Phases I Cultural Resources Survey and Assessment of the Vista del Agua Project, a 277-Acre Parcel Just South of Interstate 10 between Tyler and Polk Streets in the City of Coachella, Riverside County, California

APNs: 603-122-05; 603-130-03, -04 & -09; 603-150-04 & -06 thru -12

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Fieldwork, March 28-30, 2014
Survey Report, October 10, 2014

National Archaeological Data Base Information
Type of Study: Cultural Resources Survey and Assessment
Sites: CA-RIV-7834, -7835, and -7836; CA-RIV-11775 and -11776
USGS Quad: 1956 (1972 photorevision) 7.5' *Indio* quad
Township & Range and Section: NW¼, E½ of SW¼, and SE¼ of Section 28 of Township 5 South, Range 8 East (SBBM).
Area: 277 acres
Keywords: Coachella Valley, City of Coachella, Coachella Canal, Whitewater River, Interstate 10, Riverside County, Avenue 47, Avenue 48, Tyler Street, Polk Street, survey, Salton Brown, Salton Buff, Colorado Beige, direct rims, prehistoric Lake Cahuilla, sand dune, hammerstone, possible groundstone, fish vertebrae, adobe chunk, FAR, flakes, hearth cleanout feature, residential foundation, water control features, standpipes, water pressure regulators, reservoir, well, water flow meters, historic trash scatters, Eastern Information Center.

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MANAGEMENT SUMMARY

PROJECT DESCRIPTION AND LOCATION

Mr. Greg Lansing of Lansing and Associates requested Professional Archaeological Services (PAS) to conduct an archaeological survey of a 277-acre parcel in the City of Coachella in Riverside County, California (APNs include 603-122-05; 603-130-03, -04 & -09; and 603-150-04 & -06 thru -12). The project area is bounded by a frontage road just south of Interstate 10 to the north, Polk Street to the east, Avenue 48 to the south, and farmland and some residential land to the west. The project is in the NW¼, the E½ of the SW¼, and the SE¼ of Section 28 in Township 5 South, Range 8 East, San Bernardino Base Meridian, as shown on the 1956 (photorevised 1972) USGS 7.5' *Indio* quad (Figures 1-3). The survey was conducted in compliance with environmental review requirements under the California Environmental Quality Act (CEQA).

SCOPE OF WORK AND PROJECT PERSONNEL

The project area was already surveyed and the subject of Phase II test excavations at RIV-7834, -7835 and -7836 in 2005 (see Dice and Messick 2005). Given that 10 years had since passed, the current scope of work called for an updated records search and resurvey of the property. The Principal Investigator, Dr. Philip de Barros, conducted the records search at the Eastern Information Center (EIC) at the University of California in Riverside, on March 24, 2014, who also conducted the archaeological resurvey from March 28-30, 2014, with the help of Kelly Kandybowicz, Russell Ott, Corey Moloney, and Amanda Krogstad, advanced students or graduates of the Palomar Archaeology A.A. Degree Program, and Christine Lambert of the University of California at San Diego.

NATIVE AMERICAN CONSULTATION

On March 25, 2014, a letter was faxed to the Native American Heritage Commission (NAHC) asking for a Sacred Lands Check. In a letter dated May 26, 2006, Dave Singleton of the NAHC responded that no Native American sacred sites are present within or adjacent to the project area. Prior to the resurvey, Dr. de Barros contacted Judy Stapp, Director of Cultural Affairs for the Cabazon Band of Mission Indians and a representative from the tribal office of the Torres-Martinez Desert Cahuilla Indians to see if they would like to participate in the survey of the property. Both declined at this stage but both wished to be informed when potential impacts to cultural resources were determined. On April 29, a letter was sent or faxed to all of the tribal representatives on the list provided by the NAHC. This letter provided preliminary information about RIV-7834, -7835, and -7836 that underwent test excavations and significance evaluation in 2005, and concluded that RIV-7835 was a significant resource under CEQA. They were also informed about the preliminary results of the March 2014 resurvey,

including that RIV-7834 and RIV-7835 were remapped and that the small site, RIV-7836, could not be relocated. They were also informed of the recording of water control features along Avenue 47 (RIV-11775) and a historic house foundation dating to after World War II (RIV-11776).

Two responses were received. The first was a letter dated April 30, 2014, from Judy Stapp, Director of Cultural Affairs for the Cabazon Band of Mission Indians in Indio. She indicated that the project area was outside of current reservation boundaries, that they had no knowledge of any sacred/religious sites within or near the project area, and that they would defer to the Torres-Martinez Band of Desert Cahuilla for further consultation. The second was from Mary Ann Green, Tribal Chairperson of the Augustine Band of Cahuilla Indians dated May 23. She said they are unaware of specific cultural resources within or near the project area, but encouraged us to talk to other tribal representatives and to be sure an Indian monitor is present during construction. She also asked to be informed about the discovery of any cultural resources during project development.

FINDINGS

These deal with three previously recorded prehistoric sites and two newly recorded historic sites.

Previously Recorded Prehistoric Archaeological Sites

These three sites were recorded and tested by Dice and Messick (2005). No artifact catalogs are available for these sites, but the artifacts appear to be stored at Michael Brandman Associates (now owned by Carbon Solutions, Inc.) in Irvine, California. This needs to be verified, however.

RIV-7834 (P-33-14403)

RIV-7834 consists of four ceramic scatter loci, Loci A-D. Locus D was recorded and tested in 2005. Loci A-C were recorded during the 2014 resurvey. The site is located just south of a creosote-covered sand dune in a sandy, formerly creosote scrub, landscape that has been disturbed by agriculture between 1953 and 1984. The site measures 240 by 68 m and is between -45 and -30 feet below sea level in elevation, placing it within the lakebed of prehistoric Lake Cahuilla.

Locus A measures 68 x 21 m and has 20 surface pottery sherds, including sherd clusters that may represent pot drops. Locus B is a highly dispersed scatter of six sherds that measures 84 x 20 m in size. Locus C measures 45 x 13 m; it is a scatter of seven sherds in two clusters. Locus D as recorded in 2005 measured 55 x 40 cm. The test excavations produced a total of 20 sherds from the surface and the 0-20 cm excavation level, mostly Salton Buff and Salton Brown with one Colorado Beige sherd. No artifacts were recovered from deeper levels.

Given the paucity of artifacts and their shallow depth, the site is interpreted as a seasonal plant resources procurement site that was occupied after the last major infilling of prehistoric Lake Cahuilla in the 16th or 17th centuries.

RIV-7835 (P-33-14404)

This surface ceramic scatter may represent a seasonally occupied camp site along a former shoreline of prehistoric Lake Cahuilla. It measures 50 by 34 m and is situated at an elevation of -53 feet in an area of saltbush scrub. Surface artifacts include at least 47 sherds of which 32 were collected and classified almost entirely as Salton Buff with one Salton Brown and one Colorado Beige sherd. Other surface artifacts included a hammer/chopper and a brown bottle glass shard. The 2014 resurvey found 19 surface sherds including two that extend site boundaries to the south.

The 2005 test excavations included 18 test units excavated to depths between 40 and 120 cm. Sherds were found primarily in the upper 40-60 cm with some between 60-80 cm and 100-120 cm. All other artifacts were found in the upper 40-60 cm. Deep charcoal staining suggestive of a hearth clean-out was encountered in the 60-80 cm level of Test Unit 4; charcoal bits were encountered in the 40-60 cm level in both Units 4 and 5; and a possible adobe chunk at 30 cm in Unit 17 was found in association with three fish vertebrate and a piece of fire-altered rock.

The 116 subsurface ceramics included 103 Salton Buff, nine Salton Brown, and three Colorado Beige sherds. A total of 74 “other artifacts” were noted, but inconsistencies and omissions in the Dice and Messick (2005) test report, including the lack of a site catalog, make it difficult to assess the nature of these 74 artifacts. However, Unit Level Records provided in their report appendices suggest they include at least seven flakes (two possibly utilized) made of quartz, chert or jasper, quartzite and basalt. In addition, 2-3 pieces of fire altered rock, a possible quartz crystal, 1-2 possible groundstone tools, several fish vertebrate, and four tufa fragments were recovered.

The presence of surface and subsurface sherds and other artifact types in the deposit, along with possible features in the upper 30-80 cm, suggest the presence of a buried site that was once situated along a recession shoreline dating to a pre-16th or -17th century infilling of prehistoric Lake Cahuilla. The surface sherds may represent a later use of the site, but agricultural disturbance could have brought up sherds from deeper deposits. Based on Waters (1982), Dice and Messick (2005) assert that the presence of mostly direct rims on the ceramic vessels indicate an occupation during Patayan I (ca. 750-1050 AD), but more recent work by Hildebrand (2003) show the use of direct rims until ca. A.D. 1500.

RIV-7836 (P-33-14405)

This site is relatively small, measuring 26 by 15 m; it was found within a relatively dense cluster of saltbush. Only 14 sherds were recovered from the surface and subsurface during the 2005 test excavations. Virtually all ceramics were recovered from the upper 20 cm, save one. Eleven sherds were identified as Salton Buff and two as Salton Brown. In addition four glass shards were recovered between 0-50 cm, and one freshwater shell sample was taken from the surface of Test Unit 2. No features were encountered. This site was most likely served as a seasonal plant resource procurement that was occupied after the last major infilling of prehistoric Lake Cahuilla in the 16th or 17th centuries.

Newly Recorded Historic Archaeological Sites

RIV-11775 (P-33-23969): Water Control Features

This site consists of five loci (A-E) containing between one and six currently used and/or abandoned water control features, including standpipes, water flow gauges, water pressure regulators, water flow valves, a reservoir, and other features linked by an underground water supply system constructed in the early 1950s by the Coachella Water District after the completion of Coachella Canal in 1949. Water is delivered to the highest point of every 40-acre parcel along section lines in areas of the water district eligible and registered to receive it. These are gravity flow pipelines. Other networks provide underground tile drainage systems to carry high-salinity, used drainage water to the Salton Sea.

The loci and reservoir are all along the south side of 47th Avenue between Polk and Tyler Streets in the City of Coachella. Vegetation and/or current land use to the north consists of previously farmed areas or Sonoran creosote bush scrub; to the south, saltbush scrub, former farmland or existing vineyards. Soils consist of fine sandy loam and fine to sands with pebbles and some cobbles. The site lies within the geologic sink known as the Salton Trough that once contained former Lake Cahuilla. It is open and relatively flat to the west but rises to the east as land rises to sea level. The site including an associated reservoir is 900 m long and 15 m in width, except for the reservoir area where it is 92 m wide. The site's elevation falls between -35 ft below and 5 ft above sea level. Loci A, B, D and E contain features that are as old as 65 years (early 1950s) with additional features added at later dates. Locus C including the associated reservoir probably dates to after 1972 and is thus no more than 42 years old.

RIV-11776 (P-33-23970): House Foundation and Associated Features

This site consists of the remains of a probable farm residence that was built in the early 1950s after water was brought to the area via the Coachella Canal completed in 1949. The burned down during either 2010 or 2011. Current remains consist of the house foundation and its adjacent cement porch and a foundation for a propane tank. Just east of the foundation is a shallow dry reservoir built after

1972. Two trash scatters are also present. Trash Scatter A to the south is the result of the burial of burned house debris and trash after the fire. It contains burnt wood and burned and unburned plastic, paper, rubber, ceramic, glass, and metal artifacts of recent origin (last 20 years) swept into small piles. Trash Scatter B to the southwest consists of a very light scatter of post-1950 glass, ceramic and metal artifact fragments with no apparent depth. The entire site measures 128 by 85.5 m. It is situated at an elevation of -40 ft. below sea level. The site vicinity once consisted of former farmland but much of it is now creosote and saltbush scrub. Soils consist of fine sandy loam with pebbles in some areas. The site lies within the geologic sink known as the Salton Trough that once contained former Lake Cahuilla. It is open and relatively flat with no bedrock exposures. Historic archival research indicates that site land was part of a quarter-section first patented in 1936 by George W. Ingram, but no structure was built on the property until after 1950.

SITE SIGNIFICANCE EVALUATIONS AND RECOMMENDATIONS

CA-RIV-7834 (P-33-14403)

After Phase II testing, Dice and Messick (2005) determined that this site is not a significant historical resource under Criteria A-D or under the uniqueness criterion under CEQA. This determination was made on the basis of the lack of a substantial surface or subsurface deposit and because only 20 pottery sherds were encountered with no other artifact types. However, they only investigated Locus D and did not record or test the other loci. Loci B and C consist of only a few relatively dispersed pottery sherds, but Locus A contains at least twenty sherds with some in clusters of three to 11 sherds. It is recommended that additional testing be undertaken at these loci to see if they are similar to Locus D and do not contain significant subsurface deposits.

The research design and methods for the proposed test excavations are presented in Section 5.3 of this report.

CA-RIV-7835 (P-33-14404)

After Phase II testing, Dice and Messick (2005) determined this site was not a significant historical resource under Criteria A-D but was significant under CEQA's uniqueness criterion. However, this assessment was based on the assumption that the presence of mostly direct ceramic vessel rims equated with a Patayan I (A.D. 750-1050) occupation; however, Hildebrand (2003) has shown direct rims may also date to later periods. Nonetheless, given the presence of a subsurface deposit that also contained lithic tools and debitage as well as ceramics and a possible hearth feature, it can be argued that this site is significant under Criterion D because of its potential to provide information important in prehistory, especially because its deeper occupation levels are likely to date from an earlier infilling and subsequent recession of prehistoric Lake Cahuilla prior to the last one in the 17th century.

In conclusion, RIV-7835 should either be avoided or subject to data recovery excavations to mitigate potential impacts from project development.

CA-RIV-7836 (P-33-14405)

After Phase II testing, Dice and Messick (2005) determined that this site is not a significant historical resource under Criteria A-D nor under the uniqueness criterion under CEQ A. This determination was made on the basis of the lack of a substantial surface or subsurface deposit and the lack of artifact diversity, as only 14 sherds were encountered. Their assessment is viewed as correct; RIV-7836 is not a significant historical resource under CEQA.

CA-RIV-11775 (P-33-23969)

This site consists of several sets of agricultural irrigation water control features just south of Avenue 47. The site is not linked to any significant historical event, such as one might argue for the construction of the Coachella Canal, and it is not associated with any significant individual at the local or regional level. The water control features are similar to other sets of such water control features to the south and elsewhere, e.g., along Avenue 48. They also do not contain any unusual or unique architectural features. Thus, this site is not viewed as a significant historical resource under Criteria A-C or under the CEQA's uniqueness criterion. As for Criterion D, it is felt that this site's research potential has been exhausted with its detailed recordation, and therefore, it is not a significant historical resource under this criterion either.

In short, RIV-11775 is not viewed as a significant historical resource under CEQA.

CA-RIV-11776 (P-33-23970)

This site consists of a damaged cement foundation of a former farm residence that was probably built in the early 1950s along with an associated propane tank cement slab, two trash scatters, and an abandoned reservoir built after 1972. There is no information that indicates these structures are associated with any important event in prehistory or history or that they are associated with a significant figure in local or regional history, and the site's architectural features have been destroyed. Therefore this site does not qualify as a significant historical resource under Criteria A-C under CEQA.

As for Criterion D, its scientific research potential is very limited given the absence of any significant trash deposits. Trash Scatter A is the product of the destruction of the house by fire and contains only recent trash. Scatter B is a very low density scatter that does not appear to have any significant depth based on informal trowel probes. Thus, this site is seen as having very limited research

potential and is not viewed as a significant historical resource under Criterion D. It also lacks any unique characteristics that would make it significant under the CEQA uniqueness criterion.

In short, RIV-11776 is not viewed as a significant resource under CEQA.

PRE-EXCAVATION AGREEMENT

Prior to conducting the test excavations at Loci A-C of RIV-7834, a pre-excavation agreement must be negotiated and signed between the developer, the City of Coachella, and interested Indian Tribes. The timing of the Phase II testing program will depend upon the duration of the negotiations and signing of the pre-excavation agreement and the developer's overall planning schedule.

GRADING MONITORING

Given that portions of the property have relatively dense brush or existing vineyards, and given the potential for buried prehistoric sites resulting from past infillings and recessions of prehistoric Lake Cahuilla, there is the potential for the discovery of buried cultural deposits as well as potential human remains. Therefore, construction monitoring shall be required that would include a professional archaeologist and a Native American Observer.

SECTION 1 – INTRODUCTION

1.1 PROJECT DESCRIPTION AND LOCATION

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1.2 SCOPE OF WORK AND PROJECT PERSONNEL

The project area has already been surveyed and was the subject of Phase II test excavations at RIV-7834, -7835 and -7836 in 2005 (see Dice and Messick 2005). Since it had been nearly 10 years since the previous survey, the current scope of work called for an updated records search and resurvey of the property. The Principal Investigator, Dr. Philip de Barros, conducted the records search at the Eastern Information Center (EIC) at the University of California in Riverside, on March 24, 2014. As Principal Investigator (Appendix A), he also conducted the archaeological resurvey from March 28-30, 2014, with the help of Kelly Kandybowicz, Russell Ott, Corey Moloney, and Amanda Krogstad, advanced students or graduates of the Palomar Archaeology A.A. Degree Program, and Christine Lambert of the University of California at San Diego.

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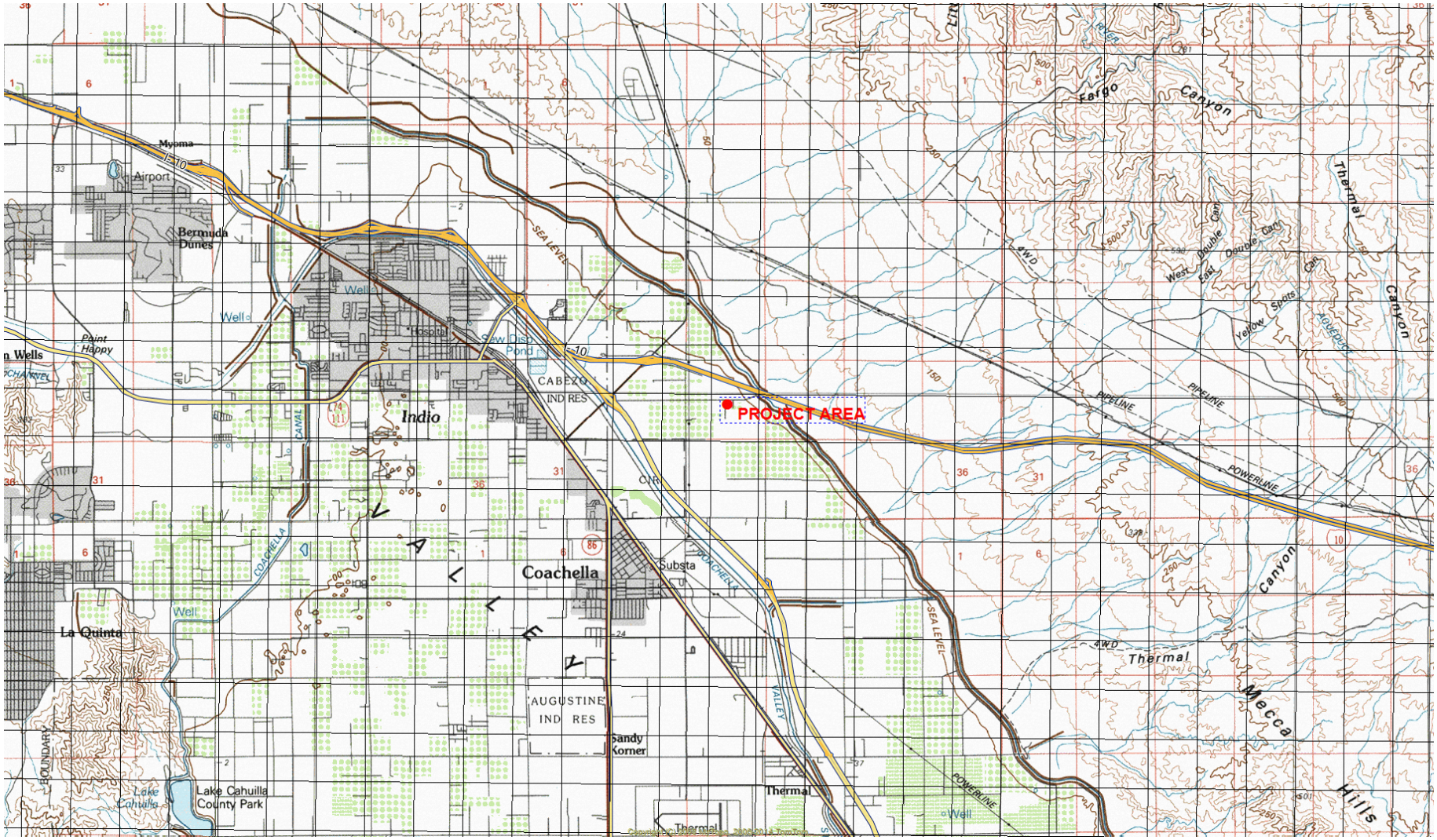

Figure 1: Project Vicinity Map

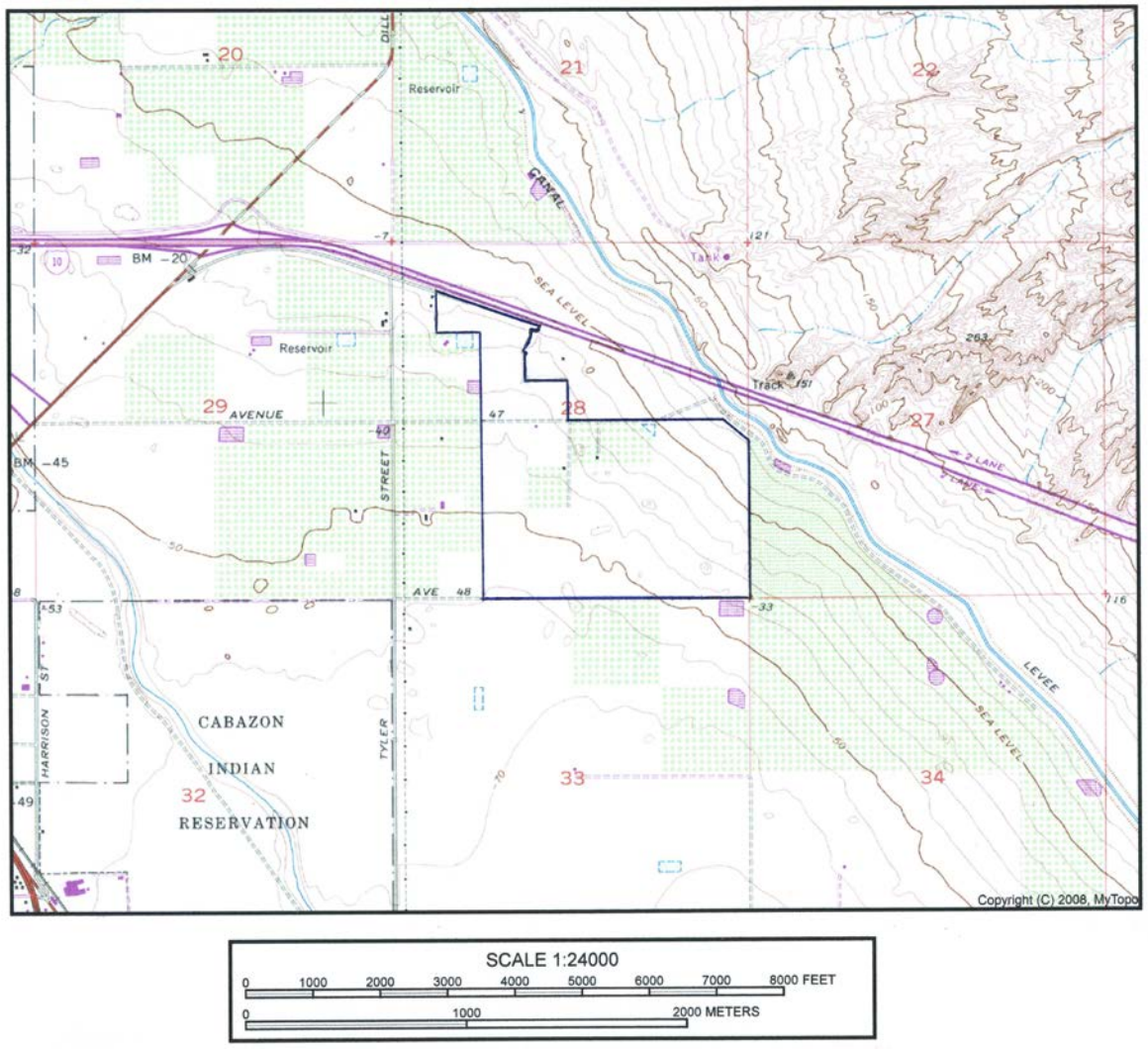

Figure 2: Project Location in Section 28 as Shown on the 1956 (1972) USGS 7.5' *Indio* Quad

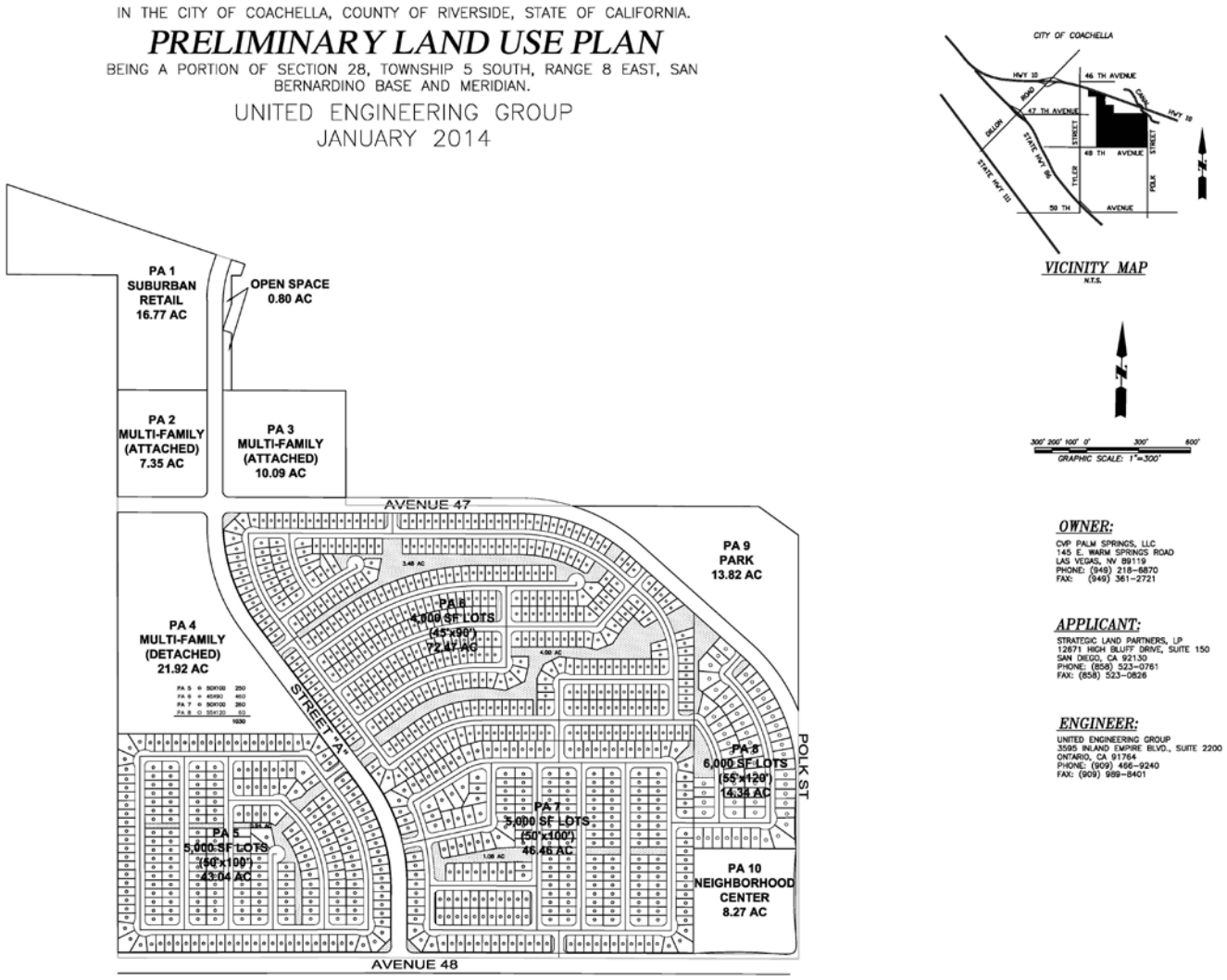

Figure 3: Preliminary Land Use Plan

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SECTION 2 – NATURAL AND CULTURAL SETTING

2.1 NATURAL SETTING

2.1.1 Topography, Hydrology, Geology and Soils

The 277-acre parcel is located in the northeastern part of the City of Coachella in Riverside County, California. The study area is within the Colorado Desert Region in the heart of the Coachella Valley at an elevation ranging between -40 below and 30 feet above sea level. The site topography is relatively flat to the west but does slope upwards about 25 feet in elevation to the northwest. In the south central and eastern portion of the project, the property slopes upward from about -60 feet below sea level to 25 feet above sea level (see Figure 2). The town of Thermal is about four miles to the south and the larger City of Indio is about two miles to the west. The Augustine Indian Reservation is 0.5 miles to the southeast, the Cabazon Indian Reservation about 0.25 miles to the west, and the Torres-Martinez Indian Reservation about 8-9 miles to the southwest. The Mecca Hills, which reach a peak elevation of 1,648 ft (Mecca Hill), are 4-5 miles to the southeast. The Indio Hills begin 2-3 miles to the north at elevations of a few hundred feet but later attain elevations over 6500 feet to the northwest. Further to the east are the Little San Bernardino Mountains which attain elevations over 3,000 feet. The town of La Quinta and the Santa Rosa Mountains are 7-8 miles to the west and southwest, respectively. These impressive mountains, including a State Game Refuge, attain elevations of over 4,000 feet.

The Whitewater River, tamed by the Coachella Storm Water Channel, is the principal watercourse of the Coachella Valley and is about 0.75 mile southwest of the subject property. As such, the southwest part of the property is within the potential floodplain of the river; however, the river tends to have water only after major rainstorms. The Coachella Canal is directly adjacent to the northeast corner of the property. Other local watercourses are extremely ephemeral and come primarily from the mountains to the east.

The subject property was once under the waters of prehistoric Lake Cahuilla due to periodic infillings of the Salton Sink or Trough by the Colorado River. Over the last 2000 years, there is evidence for natural infillings between about A.D. 700 and 890, 1000 and 1200, 1210 to 1420, 1430 to 1580 (Waters 1983, 1992:229), with the last occurring during the 1600s (Schaefer 1994a; Brock, Smith, and Wake 1999; Laylander 2006). With each infilling the lake level stabilized at an elevation of 12 m (40 ft) as excess water flowed through an outlet channel to the south, creating a lake that was up to 95 m in depth covering a surface area of more than 5,700 km^2 (Waters 1992:229). Each infilling took from 12 to 20 years, and if no further water was supplied by the Colorado River, it took about 60 years to become completely desiccated. Each time this meant major regional changes

within one to three generations (Waters 1992:229). Waters (1992:229) also addresses how this would have affected archaeological site creation and burial:

> Because the lake rose to the same level each time, evidence of human use along the littoral zone during high stands of the lake is compressed onto the surface of a single shoreline. Buried sites are encountered below the shoreline where people camped on the dry lakebed whenever the lake level fell or the lake dried up. In many cases these sites became buried by alluvium shedding off the hillslopes and later by laminated lake basin sediments during a subsequent rise in lake level . . . These sites were protected and preserved from the shoreface erosion associated with a later transgression of the lake because the overlying alluvium was thick and the lake rose rapidly.
> (Waters 1992:229)

As a result, any essentially surface artifact deposits within the project area are likely to be 350 years old or less; however, buried archaeological sites could reflect ancient shoreline occupations as the lake dried up between infillings (see also Dice and Messick 2005:10).

Geologically speaking, the Coachella Valley is in the northern part of the Salton Trough or Salton Geomorphic Province. The San Bernardino Mountains and the Little San Bernardino Mountains, which are part of the Transverse Ranges, form the western and northern boundaries of the trough. These mountains are made from igneous plutons and metasedimentary rocks from the Paleozoic and Mesozoic Eras that were uplifted along the San Andreas Fault during the Pleistocene (Trent 1984; Keller 1995; see also Alexandrowicz and Krautkramer 2004:6). Coachella Valley soils are primarily alluvial and consist of decomposed granitic particles, very fine silty sand and occasional bits of granitic rock. Prior to agricultural development, the area was comprised of dunes, pans, alluvial fans and bajadas (Trent 1984). The four soil series found within the project area are typical of the Coachella Valley; they include Coachella fine sand, Gilman fine sandy loam, Myoma fine sand, and Carsitas cobbly sand (USDI 1972; see Dice and Messick 2005:8).

2.1.2 Climate and Vegetation

The study area lies within the Low Desert climatic zone. The climate is very dry, warm, and sunny with rainfall generally less than five inches per year with a mean maximum July temperature of over 100 degrees Fahrenheit (Bailey 1966:42). Most of the subject property was once covered by Sonoran creosote bush scrub and saltbush scrub with the latter more common in the southern portion of the property. The eastern 30% of the property is currently covered with vineyards as was the case during the 2005 survey (Dice and Messick 2005:9). In addition, historical area photos (especially between 1953 and 1984) indicate the central area of the project area south of Avenue 47 was also used for agricultural

purposes, with some continuing until at least 2002 (see Dice and Messick 2005:3), which despite some regrowth, destroyed the indigenous habitat. Vestiges of the original indigenous vegetation were described in 1980 by Swenson, Davis and Wilke (1980) who noted the presence of honey mesquite, California fan palm, arrowweed, and dense growths of quail brush on the Augustine Indian Reservation a few miles to the southwest. The indigenous inhabitants of the Coachella Valley, the Cahuilla, exploited regional resources ranging from the desert to the upper reaches of the Santa Rosa and Little San Bernardino Mountains (Figure 4).

2.1.3 Historic Land Use

Topographic maps produced before 1945 (see Section 2.2.2 below) show virtually no development or cultural features east of the Southern Pacific Railroad line. While prehistoric Indian plant gathering and hunting may have taken place in this area, agricultural and residential living would not become possible prior to the completion of the Coachella Canal in 1949, which led to a land boom linked to the water system developed in the early 1950s. Land use has since then primarily agricultural with some light residential. Farming activities have stripped off the natural creosote or saltbush scrub in many areas, although it has grown back substantially in some parts of the project area.

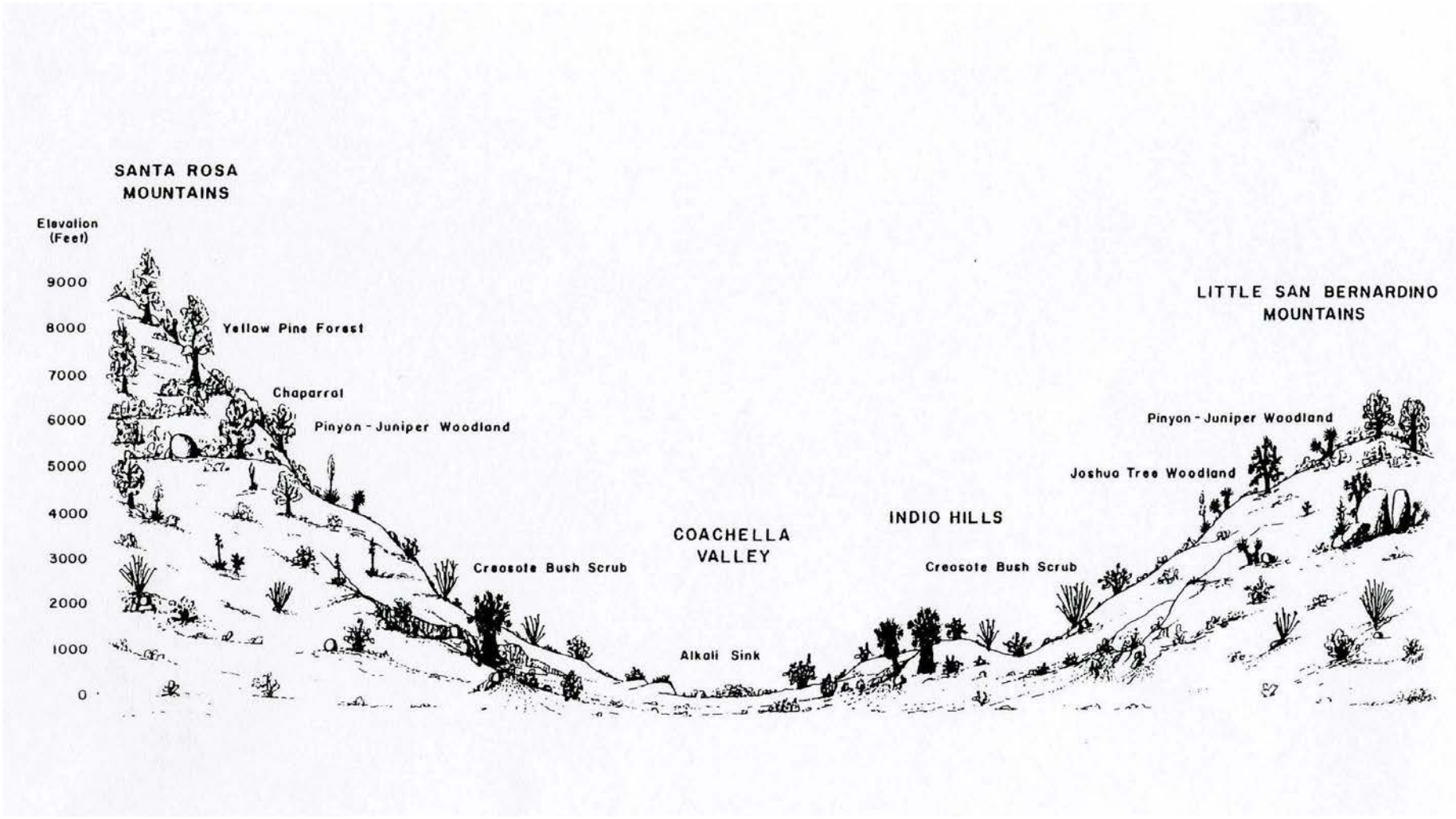

Figure 4: Vegetation Zones or Plant Communities in the Vicinity of the Coachella Valley.
[Source: Swenson et al. 1980:Figure 3]

2.2 CULTURAL SETTING

2.2.1 Prehistory and Ethnography

Culture Chronology/History of Southern California and the Study Area

The earliest period of human occupation in North America currently accepted is called Period I by Wallace (1978). It is dated from approximately 12,000 - 6,000 B.P. This period has been called San Dieguito, Playa, or Lake Mojave in Southern California (see Warren and Crabtree 1972). The last term is the one used to describe the culture complex in the Mojave River sink region. Lake Mojave Culture is characterized by Silver Lake and Lake Mojave projectile points and corresponds to post-Pleistocene conditions that were cooler and wetter than the present. As such, the Lake Mojave Complex is best seen as part of a larger regional adaptation. Bedwell (1970) has proposed the term Western Pluvial Lakes Tradition. It is characterized by (a) site locations near major water sources, (b) an absence of ground stone, (c) a flaked stone industry with long stemmed points, and (d) a stone tool kit which included large core and flake scrapers, scraper-planes, choppers, and hammerstones (see Altschul et al. 1985:24).

This early culture, also known as the Early Hunting Stage, represents the post-Pleistocene adaptation to big game hunting of large mammals, possibly even members of the late Pleistocene megafauna, such as the mammoth, although direct evidence of this type of aboriginal exploitation is lacking from southern California. If gathering was also part of this early subsistence strategy, plants were apparently not being processed with a ground stone technology. This early hunting tradition basically came to an end around 6000 B.P. This is probably due to the advent of much warmer and drier times associated with the Altithermal which led to a shift in subsistence strategies focused on plants and small game.

Wallace's Period I has not been well documented within the study area.

The following period, termed the Millingstone Horizon (Wallace 1955) or Archaic or Encinitas Tradition (Warren 1968), dates from approximately 6000 B.C. to 1000 B.C. This period includes Warren and Crabtree's (1972) Pinto Period (5000-2000 B.C.) and the early part of their Gypsum Period (2000 B.C. to A.D. 500; see Warren 1984:410). This horizon marks the technological advancements of seed grinding for flour and the beginning of the use of marine resources on the coast. Diagnostic artifacts for this tradition include manos, metates, scraper planes, choppers, core tools, doughnut stones, discoidals, and cogstones. This period includes archaeological cultures/complexes such as Pauma, La Jolla, Topanga, Oak Grove, and Sayles (cf. Moratto 1984). This period was not homogeneous either from a synchronic or diachronic perspective. The La Jolla (Wallace 1955) or Encinitas Tradition (Warren 1968) reflected a shift in the economy from one based primarily on hunting to one of seed and shellfish collecting. The assemblage is characterized by the use of millingstones, flaked cobble tools, retouch flakes and flexed burials.

Little is known of settlement in the study region during the Pinto Period. The earliest archaeological documentation of inhabitants in the Coachella Valley appears during the Gypsum Period which, along with the Saratoga Springs Period (A.D. 500 -1000), is also known as the Late Archaic (ca. 2000 B.C. to A.D. 900) in the desert and the Intermediate Period in coastal southern California (Moratto 1984; Wallace 1955; Warren 1968). Artifacts that are diagnostic of the Late Archaic include Humboldt, Gypsum Cave and Elko dart points and manos and metates, with the introduction of mortars and pestles to process mesquite beans and acorns coming later. Sites associated with this preceramic period in the Coachella Valley have been found in Indio, La Quinta, Indian Wells, and Coachella (CA-RIV-6797)(see Brock 2002 for a summary of these sites; see also Demcak 2005:4).

The Late Prehistoric period began around the latter part of the ninth century A.D. and continued until historic contact. It was called the Shoshonean Period by Warren and Crabtree (1972) and is also known as the Protohistoric Period. The period is characterized by three basic shifts in the economy of coastal populations: (a) a more land-based collecting economy; (b) collection of specifically-targeted shellfish resource areas and (c) the development of a quasi-maritime economy (True 1966). Archaeologically the period is characterized by the introduction of the mortar and pestle, finer projectile points, cremations, and the introduction of pottery ca. A.D. 1400.

Work by Wilke (1978) in the Coachella Valley indicates that the Desert Cahuilla are descendents of people that occupied the northwest shores of prehistoric Lake Cahuilla between ca. A.D. 900-1500. His analysis of 109 human coprolites indicates exploitation of open water, marshland, and low desert scrub resources, as well as some use of montane resources. Weir fishing was common along the shoreline. The 45 food resources he documents (Wilke 1978:89) indicate a heavy reliance on fish, aquatic birds, freshwater mussels, cattail, bulrush, goosefoot, witchgrass, mesquite, pinyon, and jackrabbits (see Swenson et al. 1980:9). Wilke dates the desiccation of the last major stand of Lake Cahuilla to the 1500s; however, more recent research indicates that the desiccation to which he refers took place in the 1400s, followed by a dry lake bed in the 1500s, and finally another brief infilling period and subsequent desiccation in the 1600s (Laylander 2006; Brock et al. 1999).

According to Wilke (1978)109-113), weir fishing was no longer possible when the lake level reached ca. -100 feet below sea level. He argues that lake desiccation led to migration to the upland areas to the west and northwest of the desert, i.e., the Santa Rosa and San Jacinto Mountains. O'Connell et al.'s (1974) study of the Perris Reservoir area on the plain west of the San Jacinto Mountains documents a substantial increase in population during approximately this period or periods (Swenson et al. 1980:9). Wilke (1978:109-125) believes the Cahuilla reoccupied the Coachella Valley once large stands of mesquite had been able to develop within the former prehistoric Lake Cahuilla lakebed, and he believes this occurred within 100 years after the period of desiccation. If this estimate is correct, current

data on lake levels suggest this would have occurred for a brief time during the late 16th century and once again toward the end of the 18th century, not long before European settlers first passed through the region in 1823.

The Late Prehistoric period can be said to have ended with the Spanish colonization and establishment of the missions. Disease and forced relocation, which reduced the populations considerably among the coastal settlements, did much to destroy the cultural pattern established at that period (Bean and Shipek 1978). The Late Prehistoric culture patterns lasted longer among the inland groups as mission policies, especially those of Mission San Luis Rey, were to maintain traditional settlement patterns and economic practices. The Cahuilla were relatively far removed from the coast and the Coachella Valley saw little or no contact with EuroAmerican settlers until 1855.

The Cahuilla with a Focus on the Desert Cahuilla

In the project area, the inhabitants were the Desert Cahuilla (Strong 1987:36-87; Bean 1978). The Desert Cahuilla, along with their brethren the Mountain and Pass Cahuilla, were bounded by the Serrano to the north, the Luiseño and Cupeño (when they were at Warner's Ranch) to the west and southwest, and the Ipai-Tipai/Kumeyaay to the south. The Desert, Pass, and Mountain Cahuilla distinctions maintained by many ethnographers should not be seen as discrete, bounded units as intermarriage and family moves rendered them quite fluid (Swenson et al. 1980:10; Bean 1978). The Cahuilla speak a language that is part of the Cupan subgroup of the Takic family of Uto-Aztecan family of languages. A few native speakers remain and there is major effort to teach Cahuilla to the young to help preserve the language. Cahuilla is most closely related to Cupeño and Luiseño among neighboring Takic or Shoshonean languages (Bean 1978).

The traditional territory of the Cahuilla was very diverse with a variety of climatic and floral and faunal resources associated with mountains, foothills, and desert terrains (Bean and Saubel 1972: see Figure 4). Subsistence was organized around hunting and gathering and later some agriculture. Basic staples consumed in historic times included

> the two mesquites, honey mesquite and screwbean, goosefoot (*Chenopodium* spp.), pickleweed (*Allenrolfea occidentalis*), *Dicoria canescens* (Cahuilla awk-nish; Wilke, DeDecker, and Dawson [1979]), various cacti, agave (Agave deserti), pinyon nuts (*Pinus monophylla*), acorns (*Quercus* spp.), and other seed plants. These resources were gathered on the floor of the Coachella Valley, on adjacent mountain slopes, and in the higher mountains . . . Gathering and hunting territories crosscut the vegetation zones [see Figure 4. Such an arrangement, which seems to have been characteristic of all villages on the desert and San Gorgonio Pass, ensured that an array of resources would be available in different settings at different elevations throughout the year. Hunting was secondary .

> . . and jackrabbits (*Lepus californicus*), cottontails (*Sylvilagus* spp.), deer (*Odocoileus hemionus*), and bighorn sheep (*Ovis Canadensis*) were all taken with the bow and arrow. Smaller mammals, including a variety of rodents, were taken with traps, snares, and with fire (Bean 1972). (Swenson et al. 1980:16-17)

Agriculture was first observed in 1823 by Europeans who were part of the Estudillo-Romero expedition through the Coachella Valley in December (Bean and Mason 1962). Cahuilla gardens containing corn, pumpkins, squash and melons were observed at that time. Wilke and Lawton (1975) suggest that the evidence indicates crops grown in both the winter and in the summer and that irrigation by canal or ditch was employed on a small scale, probably along with pot irrigation in such an arid region. The locations of agricultural fields are also noted on La Croze's 1856 Government Land Office (GLO) plat map. Lawton (1974) has shown that agriculture was practiced for hundreds of years prior to the arrival of Europeans, basing this on the presence of cultivated plants and crop names in Cahuilla mythology. However, most agree that agriculture was primarily a complementary form of subsistence tied to a primarily hunter-gathering economy (Swenson et al. 1980:17).

Acorns were stored in large granaries whereas seeds were stored in ollas sealed with pine pitch. The latter were often placed in desert rockshelters or caves to serve as food sources for those out hunting or gathering or to serve as reserve food supplies for individual families (Bean and Lawton 1965; Brumgardt and Bowles 1981, as cited in Demcak 2005:5). Pottery vessels included cooking pots, small-mouthed jars, pipes, and ladles (Bean 1978; Bean and Lawton 1965). Basketry was also important among the Cahuilla for the fashioning of globular baskets with flat bottoms for storing or carrying small items, large cone-shaped baskets used with a net for carrying heavier items, shallow baskets for parching corn and seeds or for storage, and flat winnowing trays (Bean 1978). Cahuilla contacts with the neighboring Serrano and Gabrielino, as well as Luiseño, were important and included trade, intermarriage, ceremonies and sometimes conflict (Bean 1978).

The Desert Cahuilla village was a permanently occupied settlement and consisted of three to five exogamous patrilineages (Bean 1972; Strong 1987; Gifford 1918). Village population ranged from 75 to 200 or more (see Swenson et al. 1980:13; Bean 1978). The 1856 GLO plat map surveyed by John La Croze, and others maps of the same time period, recorded the presence of a series of Cahuilla settlements within the Coachella Valley and elsewhere, comprising most of the settlement of the Pass and Desert Cahuilla. These data have been graphically summarized in a map in Swenson et al. (1980:Figure 4) as shown in Figure 5.

Swenson et al. (1980) note that Wilke and Lawton (1975), Wilke (1978), Bean (1978), Strong (1929, 1987), and Harvey (1967) have all published maps showing

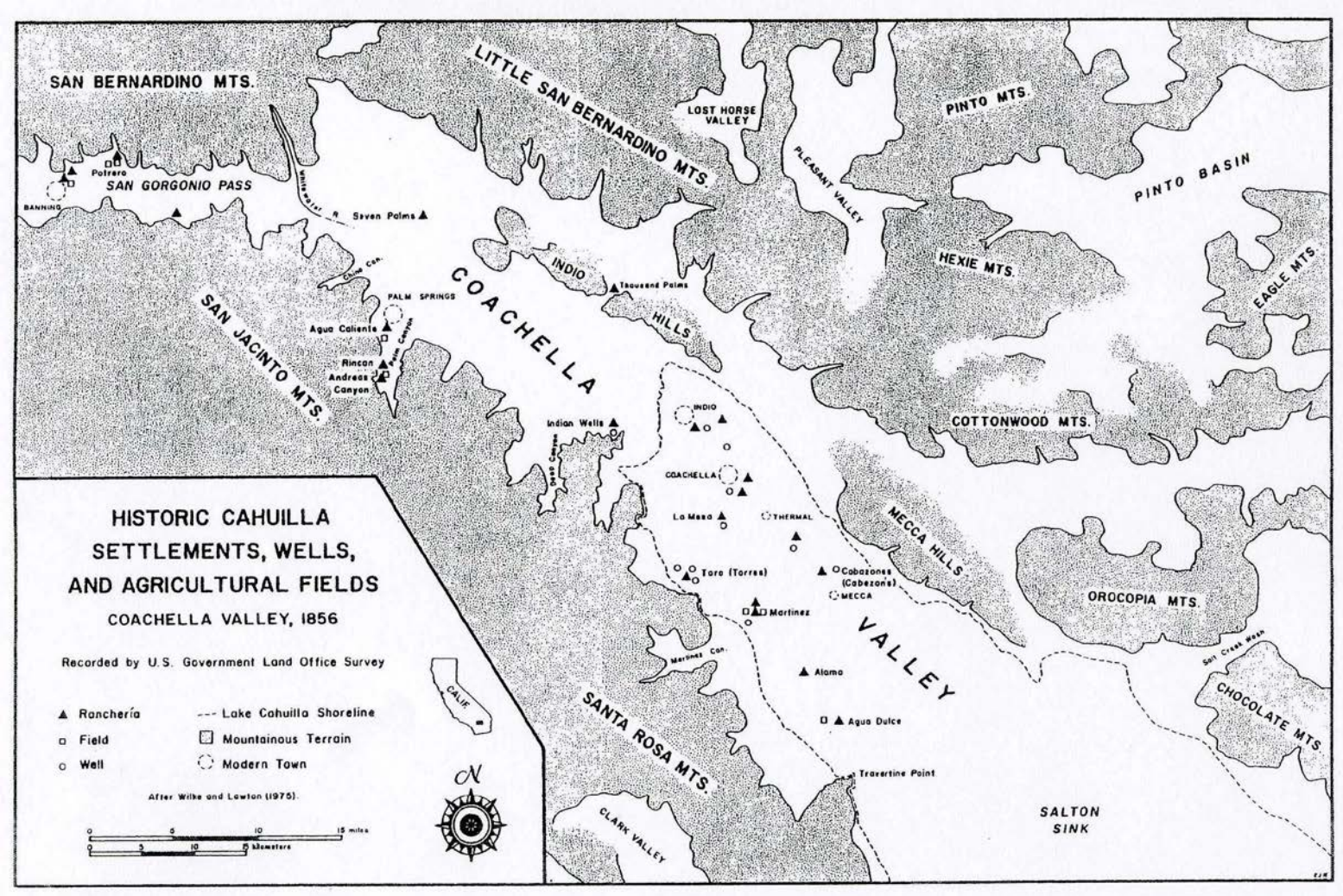

Figure 5: Cahuilla Villages/Rancherias and Associated Wells in the Coachella Valley and San Gorgonio Pass, 1856.
[Source: Swenson et al. 1980:Figure 4; after Wilke and Lawton 1975]

village locations in the various parts of Cahuilla territory. Their maps are not always in agreement.

> The reason for this seems to lie in the fact that locational data were made at a time when Cahuilla culture, like that of most other California Indians, was in a state of flux. Within a few years following regular contact with whites (immediately following 1855), Cahuilla population went into accelerated decline (Harvey 1967). Part of the reason for the decline was the skimming off of the young men and women (the effective breeding population) for laborers and servants on the ranches of the Los Angeles Basin, the San Bernardino Valley, and other places toward the coast. This was also a time of terrible epidemics of smallpox, measles, and other highly infectious diseases to which California Indians had no natural immunity. Epidemics swept the villages on the desert in 1863. When Cahuilla laborers in the ranches became ill, they probably went home, taking the disease with them. A table of population estimates for the Cahuilla, 1770-1970 (Bean 1978:584) shows that the epidemics of 1863 probably killed a minimum of one out of every two Cahuilla.
> (Swenson et al. 1980:11-12).

The links between these epidemics and shifting settlement patterns are instructive as Swenson et al. (1980) note:

> It was customary among the Cahuilla that when a person died his house was burned along with most of his personal belongings (Strong 1929; Bean 1972). A new house was then erected some distance away in a different part of the village . . . in the period of population reduction through epidemics. . . . the villages might . . . have changed locations by what might be called "settlement creep." A number of deaths in a village at one time might have led to the notion that the place was possessed by evil, and the entire village physically moved to another location nearby. The 1856 U.S. Land Office Survey (Wilke and Lawton 1975) noted an abandoned village in Thousand Palms Canyon already at that date.
> (Swenson et al. 1980:12)

As a result, several villages noted in various ethnographic and historic records may refer to the "same settlement as it gradually crept across the landscape" (Swenson et al. 1980:12).

Swenson et al. (1980) also discuss the association of Cahuilla settlement with hand dug wells that provided water from the shallow water table associated with the former prehistoric Lake Cahuilla lakebed (see Photo 1):

> The historic villages of the lower Coachella Valley [see Figure 4] were located on the bed of ancient Lake Cahuilla. Here the shallow water table permitted the excavation of conical walk-in wells for domestic water supplies.

INDIAN WELLS SEEN BY BLAKE

This rare photo taken in 1902 at Torres Indian Reservation shows typical hand dug Indian well. Note path leading to the well with water level about 20-30 feet below ground surface. Laborously dug without implements by Indian women, Blake saw an example of it at Indian Well, west of Point Happy, in 1853 when he accompanied the railroad survey.

— Title Insurance and Trust Collection

Photo 1: Photograph of Indian Well at Torres Indian Reservation in 1902.
[Source: Title Insurance & Trust Collection as shown in Nordland 1978:37]

> These were up to 30 ft (9m) deep, but were often of depths ranging from 8 to 15 ft (2.5 to 5 m). The shallow water table also gave rise to dense thickets of mesquite (*Prosopis glandulosa* var. *torreyana*). Villages were located among these mesquite thickets. For this reason also, the early observations of village locations may be somewhat in error, especially with regard to the possible presence of villages or parts thereof where they were not observed. That the village of La Mesa could be recorded at different times in adjacent sections meets with Bean's (1972:71, 74) description of Desert Cahuilla villages extending thinly across a radius of 2 to 3 mi (3.2 to 4.8 km), and with Blake's observation (1854:436) that the individual houses in a village were almost completely hidden in the dense mesquite thickets.
> (Swenson et al. 1980:12-13)

No Indian villages or rancherias were recorded in Section 28 of Township 5 South, Range 8 East on the 1856 GLO Plat Map, in part because it is more than a mile away from the Whitewater River where Indian settlement tended to be concentrated. On Henry Washington and John La Croze's southwest portion of the 1856 Plat Map, an Indian rancheria is recorded in Section 19 to the northwest of Section 28 about 0.25 miles east of the Whitewater River; and there is a well/spring mapped on the west side of the river in Section 30 to the west of Section 28 (see Figure 6). Such features are absent not only in Section 28, but also in the adjacent Sections 29, 32 and 33. By 1909, the rerecording of the same area by Lightfoot and Chubb shows the Southern Pacific Railroad west of the Whitewater River and the former Indian features are no longer present (see Figure 7). Blout and Pearson's 1911 Plat Map of the rest of Township 5 South, Range 8 East, also shows no Indian features, but does show some early settler's homes in Section 28 (see historical section below).

2.2.2 Regional and Local History

Here the focus is on the history of the City of Coachella and to a lesser extent that of the Coachella Valley. Research was conducted on May 26, 2006, at the Coachella Valley Museum and Cultural Center, with the assistance of archivist Kathy Papan, and at the Coachella Valley Water District, with the help of Communications and Legislative Director, Dennis Mahr. The Coachella Valley Water District's 1978 publication, *Coachella Valley's Golden Years*, compiled and written by Ole Nordland, was a particularly valuable resource.

Early History of the Coachella Valley: 1855-1900

The first important venture of Europeans into the Coachella Valley that would have lasting consequences was the actual mapping of the valley in the mid-1850s (see Figures 6-7). In 1862, human traffic became significant in the region because of gold discoveries at La Paz along the Colorado River in January of that year. That same year William D. Bradshaw built a road through the valley to the gold fields and operated a freight line (Mahr 1971). The town of Indian Wells

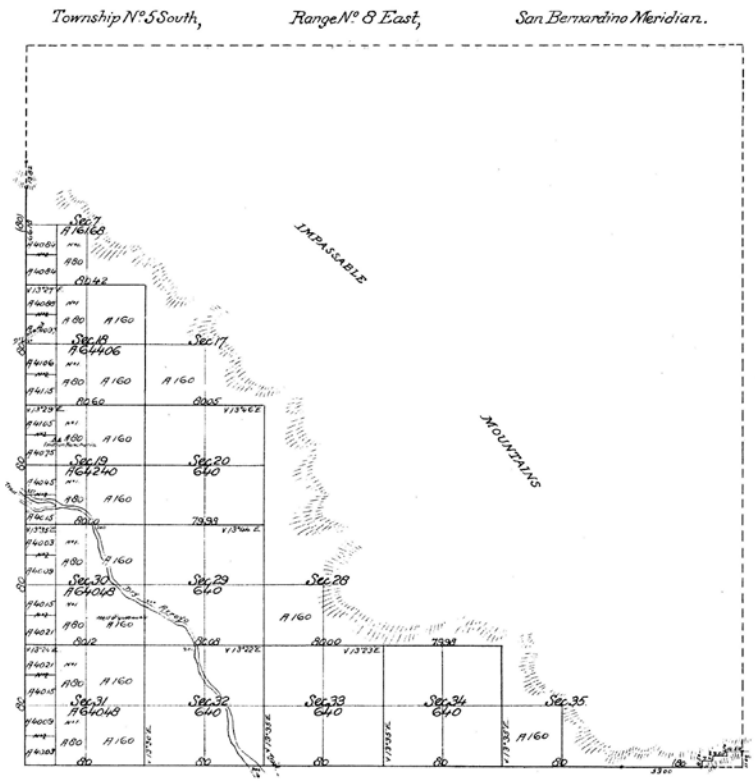

Figure 6: 1855-56 GLO Plat Map, Washington & La Croze, SW¼, Section 28

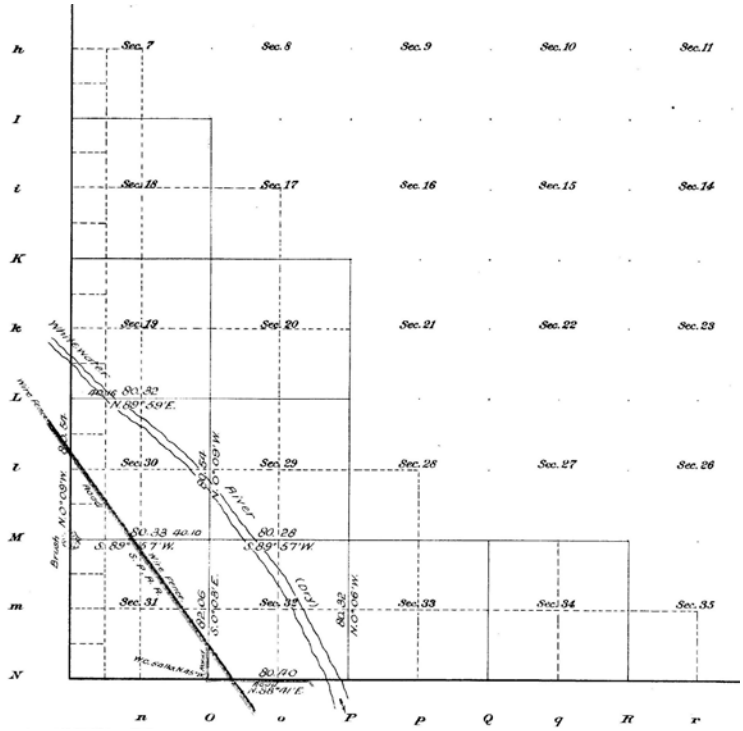

Figure 7: 1909 GLO Plat Map, Lightfoot & Chubb, SW¼ of Section 28

(later Indio) shows up on early maps of the region. However, the most significant development that led to settlement in the valley was the completion of the railroad from Los Angeles to Indio on May 29, 1876 (Nordland 1978:12), with a siding reaching Woodspur (later Coachella) in January of 1877 (Nordland 1978:14). The first commercial crop was shipped from Woodspur that same year and consisted of mesquite and greasewood harvested by local Indians that was sent to Los Angeles (Mahr 1971). The Southern Pacific Railroad (SPRR) line was completed to Tucson by 1880, El Paso by 1881, and New Orleans by 1883 and was known as the Sunset Route from Los Angeles to New Orleans (see Nordland 1978:103).

Well drilling by the SPRR at Indio, Woodspur, and Thermal in the 1880s produced small quantities of water, including an eight inch well drilled at Woodspur in 1880 (Mahr 1971). One of the first to homestead a farm in Coachella Valley was Patrick H. Gale in 1885 (Mahr 1971). Later SPRR attempts to find water hit an artesian well at Walters (later Mecca) in 1894 (Mahr 1971). This led to Mecca becoming the major commercial center of the Coachella Valley until around 1905, when it was eclipsed by Thermal and its growing ranches and homesteads. Thermal was a major center from 1905 to about 1912, when it was eclipsed by Coachella after the establishment of the First National Bank in that town in 1912 (*Coachella Valley Sun* 4/26/79). By the late 1920s, Indio would become the principal commercial center of the valley (*Desert Rancher* 2/69).

In 1896, Jack Holliday, a well driller from Norwalk, visited Woodspur and saw the low flow of the well there. He returned in 1898 with a rotary hydraulic well-drilling rig and put in a well near Vine and Third Streets within Grapefruit Boulevard along with a water tank (Laflin 1998:51)(see Photo 2).

Jason Rector and the Early History of the Town of Coachella: 1901-1946

Jason L. Rector was the first settler to build a home in Coachella. He was born in 1851 or 1853 in Iowa, and after going to private school, he worked for the postal service and later went into farming and real estate. In 1884, he came to San Diego where he was a butcher and then in the cattle business. Later, he took a position with the South Pacific Railroad Company and the A.N. Towne Estate to obtain and ship wood from the Coachella Valley area. He later established a mesquite wood terminal at the Woodspur railroad siding from where lumber was freighted to Los Angeles. He is also credited, along with his brother Lon B. Rector, with digging the first artesian well at the intersection of Grapefruit Avenue and Fifth Street in Coachella, which was 550 feet deep and took eight months to complete in November of 1900 [see Rector, Coachella Founder (2014:1-2) at http://www.coachella.org/about-us/history)].

He also was involved in the initial laying out of a townsite on his own land with the help of C. E. Mawby and other financial interests. He declined to have the

town named after him and is said to have proposed the name Conchillla (but see below). In 1902 he became president and manager of the Coachella Valley Produce Association which shipped fruit for the first time by rail from the valley. In 1904, he built the first pre-cooling plant and created the Coachella Valley Refrigerating Company (Rector, Coachella Founder 2014:2-3).

> In 1904, the A.N. Towne Estate, under the Coachella Land & Water Company, caused the town to be platted, later selling out to Mr. Rector, who in turn sold to Strong & Dickinson. He, along with others, having previously installed a water system over two miles of pipe and planted all the ornamental trees gracing the town, made it an attractive business opportunity. . . . he later acted as the town's unofficial mayor . . . . and died on September 24, 1919, in Los Angeles [where he had a second home]. (Rector, Coachella Founder 2014:3).

The mining of salt was the largest industry in the area prior to the flooding of the Salton Trough by the Salton Sea in 1905-1907. Around 1900, some mining also took place in the hills to the north and east, mainly pit mines in search of gold, silver, and copper. The miners lived primarily in Mecca, which was then called Walters (*Desert Rancher* 2/69).

The first school district in Coachella Valley was created in Indio in 1897 (Nordland 1978:114).

As noted earlier, a railroad siding was built to Woodspur in 1877 at the present-day location of Highway 111 (Grapefruit Blvd) and Avenue 50, and a major well was installed there in 1898 (see Photo 2). In 1901, the Coahilla Land and Water Company was formed for the development of the Woodspur townsite. It was managed by I. H. Faye and J. L. Rector, a surveyor who laid out the townsite (Laflin 1998:51). It is during this period that Woodspur became known as Coachella, a name later extended to the entire valley.

The origin of this name is still somewhat of a puzzle (see *Desert Rancher* 2/69; Patterson 1969; Laflin 1998:51; Nordland 1978:67-68). In the 1800s, the term Coahilla, derived from the Cahuilla Indians, was used to name desert and valley areas in the region. However, USGS maps based on surveys in 1897-98 (*San Jacinto* 30' quad published in 1901) and 1901 (*Indio* 30' quad published in 1904) show terms like Conchilla Desert and Conchilla Valley, which refers in Spanish to "small shells," reflecting the presence of these freshwater shells in the old prehistoric Lake Cahuilla lakebed. However, the 1904 map also shows the SPRR Woodspur stop as Coachella for the first time. While the SPRR has no record of why this change was made, the generally accepted story, related by pioneer George White, is that those associated with platting the townsite of Woodspur wanted to change the name, particular Mr. Faye. A meeting was held in the early summer of 1901 to decide what that name would be. It was attended by 17 settlers who had two different ideas. One group wanted to use the term

Conchilla and other Coahilla. They comprised by taking parts of both words: COA(huilla) + (Con)CHILLA = Coachella. The spelling change was to make it easy to pronounce and remember. This name means nothing, but this would not be the first time such a town name was created. For example, in Riverside County, the town of Wildomar is the result of conjoining the first names of the three founders William, Don, and Mary (de Barros 2005a). The name of Coachella was given to the new U.S. Post Office created on November 30, 1901, and George Huntington served as its first postmaster (Laflin 1998:52). The Post Office was housed in Huntington's General Store (see Photo 4). Coachella became the official name for the town and the valley on all government maps by 1909, when it was approved by the USGS Board on Geographic Names on January 6, 1909 (Nordland 1978:67-68; Patterson 1969; Laflin 1998).

There were apparently two general stores in the early history of Coachella. Dennis Mahr (1971) states it was George Huntington who opened a general store in Coachella in ca. 1901 and later sold it to John L. Smythe in 1908 (Mahr 1971) (see Photo 3). Laflin (1998:52) states that Mr. and Mrs. Charles McDonald arrived in Coachella in 1901 and also built a general store in 1902 with the help of Manny Young, his partner (Photo 3). Mrs. McDonald also organized the first Sunday school in her home in 1902 and her husband Charles built the Presbyterian Church in 1907 (Laflin 1998:52). Laflin (1998:53) notes that John and Lucy Smythe bought out a half interest in the Huntington Store ca. 1909. Mahr (1971) says he purchased the Huntington Store in 1908.

In 1902, the first school in Coachella was opened, a one-room school with eight students (see Photo 2). By 1904 it had 34 pupils and was soon at the present-day site of the Palm View School which was built in 1926 and modernized in 1953 (Mahr 1971; Nordland 1978:31). In that same year, the Coachella Valley Presbyterian Church was first chartered on November 30 and its first true church building was completed in 1907 (*Coachella Valley Sun* 8/26/63; Laflin 1998:52). The first high school, Coachella Valley High School, opened on January 11, 1919, with 32 students (*Coachella Valley Sun* 9/26/79).

The McDonalds also built the Date Palm Hotel which opened in 1905. According to Lyle Pearson, most of the hotel was built by a local Indian named "Handy Frank." It was later closed for a time but was reopened as the Coachella Hotel in 1957. This "Landmark Hotel" was finally torn down in 1975 (*Coachella Valley Sun* 1/21/1975). Again in 1905, human error led to the creation of the Salton Sea as the Colorado River began to flood into the Salton Trough. The flow was not halted until early 1907.

Early crops in the Coachella Valley focused on cantaloupes with some vegetables, mostly onions. The first ice plant for cooling cantaloupes was created in 1905. At that time, over 2000 acres were in cantaloupes. Later competition from the Imperial Valley and the arrival of the melon aphis led to a switch to other crops with time (Mahr 1971). The first dates were brought from Algeria in 1883,

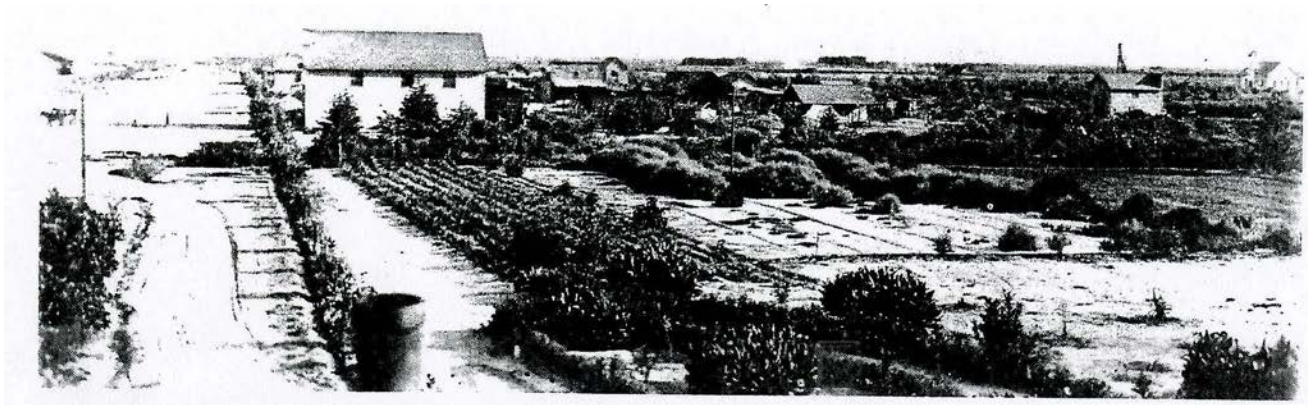

Photo 2: City of Coachella in 1903 looking South on Front St. on what is now Grapefruit Blvd (Highway 111). Note first Coachella School at far right and well in center of Grapefruit Blvd. drilled by the Southern Pacific Railroad in 1880 at what was then called Woodspur and later enlarged by Jack Holliday in 1898. [Source: A. L. Pearson Collection as shown in Nordland 1978:11]

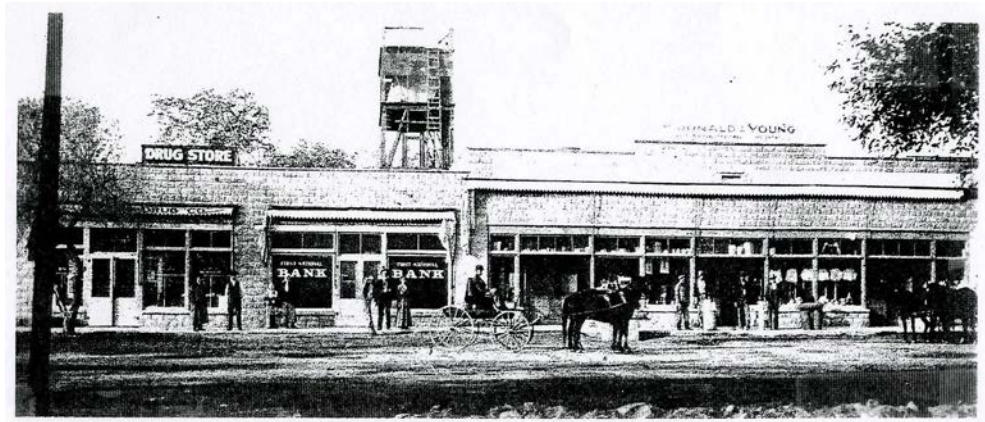

Photo 3: Front St. in 1913, fronting on the railroad, later named Cantaloupe, then renamed Grapefruit Blvd. in the 1970s. *From left to right*: Dr. English, later Schwartz, Drug Store; the new First National Bank; and the McDonald & Young general merchandize, hardware and implement store. The first offices of the Coachella Water District were to the right of the bank. [Source: A.L. Pearson Collection as shown in Nordland 1978:35]

but commercial production did not begin in the valley until 1906 and the volume was not significant until 1920 (*Desert Rancher* 2/69). An alternate source states that the first commercial planting of dates in the valley was by Bernard Johnson in Mecca in 1903 (Nordland 1978:51).

In early 1906, the Coachella Valley Home Telephone and Telegraph Company was created (Nordland 1978:69). The first office and switchboard was in Thermal, because it was midway between Indio and Mecca. The system initially linked Thermal, Coachella, Indio, Mecca, Flora del Valle, and the Martinez Indian Reservation (Nordland 1978:69). By 1912, toll calls could be made to other regions. The number of phones in service between 1906 and 1919 was between 100 and 120. Battery phones were completely replaced by dial phones in 1944 (Nordland 1978:69).

In 1912, the First National Bank was established in Coachella and is still there. Laflin (1998:53) says it was opened by Harry Westerfield from Banning (see Photo 3). However, Nordland (1978:28) says it was opened by his brother John M. Westerfield who had first opened a bank in Banning in 1901. His brother had come to Coachella to farm as early as July 1905.

In 1914, local power generators and two small local companies were replaced by electricity provided by the Southern Sierra Power Company which had lines built from San Bernardino to Redlands and then to the Coachella and the Imperial Valleys. The main distribution plant was in Coachella (Laflin 1998:53).

On March 7, 1914, at a Valley Road Meeting in Indio, it was decided to push for plans to divert water from the Whitewater River for irrigation (CVWD1993:2). On January 23, 1915, the Indio Levee District elected its first directors (CVWD 1993:2), and on May 14, of the same year, a valley-wide storm water district was created. Major flooding in January of 1916 provided further impetus to control floodwaters. Eleven miles of railroad were washed out; Coachella, Thermal and Mecca were under water; and miles of roads were damaged. The Whitewater River scoured a 50-ft deep channel into its former riverbed (Nordland 1978:20). On May 6, 1918, Dr. S.S.M. Jennings was elected as the first president of the newly formed Coachella Valley County Water District (CVWD 1993:5). Other major floods would occur in 1920 and 1927. One of the ultimate goals, aside from controlling floodwaters, was to build a Coachella Branch of the All American Canal. As discussed below, it would take 30 years to realize this project (Nordland 1978).

Photo 4: Huntington and Smythe General Store, Coachella's First Post Office. [A.L. Pearson Collection as shown on cover of Nordland (1978)]

Agricultural Production and the Push for the Coachella Canal

As noted above, early crops consisted of cantaloupes, grapes, other vegetables like onions, and later dates. In July 1917, 458 acres were in dates, 874 in alfalfa, 312 in grapes, and 3,908 acres in other crops for a total of 5,552 acres. Cotton did not appear until 1918 (Nordland 1978:46). As the water table sank, it became clear that irrigation water needed to be brought to the valley if it was to have a long-term future. Salt accumulation also became a problem. In 1927, alkali wells were sunk to depths of 11-32 ft to monitor this salt accumulation, but the declining water table soon led to their abandonment. The problem was ultimately resolved using two approaches: 1) the ponding of water on the ground surface which leached and dissolved the salt forcing it vertically downward; and, 2) the development of underground farm tile drainage systems seven feet below the surface. More than 2,100 miles of such drainage systems have been created on 35,000 acres of land. The discharge waters are drained into the Salton Sea (Nordland 1978:58-59).

The City of Coachella's 30-year struggle to bring water to the Coachella Valley is recounted in some detail by Nordland (1978:2-11; 71-99; see also Coachella Water District's Special 75th Anniversary Two-Year Edition Review, *Review 1991-1993, Coachella Water District or* CWVD 1993). The first decade of effort culminated in the signing of the Swing-Johnson Bill -- the Boulder Canyon Project Act -- by President Hoover on December 21, 1928. It authorized three major projects: 1) the Colorado River compact stipulating how water from the Colorado River would be shared; 2) the building of a dam at either Black or Boulder Canyon (future Boulder or Hoover Dam), and the construction of the All American Canal connecting Imperial and Coachella Valleys, including a Coachella Branch. One of the main problems was whether a contract for the Coachella Branch ought to be inclusive in the contract for the Imperial Valley. Dissent about this issue led to the Water District board members being ousted on October 28, 1932 (Nordland 1978:77). A contract to build the All American Canal was finally signed in 1934 and Improvement District No. 1, which included Palm Springs, Indio, Coachella, Thermal and Mecca, was created in 1936. The building of the Coachella Branch of the All American Canal began in 1938 and the first water deliveries to the Coachella Water District occurred in 1948 (Nordland 1978; CVWD 1993).

This led to immediate increases in agricultural acreage in the valley. In 1936 14,599 acres were under cultivation (Nordland 1978:46); by 1947, it had jumped to 27,075 acres, with nearly 3000 acres planted in 1946 and 1947. By 1951, 39,515 acres were in production and 61,378 in 1958. Irrigated acres jump from 17,959 in 1947 to 67,000 acres in 1977 (Nordland 1978:46).

The pattern of crops changed over the years. The small truck gardeners of the 1920s and 1930s were gone by the 1940s. Most of the tomatoes, peas, onions, and other table vegetables of the 1940s were later replaced by other crops due

to competition with Mexico. The acreage in dates held steady through the 1970s despite the removal of acreage for subdivisions. Citrus varieties increased in importance but cotton acreage began to decline. In 1977, 67,000 of irrigated acres using Colorado River water provided 50 varieties of crops with a gross value of more than $110,000,000. The most important crops were grapes (7,600 acres), grapefruit and other citrus (17,000 acres), carrots (6,000 acres), cotton (4,000 acres), and dates (3,600 acres)(see Nordland 1978:44).

City of Coachella: 1946 to the Present

Early attempts to incorporate the City failed in 1920 and 1928. On November 26, 1946, incorporation efforts were successful and became official on Friday, December 13. The City Manager form of government was adopted in 1965 (Mahr 1971). The first mayor was John Westerfield from 1946-1950. He was from Omaha Nebraska and was President of the First National Bank where the first city council meetings were held. In the 1950s and 1960s, rapid residential growth outpaced commercial and industrial growth which led to the creation of an industrial park that contained major produce packing and shipping houses, an engineering firm, construction companies and other light and medium industries (*Periscope* 10/84). In 1956, Coachella had a population of 3,000 people and many oil companies had located offices there (*Date Palm* 2/16/56). From 1956 to 1964, the town's mayor was Henry B. Briggs. Briggs accomplished many things for the Coachella Valley and the City of Coachella during his life. He helped bring in bracero labor amidst severe labor shortages during World War II; he organized the Coachella Valley Farmers Association in 1943; as mayor, he formed the first volunteer fire department, brought in the first street sweeper, pushed through mandatory garbage collection, and encouraged housing subdivisions. He also suggested the use of tamarisk trees as windbreaks for the railroad and highways as they had been used in agriculture.

Coachella Valley schools united in a Unified School District in 1973, including elementary and high schools in Mecca, Oasis, Thermal, and Coachella (Nordland 1978:103).

As of January 1, 2009, Coachella had a population of 41,000 people, 97% of whom are Hispanic (City of Coachella 2014). In 1993, 1992 farm production totals were published by the Coachella Valley Water District (CVWD 1993:20). They showed that a total of 67,657 acres of irrigated farmland (including double cropping) involved the following crops: fruit – 38, 947 acres with the most important ones being grapes (15,930), grapefruit (8,226), dates (5,735), orange and tangerines (4,748), and lemons and limes (2,966); vegetables (20,519 acres), with the most important being sweet corn (4,761), other vegetables (4,000), lettuce (2,871), carrots (1,549), broccoli (1,219), beans (1,035), bell peppers (981), potatoes (874), squash (690) and onions (648); forage (7,046 acres) with the most important being sudan (2,940), alfalfa (2,313), and irrigated

pasture (1,612); and, finally, acres devoted to nurseries (929 acres). Coachella Valley produces over 90% of the dates in the United States.

The Subject Property

The GLO Plat Map of 1856 surveyed by John La Croze covered only the SW¼ of Section 28 and no natural or cultural features are shown. The same is true for the Lightfoot and Chubb GLO Plat Map of 1909 (see Figures 6 and 7). In December 1911, Blout, Pearson and Race surveyed the rest of the township, including Section 28. Their survey shows a cabin and N. Brais' house along a slightly meandering dirt road that would become Tyler Street in the NW¼ of Section 28 and another house just a bit further south along the same dirt road within the SW¼ (Figure 8). No structures or other cultural features are shown in the E½ of Section 28.

The 1904 USGS *Indio* 30' quad, based on surveys in 1901, shows no natural or cultural features east of the Southern Pacific Railroad line (Figure 9). This area was apparently not yet mapped as there was probably no permanent settlement at that time. Later the area is shown as mapped on the 1941 and 1943 15' *Coachella* quad maps produced by the U.S. Army Corps of Engineers, but no natural or cultural features are shown in Section 28 other than Highway 60 whose approximate route will later be followed by Interstate 10 (Figure 10).

The 1956 7.5' *Indio* quad shows the improved road, Tyler Street, the dirt road Avenue 47, and a small portion of dirt road Avenue 48 just west of the subject property. The Coachella Canal completed in 1949 is also in place and traverses the northeast corner of Section 28. Within the project area, a small triangular reservoir is shown just south of Avenue 47 and two structures are along dirt roads extending southwards from Avenue 47. The 1972 photorevision of the 7.5' *Indio* quad shows a third structure along the south side of Avenue 47 and Interstate 10 is now in place.

Homestead patent records for Section 28 from the Bureau of Land Management General Land Office Records website are summarized below in Table 1, with those fully or partially overlapping with the subject property shown in bold:

Table 1: Land Patents from Section 28, Township 5 South, Range 8 East

Name	Patent Date	Legal Description	Acres
Minnie Belle Hazel & William E. Patterson	11/2/1932	**N½ of NW¼**	80
George W. Ingram	7/13/1911	**SW¼**	160
Harry C. Isbell	5/28/1917	**S½ of NW¼**	80
Joseph H. Ramsdale	7/5/1917	**SE¼**	160
Note: No patents for the NE¼ which is also outside the project area.			

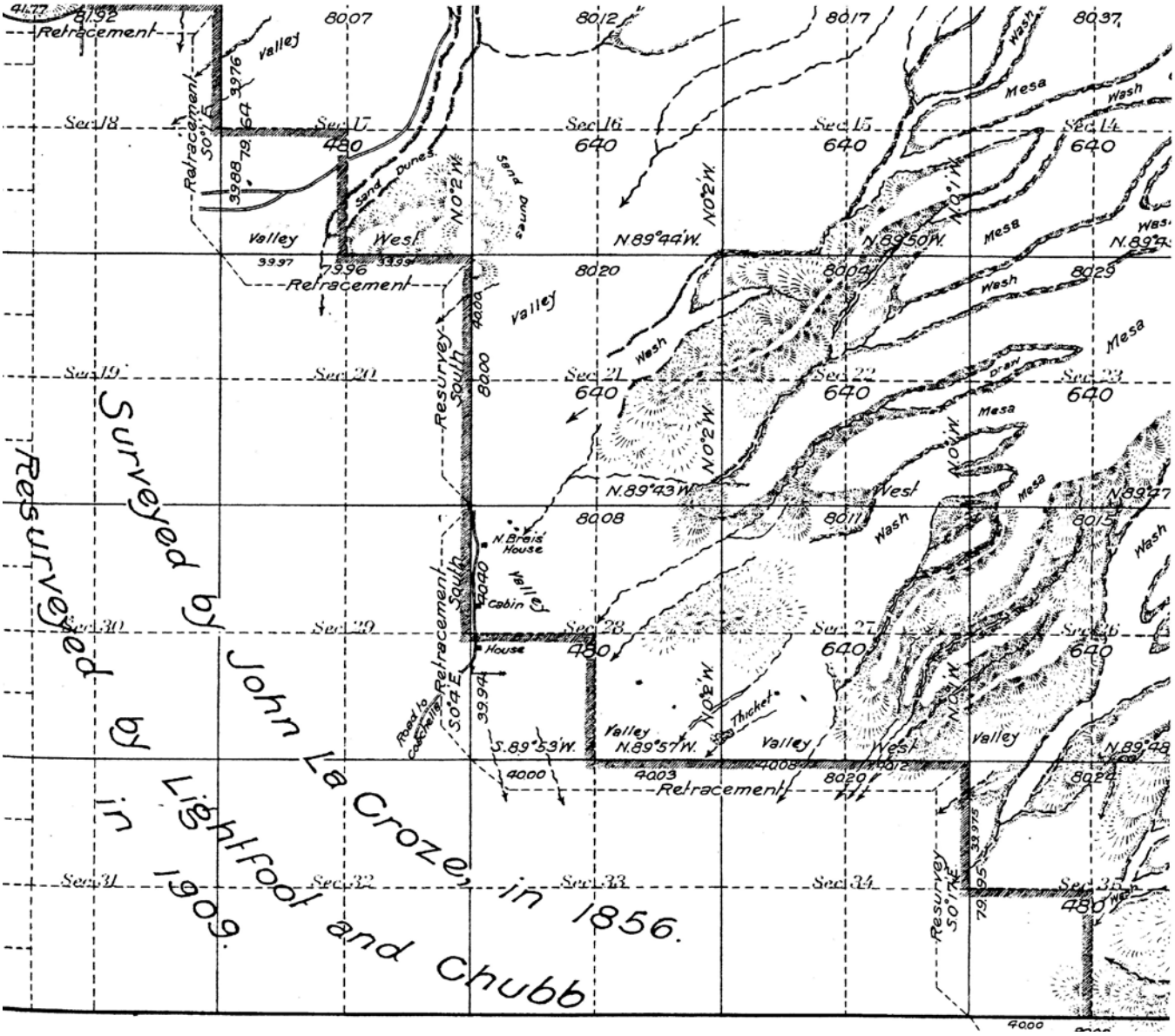

Figure 8: 1911 GLO Plat Map, Blout, Pearson & Race; Houses in W½ of Section 28

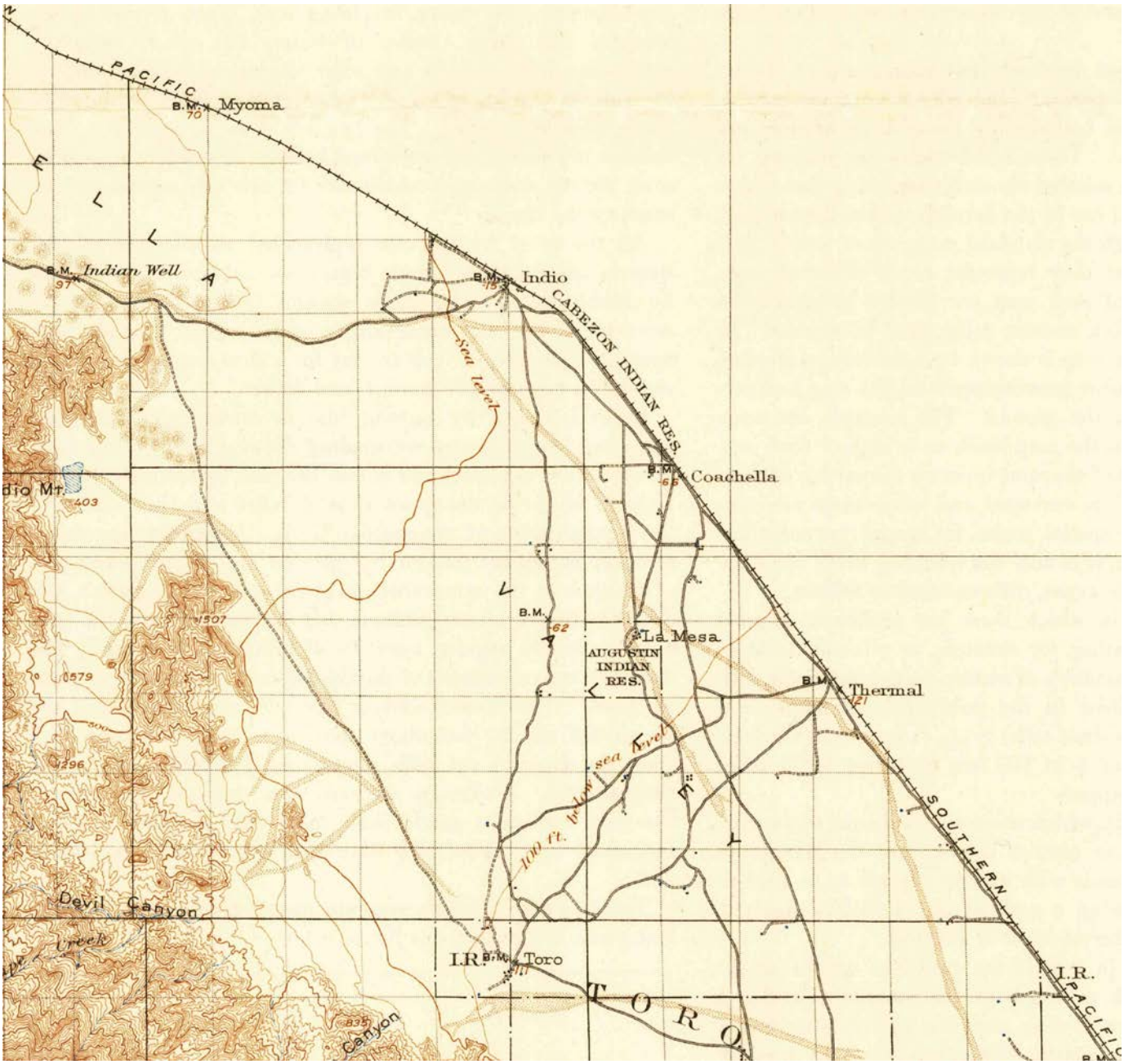

Figure 9: 1904 USGS 30' *Indio* Quad surveyed in 1901. East of the Southern Pacific RR was not mapped due to the lack of settlement and water.

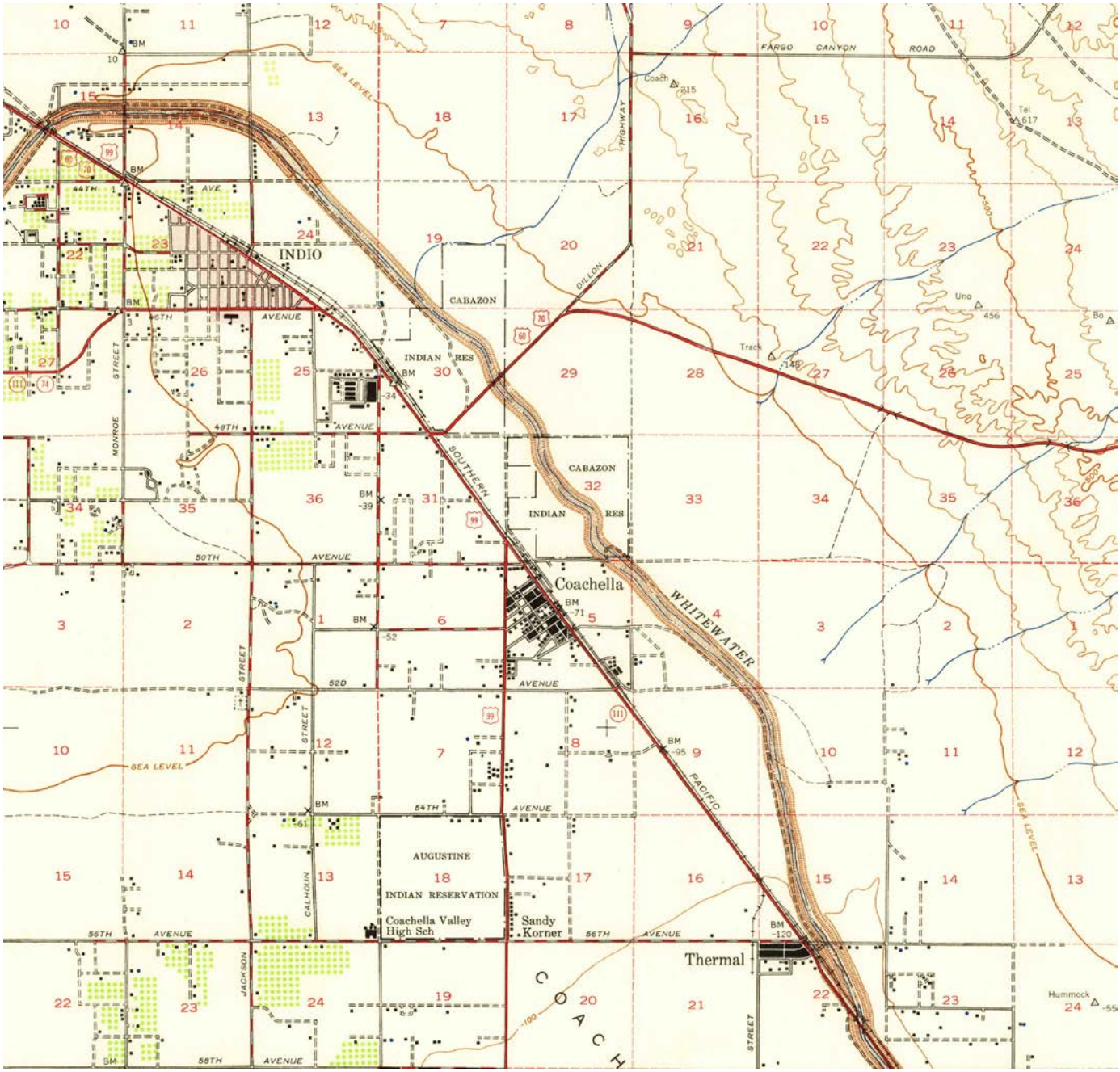

Figure 10: 1941 (and 1943) Army Corps of Engineers 15' *Coachella* Quad showing no Cultural Features in Section 28 (NE of Cabazon IR in Section 32).

All of these land patents date before World War II and any structures that might have been built to satisfy these patents apparently did not last as no structures are present on the 1941 and 1943 *Coachella* quads noted above. Section 28 and other areas east of Coachella and the Whitewater River do not begin to be seriously settled until after the construction of the Coachella Canal in 1948-49 and the completion of its underground water piping systems in the early 1950s.

The areas formerly patented by Hazel and Patterson and by Isbell are probably associated with the structures lying to the west of the project area in the NW¼ as shown on the 1956 (1972) 7.5' *Indio* quad. The structures west of the project area in the SW¼ are part of the original patent owned by George W. Ingram. Within the project area, there is one structure that was likely built between the late 1940s and 1956 in the SW¼, and a second one shown that was built between 1956 and 1972. Finally, there is a structure within the SE¼ on land formerly patented by Joseph H. Ramsdale that was also likely built between the late 1940s and 1956.

2.2.3 Previous Archaeological Research within Section 28

A 10-acre parcel in the project area was surveyed for possible improvements to water storage and water well facilities in the southwest corner of the project area in 2001 by Leslie Mouriquand Hudson. One isolated sherd was found south of what was later recorded as RIV-7835 but it was not recorded (Hudson 2001).

In 2004, a 450-acre survey was conducted by Goodman and Mouriquand (2004) that included a large portion of Section 29 to the west, about 80 acres of the northeast portion of the Cabazon Indian Reservation in Section 32 to the southwest, and a 30-acre parcel in the SW¼ of Section 28. No sites were found within the Cabazon Indian Reservation area and none were found within Section 28. In Section 29 to the west, a small sherd scatter (RIV-7449), a small mixed artifact scatter (RIV-7450), a very small artifact scatter consisting of two fire-altered rocks and eight sherds (RIV-7451), and a highly dispersed ceramic scatter with five sherds (RIV-7452), as well as an isolate consisting of two sherds, were recorded.

In 2005, the entire project area was surveyed by Dice and Messick (2005) and three prehistoric ceramic scatters were recorded and tested: RIV-7834, -7835 and -7836. These will be discussed in some detail later as they were part of the resurvey undertaken for this report. The authors also noted that they found two "historic structure remnants" that were "deemed too fragmentary and damaged to be granted cultural resource status" (Dice and Messick 2005:21). It is not known where these remnants were located but the three structures within the project area shown on the 1956 (1972) *Indio* quad were not investigated in this report.

Dice and Messick (2005) evaluated all three ceramic scatter sites using test excavations and they determined that RIV-7834 and RIV-7836 were not

significant under Section 106 of the National Historic Preservation Act or under the California Environmental Quality Act (CEQA). RIV-7835 was determined to be not significant under Section 106 but was considered significant under the uniqueness criterion of the CEQA guidelines. These evaluations will be revisited later in this report.

2.2.4 Lowland Patayan Ceramic Chronology

Waters (1982) developed a Lowland Patayan ceramic chronology which is often used when analyzing the ceramics in the Coachella Valley and vicinity. The discussion below is derived from Waters (1982), Schaefer (1994a&b), Love and Dahdul (2002), Hildebrand (2003), and Dice and Messick (2005:11-12).

The Patayan Period begins at about 500 A.D. (1500 BP). What is sometimes referred to as the Coachella Valley Patayan is seen as an intrusion of Lower Colorado peoples to the prehistoric Lake Cahuilla (Lake Le Conte) shorelines that preceded or are precursors of the modern Cahuilla. This represents the introduction of both pottery and cremations into the area. The Lowland Patayan ceramic chronology is divided into three phases that may correspond with different infillings of Lake Cahuilla and associated changes in pottery types or varieties. Although the Coachella Valley was a major trade thoroughfare between the coast and the Colorado River and Arizona Deserts, little is known about the interaction between the Cahuilla and Coachella Valley Patayan groups (Waters 1982; Dice and Messick 2005:11).

The Patayan Period is also equivalent to the Late Prehistoric Period as discussed by Schaefer (1994b:29). Schaefer emphasizes that the Patayan cultural system is characterized by “cremations in ceramic vessels and numerous trail systems”; these trails may relate to resource procurement travel, trading and warfare and that shrines and pot drops are often along these trails (Schaefer 1994b:30; see Love and Dahdul 2002:72).

Whereas Waters (1982) described Patayan I as dating to AD 750-1050, Schaefer (1994a) uses dates from ca. AD 800 to 1050. During this time small mobile bands using ceramics settled along the Lower Colorado River using a tool kit similar to that of the Hohokam (Schaefer 1994b:30; see also Love and Dahdul 2002:72). Patayan II from ca. AD 1050 to 1500 is concurrent with a major infilling of Lake Cahuilla with new ceramic types appearing made by the local inhabitants. Populations move away from the floodplain (now filled) to the east and west into the desert (Schaefer 1994b:30; Love and Dahdul 2002:72-73). The gradual desiccation of Lake Cahuilla about 500 years ago is associated with Patayan III (AD 1500 to historic times); however, recent data indicate later, at least partial infillings in the 17th century (AD 1650-1680) [see Laylander 2006; Brock et al. 1999; and Schaefer 1994a] and the introduction of Colorado Buff ware types (Schaefer 1994b:30-32; Love and Dahdul 2002:72-73; see also Schaefer 1994a:72).

SECTION 3 - SURVEY RESEARCH DESIGN AND METHODS

3.1 BASIC RESEARCH DESIGN FOR INVENTORY STUDIES

Research designs for inventory studies of properties which contain potential archaeological sites and/or historic structures consist of the following basic elements:

1) Conduct and analyze the results of the records search to:
   a) determine whether the property has been previously surveyed, and whether any previously recorded sites exist on or adjacent to the subject property
   b) help predict what kinds of resources may exist in the area, such predictions assisting the direction of both the field survey and future archival research
   c) help determine whether existing structures may be more than 45 years old
2) Conduct a pedestrian field survey to:
   a) check for the presence of archaeological sites
   b) examine and assess the architectural significance of any structures
   c) examine results of, or observe, geotechnical trenching and boring if available
3) Conduct additional archival research if historic structures are present to:
   a) provide an historical context for the evaluation of the historic structures
   b) ascertain when the structures were built or moved onto the property
   c) ascertain whether the structures are associated with a significant person(s) or events
4) Record all sites on standard DPR site forms
5) Present findings and recommendation

3.2 FIELD METHODS AND BRIEF SUMMARY OF RESULTS

A records search was conducted by Dr. Philip de Barros on March 26, 2014, at the EIC. The 277-acre parcel was surveyed on March 28-30, 2014. A crew of five archaeologists spaced 10-15 m apart executed north-south or east-west transects over the property, the orientation depending upon the terrain and crop alignments. There was considerably more visibility in 2014 compared to 2005, as the date palms and citrus orchards described by Dice and Messick (2005:21) were gone. The remaining areas where visibility was difficult include an area of dense brush north of Avenue 47 on the western edge of the property and portions of the SW¼ of Section 28 where stands of saltbush often made visibility difficult. Elsewhere, ground visibility ranged from very good to excellent because the land has recently been farmed. Very few rock outcrops were observed on the property and none had bedrock milling features. Nonetheless, resources could have been missed and it is recommended that construction monitoring be required for the project area.

No new prehistoric sites were encountered but considerable time was spent relocating and remapping RIV-7834, -7835, and -7836. The first two sites were relocated and surface sherd scatters were mapped with differentially corrected GPS to ascertain to what extent the sites were still present. Each sherd or small cluster of sherds was mapped. Despite considerable effort, the small ceramic scatter, RIV-7836, was not relocated. As discussed elsewhere, this appears to have been due to the 2005 collection of most of the surface sherds, the recent disturbance of some of the surface vegetation, and the relatively dense saltbush vegetation in the site area.

In addition, a set of water control features along the south side of Avenue 47 were recorded as was a cement foundation and associated features linked to a former residence built prior to 1956 as shown on the 1956 *Indio* quad in the SW¼ of Section 28. The other structure built prior to 1956 was not relocated; the same was true for a third structure built between 1956 and 1972, in the SE¼ and SW¼ of Section 28, respectively.

SECTION 4 – RESULTS

4.1 RECORDS SEARCH RESULTS

The records search conducted by Dice and Messick (2005) was done nearly nine years ago and they only considered sites within a quarter-mile radius of the subject property. The records search was updated at the EIC on March 26, 2014. It includes all sites and surveys within a mile radius of the subject property.

The updated records search produced 17 cultural resources studies (Table 2), and revealed that 32 cultural resources have been recorded (Table 3). These include the Coachella Canal, five habitation sites, two with extensive prehistoric and historic artifacts and one with two cremations; a bedrock milling site with a lithic scatter; a small cremation site with Desert Side-notched, Cottonwood and quartz points; five ceramic and lithic scatters, including one with fish bones, daub and fire-altered rock (FAR), one with FAR and flaked and groundstone tools, another with a hearth, and a small one with a historic beer bottle shard; a flaked stone and groundstone scatter with hearths; a small ceramic scatter with FAR; two pot drops; four ceramic scatters, and nine ceramic isolates and one lithic isolate. Dice and Messick (2005) was later obtained by the EIC from Michael Brandman Associates (MBA) and a copy was then studied for this report.

Table 2: Cultural Resources Reports within One Mile of the Project Area

Author Company/Agency	Report Title	Year and NADB No.
J. & S. von Werlhof IVCM (Imperial Valley College Museum)	A Cultural Impact Survey Phase I for Department of Transportation District II, II-Riv.-86, Thermal to Dillon Road, P.M. 16.4-22.6, 11201-094111	1974 1082312
Caltrans	Report of an Archaeological Survey for the Proposed 86 Expressway in Riverside County, 11-RIV-86, P.M. 2.9-22.0, 11208-179800	1985 1082315
J. Underwood et al. Dames & Moore	Preliminary Cultural Resources Survey Report for the US Telecom Fiber Optic Cable Project from San Timoteo Canyon, California to Socorro, Texas	1986 1082640
Caltrans	Phase II Archaeological Test Excavation Report on Ten Prehistoric Sits Located Within the Proposed Riverside 86 Expressway Project's Study Corridor, CA-RIV-2978 thru -2987, 11-RIV-86, P.M. 2.9-22.0, 11208-179800 (REVISED)	1987 1082313
Broeker and Duffield	Memo: I-10/Coachella Canal Land Exchange, NE ¼ of Section 28, T5S, R83.	1990 1083333
D. Van Horn et al.	Cultural Resources Sensitivity Overview for the Coachella Valley Enterprise Zone. For Riverside County Economic Development Agency, Indio, and Cotton/Beland/Associates, Pasadena, CA	1991 1083836
Macko Archaeological Consulting	Archaeological Resource Assessment of the Proposed Indian Village Residential Development, Cabazon Indian Reservation, Riverside County, California	1991 1080171
D. Dominici, Caltrans	Phase II Archaeological Test Excavation Report on CA-RIV-4132 Located Within the Proposed Riverside 86 Expressway Project's Study Corridor, 11-RIV-86, P.M. 2.9-22.0, 11208-179800	1991 1084138
Dominici and Crafts	Caltrans Negative Archaeological Survey Report, 7th Addendum, 11-Riverside-86, P.M. 2.98-22.0, 11208-179800	1992 1084291

Author Company/Agency	Report Title	Year and NADB No.
Napton & Greathouse Cal State Stanislaus Inst. for Arch. Research	Cultural Resources Investigations of the Proposed Indio to Salton Lightguide System Project, 46.2 Miles in Riverside and Imperial Counties, California	1994 1084541
L. Mouriquand Hudson City of Coachella Community Development Department	Focused Phase I Cultural Resource Investigation for Capital Improvement Project Nos. 502, 503 and 504 for Water Storage and Water Well Facilities within the City of Coachella, in the Vicinity of Avenue 48 and Tyler Street.	2001 1085826
Tang et al. CRM TECH	Historical/Archaeological Resources Survey Report, APNs 603-350-06 & -08 & 603-370-01, City of Coachella, Riverside Co. Submitted to Ron Fisher, World Development, Palm Desert, CA	2004 1087800
Hogan et al. CRM TECH	Historical/Archaeological Resources Survey Report, APNs 603-102-018, -019, & 027, City of Coachella, Riverside Co. Submitted to Web Barton, Schumacher Interests, Woodside, CA.	2004 1087668
W & S Consultants	Phase I Archaeological Survey for Vineyards. For Mark Austin, Impacts Sciences, Camarillo, CA.	2004 108 N/A
Goodman & Mouriquand The Keith Companies	Phase I Cultural Resources Investigation for the 450-Acre Shadow View Country Club Project, City of Coachella, Riverside County, California. For Stamko Development, La Quinta, CA.	2004 1086487
Dice & Messick, MBA	Cultural Resource Survey and Phase 2 Testing at the 280-Acre Bozick Project (APNs), City of Coachella, California	2005 NA
Tang & Hogan CRM TECH	Historical/Archaeological Resources Survey, Desert Lakes Specific Plan/EIR, City of Coachella, Riverside County, CA. For Louie Lopez, Lennar Homes of California, Palm Desert, CA.	2006 1087905
Gust et al. Cogstone Resource Management	Cultural Resources Assessment Report for APN 603-330-07 Event Center, City of Coachella, CA. For Job Lopez, Indio, CA.	2006 1088124

Table 3: Previously Recorded Sites within One Mile of the Project Area

Site No. RIV-	Site Description	Year Recorded
135	Lithic scatter with manos and hearths	1951/1998
2983	Ceramic and lithic scatter	1984/1990
2984	Habitation site; drilled sherds, 2 cremations, lithic and ceramic scatter, pot, bone, multiple can types, SCA glass, charcoal, mano, drilled shell	1984/1990
2985	Habitation area; lithic and ceramic scatter; pumice smoother, red rock pavement, bird gone, shell bead	1984/1990
4126	Habitation site, Buffware and brownware ceramics, lithics, quartz biface, core, quartz and andesite flakes, historic blue glass	1991
4127	Small cremation site; flakes made of diverse materials; Desert Side-notched jasper point; 3 Cottonwood points; 2 quartz points	1991/2005
4129	Large lithic & ceramic scatter; schist cutting tool, core, fire-altered rock, bones; wide range of historic artifacts including SCA glass; corral features; European transferware and Chinese stoneware	1991/2005
4130	Ceramic and lithic s with fish bones, daub, fire-altered rock,	1991/2005
4131	Lithic and ceramic scatter; groundstone; Desert Side-notched point, fire-altered rock; historic cans, glass of diverse colors, European transferware, medicine bottles, beer bottles, jars, faunal refuse	1991/2005
4132	Low density lithic and ceramic scatter with Colorado and Salton Buff; scraper, core, fire-altered rock, metate fragment	1991
5389	Pot drop	1998
7449	small ceramic scatter with four brownware sherds	2002
7450	small mixed artifact scatter with a brownware sherd, an expedient milky-quartz cutting tool and a brown beer bottle base shard	2002
7451	Very small artifact scatter with two piece of fire-altered rock and 6 light brown sherds and w pinkish orange body sherds.	2002

Site No. RIV-	Site Description	Year Recorded
7452	Highly dispersed ceramic scatter with five sherds, three brownware and two with a bright orange exterior and gray interior	2002
7834	ceramic scatter, 0-20 cm	2005
7835	Ceramic scatter with subsurface lithic and ceramic deposit; hearth	2005
7836	ceramic scatter, 0-20 cm	2005
Primary No. P-33-	**Site Description**	**Year Recorded**
5705	Coachella Canal	1982/2011
8389	Pot drop	1998
11008	Lithic scatter; 4 bedrock milling features; 2 obsidian flakes	2009
12663	Quartz core; quartz flake	1984
12664	2 sherds (Colorado Red buff; Colorado buff)	1984
12665	Colorado Buffware sherd	1984
12666	2 sherds (Colorado Red buff; Colorado buff)	1984
12667	2 Colorado Buffware sherds	1984
12818	Tizon Brownware sherd	1986
13403	2 sherds (RIV-2987?)	2002
14408	Brownware bowl sherd	2005
14409	3 Brownware bowl sherds and a buffware spall	2005
15302	One Brownware sherd	2004

Most of the major cultural resources have been recorded along or near the Whitewater River to the west of the project area, including within the Cabazon Indian Reservation. Historic maps were also consulted and the results have been summarized in Section 2.2.2 above.

The records search did not reveal the presence of any National Register or California Register eligible or listed sites or any California Points of Historical Interest on the subject property. It also did not reveal any significant historic structures.

4.2 RESURVEY FINDINGS

This section discusses the three ceramic scatters, RIV-7834, -7835, and -7836 recorded and tested by Dice and Messick (2005) as well as the recordation of a series of water control features along the south side of Avenue 47 (RIV-11775) and a house foundation south of Avenue 47 (RIV-11776) as recorded in 2014. Please note that the test excavations summarized below at RIV-7834, -7835, and -7836 are all based on the use of1 x 1 m test units and deposits were screened through 1/8" wire-mesh (see Dice and Messick 2005).

4.2.1 RIV-7834: Probable Seasonal Plant Resources Procurement Site

The data available in the 2005 site form and the Dice and Messick (2005) test report are not consistent. The site form has been updated to sort out these inconsistencies, using the 2014 field mapping data as well as the Unit Level Records in Dice and Messick (2005:Appendix C). The new site form is available in the Confidential Site Records Appendix to this report. The description

provided below is taken from the updated site form. The original 2005 survey was conducted in late February and the testing from May 18-24, 2005.

Site Description

RIV-7834 consists of four ceramic scatter loci, Loci A-D (see Figure 11). Dice and Messick (2005) only recorded and tested Locus D. In 2005, 15 sherds were noted on the surface of Locus D (nine were collected), and the Phase II test excavations recovered 11 additional sherds. No other artifact types were noted. Most of the Locus D surface sherds were apparently collected as only two sherds could be relocated in 2014.

The site is located just south of a creosote-covered sand dune 5-7 m in height in a formerly creosote scrub, sandy landscape that has been disturbed by its former use for vineyards and other crops between 1953 and 1984. The entire site (Loci A-D) measures 240 m (NS) by 68 m (EW) and is between -45 and -30 feet below sea level in elevation, placing it within the lakebed of prehistoric Lake Cahuilla which generally filled to about 40 feet (12 m) above sea level. The site is about two km northeast of the Whitewater River.

The four ceramic loci at RIV-7834 are described below (see Figure 11):

Locus A measures 68 x 21 m and includes 20 surface pottery sherds. Most are clustered in the northwestern end of the locus, including one cluster of three sherds and another cluster of 11 sherds that may represent a pot drop.

Locus B measures 84 x 20 m; it is a highly dispersed scatter of six sherds.

Locus C measures 45 x 13 m; it is a scatter of seven sherds in two clusters: one of five sherds (including a tight group of three sherds) to the northeast and a second group of two sherds to the southwest.

Locus D as recorded in 2005 measured 55 x 40 cm. It was originally mapped showing 15 surface sherds in two loci to the northwest and south. A total of 13 surface sherds were collected, including four during testing; testing also recovered seven subsurface sherds, mostly from Units 1 and 4, both in the northwest cluster of the locus. All test units were excavated to at least 40 cm in 20 cm levels. All artifacts (sherds) were recovered in the 0-20 cm level (see Dice and Messick 2005:23). The test excavations revealed agricultural disturbance to a depth of 20-30 cm. Test Unit 9 was excavated to 120 cm to help understand the broader stratigraphic context of the site. In general, the 20-40 cm level was composed of fine sand with shell fragments, but no laminated sediments or laminated shell deposits were noted in any unit. In the 80-100 cm level of Test Unit 9, shell lenses were noted and a charcoal sample was collected (Dice and Messick 2005:23-24 and Appendix C Unit Level Records), but no sherds were noted at this depth.

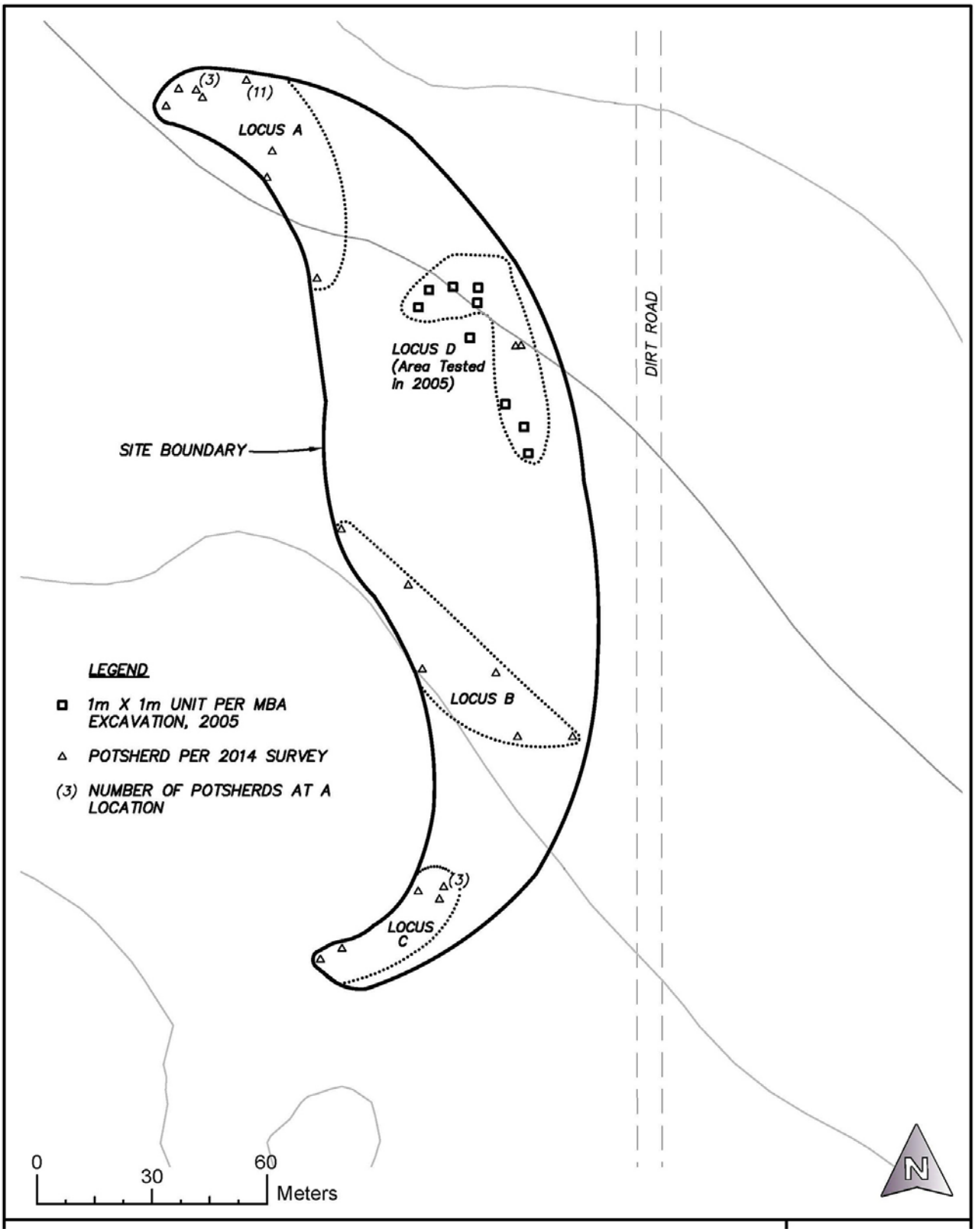

Figure 11: Revised Site Map of RIV-7834 based on 2014 Resurvey

Using Waters' (1982) Lowland Patayan Ceramic Chronology, Dice and Messick (2005:23-24) identified the 20 sherds as mostly Salton Buff (9) and Salton Brown (8) with one sherd of Colorado Beige and two unidentified as to type. [The original site form described almost all of the sherds as Tizon Brownware.] Aside from one charcoal sample from Test Unit 9, only ceramics were recovered from RIV-7834.

The site area formerly consisted of Sonoran creosote bush scrub and some saltbush scrub. The area was impacted by vineyards between 1953 and 1984, and vineyards are present directly east of the site today. However, much of the natural vegetation has returned but with a relatively lower density. Soils consist of fine sandy loam and fine sands with pebbles and an occasional cobble. The 2005 site form's Archaeological Site Record states:

> A large creosote ring lies adjacent to the northern margin of the site. This ring is very old, but the creosote has mostly died off compared to a 1953 aerial, possibly due to dropping water table. The creosote ring must date to a time after Lake Cahuilla dried up.

This creosote ring is partially associated with a large sand dune 5-7 m in height just north of the site boundary. This may be a beach dune associated with a former stabilized shoreline of Lake Cahuilla (see Figure 2).

Site Interpretation

Given the paucity of sherds recovered (20), the site was interpreted as a ceramic scatter, perhaps due to a pot drop, and no intact buried features were encountered (Dice and Messick 2005:24). However, given that multiple pottery types were identified in the report, the sherds would have to represent multiple pot drops, perhaps produced as the result of multiple site visits over a period of years to procure plant resources.

Site Significance Evaluation by Dice and Messick (2005)

After ruling out significance under Criteria A-C, the authors determined that RIV-7834 is not a significant resource under Criterion D of Section 106 of the NHPA or under Criterion D of CEQA (Dice and Messick 2005:24-27). However, only Locus D was evaluated. Additional testing may be necessary, especially at Locus A with its 20 sherds, some in clusters. Locus D produced sherds only in the 0-20 cm levels and the low surface sherd densities at Loci B and C are not very promising.

4.2.2 RIV-7835: Probable Seasonal Camp Site

The data available in the 2005 site form and the Dice and Messick (2005) test report are not consistent. The site form has been updated to sort out these inconsistencies, using the 2014 field mapping data as well as the Unit Level

Records in Dice and Messick (2005:Appendix C). The new site form is available in the Confidential Site Records Appendix to this report. The description provided below is taken from the updated site form. The 2005 survey was conducted in late February and the testing from May 25 through June 7, 2005.

Originally recorded and tested in 2005, this surface ceramic scatter may represent a seasonally occupied camp site along an old shoreline. It measures 50 m (NS) by 34 m (EW) and is situated at an elevation of -53 feet in an area of saltbush scrub. It is about 1.65 km northeast of the Whitewater River.

Surface artifacts included up to 47 sherds of which 32 were collected and classified. They include 29 Salton Buff (24 body sherds, 4 direct rim sherds, and 1 recurved rim sherd), along with one Salton Brown, one Colorado Beige, and one unidentified rim sherd. Other surface artifacts include a hammer/chopper and a brown bottle glass shard (Dice & Messick 2005:27-29). [The site form originally identified all sherds as Tizon Brownware.] The 2014 resurvey found 19 surface sherds including two that extend site boundaries to the south (Figure 12).

A total of 18 test units were excavated to at least 40 cm in 20 cm levels, and they went deeper if artifacts continued to be found (Dice and Messick 2005:29). The Unit Level Records in Appendix C of Dice and Messick (2005) show that excavation ceased at 40 cm in Test Units 2, 6, 9-11, 14-16, and 18; at 60 cm in Units 1, 7-8 and 17; at 80 cm in Units 5 and 12-13; and, finally at 100 and 120 cm, respectively, for Units 3 and 4. Sherds were found primarily in the upper 40-60 cm with some between 60-80 cm and 100-120 cm in Unit 4. All of the other artifacts were found in the upper 40-60 cm. Deep charcoal staining suggestive of a hearth clean-out was encountered in the 60-80 cm level of Test Unit 4 and charcoal bits were encountered in the 40-60 cm level in both Units 4 and 5.

The 2005 site form indicates that the upper 20-30 cm of the site have been disturbed by previous agricultural activities between 1953 and 1984 and that creosote scrub may have once been present as well in the site area. It also notes that “soil horizons suggesting [sic] of lake bed sediments, linear charcoal staining, a possible chunk of adobe resting on the lakebed sediments were detected.” This issue is not discussed in the test report, but unedited soil profile sketches and the Unit Level Records suggest possible laminated lakebed sediments below the hearth cleanout in Unit 4, but not in association with the adobe chunk in Unit 17. However, charcoal bits, three fish vertebrae, and a piece of fire-altered rock were noted at about the same 30-cm level with the possible adobe fragment.

Based on Water’s (1982) Lowland Patayan ceramic chronology, the 2005 test excavations recovered 116 subsurface sherds, including 103 Salton Buff (97 body sherds, 5 direct rim sherds, and 1 recurved rim sherd), nine Salton Brown, three Colorado Beige, and one unidentified rim. In addition, a total of 74 “other items” are noted in Table 4 of Dice and Messick (2005:29-30), but descriptive details are only presented in a brief table in the 2005 site form.

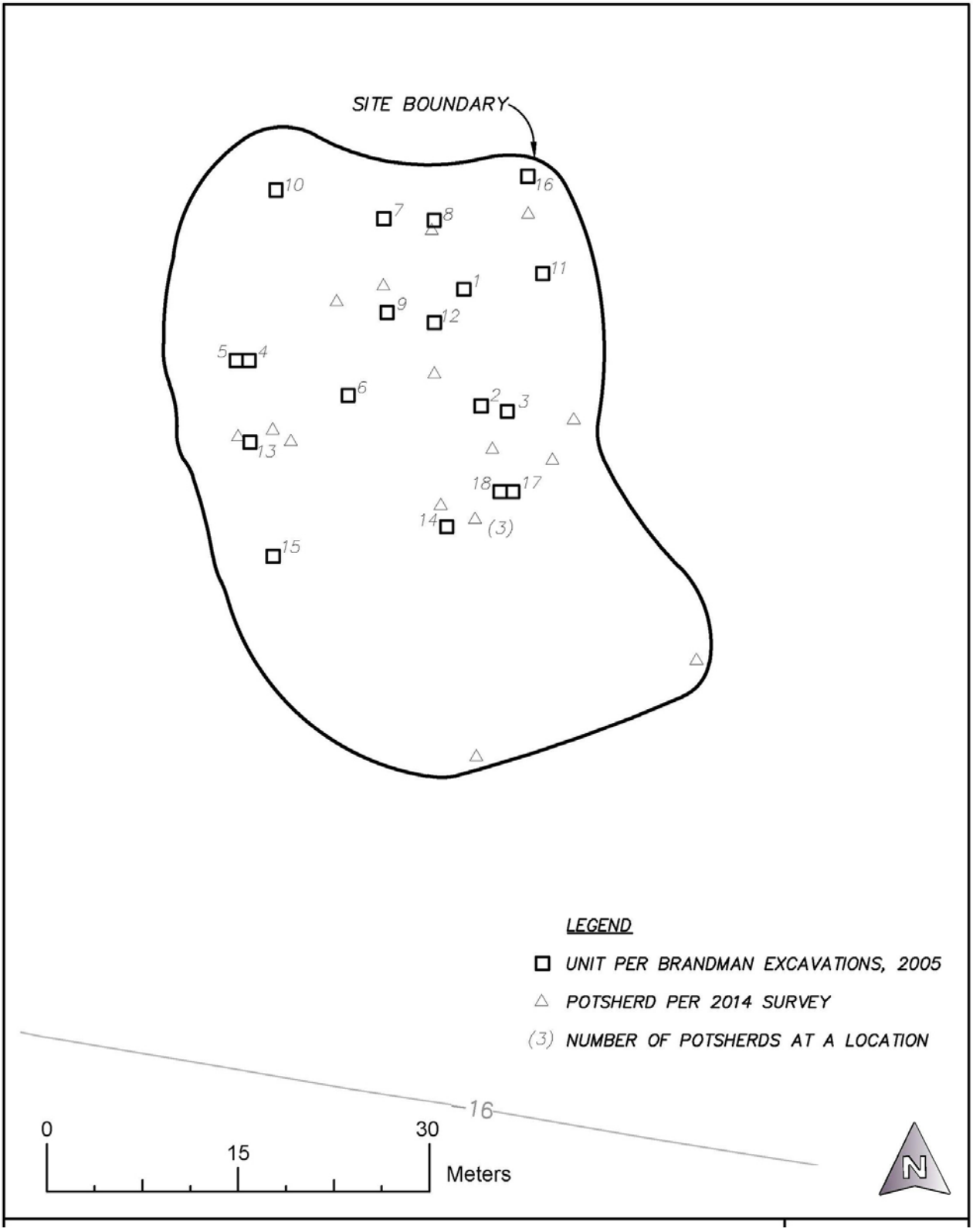

Figure 12: Revised Site Map of RIV-7835 based on 2014 Resurvey

Excluding ceramics, the following items are listed on the site form: 17 “stone flakes”, three fire-altered rock, two groundstone fragments, four bottle glass fragments, 33 [sic] non-human bone, nine charcoal samples, four chunks of volcanic tuff, a possible adobe brick fragment, a porcelain fragment, and four shards of bottle glass. However, the Unit Level Records in Appendix C of Dice and Messick (2005) suggest these identifications may be partially incorrect. Many of the “17 stone flakes” are actually listed as “quartz fragments” or “schist flakes.” There do appear to be at least seven flakes (two possibly utilized) made of quartz, chert or jasper, quartzite and basalt. In addition, a possible quartz crystal was recovered from the 20-40 cm level of Unit 17. Two or three pieces of fire altered rock and one or two possible groundstone tools may also be present. These include a “fragment of quartzite mano?” from the surface of Test Unit 2 and “a piece of granite” from Test Unit 4. Several items identified as “schist flakes” or “schist fragments” within several units could be from groundstone tool sharpening, but this is speculative. Three tufa fragments are noted from the 20-40 cm level of Unit 6 and a possible fourth from the 0-20 cm level of Unit 12. Aside from the three fish vertebrae found in Unit 17, only 3-4 other possible bone fragments were recovered, suggesting the “33 non-human bone” is a typo. In any event, the absence of a catalog in the test report makes it very difficult to be certain of what was actually found. On the site form, the artifacts are listed as being at the MBA office in Irvine, but there is no mention of the curation of artifacts from the test excavations in the test report.

Site Interpretation

The presence of surface and subsurface sherds and other artifact types in the deposit, along with possible features in Units 4 and 17, suggest the presence of a buried site that was once situated along a recession shoreline prior to the last one. As discussed above, the last one appears to have been in the 17th century though it is not clear if it attained the 12 m mark as previous infillings did. It could also be from an earlier infilling during the last 1700 or so years. The surface sherds could be a later use of the site but agricultural disturbance may have brought up sherds from deeper deposits.

During a discussion of Water’s (1982) chronology of Lowland Patayan ceramics, Dice and Messick (2005: 22) note that Patayan I ceramics in the Lower Colorado region date to the period between A.D. 750-1050 and that this period is characterized by direct rims. Given that 11of 13 rims (mostly Salton Buff) were direct rims at RIV-7835 they suggest the buried portion of the site may date to this early period.

Site Significance Evaluation by Dice and Messick (2005)

After ruling out Criteria A-C, Dice and Messick (2005:30-32) found that the site is not a significant historical resource using Criterion D under Section 106 or CEQA, but did find it to be significant under CEQA’s uniqueness criterion, presumably

because of the dominance of direct rims which Waters (1982) indicates represent the Patayan I Period (AD 750-1050). Inexplicably, however, this reason is not provided in the evaluation section of the test report (Dice and Messick 2005:30-32), but it is stated on the Primary Record of the 2005 site form. In fact, after stating that site integrity was poor due to agricultural impacts, despite the fact these impacts are said to have only affected the upper 20-30 cm and that artifacts and features were found as deep as 80 cm, their CEQA evaluation states:

> Testing showed that the site does exhibit the potential for subsurface features of local significance, which would suggest the site is eligible under Criterion D. Although it is predicted that preservation of the site will likely be poor, the limited number of sites like this one in the area [presumably because of its purported Patayan I age, but this is not stated], plus the interest local tribes may have in significant local heritage interest [sic] suggests that the site should be considered a unique historic resource following CEQA guidelines. The collection of data during testing has not exhausted the data set that could be obtained from the site . . .
> (Dice and Messick 2005:32)

It short the site is found to be significant under CEQA's uniqueness criterion, presumably referring to the abundance of direct rims indicating Patayan I, AD 750-1050 AD. However, a study by Hildebrand (2003:258) for the North Baja Pipeline Project has demonstrated using dated, in situ stratified deposits containing Colorado Buff ware ceramics that one cannot assign ceramics to the Patayan I Period based solely on the presence of direct rims:

> These . . . data suggest that ceramic usage on the lower Colorado River was ongoing by perhaps A.D. 500. Early ceramic types on the lower Colorado River excavated during this project do not easily conform to the ceramic types described by Waters (1982) . . . . Based on 13 samples obtained from seven features, Colorado Beige ceramics span the time period A.D. 870 to 1645 with a mean of A.D. 1348. These data suggest that there was a longer time span (nearly 800 years) and later usage (Patayan II and III time periods) than expected for Colorado Beige ceramics along the lower Colorado River. In addition, the dated Colorado Beige rim sherds recovered were direct, rather than recurved, suggesting that direct rims are not diagnostic of early (Patayan I) time periods.
> (Hildebrand 2003:258).

A similar result was found for direct rims with Black Mesa Buff (Hildebrand 2003:258).

In short, one cannot assert that direct rims equal Patayan I, thus removing a major argument for the site's uniqueness. However, one can still argue that the site is significant under Criterion D because of the presence of relatively intact subsurface cultural deposits to a depth of 80 cm, with two possible features,

thereby demonstrating its potential to yield information important to the prehistory of the region, as the authors say in an earlier part of their evaluation section.

4.2.3 RIV-7836: Small Seasonal Plant Resources Procurement Site

The data available in the 2005 site form and the Dice and Messick (2005) test report are not consistent. The site form has been updated to sort out these inconsistencies, using the 2014 field mapping data. No Unit Level Records are provided for this site in Dice and Messick (2005:Appendix C). The updated site form is available in the Confidential Site Records Appendix to this report. The description provided below is taken from the updated site form. The 2005 survey was conducted in late February and the testing on May 16-17, 2005.

This site is relatively small, measuring 26 m (EW) by 15 m (NS) in size (see Figure 13). It was found within a relatively dense cluster of saltbush. Only nine surface sherds were recorded, with most concentrated at the eastern end of the site (Dice and Messick 2005:32). Only six of these sherds were collected, all body sherds. Five were identified as Salton Buff and one as Salton Brown (Dice and Messick 2005:Table 5, p. 33). Test excavations consisted of four units excavated to 50 cm using two 20-cm levels and a final 10-cm level. Eight sherds were recovered (including two from the surface). Of the six subsurface sherds, all but one was recovered from the 0-20 cm level. These sherds were identified as six Salton Buff (five body sherds and one recurved rim), one Salton Brown body sherd, and one unidentified body sherd (Dice and Messick 2005:Table 6, p. 33). In addition four glass shards were recovered between 0-50 cm, and one freshwater shell sample was taken from the surface of Test Unit 2. Only Test Unit 4 produced a sherd below the 20 cm level. No features were encountered. "Typically, the 20-40 cm level was composed of fine sand with shell fragment inclusions, but no laminated sediments or laminated shell deposits could be observed in any unit" (Dice and Messick 2005:33).

In short, based on the test report tables, a total of 14 sherds, a shell sample, and four glass shards were recovered from this site (Dice and Messick 2005:33). However, no site catalog is provided. Presumably the recovered artifacts are still at the MBA office in Irvine, but the site form is contradictory on this point. At one point, it says "the pottery has been placed back on-site at the modern ground surface level within the original site boundary," which is an unusual practice; however, later in the same site form it says the pottery is at the MBA office in Irvine, and "will be placed back on-site within the next month or so."

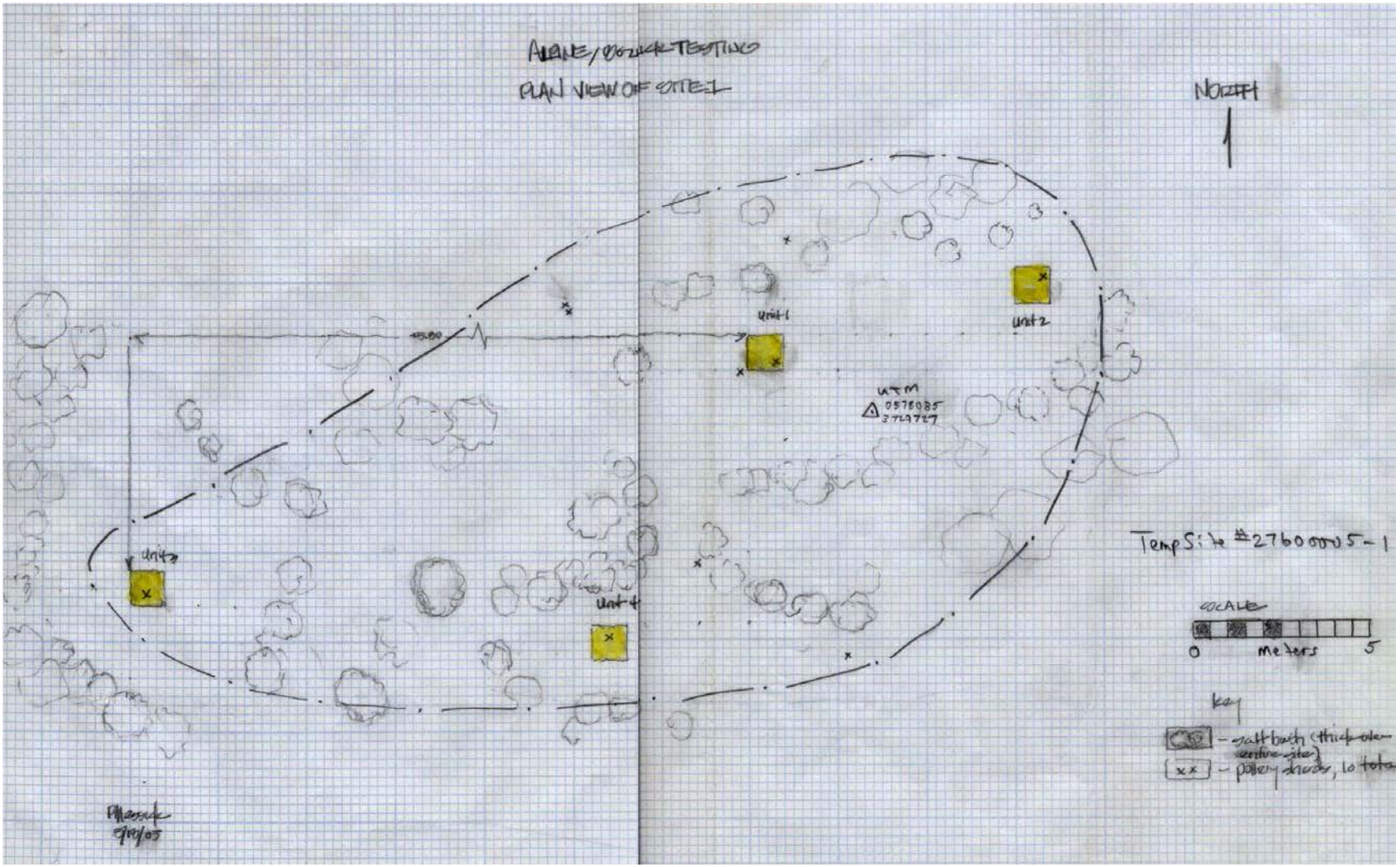

Figure 13: Test Excavation Sketch Map (Dice and Morrison 2005:34) showing Surface Sherds (Xs) and Test Units

The 2014 resurvey was unable to relocate this site, despite two attempts on different days. This is probably due to one or more of the following: 1) most of the surface pottery was collected during the test excavations; 2) the site was originally found within a relatively dense cluster of saltbush and thus had relatively poor visibility; and, 3) there was evidence of significant vegetation disturbance within the site vicinity that included some uprooted plants.

Site Interpretation

Given the lack of features and the paucity of artifacts and their relatively shallow depth, the site was interpreted as "a simple artifact scatter, possibly a potdrop" (Dice and Messick 2005:35). Presumably, this means that the site was created by several pot drops given that more than one vessel is represented in the recovered material.

Site Evaluation by Dice and Messick (2005)

This site was determined not to be a significant historical resource under Criteria A-D under both Section 106 and CEQA, nor under CEQA's uniqueness criterion.

4.2.4 RIV-11775: Water Control Features along Avenue 47

This site consists of five loci (A-E) containing between one and six currently used and/or abandoned water control features, including standpipes, water flow gauges, water pressure regulators, water flow valves, a reservoir, and other features linked by an underground water supply system constructed in the early 1950s by the Coachella Water District after the completion of Coachella Canal in 1949 (see Figure 14). Water is delivered to the highest point of every 40-acre parcel along section lines in areas of the water district eligible and registered to receive it. These are gravity flow pipelines. Other networks provide underground tile drainage systems to carry high-salinity, used drainage water to the Salton Sea [see CVWD (2014:1-4, 9-11) at http://www.cvwd.org/about/waterandcv.]

The loci and reservoir are all along the south side of 47th Avenue between Polk and Tyler Streets in the City of Coachella. Vegetation and/or current land use to the north consists of previously farmed areas or Sonoran creosote bush scrub; to the south, saltbush scrub, former farmland or existing vineyards. Soils consist of fine sandy loam and fine to sands with pebbles and some cobbles. The site lies within the geologic sink known as the Salton Trough that once contained former Lake Cahuilla. The site is open and relatively flat to the west but rises to the east as land rises to sea level. The site including the associated reservoir is 900 m (EW) in length and is 15 m in width (NS) except for the reservoir where it is 92 m wide. It is located between -35 ft below and 5 ft above sea level at about 1.7 km northeast of the Whitewater River and 320 m southwest of the Coachella Canal.

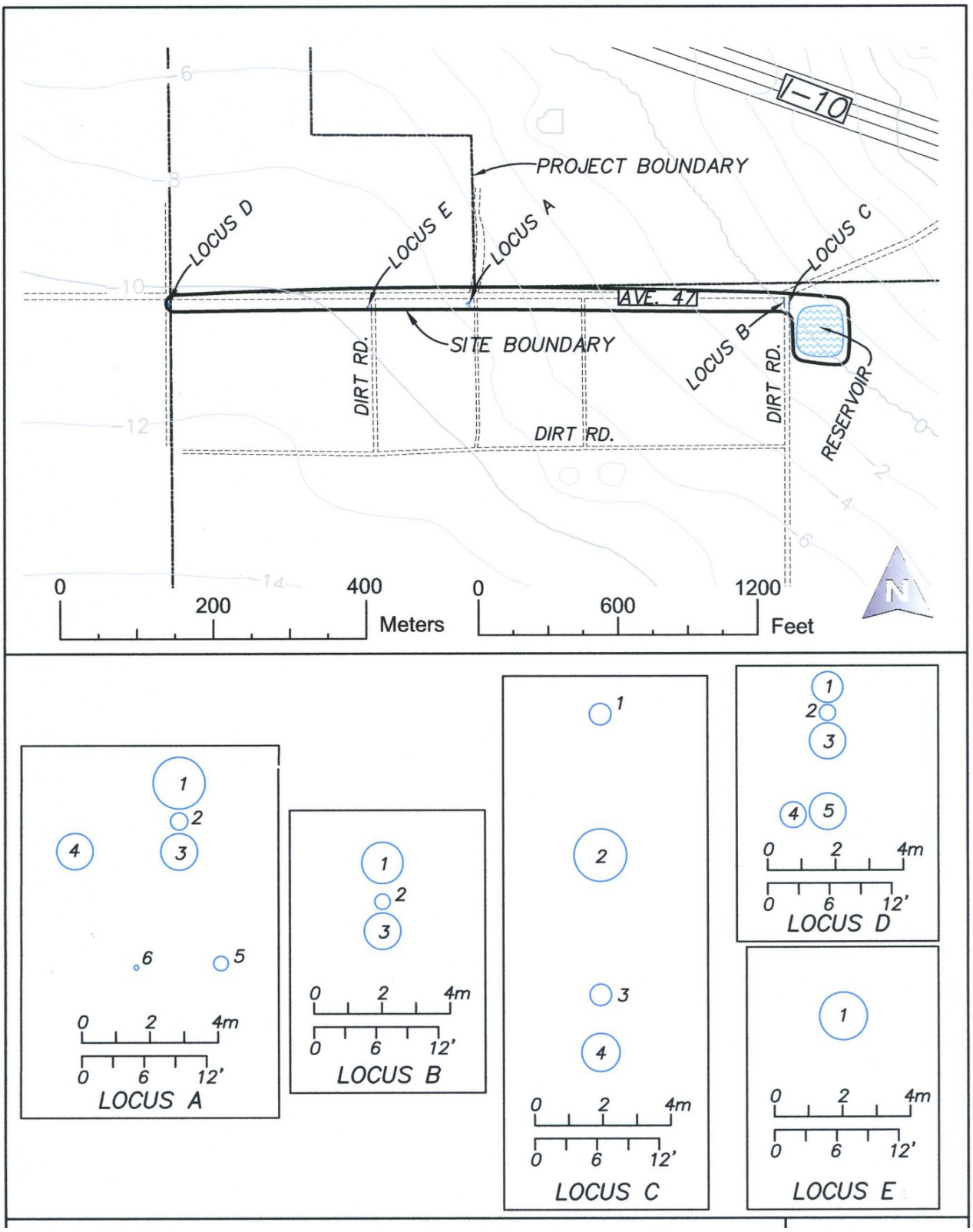

Figure 14: RIV-11775 (above) with Numbered Features of Loci A-E below

Loci A-D have elements that are still in use; Locus E does not. All loci were built after World War II. Loci A, B and D contain older structures later replaced or abandoned. All elements of Locus C are currently in use and are probably directly associated with the adjacent reservoir, which was built after 1972 as it does not show up on the 1956 (photorevised 1972) USGS 7.5' *Indio* quad. Overall, this suggests the upgraded water control system at Locus C may be no more than 42 years old (1972-2014). The no-longer-used elements of Loci A, B, D and E may date to the early 1950s and thus could be as old as 65 years. Functional interpretations of the water control features discussed below were in part provided by Phillip King (8/26/2014, personal communication) who has engineering experience in the field of water control. Details about each water control feature locus are summarized below:

Locus A: This locus measures 21 ft (NS) by 17 ft (EW); it consists of six features (see Photo Set 5 below).

1) large standpipe for a gravity flow pipeline: it is very tall because it is in a low spot of the pipeline. It is estimated to be about 19' tall with an external diameter is 5'. It consists of three cement pipe/buse sections; the lower two are about 97" (8' 2") in height; and the upper section is estimated to be about 1/3 of this height or 32", giving a total of 226" or about 19 feet. If a portable ladder is brought to the site, a metal ladder then allows one to scale to the top of the structure. It is still in use**.**
2) probable pipe water flow gauge**:** it is 4" south of #1 and consists of a small, low, capped cement pipe with a sliding metal cover that can be locked but is not. It measures 20" in diameter and is 9" in height. It is probably still in use.
3) older, broken cement standpipe: i t is 4.5" to the south of #2. It currently measures 42.5" in diameter and 74" (6'2") in height. It is no longer in use.
4) probably a variation on a Constant Head Orifice, a type of turnout often used in the 1970s and 1980s by the Bureau of Reclamation. It is divided into two sections and the metal fittings in the bottom could be inlet gates. It is 79" (6'7") to the west of #3. It is 42.5" in diameter and 28" in height. The top has been removed and it is no longer in use.
5) empty cement buse: this feature is 108" southeast of #3. It is 17" in diameter and 51.5" (4'3.5") in height. It is not currently in use.
6) tall metal pipe: it is 83" (6'11") west of #5. It is 117" (9'9") in height and 5" in diameter. It may be attached to a former small bore well. It does not appear to be currently in use.

Photo Set 5: Locus A of RIV-11775

Overview with Tall Standpipe Facing West

Overview Facing Northwest

Feature 4: Constant Head Orifice

Inside Feature 4

Feature 2: Probable Flow Gauge

Locus B: This locus measures 11 ft (NS) by 4 ft (EW); it consists of three features (see Photo Set 6).

1) a large standpipe: it is about 16' tall and is 4' in its external diameter. It is 80" (7'8") to the top of the lower section and an estimated 92" for the height of the upper section or a total of about 192" or 16'. If a portable ladder is brought to the site, a metal ladder then allows one to scale to the top of the structure. It is still in use.
2) probable valve box: it is 6" south of #1. It is a cement pipe whose upper portion has been broken off and it has a metal part at its base which is probably a broken valve handle. It measures 18" in diameter and is 16.5" high. It may have once served as a flow pressure valve. It is no longer in use.
3) water pressure regulator: it is about 4" south of #2. It is a cement cylinder (buse) that is 5'8" in height and 42.5" in external diameter; the cover, if it had one, has been removed. A tall metal pressure regulator device rests in the center. Water flowing into the cement structure has to rise to just under the top of the metal regulator where it then overflows into another pipe inside. This ensures that all irrigation upstream has the same pressure as it moves to the next pressure regulation structure. It is uncertain whether it is still in use as no water was evident in it the day it was recorded and some paper trash is visible in the bottom.

Locus C: This locus measures 35 ft (NS) by 3 ft (EW); it consists of four features (see Photo Set 7). Some or all may be associated with the water reservoir directly adjacent to the east, which was built after 1972.

1) probable pipe water flow gauge: it consists of a low, capped cement cylinder with an iron top whose opening is padlocked. It is 25.5" in diameter and 22" in height. Given the padlock, it is currently in use.
2) capped well with water flow gauge inside: the well is a cylindrical cement feature located 99" (8'3") south of #1. It is 61" in external diameter and 26.5" in height. The water flow gauge was made by Water Specialties which was bought up by McCrometer, the largest manufacturer of pipe flow gauges. Access to the flow gauge is provided by a small metal door (without a padlock). To access the gauge requires opening a closed green plastic lid. It is currently in use.
3) probable pipe water flow gauge: it is very similar to #1. It is 59.5" south of #2 and is 25" in diameter and 30" in height. It is padlocked and currently in use.
4) standpipe for gravity flow pipeline: it is located 32" south of #3. It measures 44.25" in diameter and 53.5" in height. It is nearly full of water that is slightly turbulent. It is clearly in use.

Photo Set 6: Locus B of RIV-11775

Overview, Tall Standpipe Facing SW

Feature 2: Abandoned Valve Box

Two Views Inside of Feature 3: Water Pressure Regulator

Photo Set 7: Locus C at RIV-11775

Locus B (right) and Locus C (left) near Reservoir (fenced area), Facing South

Feature 2: Covered Well

Feature 3: Padlocked Flow Gauge

Feature 4 with Moving Water Inside

Locus D: This locus measures 18 ft (NS) by 8 ft (EW); it has five features (see Photo Set 8).

1) large standpipe for a gravity flow pipeline: it is estimated to be 13' 4" tall and is 3' in external diameter.
2) old, damaged valve box: This feature is 2.5" south of #1. It measures 18" in diameter and is 17" in height. The structure is made of cement with a wire mesh interior. At the bottom, there appears to be remnants of a metal valve with no valve handle. The upper part of the cylindrical cement structure appears damaged. It is no longer in use.
3) water pressure regulator: It is 5.5" south of #2. It measures 42" in diameter, 50.5" (4'2.5") in height, and is 7' deep as measured to its cement base. Inside is the metal water pressure regulator (see #3 for Locus B above). In this instance, the regulator extends above the top of the cement structure due to a pressure gauge extending upwards. Given there is water in the bottom and algae-like material covering part of it, it is still in use.
4) broken cylindrical feature of unknown function: It is directly adjacent to the west side of #5. It is a cement pipe broken off at the top. It is 15" in diameter and 29" in height. It is not currently in use.
5) probable valve box possibly made from a former well: it is 39.5" south of #3. It is 42.5" in diameter, 41.5" in height and about 7' in depth. The valve is clearly present at the base of the structure and a metal rod is serving as a valve handle. The presence of water in the bottom that appears to move somewhat indicates it is still in use.

Locus E: This locus measures 4 x 4 ft in size; it consists of the remnants of what was probably a cement standpipe that is no longer functional. It is upper portion has probably been removed. It measures 42.5" in external diameter and is 74" in height. It is about 15' in depth (see Photo 9).

4.2.5 RIV-11776: House Foundation

This site consists of the remains of a probable farm residence that was built in the early 1950s after water was brought to the area via the Coachella Canal completed in 1949 (see Figure 15). According to a local informant, the house was still standing until ca. 2010-11 when it was destroyed by a fire, and a May 6, 2010, aerial photo shows the structure was still in place. Current remains consist of the house foundation and its adjacent cement porch and a foundation for a propane tank. Just east of the foundation is a shallow dry reservoir built after 1972. Two trash scatters are also present. According to a local informant, Scatter A to the south is the result of the burial of burned house debris and trash after the fire. It contains burnt wood and broken ceramic, glass and metal artifacts recently swept into small piles. Scatter B to the southwest consists of a very light scatter of post-1950 glass, ceramic and metal artifact fragments. A paintball arena made of plywood and other wooden structures occupies the area within and north and west of the foundation, including the remains of a probable snack store for paintball

Photo Set 8: Locus D at RIV-11775

Overview of Locus D Facing East

Partial Overview of Locus D Facing Northeast

Photo Set 8 continued: Locus D at RIV-11775

Feature 2: Abandoned Valve Box

Feature 4 of Unknown Function

Inside Feature 3: Water Pressure Regulator (top and bottom)

Feature 5: Probable Valve Box showing part of Valve and Valve Handle

Photo Set 9: Locus E at RIV-11775

Locus E Overview Facing Roughly South

Closer View of Abandoned Standpipe (note recent dumping)

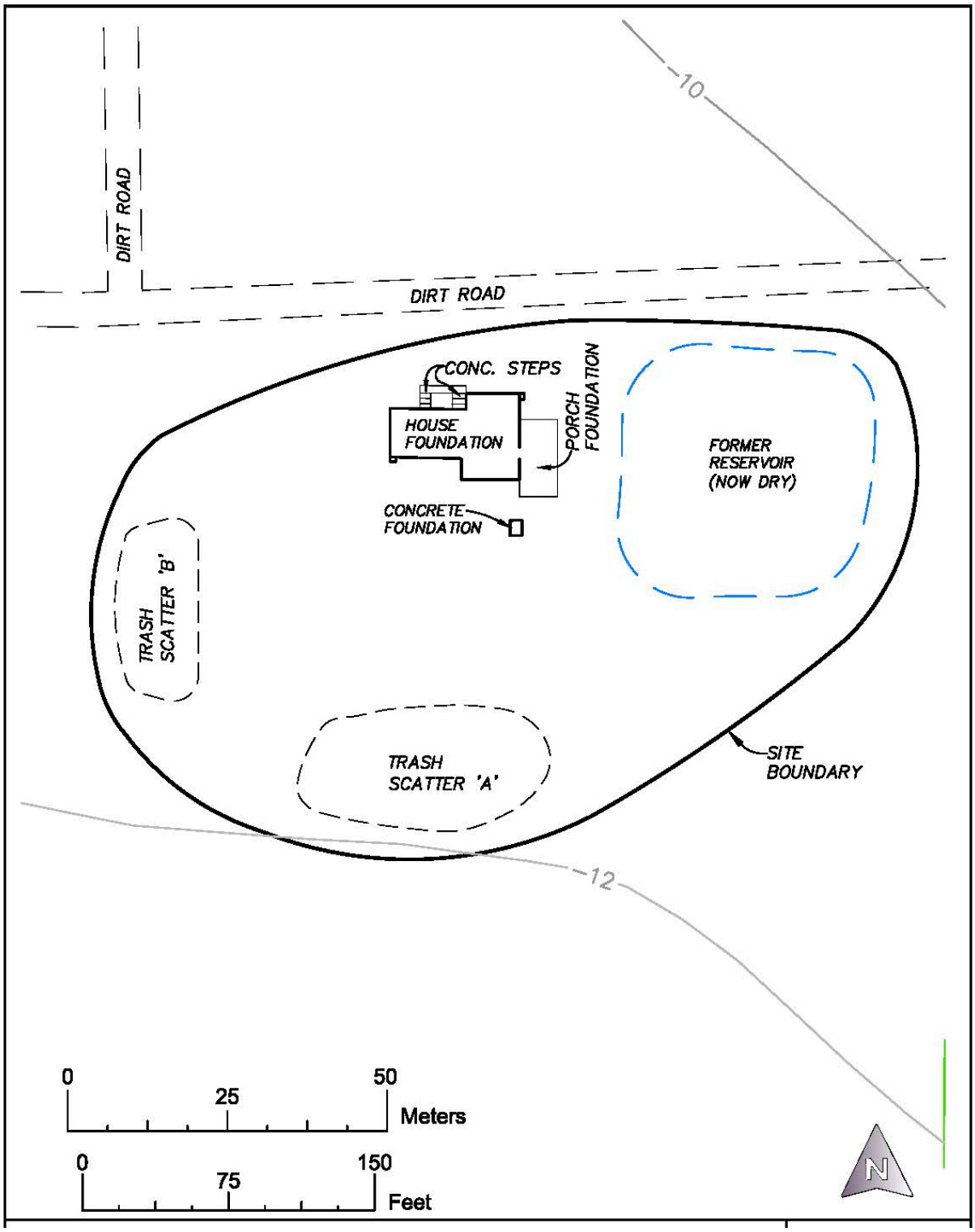

Figure 15: Sketch Map of RIV-11776

participants. These structures were not mapped or recorded as they clearly post-date the fire and are no longer in use.

The entire site measures 128 m (EW) by 85.5 m (NS). It is located about 1.9 km northeast of the Whitewater River and 780 m southwest of the Coachella Canal at an elevation of -40 ft. below sea level. The site vicinity once consisted of former farmland but much of it is now creosote and saltbush scrub. Soils consist of fine sandy loam with pebbles in some areas. The site lies within the geologic sink known as the Salton Trough that once contained former Lake Cahuilla. It is open and relatively flat with no bedrock exposures.

Historic maps prior to the 1950s do not show any cultural features in Section 28 of T5S, R8E, SBBM, where the structure is located, including the 1941 and 1943 U.S. Army Corps of Engineers 15' *Coachella* quads. The Coachella Canal is also not shown, as it was completed in 1949 and underground irrigation networks were developed in the early 1950s. The site reservoir just east of the house was built after 1972 as it does not show up on the 1956 (photorevised 1972) USGS 7.5' *Indio* quad. Land patent records available online at the Bureau of Land Management (BLM) web site, show that the SW¼ of Section 28, where the structure is located, was originally purchased with cash under the authority of the 1820 Land Act, on July 13, 1936, by George W. Ingram. This purchase was perhaps in anticipation of the completion of the Coachella Canal which was repeatedly delayed. In all likelihood, the house was not built until the early 1950s as it does show up on the 1956 USGS 7.5' *Indio* quad.

Details about the house foundation and other structures are summarized below:

House Foundation (including cement porches and steps)

The foundation, exclusive of the cement porches on the east and north sides, is about 65' long (EW) and 45' wide (NS) (see Photos 10 and 11). The foundation itself consists of a cement buttress on which the house sat; there does not appear to be a cement slab under the house, unless it is covered deeply in sand. The large porch to the east measures 39'10" (NS) by 19'6" (EW) and extends further to the south than the structure itself. The northern porch measures 51' in length (EW) and 3'10" in width (NS) and allows one to enter by either set of concrete cement and block steps on the north side. These concrete sets of stairs are both 8'2" in length (NS) but the western stairs are 5'5" wide and the eastern stairs are 7'2" side, suggesting this was a main entrance. The stairways are 11'1" apart. The need to walk up the stairs to enter the house confirms the idea that house was set largely above the ground. There is also evidence of an exit leading out to the eastern porch that was about 6' in width with no steps. The house was measured with a tape and key points were established with GPS data points that were differentially corrected. Because of the lack of a cement slab and accompanying indicators of how the house was divided into rooms, little more can be said about

Photo 10: House Foundation with Stepped Entrances, Facing East.
Note plywood paintball arena structures within the foundation area.

Photo 11: Main Porch and Cement Block Foundation Remnants Facing West

internal activity areas/rooms. There is little associated trash with the house foundation other than broken bottle glass here and there. The paintball operations set up inside the foundation after the house burned down led to incidental trash dumping and disturbance to parts of the foundation.

Small Cement Foundation

This small cement slab measures 7'9" (NS) by 6' (EW). It shows evidence of something attached that was metal, probably a propane tank. It is located about 11 ft directly south of the west edge of the cement porch on the east side of the house.

Trash Scatter A

This scatter is about 35 m south of the house foundation and measures 38.5 m (EW) by 19.7 m (NS) (see Photo 12). According to our local informant, Tony Callebocazuca(?), it represents an area where burned wooden debris from the house fire was buried along with broken glass, ceramic, and metal artifacts from the burned house. This trash has recently been swept into small, low piles of various sizes that contain artifacts of recent origin (last 20 years).

Trash Scatter B

This low density trash scatter is located to the southwest of the house foundation at a distance of about 32 m. It consists of a light scatter of broken glass, ceramic and metal items. Informal trowel probes did not suggest that the trash scatter has any depth. In general most of the trash seems to have been cleaned off the property, except for recent dumping inside the reservoir (see below).

Dry, Shallow Reservoir

This consists of a roughly rectangular reservoir created by piling up earth and creating a shallow depression inside whose surface has been hardened by an asphalt-like material. It measures 110 x 110 ft in its external dimensions (see Photo 13). Its height is estimated at 6-8 feet and its depth perhaps the same. The reservoir slopes downward to a smaller area in the center, so its depth varies from the edges toward the center. There has been some recent dumping of a variety of construction materials and trash. There is also evidence of the remains of a crude structure made of loose concrete blocks, cloth, and wood which sheltered a homeless person (says our informant, Tony C.), but it has since collapsed. The reservoir is about 10 m east of the main house porch cement slab. This reservoir was built after 1972 as it does not appear on the 1956 (photorevised 1972) USGS 7.5' *Indio* quad.

Photo 12: A Small Swept Trash Pile in Trash Scatter "A" where Burned House Remnants are Buried. Artifacts are mostly of plastic, paper or synthetic materials with a few small recent spice bottles.

Photo 13: Dry Reservoir with Recent Trash Dumping and Burning, Facing NE

SECTION 5 – SITE SIGNIFICANCE AND MANAGEMENT RECOMMENDATIONS

5.1 SITE SIGNIFICANCE EVALUATION – APPLICABLE LEGISLATION

Cultural resources must be evaluated under the California Environmental Quality Act (CEQA). The creation of the California Register of Historical Resources and recent revisions to the CEQA Guidelines has resulted in new criteria for the evaluation of historical resources (including archaeological resources). Appendix K, which contained a different set of criteria, was replaced. According to Section 15064.5(a)(3) of the revised CEQA Guidelines, "a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code §5024.1, Title 14 CCR, Section 4852) including the following:

A. Is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage;

B. Is associated with the lives of persons important in our past;

C. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

D. Has yielded, or may be likely to yield, information important in prehistory or history.

If an archaeological site does not meet one of the criteria defined above, "but does meet the definition of a unique archaeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of Section 21083.2 [Section 15064(c)(3) of the CEQA Guidelines]."

If an archaeological resource is neither a unique archaeological resource nor an historical resource, both the resource and the effect on it shall be noted in the Initial Study EIR but need not be considered further in the CEQA process [Section 15064.5(c)(4)].

Given that only archaeological sites were discovered on the subject property, Criterion D is the most applicable one to be used for the evaluation of these sites.

5.2 SITE SIGNIFICANCE AND MANAGEMENT RECOMMENDATIONS

5.2.1 CA-RIV-7834 (P-33-14403)

After Phase II testing, Dice and Messick (2005:22-27) determined that this site is not a significant historical resource under Criteria A-D or under the uniqueness criterion under CEQA. This determination was made on the basis of the lack of a substantial surface or subsurface deposit and because only 20 pottery sherds were encountered with no other artifact types. However, they only investigated Locus D and did not record or test the other loci. Loci B and C consist of only a few relatively dispersed pottery sherds but Locus A contains at least twenty sherds with some in clusters of three to 11 sherds. It is recommended that additional testing be undertaken at these loci to see if they are similar to Locus D and do not contain significant subsurface deposits. A few units can also be placed at Loci B and C to check for the presence of subsurface deposits.

The research design and methods for the test excavations are presented in Section 5.3 below.

5.2.2 CA-RIV-7835 (P-33-14404)

After Phase II testing, Dice and Messick (2005:27-32; see also 2005 site from by Dice) determined this site was not a significant historical resource under Criteria A-D but was significant under CEQA's uniqueness criterion. However, this assessment was based on the assumption that the presence of mostly direct ceramic vessel rims equated with a Patayan I (A.D. 750-1050) occupation; however, Hildebrand (2003) has shown direct rims may also date to later periods. Nonetheless, given the presence of a subsurface deposit that also contained lithic tools and debitage as well as ceramics and a possible hearth feature, it can be argued that this site is significant under Criterion D because of its potential to provide information important in prehistory, especially because its deeper occupation levels are likely to date from an earlier infilling and subsequent recession of prehistoric Lake Cahuilla prior to the last one in the 17th century.

In conclusion, RIV-7835 should either be avoided or subject to data recovery excavations to mitigate potential impacts from project development.

5.2.3 CA-RIV-7836 (P-33-14405)

After Phase II testing, Dice and Messick (2005:32-36) determined that this site is not a significant historical resource under Criteria A-D nor under the uniqueness criterion under CEQA. This determination was made on the basis of the lack of a substantial surface or subsurface deposit and the lack of artifact diversity, as only 14 sherds were encountered. Their assessment is viewed as correct; RIV-7836 is not viewed as a significant historical resource under CEQA

5.2.4 CA-RIV-11775 (P-33-23969)

This site consists of several sets of agricultural irrigation water control features just south of Avenue 47 that are linked to water provided by the Coachella Canal after its completion in 1948-49. The site is not linked to any significant historical event, such as one might argue for the construction of the Coachella Canal, and it is not associated with any significant individual at the local or regional level. The water control features are similar to other sets of such water control features to the south and elsewhere, e.g., along Avenue 48. They also do not contain any unusual or unique architectural features. Thus, this site is not viewed as a significant historical resource under Criteria A-C or under the CEQA's uniqueness criterion. As for Criterion D, it is felt that this site's research potential has been exhausted with its detailed recordation, and therefore, it is not a significant historical resource under this criterion either. In short, RIV-11775 is not viewed as a significant historical resource under CEQA.

5.2.5 CA-RIV-11776 (P-33-23970)

This site consists of a damaged cement foundation of a former farm residence that was built in the early 1950s and associated propane tank cement slab, two trash scatters, and an abandoned reservoir built after 1972. Archival research produced no information that indicates these structures are associated with any important event in prehistory or history or that they are associated with a significant figure in local or regional history, and its architectural features have largely been destroyed. Therefore this site does not qualify as a significant historical resource under Criteria A-C under CEQA.

As for Criterion D, its scientific research potential is very limited given the absence of any significant trash deposits. Trash Scatter A is the product of the destruction of the house by fire and contains only recent trash. Scatter B is a very low density scatter that does not appear to have any significant depth based on informal trowel probes. Thus, this site is seen as having very limited research potential and is not viewed as a significant historical resource under Criterion D. It also lacks any unique characteristics that would make it significant under the CEQA uniqueness criterion.

In short, RIV-11776 is not viewed as a significant resource under CEQA.

5.3 RESEARCH DESIGN FOR ADDITIONAL TESTING AT RIV-7834

The proposed test excavations are important for three reasons. The first is to assess whether the site is an important historical resource based on its research potential to yield information about prehistory or history, i.e., eligibility Criterion D for listing on the California Register of Historical Resources (see Section 5.1). The site's research potential is assessed in terms of the kinds and quantities of artifacts and features present and their potential for addressing important

regional research issues. The second and third reasons are to determine the site's horizontal and vertical boundaries and to assess its depositional integrity.

5.3.1 Research Issues and Questions

This section discusses important regional research issues and questions; it also discusses the data required to address them. A major purpose of the test excavation is to determine whether such data are indeed present. One of the key variables in the subsistence-settlement patterns in the Coachella Valley was the cyclical infilling and desiccation of prehistoric Lake Cahuilla during the Late Prehistoric.

RIV-7834 is situated at an elevation ranging from -45 to -30 feet below sea level. This means it was occupied during a time when prehistoric Lake Cahuilla was drying up or completely desiccated. Current data on Lake Cahuilla lake levels during the Late Prehistoric indicate at least three cycles of infilling, lake level equilibrium, and then gradual desiccation since A.D. 1200 (see Laylander 2006:Figure 6.1). Laylander (2006:60) estimates it took about 20 years for the infilling process to reach the high water mark of 12 m above sea level and roughly three times that long for desiccation to result in a dry lakebed at -85 m below sea level, assuming no recharge from the Colorado River during the desiccation process (see also Waters 1980, 1983; D. Weide 1976; Wilke 1978). The data currently suggest one lacustrine cycle every 200 years, but this periodicity may simply reflect the level of resolution of existing radiocarbon dates (Laylander 2006:59).

This cyclical lake infilling pattern suggests the following with regard to Indian adaptation patterns:

> These [cyclical] periods are too long in duration to have been bridged by . . .emergency measures to manage subsistence . . . such as using stored foods or making temporary visits to relatives outside the affected region. [And] the events were too abrupt and short-lived to have been managed simply by the unconscious process of gradual cultural adaptation. . . [i. e.,] the people who lived through the various episodes of a rising and falling lake were undoubtedly conscious of the changes . . .
>
> . . . .Most of the lake's rise may have been too rapid for shoreline biological communities, in particular marsh plants, to keep pace with its movements. . . . Once the lake was full, the shoreline may have stabilized for an indefinite period. A degree of stability is suggested by the tufa deposits that formed on rocks just below the lake's high water mark, by the well-developed beach features in some areas, and by the numerous archaeological sites that are associated with the maximum shoreline. How long the lake remained at this level during each of its infillings is unknown, although a full lake was obviously present for much briefer

> periods than the 500-year stand that was once suggested. . . . In any case, it seems likely that the longer the stable maximum shoreline existed, the richer its associated fauna and flora would have become.
>
> . . . . Although complete desiccation could have been accomplished in about 60 years, archaeological evidence from fish remains attests that the receding lake was refreshed by an inflow of water from the Colorado River on at least one occasion (Schaefer 1986). The example of numerous small natural floods of Colorado River water reaching the basin during the nineteenth century suggests that such episodes might also have been common prehistorically (Wilke 1978). Archaeological faunal remains of vegetation-adapted water birds at recessional shoreline sites indicate the floral community was able to track the receding shoreline, which was therefore likely richer in resources than the rising shoreline had been (Laylander 1997:85-90). On the negative side, recession was accompanied by gradually increasing salinity levels, successively impoverishing and then eliminating the various freshwater fauna and flora. However, there is evidence that fish and birds continued to be exploitable at least as low as -55 m below sea level, or a minimum of about 40 years into the desiccation phase.
> (Laylander 2006:60-61)

So far only surface to shallow artifacts deposits (upper 20 cm) are known at RIV-7834 based on the test excavations at Locus D and the recording of the surface ceramic scatters at Loci A-C. Previous periods of infilling of prehistoric Lake Cahuilla, which have occurred at least four times since A.D. 700 and 1580 (Waters 1992:227), with a likely fifth infilling invent in the 1600s (Schaefer 1994a:72; see also Laylander 2006). Waters (1992:227) notes that

> Buried sites are encountered below the shoreline where people camped on the dry lakebed whenever the lake level fell or the lake dried up. In many cases these sites became buried by alluvium shedding off the hillslopes and later by laminated lake basin sediments during a subsequent rise in the lake level. These sites were protected and preserved from the shoreface erosion associated with a later transgression of the lake because the overlying alluvium was thick and the lake rose rapidly.
> (Waters 1992:227)

Thus, sites consisting of only surficial or shallow artifact deposit would likely date to after the last major lake infilling ending in 1580. In fact, most surface sites have been dated to the period between A.D. 1430 and A.D. 1580 (Schaefer 1994a:67), though one could not rule out it dating to after the 17th century infilling (and subsequent desiccation) which may or may not have filled the basin (Schaefer 1994a:72). If there are important buried deposits, however, they would likely date to before one of the previous lake infillings. RIV-7834 is located at an

elevation situation between -45 and -30 feet below sea level, well above the level at which the receding lake would become far too saline to support much wildlife. It is thus likely that freshwater fauna and flora associated with prehistoric Lake Cahuilla were still plentiful enough to exploit during its potential occupation.

Laylander (2006) continues:

> After the disappearance of the lake, climax biotic communities slowly reestablished themselves on the dry lake bed. It has been suggested that there was a separate stage in human adaptations to the basin after the lake was gone but before mature mesquite groves established themselves (Wilke 1978:13-14; cf. Schaefer et al. 1987:22). Contrary to this is the fact that the exposure of the lake bed was a gradual process lasting decades, and desert plant communities must have established themselves at successively however elevations above the retreating shoreline, even while the lake resources were still available.
> (Laylander 2006:62)

Laylander (2006:62-71) goes on to discuss the potential effects of rising and falling lake levels on food resources, the spread of technology, the distribution of languages in the region, demography, subsistence strategies, trade, settlement and social organization, warfare, and political organization. In short, most basic research domains and associated research questions about the Cahuilla north of prehistoric Lake Cahuilla are inevitably linked to the cyclical rise and fall of the lake. Let's first look at the issue of chronology, an issue so important to the archaeological study of any region.

Chronology or Site Occupation Period(s)

Question 1: During what time period(s) was RIV-7834 occupied?

In order to examine the effects of the cycle of infilling, stability, and desiccation of prehistoric Lake Cahuilla on settlement and subsistence, trade, and the like, it is critical to be able to date individual site occupations. Moreover, while data from a single site are important, the accumulation of data sets from a large number of sites will ultimately be required in order to address how the Cahuilla, and other ethnic groups who lived in the Coachella Valley (or Salton trough), adapted to their unusual environment over time. Thus, this site is one piece in a much larger mosaic of settlement.

Data Needs and Methods

Of critical importance here are data that will help us determine which period of desiccation and/or dry lake bed of prehistoric Lake Cahuilla RIV-7834 may be associated with – the period dating to ca. A.D. 1350 to 1425? ca. A.D. 1450 to 1510? or ca. A.D. 1620 to 1680? or perhaps a period preceding A.D. 1300?

(Laylander 2006:Figure 6.1). Given the presence of Salton Brown and Lower Colorado Buffware (Dice and Messick 2005:23), it is perhaps not likely that we dealing with an occupation that pre-dates 1200 A.D. The most useful data for assessing site occupation are going to be radiocarbon dates based on charcoal found in intact cultural contexts. If RIV-7834 has been too badly disturbed by agricultural practices, it may not be possible to find such intact deposits. Here the issue of depositional integrity and significance are clearly linked, at least in part. Temporally sensitive artifacts, such as pottery or projectile point types, are not likely to have sufficient chronological precision to help us answer this question. However, obsidian hydration data and the presence of temporally diagnostic shell beads or ornaments may be helpful. Charcoal would be sent for dating to Beta Analytic, Inc. Obsidian flakes and artifacts, if recovered, would be sent to Richard Hughes for sourcing and Tom Origer for obsidian hydration analysis.

Settlement and Subsistence

Given the elevation of RIV-7834 at ca. -45 to - 30 ft below sea level, it was occupied during a period of desiccation or dry lake bed. Given that evidence for the exploitation of fish and water birds has been found at sites at elevations as low as -55 m below sea level, it is possible that such resources were exploited by the inhabitants of RIV-7834. It is also possible that mesquite groves had had a chance to reestablish themselves at higher elevations in the lakebed. In any case, determining the components of the diet of the inhabitants of this site is an important research focus.

Of particular importance are data that might help us choose between the two competing models proposed by Weide (1976) and Wilke (1978) regarding settlement and adaptation to the lake. David Weide (1976) assumes that the instability of the lake meant that lacustrine resources were relatively unreliable and only sporadically available which led to only a seasonal reliance on lake resources that served as secondary element in the diet (Schaefer 1994a; M. Weide 1976). The Wilke model emphasizes extensive use of lake resources with nearly year-round settlement on the lake shore. The desiccation of the lake would thus represent a major loss in food resources resulting in major regional consequences (Wilke 1978; see also Laylander 2006:62). Conversely, one could argue that periods of lake infilling and lake level equilibrium would have resulted in a major increase in a variety of food resources, such as fish, water birds, and relatively abundant shoreline plants and animals, clearly offsetting losses in mesquite and other desert resources (Laylander 2006:63).

Finally, there is the issue of agriculture. The Yuman populations living along the Colorado River were practicing agriculture when the Spanish first visited them in A.D. 1540, and were most certainly practicing it before that date. Ethnographic data suggest that agricultural crops made up as much as 40-50% of the diet of the Mojave and perhaps to perhaps 30% for the Cocopa (Castetter and Bell

1951, as cited in Laylander 2006:67). Some Kumeyaay groups living with the Quechan along the Colorado River and the eastern Kumeyaay (Kamia) also planted crops in parts of the Imperial Valley where the Colorado River naturally overflowed (Gifford 1931, as cited in Laylander 2006:67). In Section 2.2.1 above, Lawton (1974) was cited as having produced convincing proof from Cahuilla mythology that they had cultivated certain crops for centuries (see also Swenson et al. 1980). Whether the Cahuilla of the Coachella Valley practiced agriculture is actually disputed (see Bean and Lawton 1973; Lawton 1974; Schaefer and Huckleberry 1995; Wilke et al. 1977, as cited in Laylander 2006:67). It would be interesting to find out whether there are any charred plant and/or seed remains that indicate the practice of farming such crops as maize, tepary beans, squashes or pumpkins (see also Laylander 2006:67). And if agriculture is present in the Coachella Valley during the Late Prehistoric, did this practice develop as the result of naturally increasing population densities, rapid increases in densities associated with the cyclical nature of Lake Cahuilla, and/or interethnic military competition (Laylander 2006:67).

Question 2: What plant and animal resources made up the diet at RIV-7834?

Question 3: Is there any evidence for domesticated crops?

Question 4: Was RIV-7834 a seasonal settlement or relatively permanent lake shore site?

Data Needs and Methods

A variety of data sets are necessary to answer such questions. Dietary data can be obtained from faunal remains, charred and sometimes uncharred wood fuel and plant remains (given the dry desert context), human coprolites, protein residues on stone tools, and stone tool types and associated wear patterns. A seasonal campsite would tend to have relatively low densities of fire-altered rock and/or hearths and would possibly lack any kind of substantial midden development, whereas a more permanent site would have relatively high densities of fire-altered rock and perhaps intact hearth features along with a relatively darker midden soil. A permanent settlement is also more likely to have evidence of house floors and artifacts associated with non-utilitarian tasks, such as shell beads and ornaments and the like. If agriculture was practiced, evidence for domesticated corn cobs or seeds would need to be present to confirm this. Data on floral remains would be obtained from the collection of charred seeds while screening excavated earth and from floating soil column samples taken from excavation units. These data would be sent for analysis to the Paleoethnobotany Lab at the Cotsen Institute of Archaeology at the University of California, Los Angeles. Faunal remains would be sent to Patricia Mitchell. Protein residue analysis would be undertaken on a set of flaked stone tools sent to the Lab of Archaeological Sciences, under the Direction of Dr.

Robert Yohe, at California State University in Bakersfield. At this lab, tests for various plant and animal protein residues can be detected, including those of acorn and agave, two important food resources utilized by the Cahuilla.

Origin of Ceramics in the Coachella Valley

Rogers (1939, 1945) hypothesized that Lake Cahuilla was present continuously between A.D. 1000 and A.D. 1500, and that ceramic technology passed westward after lake desiccation. We now know that there were multiple infillings and periods of desiccation during that time and the current view is that ceramics developed earlier than Rogers suggested and that it was probably an indigenous development (Griset 1996; Waters 1982). However, Love and Dahdul's (2002:79-83) review of sites indicates that no radiocarbon dates have been obtained prior to ca. 1000 A.D. with associated ceramics in the Coachella Valley.

Laylander agrees the local ceramic technology was probably an indigenous development, but that it was not adopted in the region until there was an economic incentive to do so, e.g., increased sedentism that would have made ceramic vessels more attractive containers for certain products than baskets (Laylander 2006:64). In any case, an important research question relates to when local pottery production began in the Coachella Valley. If RIV-7834 produces radiocarbon dates indicating a pre-1000 A.D. occupation, this would be helpful in answering this question.

Waters (1982) Lowland Patayan Ceramic Chronology

Waters (1982) proposed a Lowland Patayan ceramic chronology that began with Patayan I (750-1050 AD), followed by Patayan II (1050-1500 AD) and Patayan III (post-1500 AD). He also suggested that direct ceramic vessel rims were a feature of Patayan I and therefore indicated occupation prior to ca. 1050 A.D. However, more recent work by Hildebrand (2003) for the North Baja Pipeline Project, using radiocarbon dated stratified deposits, has demonstrated that direct rims are found in later periods. For example, Colorado Beige ceramics were found to cover the period from A.D. 870 to 1645 with a mean date of A.D. 1348 and, most importantly, the dated Colorado Beige rim sherds were direct, rather than recurved (Hildebrand 2003:258). He obtained similar results for Black Mesa Buff which was thought to be a Patayan I ceramic type for which he obtained dates from A.D. 1345 to 1645 with a mean date of A.D. 1517. The dated rim sherds were also direct for this Patayan II/III period (*ibid.*).

Dice and Messick (2005) identified most of the ceramics at RIV-7834 and nearby RIV-7835 and -7836 as Salton Brown or Salton Buff with an occasional Colorado Beige sherd, classifications based on Waters' (1982) typology (see also Hildebrand 2003:246-247). Do the other loci at RIV-7834 have types that match their identifications for Locus D?

Question 5: What ceramic types are present at RIV-7834 when Loci A-D are examined? Is there any evidence that Tizon Brownware is present instead of Salton Brown (see Schaefer 1994a)?

Question 6: Is the probable Salton Brownware at the site made locally or was it imported from the neighboring mountains?

Data Needs and Methods

Radiocarbon dates and obsidian hydration data will be the most helpful for determining site occupation periods. While this issue is also discussed under trade, determining which ceramics were produced locally and which were imported needs to be assessed here. Lower Colorado Buffware is known to come from the east, but what about the probable Salton Brownware. The best method for determining this is through the creation of petrographic thin sections from sherds. The ratios of various types of minerals in the paste can help determine whether they were made locally or were imported from elsewhere, say from the mountains to the west (see de Barros 2005b; Guerrero 2005). The probable Lower Colorado Buffware will also be examined. A small selection of surface and subsurface ceramics would be sent to John Hildebrand for the preparation of thin sections. Thin sections can also help confirm the presence of specific types of Lower Colorado Buffware at RIV-7834 as well as whether Tizon Brownware is present.

Lithic Procurement and Reduction Strategies and Trade

While no lithics were recovered from Locus D of RIV-7834, they were recovered at some depth at RIV-7835, including those of quartz, quartzite, jasper/chert, and possibly basalt. One or two possible pieces of ground stone tools were also noted. If lithic are recovered, what type of lithic reduction as used at the site? flake core reduction using percussion? bipolar reduction? Obsidian was also available locally during periods of partial or complete desiccation of the lake. According to Laylander (2006:69), the Obsidian Butte obsidian source was submerged “whenever lake levels stood -40 m below sea level [or higher].” RIV-7834 is at -45 to -30 ft below sea level, which is higher than this level. This means if it was a shoreline site, Obsidian Butte may have been submerged at the time of its occupation; on the other hand, if the site was located at some distance from the shoreline, say in mesquite groves that were gradually re-establishing themselves during a time when the lake was largely if not completely desiccated, then Obsidian Butte may have been exploited during its occupation. If no obsidian is recovered from RIV-7834, this may give us some indication about its availability. However, given that the site is not large and recovered debitage samples may be small, sampling error may come seriously into play -- i.e., absence of evidence is not necessarily evidence of absence. Finally, the assemblage from RIV-7834 will also be checked to see if there are any shell

ornaments or beads that indicate trade from the either the Pacific or from the Sea of Cortez.

Question 7: What type(s) of lithic reduction are present at RIV-7834, using which lithic materials?

Question 8: If obsidian is found at RIV-7834, is it from Obsidian Butte or from a source outside the region, such as San Felipe in Baja?

Question 9: Is wonderstone present in significant quantities at RIV-7834?

Question 10: Are shell beads and/or ornaments present at RIV-7834?

Data Needs and Methods

A useful sample size of debitage needs to be present to adequately assess flaked stone technology and the importance of trade. If the lithic assemblage is small, the absence of a particular lithic material, such as obsidian, does not prove it was not used in the region during the site's occupational period. Obsidian artifacts and debitage will be sourced by Dr. Richard Hughes. The author will study both the flaked and groundstone lithic assemblage from the site and identify material types and lithic reduction strategies. Shell beads and ornaments will also be identified by Dr. de Barros.

Ethnographic and Connections to the Project Area

Interested tribes will be asked to consult with their elders to determine whether anyone has any knowledge of the previous inhabitants RIV-7834, especially if turns out to be post 17th century.

5.3.2 Excavation Sample, Site Boundaries and Site Depositional Integrity

A combination of field procedures will be used to: 1) obtain an adequate sample of artifacts and ecofacts to permit the assessment of site significance; 2) assess site depositional integrity, and, 3) determine horizontal and vertical boundaries of Loci A-C at RIV-7834. These strategies are summarized below.

Mapping and Collection of Surface Artifacts

The mapped surface collection provides a tentative set of horizontal boundaries. This was done when the site was resurveyed using a Magellan Promark 3 GPS datalogger. Any additional surface artifacts noted during the test excavations will be added to the map. A sample of existing surface sherds will be collected for analysis.

Placement of Hand Excavated 1 x 1m Units within Loci A-C

It is felt that two to four, judgmentally placed, 1 x 1 m test units are sufficient for Loci B and C but that at least four such units should be excavated at Locus A. Test units should be excavated to a minimum depth of 40 cm in 20-cm levels. If cultural deposits extend into the 20-40 cm level, excavation should continue until at least two sterile 20-cm levels are encountered. Where bedrock is not encountered, a 50-cm diameter shovel test pit (STP) will then be excavated to check for possible buried deposits. The depth of these STPs will depend upon the nature and depth of sterile lake deposits as determined by the backhoe trenching program described below. Column samples will be collected from units containing evidence of charred (and uncharred) floral remains for later flotation.

All excavated material will be dry screened through 1/8" mesh. Wet screening is not deemed necessary unless the soil has an unexpectedly, high clay content. These units will allow for the collection of an adequate artifact (and hopefully feature) sample to assess site significance and to provide data on the depth of the site.

Backhoe Trenching

The recorded surface artifacts are likely to date to after the last infilling in the 17th century as they are not buried. To check for buried early Archaic or Patayan period deposits that may be associated with an earlier episode of lake infilling and recession, a small, Kubota-like backhoe should be used to excavate a trench that cross-cuts Locus A and is perpendicular to the ancient shoreline that was once present. In order to detect potentially sparse deposits, the backhoe operator will be asked to spread out his bucket load on the adjacent ground so that archaeologists can screen samples through 1/8th mesh.

The data from the proposed backhoe trench and test units can then be used to determine whether these additional site loci confirm the evaluation based on Locus D or whether this evaluation needs to be re-assessed.

5.4 PRE-EXCAVATION AGREEMENT

Prior to conducting the test excavations, a pre-excavation agreement must be negotiated and signed between the developer, the City of Coachella, and interested Indian Tribes. The timing of the Phase II testing program will depend upon the duration of the negotiations and signing of the pre-excavation agreement and the developer's overall planning schedule.

5.5 GRADING MONITORING

Given that portions of the property have relatively dense brush or existing vineyards, and given the potential for buried prehistoric sites resulting from past

infillings and recessions of prehistoric Lake Cahuilla, there is the potential for the discovery of buried cultural deposits. Therefore, construction monitoring shall be required that would include a professional archaeologist and a Native American Observer.

SECTION 6 – CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this archaeological report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

DATE: 10/10/14 SIGNED: Philip de Barros

SECTION 7 – REFERENCES

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APPENDIX A

RESUME OF PRINCIPAL INVESTIGATOR

Dr. Philip de Barros, Ph.D., RPA

PROFESSIONAL ARCHAEOLOGICAL SERVICES

PHILIP DE BARROS, Ph.D, SOPA/RPA

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Education

M.A., Ph.D.	Anthropology (Archaeology), UCLA, 1979, 1985
M.A.	Education, Stanford University, 1966
B.A.	History, Stanford University, 1965 (cum laude)

Certifications and Secretary of the Interior Standards

- SOPA Certified in Field Research, Collections Research, and Teaching. Certifiable in Historic Archaeology and Archaeological Research Management since 1987.
- Meet Secretary of the Interior Standards for both Prehistoric and Historic Archaeology.
- Member of the Register of Professional Archaeologists (RPA) since inception.
- Certified to work in San Diego, Imperial, Orange, Riverside, San Bernardino, Santa Barbara, Kern, Inyo, and Los Angeles Counties.

Recent and Current Positions

- Professor, Anthropology, Palomar College, San Marcos, 1994-present
- Coord. A.A. Archaeology Degree Program, Palomar College, 1996-present
- Fellow, Cotsen Institute of Archaeology at UCLA, 1986-present
- Director of Cultural Resources/Sr. P.I., Chambers Group, Irvine, 1985-1994
- Adjunct Instructor, Golden West College, Huntington Beach, 1985-1994
- Instructor, Ceramic Analysis, UCLA, 1987-1991, 1999
- Chairperson, Native American Programs Committee, Society for California Archaeology, 1992-1999
- Chairperson, Multicultural Committee, Palomar College, 1995-2001
- Member, San Diego Archaeological Center Board of Trustees, 1996-1999
- Member, Poway U.S.D. and Mt. Carmel High School Human Relations Committees, 1998-2000
- Ombudsman, Poway Unified School District, 2001
- Principal, then President, Professional Archaeological Services, 1996-present

Cultural Resources Seminars

- Sensitivity Training and Legal Update Workshop, Palm Desert Planning Office, Riverside County, 1/15/11
- Sensitivity Training Workshop, Morongo IR, Riverside County 3/30/07
- As Chair of the Native American Programs Committee of the Society for California Archaeology: taught workshop on CRM laws and archaeology for Salinan Nation, May 1996 (3-days); Pomo Indian groups, March 1998 (3 days; Southern California Indian groups, April 1998 (1 day workshop). Put together CRM and Cultural Heritage Sourcebook for California Native American Communities.
- Preparing Agreement Documents (Tom King), 1991 - 2 days.
- Introduction to Federal Projects and Historic Preservation Law (Tom King and Rob Jackson, instructors, 1989 - 3 days.
- Conservation in Field Archaeology (Getty Institute), 1988 - 5 days.

Experience with GPS and GIS (Geographic Information Systems)

- Teach Introductory GPS and differential correction at Palomar College
- Use GPS in archaeological fieldwork, including setting up own base station
- Introduced GIS to Palomar's Archaeology Program Curriculum
- 160 hours of Training in ArcView GIS through ESRI and other institutions:
- Field experience in California and Africa using integrated total station, GPS-GIS technologies, first with Trimble, Ashtech ProMark2 and Magellan ProMark3 and ArcGIS 9.1 and 10.1

Experience in Cultural Resource Management

- Over 30 years experience in the field of archaeology and cultural resource management in California and the Western U.S.
- Principal, now President, Professional Archaeological Services, 1996-present
- Director of Cultural Resources/Senior Principal Investigator at Chambers Group in Irvine, California, from 1985-1994.
- Served as Principal Investigator and/or Project Manager on over 200 cultural resources projects since 1985, involving archival research, reconnaissance and intensive surveys, research designs, test excavations, data recovery excavations, cultural resource management plans, HABS/HAER documentation, the preparation of agreement documents (MOAs, PAs, Effects documents), Native American concerns, and Section 106 coordination.
- Experience in Southwestern archaeology under Professor James N. Hill of UCLA (ceramic typology, seriation, and M.A. thesis) and African archaeology (ethnoarchaeology, ethnography, Ph.D. on archaeology of traditional iron smelting in Togo, West Africa).

Section 106 (Federal) Experience

Section 106 experience as P.I. and/or Project Manager in inventory, evaluation, data recovery, historical archaeology, HABS/HAER documentation, the development of historic preservation plans, and agreement documents.

Major Inventory Work Includes:

- Picacho Mine Water Pipeline Survey for the BLM, 2011-2012
- BLM Access Road Survey to the Kathleen Culiver Property, 2011
- Evaluation plan for cultural resources in Villages 6 and 7 of the Rancho Las Flores Project, Hesperia, San Bernardino County, California, Including the results of a 995-acre resurvey of Villages 6 and 7, 2007-2008
- Small surveys for the San Diego City Water Department Associated with Barrett Lake and El Capitan Reservoir, 2004-2006
- Over 40 surveys of cellular telephone tower locations in southern California, 2000-2001
- 3,250-acre survey for the Trust for Public Lands, Rancho Jamul, San Diego County in Spring of 1998.
- 24 mile linear survey for the Lucerne Valley to Big Bear 115 kV Transmission Line Project In California for S.C.E. in 1992.
- 1500-acre survey for the BLM Ridgecrest Resource Area, 1989.
- Literature search for 3,000 miles of proposed gas pipelines in the Western U.S. for the Mojave/Kern River Gas Pipeline Project for the Federal Energy Regulatory Commission and California State Lands Commission, 1986-1987.
- Extended Phase I inventory and shovel test pit program for prehistoric sites, evaluation of historic structures, and determination of Native American concerns for ARCO's proposed Coal Oil Point Project in Santa Barbara County which ran from Goleta to Gaviota, 1985-1987.

Evaluation Experience Includes:

- Test excavation analyses and report on Guapiabit (SBR-93, -1675/H, -1913) and Archaic site SBR-1886, Rancho Las Flores Project, 2008-09 (ongoing).
- Testing of prehistoric archaeological site, INY-5887, 2001.
- Testing of historical archaeological site in Desert Center, RIV-6513H, 2000.
- Testing of two sites in the Imperial Valley, IMP-7804 and –7813H, near Westmorland and Coyote Wells, 2000.
- Testing and evaluation of RIV-4707/H in Temecula, Riverside County, for Caltrans District 8, 1996-1997.
- Testing and evaluation of nine sites in the Crowder Canyon Archaeological District, San Bernardino County, for Caltrans District 12, 1990-1997.
- Testing & evaluation of prehistoric/historic sites associated with the Lucerne Valley to Big Bear 115 kV Transmission Line Project for S.C.E. in 1992.

- Testing and evaluation of the Purisima Point sites, the Honda Beach Site, the Barka Slough Site, the Olivera Adobe Site, as well as 7 rock art sites at Vandenberg AFB for the National Park Service, 1992-1996.
- Inventory and evaluation of historic archaeological sites and structures along the San Joaquin Hills Transportation Corridor in Orange County, 1993, for Caltrans District 12.
- Testing and evaluation of SBR-5096,Hwy 71,Caltrans District 8, 1991-1992.
- Testing and evaluation of 23 prehistoric sites along the San Joaquin Hills Transportation Corridor in Orange County, Caltrans District 12, 1988-1990.

Data Recovery Experience Includes:

- Data recovery excavations at SBR-3803H in Crowder Canyon Archaeological District, 2005; report out 2007 by Applied Earthworks.
- Data recovery excavations at ORA-1357 in the Aliso Creek drainage, 1993-1994, San Joaquin Hills Transportation Corridor, for Caltrans District 12.
- Data recovery excavations at 5 sites for the San Joaquin Hills Transportation in Orange County for Caltrans District 12, 1993-1994.
- Data recovery excavations at FRE-64, -632, -633, -1154, and -1155, for Caltrans District 6 and the U.S. Army Corps of Engineers, Sacramento District, 1987-1989.

Historical Archaeology Experience Includes:

- Teach course in Historical Archaeology at Palomar College since 2004
- Testing of historical archaeological site in Desert Center, RIV-6513H, 2000.
- Testing historical archaeological site, IMP-7928H, near Westmorland, 2001
- Inventory and evaluation of Brown's Toll Road and a residence/way station associated with Crowder Canyon, for Caltrans District 8, 1997.
- Testing and evaluation of RIV-4707/H in Temecula, a late 19th century trash deposit with a domestic residence, Pala Bridge Improvement Project, Riverside County Transportation Department with Caltrans District 12 review.
- Inventory and evaluation/testing of historic homestead sites and historic transmission lines associated with the Rancho Las Flores Project, San Bernardino County for U.S. Army Corps of Engineers, 1990, 1994-1995.
- Inventory and evaluation/testing of historic sites associated with the San Joaquin Hills Transportation Corridor for Caltrans District 12, 1992-1993.
- Evaluation and testing of mid-to-late 19th century winery and homestead, lime and brick kilns, roads, and early 20th century cement and cobble building in Fontana, for U.S. Army Corps of Engineers, 1991-1992.
- Evaluation (archival research and testing), data recovery, and preservation/interpretive efforts associated with the Franciscan Plaza Project, Phases I and II, San Juan Capistrano, 1988-1990 (2 volumes reprinted by Coyote Press, Salinas).

Selected Projects Completed under CEQA:

- Survey of 277-Acre Site in the City of Coachella, March 2013
- Archaeo/Paleo Monitoring, Hotel Village South site, Dana Point, 2013
- Test Excavations at 11 Sites near Winchester, Riverside County, 2013, including 1890-1910 historic trash site
- 40-Acre Forensic Cultural Resources Survey, Jewell Valley-Boundary Creek, near Boulevard, 2013, ongoing.
- 160-Acre Forensic Cultural Resources Survey, McCain Valley-Tule Creek, near Boulevard, 2011-2012
- 90-Acre Survey, Moosa Creek Farms Project, Bonsall, 2012
- 206-Acre Survey, Brisa del Mar Residential Project, Bonsall, 2012
- Survey of 160 acres in McCain Valley along Tule Creek, July 2011
- Text Excavations at SDI-19502H in Bonsall, 2010
- Analysis of Stone Tools and Debitage from RIV-4042 (2010)
- Data Recovery Plan for data recovery at SDI-9537/H, Pauma Valley (2009)
- Excavations at Sikes Adobe, Rancho Bernardo, as Part of Restoration Efforts, 2008-2009
- Evaluation of historic trash scatter and architectural evaluation 1939 historic building, Bonsall, with Ken Swift (2009)
- Surveys in Borrego Springs (3), Fallbrook (7), Valley Center, Rosamond, Wildomar, Escondido, Oceanside, and North Palm Springs (2006-09)
- Testing/evaluation of SDI-9537/H in Pauma Valley, 2005
- Data recovery ORA-1582H (now 1654H) in Huntington Beach, 2004-05
- Testing/evaluation of ORA-1582H, an historic dump (1900-1930), 2001-2006
- Testing of 7943/H near Perris, Riverside County, California.
- Architectural evaluations in Vista and Fallbrook (with Ken Swift)(2006-07)
- Burial excavations at ORA-149 in 2006
- Data recovery ORA-149 & -1582H (now 1654H), Huntington Beach, 2004-06
- Surveys at Cuyamaca Rancho State Park by Palomar College for California State Parks, 1996 (Arroyo Seco); 1998, 2000 & 2002 (Green Valley; 2004 (Horse Camp and Green Valley Campgrounds); 2006 (Arroyo Seco Primitive Camp and vicinity).
- Testing/evaluation of SDI-9537/H (prehistoric and historic components, 2005
- Mitigation monitoring, Gevanthor Residence, City of San Diego, 2004
- Data recovery at ORA-149 and ORA-1582/H, June-July 2004
- Mitigation monitoring (SDI-15,093), City of San Diego, 2003
- Survey of 1,416 acres west of Julian, County of San Diego, 2003
- Testing at SDI-297 in Valley Center, County of San Diego, 2003
- Testing at SDI-16951 in Valley Center, County of San Diego, 2003
- Two 300 acre surveys in Menifee area of Riverside County, 2002-2003
- Data recovery at SDI-5581, Palomar College, 2000-2002
- Testing at prehistoric shell midden site, ORA-149, 2001
- Testing of historical archaeological site, ORA-1582H, 2001
- Evaluation DiAmbrogio Winery, Cucamonga, San Bernardino County, 2001
- Evaluation (testing) of SDI-15,093, Del Mar Terrace, City of San Diego, 1999

- Evaluation (testing) of SDI-5745 and SDI-15,120 in Pine Valley, County of San Diego, 1999
- Evaluation of historic structures in Pt. Loma and Del Mar, City of San Diego, 1998-1999, including designation of historic Portuguese fishing family residence the Historic Sites Board
- Evaluation (testing) of SDI-47, Ocean Beach, City of San Diego, 1996
- Evaluation (archival research and testing) of historic kiln site near Mission San Juan Capistrano, 1988-89 (project manager).
- Evaluation (archival research and testing) and data recovery excavations of the foundations of the wall around the Mission gardens in San Juan Capistrano (Sizzler and Plaza del Obispo Projects), 1988-1989.
- Evaluation (testing/archival research), data recovery, & interpretive efforts for the late-19th century Mile Square Park Site, Fountain Valley,1987-89.

HABS/HAER Experience Includes:

- Served as P.I. for a HABS documentation of late 19th century-early 20th century structures in Fontana, San Bernardino County, 1990.
- Served as Project Manager for a major HAER documentation of a Ford Motor Assembly Plant at the Port of Long Beach, 1990-1991.

Cultural Resource Management Plans/Historic Preservation Plans:

- Historic Property Management Plan, Ocotillo Wind Farm Project, 2012
- Historic Property Management Plan for the Lake Elsinore Advanced Storage Project (LEAPS) and associated 30 miles of transmission lines and substations. For Federal Energy Regulatory Commission (FERC) and Chambers Group, Inc. Submitted to SHPO, FERC, Cleveland National Forest (CNF), interested Indian Tribes (Federal and unrecognized). February 2005
- Cultural Resources Overview and Management Plan – for 120 sites within the Rancho Las Flores Project, San Bernardino County, 2004. Major revision and expansion of 1990 document. 400 pages.
- Cultural Resource Overview and Management Plan -- cultural resources overview, research design, and long-term cultural resource management plan for the 10,000-acre Rancho Las Flores Project, San Bernardino County. Covers 120 sites (lithic scatters, roasting pits, prehistoric camp sites, historic ranch and homestead sites, and large prehistoric/ethnohistoric housepit village sites). Several sites will be preserved in Serrano Heritage Preserve. 1990, revised 2004.
- Work on Historic Preservation Plan for Vandenberg AFB, National Park Service, 1994.

Experience in Preparing Agreement Documents Includes:

- Programmatic Agreement (PA) for the 10,000-acre Rancho Las Flores Project, San Bernardino County, 1994-97, approved by SHPO & ACHP.

- PA for the Playa Vista Project near Marina del Rey, approved, 1991.
- Memorandum of Agreement (MOA), Hunter's Ridge Project, Fontana, 1993.
- All but historic building section of MOA for New Ford Road Project linked to San Joaquin Hills Transportation Corridor Project, Orange County, 1993-94.
- Contributions to the development of an MOA for ARCO's proposed Coal Oil Point Project in Santa Barbara County, 1986-1987.
- Finding of Effect (FOE) for the San Joaquin Hills Transportation Corridor Project, 1992; also, for Phase I, Rancho Las Flores Project, 1994.

Experience in Assessing Damage to Archaeological Sites:

- Provided independent assessment of damage to archaeological sites within the Cleveland National Forest under the Archaeological Resource Protection Act (ARPA). This data was for a court case involving the looters.

Experience Working with Native Americans

- Chairperson of the SCA's Native American Programs Committee (NAPC) from 1992-1999:
  - ✓ symposia at Asilomar, 1993; Eureka, 1995; Rohnert Park 1997.
  - ✓ workshops for Salinan Nation, 1996; Pomo groups, 1998.
  - ✓ development of MiniSourcebook on CRM for California Indian groups, 1998; revised Sourcebook 1999
  - ✓ CRM workshop at annual SCA meeting, San Diego, 1998
  - ✓ Nov. 2004 – NAPC won the Governor's Heritage Conservation Award.
- Featured archaeologist at conference sponsored by the Governor's Office on Community Relations and the California Native American Heritage Commission, July 1992; plus additional conferences.
- Articles on Indian issues for Society for California Archaeology (SCA) Newsletter, Society for American Archaeology (SAA) Newsletter, Native American Heritage Commission Newsletter, News from Native California.
- Worked with the Juaneño and Gabrielino of Los Angeles, Orange, and San Bernardino Counties; the Serrano and Cahuilla of Riverside and San Bernardino Counties; the Chumash of Santa Barbara and Ventura Counties, the Luiseño of Riverside and San Diego Counties, the Northfork Mono and Choinumne Yokuts of Fresno County, the Kumeyaay of San Diego County, 1985-1997, and the Salinans of Monterey County, 1985-1997.
- Worked with Fort Mojave Indian Reservation, the Moapa Reservation of Nevada, and other Native American groups in Arizona, New Mexico, Wyoming, and Colorado, working on the Mojave/Kern River EIR/EIS, Cultural Resources Technical Report, 1986.
- Work closely with Native American representatives from southern California on all phases of archaeological research, including research design, and have negotiated several complex burial agreements.

Summary of Work Under CEQA

In addition to above, served as PM and/or Pl on over 150 projects since 1985, including inventory, evaluation, and mitigation phases for both prehistoric and historic archaeological sites as well as historic buildings. Wrote guide booklet for cultural resources under CEQA entitled, ***A Guide to Cultural Resource Management for Planners, Developers, Contractors, and Property Owners*** (with Carmen Weber), March 1993, revised 1999. Chambers Group, Irvine.

Selected Refereed Publications

de Barros, Philip

2013a A comparison of Early and Later Iron Age societies in the Bassar region of Togo. In ***World of Iron,*** Humphris, J. and Ruhren Thilo (eds), pp. 34-55. Proceedings of the World of Iron conference, February 16-20, 2009, Natural History Museum, London. Archetype Press, London..

2013b Prehistoric and historic brownware pottery from the Pala Road Bridge Site. In Dillon, B. and Boxt, M. (eds), *California Ceramic Traditions*. ***Pacific Coast Archaeological Society Quarterly*** 48:1-23.

2013c Rapport sur les Fouilles de l'Abri d'Agaradé, aussi appelé Tchounbowou, entre Sokode et Bafilo dans la Région centrale du Togo. [Late Stone Age rockshelter study to be sent to ***Journal of African Archaeology*** for peer view, Aug 2011.]

2012a The rise of the Bassar chiefdom in the context of Africa's internal frontier. In ***Power and Landscape in Atlantic West Africa*****,** Monroe, J.C. and Ogundiran, A (eds), pp. 255-277. Cambridge University Press.

2012b The Bassar chiefdom in the context of theories of political economy. In ***Métallurgie du fer et sociétés africaines: Bilans et nouveaux paradigms dans la recherché anthropologique et archéologique***, Robion-Brunner, C and Martinelli, B. (eds), pp. 73-95. Proceedings of Aix-en-Provence conference, April 23-24, 2010. Cambridge Monographs in African Archaeology 81. BAR International Series 2395, Archaeopress, Oxford.

2011a Review of *Forgerons et sidérurgie en pays dogon: vers une histoire de la production du fer sur le plateau de Bandiagara (Mali) durant les empires précoloniaux*, by Caroline Robion-Brunner, Journal of African Archaeology Monograph 3. ***Azania: Archaeological Research in Africa*** **46**(1):110-113.

2006 ***Final Report on the Huntington Beach Dump Site, CA-ORA-1654H (formerly – 1582H), Including the Results of Excavations at Newly Discovered Loci B and C, Pacific City Project, Huntington Beach, Orange County, California.*** Professional Archaeological Services, San Diego. For Makar Properties, Newport Beach, CA. (with S. Crull, Co-P.I. & S. Walter).

2005 Surprising Results at the Early Iron Site of Dekpassanware, Togo, West Africa. ***Backdirt.*** Spring/Summer. Cotsen Institute of Archaeology at UCLA .

2004a ***Cultural Resources Overview and Management Plan, RanchoLas Flores Project, Hesperia, San Bernardino, California.*** For Rancho Las Flores, LLC. Ms on file at the San Bernardino County Museum Archaeological Information Center, Redlands, California.

2004b ***Cultural Resources Survey and Assessment of 1,415.6 Acres of the Hoskings Ranch South of State Highway 78/79 Near Julian San Diego County, California.*** Manuscript on file at the South Coastal Information Center.

2003 Recent Early Iron Age Research in Bassar, Togo. ***Nyame Akuma*** 59:76-78.

2001 The Effect of the Slave Trade on the Bassar Ironworking Society, Togo In ***West Africa During the Atlantic Slave Trade: Archaeological Perspectives***, edited by C. De Corse, pp. 59-80. Leicester University Press, London.

2000 Iron Metallurgy: Sociocultural Context. In ***Ancient African Metallurgy: The Socio-Cultural Context,*** edited by J.O. Vogel, pp. 147-198. AltaMira Press, Walnut Creek, California

1999 ***A Sourcebook on Cultural Resource Management, Archaeology, and Cultural Heritage Values for the Native American Communities of California.*** Society for California Archaeology[author & compiler]

1998 ***A MiniSourcebook on Cultural Resource Management, Archaeology, and Cultural Heritage Values for the Native American Communities of California.*** Society for California Archaeology. [author and compiler]

1997a The Cultural Context of Ironworking. In ***Encyclopedia of Precolonial Africa***, edited by J. Vogel, pp. 135-149. AltaMira Press, Walnut Creek, California.

1997b ***Archaeological Investigations at Franciscan Plaza, San JuanCapistrano,*** 2 vols. Chambers Group, Santa Ana, CA. Prepared for Redevelopment Agency City of San Juan Capistrano & Franciscan Plaza Investment Group. Reprinted by Coyote Press, Salinas.

1993 ***A Guide to Cultural Resource Management for Planners, Developers, Contractors, and Property Owners.*** ChambersGroup, Irvine, California (with Carmen Weber).

1990 A History of Changing Paradigms, Goals, and Methods in the Archaeology of Francophone West Africa. In ***The History of African Archaeology***, edited by P. Robertshaw, pp. 155-172. James Currey, London.

1988 Societal Repercussions of the Rise of Large-Scale Traditional Iron Production: a West African Example. ***The AfricanArchaeological Review*** 6:91-113.

1986 Bassar: A Quantified, Chronologically Controlled, Regional Study of a Traditional Ironworking Centre. ***Africa*** 56(2):148-174.

1982 The Effects of Variable Site Occupation Span on the Results of Frequency Seriation. ***American Antiquity*** 47:291-315.

1980 Archaeological Investigations in 1979 on the Santa Fe National Forest by the Pajarito Archaeological Research Project, USDA Forest Service, Southwestern Region.

Conference Papers and Symposia

- delivered well over three dozen conference papers for various meetings of the AAA, SAA, SCA, ASA, SAfA, CMSA, and other societies, 1980-2011.

Recent Conference Papers

de Barros, Philip

2012 Using ArcGIS Online for Communicating Research Results to the Public. Society for Africanist Archaeologists, Toronto, Canada, June 20-23, 2012.

2011a The Cultural Context of African Ironworking. African Archaeology Work Group, University of Cape Town, South Africa, Sept 12-13.

2011b Assessing the nature of ironworking activities at the Early Iron Age site of Dekpassanware in the Bassar region of Northern Togo. Artistry of African/Diaspora Blacksmiths, 15th Triennial Symposium on African Art, UCLA, Los Angeles, March 25, 2011.

2010 A comparison of Early and Later Iron Age societies of the Bassar region of Northern Togo. 13th Congress of the Panafrican Archaeological Association for Prehistory and Related Studies and 20th Meeting of the Society for Africanist Archaeologists, Dakar, Senegal, November 1-6, 2010.

2009 How far inland did the arm of the slave trade reach? evidence from the Bassar region of Northern Togo. "Excavating the past: archaeological perspectives on Black Atlantic regional networks." Sponsored by the Cotsen Institute of Archaeology, a Mellon Transforming the Humanities Grant, and the James S. Coleman African Studies Center, UCLA, Los Angeles, April 3-4, 2009.

2008 Dekpassanware: Early Iron Age site in the Bassar region of Northern Togo: 2002 season summary; 2008 season update. Paper presented at conference "Cultural developments and technological innovations in first millennium BC/AD West Africa," March 13-14, 2008, Ouagadougou, Burkina Faso.

2006a The origin of the Bassar chiefdom: ironing out a solution without being a slave to traditional models. Paper given at the 71st annual meeting of the Society for American Archaeology, Symposium on complex societies in transition. San Juan, Puerto Rico, April 26-30, 2006.

2006b Dekpassanware: early Iron Age site in the Bassar region of Northern Togo. Paper presented at the 18th Biannual Meeting of the Society for Africanist Archaeologists, Calgary. Annotated version available through SAfA web page.

- organized/chaired symposia on CRM research, Communication Between Native Americans and Archaeologists, and Research at Vandenberg AFB, at various forums, including the SCA and SAA, 1992-1998.
- organized workshop on CRM law for Salinan Nation, Monterey County, 1996.

Professional Affiliations

Society for Professional Archaeologists (SOPA), 1987-1998
Register of Professional Archaeologists (RPA), 1998-2014
Society for American Archaeology (SAA), 1977-1985, 1988-2012
American Anthropological Association (AAA), 1981-1994, 2014
Society for California Archaeology (SCA), 1987-2010

Pacific Coast Archaeological Society (PCAS), 1977-1980, 1988-2009, 2013
California Mission Studies Association (CMSA), 1989-1990
Society for Historical Archaeology (SHA), 1990-1992
Society for Africanist Archaeologists (SAfA), 1992, 2003-2014

Selected Honors and Awards

Partner in French ANR-CRNS research grant directed out of Toulouse, France. Research on the Environmental Effects of Ancient Ironworking, Bassar Region of Togo, West Africa, 2014-2016
Professorial Fulbright Scholar Award, African Regional Research Program, 2012-2013 – research in Togo West Africa, Jan-July 2013
Palomar College Research Award, 2010
International Center for Scientific Research Listing (CIRS – Centre International pour la Recherche Scientifique), for Palomar College Archaeology Program Web Pages, 2007
Study Sphere Learning Resource Award of Excellence, Palomar College Archaeology Program Web Pages, 2006
Governor's Heritage Award, 2004, for Native American Programs Committee, committee that I founded and led from 1992-1999.
Palomar College Research Award,2001
Professorial Fulbright Scholar Award, African Regional Research Program, 2001-2002 – research in Togo West Africa, Jan-July 2002
Commendation Award from Society for California Archaeology for Work as Native American Programs Committee Chair, 1992-1999
Ahmanson Research Grant, UCLA, 1999
NISOD Teaching Excellence Award, 1998
Palomar College Research Award, 1997
Computer Equipment Grant for Palomar Archaeology Program, 1995
Wenner-Gren Foundation Grant, Togo, West Africa, 1988-1989.
Fulbright Grant - Doctoral Dissertation Research Abroad, 1982.
Teaching Assistant, UCLA, Anthropology Department, 1979-1980.
Research Assistant, UCLA, Pajarito Archaeological Research Project, 1978-80.

Areas of Expertise

- Cultural Resource Management/Section 106
- Prehistoric Hunter-Gatherers of Southern California
- Southern California Historic Archaeology
- Puebloan Cultures of the American Southwest
- Iron Age Cultures of SubSaharan Africa
- Ceramic Typology, Seriation, and Analysis
- Steatite Sourcing in California
- Windows XP; MS Office 2007: Word, Excel, Access, SharePoint Designer
- GPS ProMark3
- Geographic Information Systems (GIS), ArcGIS 9.3. and ArcGIS Server.

References

CRM/Section 106/CEQA

Barbara Tejada
Caltrans District 8
909-383-5950
barbara_tejada@dot.ca.gov

Laurie Dobson
Riverside County Trans. Dept.
909-275-2016

Mark Thompson
TRS Consultants
7867 Convoy Court, Ste 312
San Diego, 92111
858-496-2525

Glenn Russell
San Diego County Archaeologist
858-694-2981
glenn.russell@sdcounty.ca.gov

Margaret Hangan
U.S. Forest Service, Cleveland National Forest
858-674-2973
mhangan@fs.fed.us

Gail Wright
Dept. of Planning & Land Use
858-694-3003
gail.wright@sdcounty.ca.gov

Martin Rosen, Caltrans
District 11
619-688-6751

Larry Spanne, BHPO, retired
Vandenberg AFB
805-732-8232 x50748

Steve Dibble, COE
Los Angeles District
213-452-3849

Laura Eisenberg
Transportation Corridor Agencies
949-513-3482, -3481

Stephen Bouscaren, Ph.D.
San Diego City College
619-271-9139; 230-2609

Mary Beth Broeren, City Planner
City of Huntington Beach
714-536-5550
broerenm@surfcity-hb.org

Experience with Native Americans

Larry Myers, Executive Secretary
Native American Heritage Commission
Sacramento 916-653-4082

Katherine Saubel (deceased)
NAHC 909-849-8304

Joyce Perry, David Belardes
Juaneño Band of Mission Indians
714-493-4933

Gregg Castro
Salinan Nation
408-218-4459

Carmen Lucas
Kwaaymii Band of Kumeyaay Indians
619-709-4207

Dave Singleton,
Native American Heritage Comm.
916-373-3715

Academic

Dr. Merrick Posnansky, Prof. Emeritus
Professor of History and Archaeology, Emeritus
UCLA 818-986-1381

Professor Jim Eighmey
Palomar College
760-744-1150 x 2330

APPENDIX B

NATIVE AMERICAN CONSULTATION

Philip de Barros, Ph.D.
13730 Via Cima Bella
San Diego, CA 92129
760-807-9489 (cell)
760-761-3516 (FAX)

Professional Archaeological Services

March 25, 2014

Dave Singleton
Native American Heritage Commission
915 Capitol Mall, Room 364
Sacramento, CA 95814

RE: Sacred Lands Check for a 277-acre property situated along near Interstate 10 in the City of Coachella in Riverside County. The project area is in Section 28 of Township 5 South, Range 8 East, San Bernardino Base Meridian on the ***Indio*** 7.5' quad.

Dear Dave,

I am requesting a sacred lands check for the property referenced above. I have attached a portion of the 1956 (photorevised 1972) 7.5' USGS ***Indio*** quad showing the location of the area to be surveyed.

Please fax the results of the search to Professional Archaeological Services at 760-761-3516. Or mail it to Philip de Barros, 13730 Via Cima Bella, San Diego, CA 92129. If you need to call me for any reason, please call at 760-807-9489.

Sincerely,

Philip de Barros

Philip de Barros, Ph.D.

Doing the Job Right the First Time!
Cost-Effective Resource Management!

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

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

March 26 2014

Dr. Phillip de Barros, Ph.D., RPA
Professional Archaeological Services
13730 Via Cima Bella
San Diego, CA 92129

Sent by FAX to: 760-781-3516
No. of Pages: 4

RE: Sacred Lands File Search and Native American Contacts list for the **"Residential Development Project;"** located on 277-acres near the Cabazon Indian Reservation and the City of Indio; Coachella Valley; Riverside County California

Dear Dr. de Barros

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

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

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

California Government Code Sections 65040.12(e) defines 'environmental justice' to provide "fair treatment of people...with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations and policies." Also, Executive Order B-10-11 requires that state agencies "consult with Native American

tribes, their elected officials and other representatives of tribal governments in order to provide meaningful input into…the development of legislation, regulations, rules and policies on matter that may affect tribal communities."

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

Sincerely,

Dave Singleton
Program Analyst

Attachments

Native American Contacts
Riverside County California
March 26, 2014

Cabazon Band of Mission Indians
Doug Welmas, Chairperson
84-245 Indio Springs Cahuilla
Indio , CA 92203-3499
(760) 342-2593
(760) 347-7880 Fax

Santa Rosa Band of Mission Indians
John Marcus, Chairman
P.O. Box 391820 Cahuilla
Anza , CA 92539
(951) 659-2700
(951) 659-2228 Fax

Los Coyotes Band of Mission Indians
Shane Chapparosa, Chairman
P.O. Box 189 Cahuilla
Warner , CA 92086
(760) 782-0711
(760) 782-2701 - FAX

Augustine Band of Cahuilla Mission Indians
Mary Ann Green, Chairperson
P.O. Box 846 Cahuilla
Coachella , CA 92236
(760) 398-4722
760-369-7161 - FAX

Ramona Band of Cahuilla Mission Indians
Joseph Hamilton, Chairman
P.O. Box 391670 Cahuilla
Anza , CA 92539
admin@ramonatribe.com
(951) 763-4105
(951) 763-4325 Fax

Morongo Band of Mission Indians
William Madrigal, Jr.,Cultural Resources Manager
12700 Pumarra Road Cahuilla
Banning , CA 92220 Serrano
(951) 201-1866 - cell
wmadrigal@morongo-nsn.
gov
(951) 572-6004 Fax

Torres-Martinez Desert Cahuilla Indians
Mary Resvaloso, Chairperson
PO Box 1160 Cahuilla
Thermal , CA 92274
mresvaloso@torresmartinez.
(760) 397-0300
(760) 397-8146 Fax

Torres-Martinez Desert Cahuilla Indians
Matthew Krystal, Cultural Resources Manager
P.O. Boxt 1160 Cahuilla
Thermal , CA 92274
mkrystall@tmdci-nsn.gov
760) 397-0300,
(760) 409-2987- cell
(760) 397-8146 Fax

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

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

This list s only applicable for contacting locative Americans with regard to cultural resources for the proposed 277-acre Development Project; located in the Indio area; Riverside County, California for which a Sacred Lands file search and Native American Contacts list were requested.

Native American Contacts
Riverside County California
March 26, 2014

Cabazon Band of Mission Indians
Judy Stapp, Director of Cultural Affairs
84-245 Indio Springs Cahuilla
Indio , CA 92203-3499
(760) 342-2593
jstapp@cabazonindians-nsn.gov
(760) 347-7880 Fax

Agua Caliente Band of Cahuilla Indians THPO
Patricia Garcia, Tribal Historic Perservation Officer
5401 Dinah Shore Drive Cahuilla
Palm Springs, CA 92264
ptuck@augacaliente-nsn.gov
(760) 699-6907

(760) 699-6924- Fax

Augustine Band of Cahuilla Mission Indians
Karen Kupcha
P.O. Box 849 Cahuilla
Coachella , CA 92236
(760) 398-4722
916-369-7161 - FAX

Cahuilla Band of Indians
Luther Salgado, Chairperson
PO Box 391760 Cahuilla
Anza , CA 92539
Chairman@cahuilla.net
760-763-5549
760-763-2631 - Tribal EPA

Ernest H. Siva
Morongo Band of Mission Indians Tribal Elder
9570 Mias Canyon Road Serrano
Banning , CA 92220 Cahuilla
siva@dishmail.net
(951) 849-4676

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

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

This list is only applicable for contacting locative Americans with regard to cultural resources for the proposed 277-acre Development Project; located in the Indio area; Riverside County, California for which a Sacred Lands file search and Native American Contacts list were requested.

Philip de Barros, Ph.D.
13730 Via Cima Bella
San Diego, CA 92129
760-807-9489 (cell)
858-484-3478 (phone/FAX)
760-761-3516 (FAX)

Professional Archaeological Services

Cabazon Band of Mission Indians
Doug Welmas, Chairperson
84-245 Indio Springs
Indio, CA 92203-3499

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Chairperson Welmas,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

Professional Archaeological Services (PAS) conducted an updated records search on March 24th and requested a Sacred Lands check from the Native American Heritage Commission (NAHC) on March 25th. The March 26th response was negative. Prior to the survey, both Judy Stapp of the Cabazon Band of Mission Indians and the tribal office of the Torres-Martinez Indian Reservation were contacted. Both declined to provide a monitor at this stage of the investigation, but wanted to be kept informed when potential impacts to cultural resources were determined. PAS re-examined the property on March 26-28. Two of the prehistoric sites were re-mapped using GPS, but despite an intensive search, the small (26 x 15 m) RIV-7836 site could not be relocated. Recent vegetation clearing has apparently obliterated its surface remains. Several historic water system standpipes as well as an historic foundation with associated artifacts dating to the1940s or 1950s onwards were also recorded.

If you have concerns regarding this project and the sites described above, please contact me at 760-807-9489 or at atavikodjo@hotmail.com.

Sincerely,

Philip de Barros

Philip de Barros, Ph.D., R.P.A.

4/29/14

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Philip de Barros, Ph.D.
13730 Via Cima Bella
San Diego, CA 92129
760-807-9489 (cell)
858-484-3478 (phone/FAX)
760-761-3516 (FAX)

Professional Archaeological Services

Ramona Band of Cahuilla Mission Indians
Joseph Hamilton, Chairman
P.O. Box 391670
Anza, CA 92539

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Chairman Hamilton,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

Professional Archaeological Services (PAS) conducted an updated records search on March 24th and requested a Sacred Lands check from the Native American Heritage Commission (NAHC) on March 25th. The March 26th response was negative. Prior to the survey, both Judy Stapp of the Cabazon Band of Mission Indians and the tribal office of the Torres-Martinez Indian Reservation were contacted. Both declined to provide a monitor at this stage of the investigation, but wanted to be kept informed when potential impacts to cultural resources were determined. PAS re-examined the property on March 26-28. Two of the prehistoric sites were re-mapped using GPS, but despite an intensive search, the small (26 x 15 m) RIV-7836 site could not be relocated. Recent vegetation clearing has apparently obliterated its surface remains. Several historic water system standpipes as well as an historic foundation with associated artifacts dating to the1940s or 1950s onwards were also recorded.

If you have concerns regarding this project and the sites described above, please contact me at 760-807-9489 or at atavikodio@hotmail.com.

Sincerely,

Philip de Barros

Philip de Barros, Ph.D., R.P.A.

4/29/11

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13730 Via Cima Bella
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760-761-3516 (FAX)

Professional Archaeological Services

Torres-Martinez Desert Cahuilla Indians
Mary Resvaloso, Chairperson
P.O. Box 1160
Thermal, CA 92274

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Chairperson Resvaloso,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

Professional Archaeological Services (PAS) conducted an updated records search on March 24th and requested a Sacred Lands check from the Native American Heritage Commission (NAHC) on March 25th. The March 26th response was negative. Prior to the survey, both Judy Stapp of the Cabazon Band of Mission Indians and the tribal office of the Torres-Martinez Indian Reservation were contacted. Both declined to provide a monitor at this stage of the investigation, but wanted to be kept informed when potential impacts to cultural resources were determined. PAS re-examined the property on March 26-28. Two of the prehistoric sites were re-mapped using GPS, but despite an intensive search, the small (26 x 15 m) RIV-7836 site could not be relocated. Recent vegetation clearing has apparently obliterated its surface remains. Several historic water system standpipes as well as an historic foundation with associated artifacts dating to the1940s or 1950s onwards were also recorded.

If you have concerns regarding this project and the sites described above, please contact me at 760-807-9489 or at atavikodio@hotmail.com.

Sincerely,

Philip de Barros

Philip de Barros, Ph.D., R.P.A.

4/29/14

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13730 Via Cima Bella
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760-761-3516 (FAX)

Professional
Archaeological
Services

Santa Rosa Band of Mission Indians
John Marcus, Chairman
P.O. Box 391820
Anza, CA 92539

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Chairman Marcus,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

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If you have concerns regarding this project and the sites described above, please contact me at 760-807-9489 or at atavikodio@hotmail.com.

Sincerely,

Philip de Barros

Philip de Barros, Ph.D., R.P.A.

4/29/14

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Philip de Barros, Ph.D.
13730 Via Cima Bella
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858-484-3478 (phone/FAX)
760-761-3516 (FAX)

Professional
Archaeological
Services

Augustine Band of Cahuilla Mission Indians
Mary Ann Green, Chairperson
P.O. Box 846
Coachella, CA 92236

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Chairperson Green,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

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760-761-3516 (FAX)

Professional Archaeological Services

Morongo Band of Mission Indians
William Madrigal, Jr., Cultural Resources Manager
12700 Pumarra Road
Banning, CA 92220

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Mr. Madrigal,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

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Sincerely,

Philip de Barros

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760-761-3516 (FAX)

Professional Archaeological Services

Torres-Martinez Desert Cahuilla Indians
Matthew Krystal, Cultural Resources Manager
P. O. Box 1160
Thermal, CA 92274

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Mr. Krystal,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

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Sincerely,

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Philip de Barros, Ph.D., R.P.A.

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760-761-3516 (FAX)

Professional Archaeological Services

Cabazon Band of Mission Indians
Judy Stapp, Director of Cultural Affairs
82-245 Indio Springs
Indio, CA 92203-3499

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Ms. Stapp,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

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Philip de Barros

Philip de Barros, Ph.D., R.P.A.

4/24/14

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760-761-3516 (FAX)

Professional Archaeological Services

Agua Caliente Band of Cahuilla Indians THPO
Patricia Garcia, Tribal Historic Preservation Officer
5401 Dinah Shore Drive
Palm Springs, CA 92264

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Ms. Garcia,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

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Sincerely,

Philip de Barros

Philip de Barros, Ph.D., R.P.A.

4/29/14

Philip de Barros, Ph.D.
13730 Via Cima Bella
San Diego, CA 92129
760-807-9489 (cell)
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760-761-3516 (FAX)

Professional Archaeological Services

Augustine Band of Cahuilla Mission Indians
Karen Kupcha
P.O. Box 849
Coachella, CA 92236

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Ms. Kupcha,

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760-761-3516 (FAX)

Professional Archaeological Services

Los Coyotes Band of Mission Indians
Shane Chapparosa, Chairman
P.O. Box 189
Warner, CA 92086

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Chairman Chapparosa,

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Sincerely,

Philip de Barros

Philip de Barros, Ph.D., R.P.A.

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760-761-3516 (FAX)

Professional Archaeological Services

Ernest H. Siva
Morongo Band of Mission Indians Tribal Elder
9570 Mias Canyon Road
Banning, CA 92220

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Mr. Siva,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

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4/29/14

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760-761-3516 (FAX)

Professional
Archaeological
Services

Cahuilla Band of Indians
Luther Salgado, Chairperson
P.O. Box 391760
Anza, CA 92539

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Chairperson Salgado,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

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Sincerely,

Philip de Barros

Philip de Barros, Ph.D., R.P.A.

4/29/14

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April 30, 2014

Philip de Barros, Ph.D., R.P.A.
13730 Via Cima Bella
San Diego, CA 92129

Re.: Proposed 277-acre Development in the City of Coachella just south of Interstate-10
Riverside County, California

Dear de Barros:

Thank you for contacting the Cabazon Band of Mission Indians concerning cultural resource information relative to the above referenced project.

The project is located outside of the Tribe's current reservation boundaries. The Tribe has no specific archival information on the site indicating that it may be a sacred/religious site or other site of Native American traditional cultural value. The Cabazon Band will defer to the Torres Martinez Band of Desert Cahuilla Indians for further consultation.

We look forward to continued collaboration in the preservation of cultural resources or areas of traditional cultural importance.

Best regards,

Judy Stapp

Judy Stapp
Director of Cultural Affairs

84-245 INDIO SPRINGS PARKWAY • INDIO, CALIFORNIA 92203-3499 • (760) 342-2593 FAX (760) 347-7880

AUGUSTINE BAND OF CAHUILLA INDIANS
P.O. Box 846 • Coachella, CA 92236 • (760) 398-4722 • Fax (760) 398-4252
Tribal Chairperson: MaryAnn Green

May 23, 2014

Philip de Barros
13730 Via Cima Bella
San Diego, CA 92129

RE: Vista Del Agua 277-Acre Development Project (Coachella, CA)

Dear Mr. de Barros:

Thank you for the opportunity to offer input concerning the development of the above-identified project. We appreciate your sensitivity to the cultural resources that may be impacted by your project, and the importance of these cultural resources to the Native American peoples that have occupied the land surrounding the area of your project for thousands of years. Unfortunately, increased development and lack of sensitivity to cultural resources has resulted in many significant cultural resources being destroyed or substantially altered and impacted. Your invitation to consult on this project is greatly appreciated.

At this time we are unaware of specific cultural resources that may be affected by the proposed project. We encourage you to contact other Native American Tribes and individuals within the immediate vicinity of the project site that may have specific information concerning cultural resources that may be located in the area. We also encourage you to contract with a monitor who is qualified in Native American cultural resources identification and who is able to be present on-site full-time during the pre-construction and construction phase of the project. Please notify us immediately should you discover any cultural resources during the development of this project.

Very truly yours,

Augustine Band of Cahuilla Indians

Mary Ann Green
Tribal Chairperson