and Chula Vista, San Diego County, California, 2008. As Project Historian, authored the historic context for the developing Sweetwater Union High School District in National City and Chula Vista. Conducted limited research on specific school buildings selected for alterations or demolition.

Land Use Study for the San Mateo Agricultural Fields, NAVFAC Southwest, MCB Camp Pendleton, San Diego County, California, 2007-2008. As Project Historian, researched the land use history of a portion of Camp Pendleton. Research determined when land use changed from cattle ranching to agricultural production and determined the possibility of San Diegan Japanese leasing a portion of Camp Pendleton land for agricultural production. Conducted surveys of literature, current and historic maps, and other primary and secondary materials. Authored the historical context. Client Reference: Danielle Page, NAVFAC Southwest, (619) 532-2090.

Sonny Bono Salton Sea National Wildlife Refuge and Coachella Valley National Wildlife Refuge Historic Overview, San Diego Wildlife Refuge Complex, Coachella Valley, Riverside County, California, 2007-2008. As Project Historian, conducted research for an introductory history of the Coachella Valley, the Salton Sea, and the two National Refuges. Authored introductory history section. Client Reference: Victoria Aires, San Diego National Wildlife Refuge Complex, (760) 431-9440 ex. 349.

Historic Context Study for the North County Transit District Eight Bridges Project, BRG Consulting, Oceanside, San Diego County, California, 2007-2008. As Project Historian, researched the historical context of transportation development prior to the United States' entrance into World War II and the early 1940s to explain the interaction of the 8 bridges with war-prompted changes and other pertinent historical changes in the general vicinity. Responsible for the historical context section of the report. Client Reference: Erich Lathers, BRG Consulting, (619) 298-7127.

Evaluation of 17 Sites at MCAS Miramar, MCAS Miramar, Miramar, San Diego County, California, 2007-2008. As Project Historian, researched the settlement of the area in an effort to determine the significance of several structures on the property. Conducted surveys of literature, current and historic maps, land patent files, and other primary and secondary

materials. Authored historic context section of the report. Client Reference: David Boyer, MCAS Miramar, (858) 577-1125.

Historic Context Study for the Bridge 207.6 Project, BRG Consulting for North County Transit Department, Oceanside, San Diego County, California, 2007. As Project Historian, researched the historical context of transportation development prior to the United States' entrance into World War II and the early 1940s to explain the interaction of the bridge with war-prompted changes and other pertinent historical changes in the general vicinity. Authored the historical context section of the report. Client Reference: Erich Lathers, BRG Consulting, (619) 298-7127.

Historic Context Study for the Madison Street Bridge Project, Coachella Canal Evaluation, USDI Bureau of Reclamation, Boulder City, Clark County, Nevada, 2007. As Associate Historian, researched the history of Coachella Valley. The architectural historian evaluated the structure and the Associate Historian provided the historical context and the research materials. Authored Coachella Valley portion of the report. Client Reference: Mark Slaughter, Bureau of Reclamation, (702) 293-8143.

Historic Evaluation for the Padre Dam, Padre Dam Municipal Water District, Lakeside, San Diego County, California, 2007. As Associate Historian, researched the land use of the area to understand local development by using readily-available historical documents, including maps. Findings in the field indicated the possibility of a historic structure and prompted the research conducted. Provided information on the dates of possible construction for the Senior Archaeologist to determine the site's eligibility. Authored a portion of the report. Client Reference: Al Lau, Lead Engineer, PDMWD, (619) 596-1804

Historic Context Study for the Yokohl Ranch Project, Atkins, Tulare County, California, 2007. As Associate Historian, conducted an initial research phase for an introductory survey of 36,000 acres in the greater Yokohl Valley area in Tulare County. Collected appropriate materials to formulate a background history of the settlement patterns of the Yokohl Valley area in connection with the surrounding towns. Authored the historical section of the preliminary report. Client reference: Kim Howlett, Atkins, (858) 874-1810.

Historical Survey for the Mohave Mine Project, Fisher Sand and Gravel, Tempe, Maricopa County, Arizona, 2007. As Associate Historian, conducted a brief survey of resources for previous mining operations within an initial survey of 80 acres. Located initial information on the unknown mine in a timely resource search.

Yaqui Pass/Viking Farm Project Assessment, BRG Consulting for the San Diego County Department of Planning and Land Use, San Diego County, California, 2007. As Associate Historian, participated in the initial assessment of lands near Yaqui Pass by researching the early land use after the preliminary survey in the Anza Borrego State Park indicated possible early 1900s settlement. Researched the general history of the area, found historical information on previous owners, and retrieved land patent file information from the NARA in Washington,

D.C. Authored a portion of the historical section of the report based on findings. Client Reference: Tim Gnibus, BRG Consulting, (619) 298-7127.

Brochures for San Diego Family Housing, San Diego Military Family Housing, LLC, San Diego County, California, 2007. As Associate Historian, assisted with deliverables in facilitating appropriate use of Naval housing facilities according to the established Programmatic Agreement for private operation and maintenance. Assisted the architectural historian in fashioning informational brochures for the occupants of the housing facilities detailing the history of the facility, responsibilities of SDFH and the occupants, and information outlining the NHPA as it applies to SDFH and the occupants of its facilities. Client Reference: Dane Baker, San Diego Military Family Housing, (858) 874-8100.