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July 7, 2017

Mr. Chris Loughridge
CLL-Roselle, LLC
3565 Riviera Drive
San Diego, California 92109

CLL-01

Subject: 10325 Roselle Street (Project No. 150566) Cultural Resources Report Addendum

Dear Mr. Loughridge:

This letter report serves as an addendum to the cultural resources report *Archaeological Resources on a Lot on Roselle Street, San Diego, California* by G. Timothy Gross (May 2009) and the addendum to that report, prepared by Mary Robbins-Wade of HELIX Environmental Planning, Inc. (HELIX) in January 2015. This letter report was prepared in response to a request from City of San Diego (City) staff that an archaeologist and a Native American monitor assess the current condition of the cultural resources within the project site. The proposed project design has not changed since the 2009 submittal. Site conditions within the project footprint have not changed, and the proposed data recovery plan is still adequate to mitigate potential project impacts, as described below.

BACKGROUND

The Roselle Street project (project) is located within the significant archaeological and cultural resource site known as Ystagua (CA-SDI-4609). The property is located on Roselle Street in Sorrento Valley, in the City of San Diego, in western San Diego County. The parcel is on the alluvial flats along Carroll Canyon Creek in Soledad Canyon, at the end of Roselle Street, although some of the steep valley wall is included in the eastern portion of the property, as well.

On July 23, 2009, the project property was designated by the City's Historical Resources Board (HRB) as HRB Site #924, Village of Ystagua Area #1. As addressed in the 2009 cultural resources report, fill soils had been dumped on the property, covering portions of the archaeological site. That report noted:

A former tenant placed a layer of fill over portions of the flats west of the creek on this property. It appears that between 2 and 4 feet (0.6 and 1.2 m) of fill have been placed over the original ground surface. The placement of fill on the archaeological deposits of the site may have slightly disturbed the uppermost deposit. These deposits were most likely already disturbed by past historic activities. Mechanical removal of the fill would be more likely to harm deposits than leaving the fill in place and recontouring it, as proposed for the current project [Gross 2009:21].

The project proposes to grade the existing fill on the project site to provide adequate contours for the project. Grading would affect 1.5 acres of the 7-acre project site. Minor ground-disturbing activity would occur in association with utilities and landscaping. A research design and a data recovery program were developed and presented in the 2009 report; implementation of the data recovery program would serve to mitigate any project impacts that cannot be avoided to below a level of significance. In response to comments from City staff in 2014, Native American representative Clint Linton provided a memo indicating his concurrence with the data recovery plan; this was included as part of the update/addendum prepared by HELIX in January 2015.

CURRENT STUDY

Due to significant rain events since the 2015 cultural resources study update, City staff requested that an archaeologist and a Native American monitor walk the project site to assess its current status and whether any of the previously buried cultural deposits have been exposed through erosion. Andrew Giletti of HELIX and Clint Linton of Red Tail Monitoring and Research visited the project site on May 19, 2017 with the applicant. Erosion was observed along the creek bank in the northern portion of the property (Carroll Canyon Creek), exposing some cultural material beneath fill layers. Artifacts and fire-affected rock were noted in the sidewalls of the creek bed. However, this area is outside the proposed project footprint and would not be affected by project implementation. No evidence of pothunting was noted, although graffiti was observed in some areas.

HELIX requested site records for CA-SDI-4609 from the South Coastal Information Center (SCIC) at San Diego State University in order to review any recent findings regarding this resource. A data recovery excavation was conducted in 2014 in conjunction with the Sorrento-to-Miramar Phase One Double Track project. Hand-excavated units and mechanically-excavated trenches were located to the northeast and east of the Roselle St. project site. Fill soils associated with the railroad were found to overlie culturally rich midden deposits that reached as deep as 130 centimeters below surface. A wide variety of artifact types was recovered, including ground stone, flaked stone, ceramics, bone artifacts, and shell artifacts, as well as marine shell and animal bone food remains. Cremated human remains were identified in multiple excavation units and were repatriated to the Kumeyaay Cultural Repatriation Committee (Castells 2014). The data recovery excavation mitigated impacts from the double track project, but these results serve as a reminder of the cultural and archaeological significance of the site of Ystagua. Again, it must be noted that the Roselle St. project will only be contouring fill soils that lie above potential cultural deposits, and there will be little, if any, encroachment into cultural deposits.

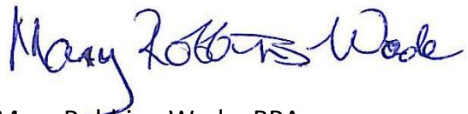
CONCLUSIONS

In summary, the project design has not changed since the submittal addressed in the 2009 cultural resources report (Gross 2009). A requirement for fencing was eliminated in order to avoid impacts to cultural resources. The property has been listed by HRB as a significant resource. A 2015 update/addendum to the 2009 cultural resources study found that conditions had not changed, and the Native American representative is in agreement with the data recovery program for mitigating impacts that cannot be avoided through project design (Robbins-Wade 2015). Some cultural material was noted as exposed in the creek bed during the 2017 site visit, but this area is outside the project footprint and would not be affected by project development. A monitoring program will be implemented that includes the presence of an archaeologist and a Native American monitor during all ground-disturbing activity.

Letter to Mr. Chris Loughridge
July 7, 2017

Page 3 of 4

If you have any questions, please call me at (619) 462-1515.

A handwritten signature in blue ink that reads "Mary Robbins-Wade". The signature is written in a cursive, flowing style.

Mary Robbins-Wade, RPA
Director of Cultural Resources
Southern California

REFERENCES

Castells, Shelby Gunderman

2014 CA-SDI-4609/W-654 site record update on file at South Coastal Information Center, San Diego State University.

Gross, G. Timothy

2009 *Archaeological Resources on a Lot on Roselle Street, San Diego, California*. Affinis, El Cajon, CA. Report submitted to City of San Diego Development Services Department. Report on file at South Coastal Information Center, San Diego State University.

Robbins-Wade, Mary

2015 10325 Roselle Street (Project No. 150566) – Cultural Resources Report Addendum. HELIX Environmental Planning, Inc., La Mesa, CA. Memo submitted to City of San Diego Development Services Department. On file at HELIX.

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**10325 Roselle Street (Project No. 150566)–
Cultural Resources Report Addendum
January 13, 2015
By Mary Robbins-Wade**

This letter report serves as an addendum to the cultural resources report *Archaeological Resources on a Lot on Roselle Street, San Diego, California* by G. Timothy Gross, May 2009. It was prepared in response to cycle issue comments and discussion with City Environmental Analysis Section staff. The proposed project design has not changed since the 2009 submittal.

The project is within the significant archaeological and cultural resource site known as Ystagua. On July 23, 2009, the project property was designated by the Historical Resources Board (HRB) as HRB Site #924, Village of Ystagua Area #1. As addressed in the 2009 cultural resources report, the project proposes to grade the existing fill on the project site to provide adequate contours for the project. Minor ground-disturbing activity would occur in association with utilities and landscaping. A research design and a data recovery program were developed and presented in the 2009 report; implementation of the data recovery program would serve to mitigate any project impacts that cannot be avoided to below a level of significance. In response to comments from City staff, Native American representative Clint Linton has provided a memo indicating his concurrence with the data recovery plan (attached).

Several artifacts were noted on the surface of the site during field visits by Mary Robbins-Wade of HELIX and Gabe Kitchen of Red Tail Monitoring and Research (Native American monitor) in December 2014. As addressed in the 2009 report, a construction monitoring program would be implemented during any ground-disturbing activity, including brushing/grubbing, grading, trenching, etc.

In summary, the project design has not changed since the 2009 submittal addressed in the May 2009 cultural resources report. A requirement for fencing has been eliminated in order to avoid impacts to cultural resources. The property has been listed by HRB as a significant resource. The Native American representative is in agreement with the data recovery program for mitigating impacts that cannot be avoided through project design (see attached memo). A monitoring program will be implemented that includes the presence of an archaeologist and a Native American monitor during all ground-disturbing activity.

If you have any questions, you can reach me at (619) 462-1515 or maryrw@helixepi.com.

A handwritten signature in blue ink that reads "Mary Robbins-Wade".

Mary Robbins-Wade, RPA
Director of Cultural Resources, Southern California

**ARCHAEOLOGICAL RESOURCES ON
A LOT ON ROSELLE STREET,
SAN DIEGO, CALIFORNIA
(Project No. 150556)**

Submitted to:

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May 2009

Affinis Job No. 2197

USGS quadrangle: Del Mar (7.5' series)

Acreage: 0.5 acre

Keywords: City of San Diego, San Diego County, Township 15 South, Range 3 West; Ystagua (CA-SDI-4609); human remains; shell, ceramics, groundstone, flaked stone

NATIONAL ARCHAEOLOGICAL DATA BASE INFORMATION

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Report Title: Archaeological Resources on A Lot on Roselle Street, San Diego,
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Submitted to: City of San Diego, Development Services Department, 1222 First
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Contract number: Affinis Job No. 2197
USGS quadrangles: Del Mar(7.5' series)
Acreage: 7.04 acres
Keywords: City of San Diego, San Diego County, Township 15 South, Range
3 West; Ystagua (CA-SDI-4609); human remains; shell, ceramics,
groundstone, flaked stone

Executive Summary

The subject property, a vacant lot on Roselle Street in the City of San Diego, is known to be part of an archaeological site (CA-SDI-4609) which is a part of the location of the historic Kumeyaay village of Ystagua. Unauthorized fill has been placed on that site and the owner is obligated to take remedial actions including grading the fill to contour it and provision of adequate drainage. That work requires a Site Development Permit, A Coastal Development Permit, and a Neighborhood Development Permit. This report describes the cultural resources studies undertaken in support of the applications for those permits.

The applicant proposes to grade the imported fill and surface the resulting pad with decomposed granite. A drain will be constructed that will convey runoff to an existing storm drain that runs along the northwest property line. Provisions are being made for an office trailer to be placed on the site, so sewer and water connections will be installed. A driveway will be created for access to the property. Fencing will be added where necessary to insure security for the pad area.

Previous archaeological work in the area and specifically on the subject property indicate the area is an important archaeological site. Stratified deposits have been found, and work on the subject parcel associated with the repair of a broken water main yielded a number of artifacts. Human bones were also found on that project and were reburied by the project's Native American monitor. The presence of Native American burials as evidenced by the discovery of human bone makes the site ethnically significant.

This report discusses additional archaeological work on the property. The excavation of postholes for the installation of a fence in 2004 was monitored. Artifacts were recovered, including a mano fragment, a core, 11 pieces of debitage, and 6 sherds. Shell (8.3 g) was also recovered.

Because the entire area of the parcel that is proposed for modification by this project has sensitive archaeological deposits and is ethnically significant, the primary concern both in designing the project and in designing the mitigation has been to minimize impacts to the site's deposits. Project design has been modified to accommodate that goal. The mitigation measures proposed for the project also reflect that goal. It is recommended that all ground modifying activities be monitored. This includes the grading of the driveway and the installation of the drain, the water and sewer lines, and the fence sections. Data recovery excavations are recommended for the drain and water and sewer lines.

A data recovery plan and research design will be prepared for City approval prior to implementation of the program. A Pre-Excavation Agreement will be negotiated with the City of San Diego, the property owner, and the Kumeyaay community as participants.

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Introduction

Sorrento Valley is an area of important archaeological sites, and an archaeological site known as *Ystagua* is one of the largest and most important. Not only is this site the location of an important historic Kumeyaay village, but it is also recognized by members of the Native American community as being a significant village site which still contains the physical remains of many native people who were buried there over the course of many millennia. The site was rural through the mid-twentieth century, with only a few ranch houses and fences disturbing the archaeological deposits. In the last half of the twentieth century the area was developed as an industrial park. The parcel that is the subject of this report is a vacant lot that has the remains of a house foundation and an old swimming pool, both now covered with recently-imported fill.

Project Purpose

As required by the California Environmental Quality Act (CEQA) and the City of San Diego's archaeological guidelines, this report details the methods and results of the cultural resources program conducted by Affinis at the lot on Roselle Street. This work was performed in support of the applications for Site Development Permit, a Coastal Development Permit, and a Neighborhood Development Permit.

Project Location

The property is located on Roselle Street in an established industrial park in Sorrento Valley, in the City of San Diego, in western San Diego County (Figure 1). The parcel is on the alluvial flats along Peñasquitos Creek at the end of Roselle Street (Figures 2 and 3), although some of the steep valley wall is included on the property, as well. The property is near the head of Soledad Lagoon in an unsectioned portion of Township 15 South, Range 3 West, on the USGS 7.5' Del Mar quadrangle (Figure 2). Due to the sensitivity of the locations of archaeological sites, and in accordance with State law, Figures 2 through 6 are not included in this report but are bound as a separate confidential appendix.

Project Description

A former tenant on this site placed a layer of fill over portions of the flats west of the creek on this property. It appears that between 2 and 4 feet (0.6 and 1.2 m) of fill have been placed over the original ground surface.

The proposed project will remove some fill that has been placed on the site, recontour the remaining fill, and install a drainage system. This will result in a cap of sterile soil about 4 feet (1.2 m) thick over part of the archaeological site on the property. This cap should help protect the site from looting that has gone on in the past (Figure 4).



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Regional location in San Diego County

Figure 1

**Confidential Information
Bound Separately**

Figure 2. Project location on the Del Mar USGS 7.5' quadrangle. (Confidential, bound separately)

**Confidential Information
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Figure 3. Project location on the City of San Diego Engineering maps. (Confidential, bound separately)

**Confidential Information
Bound separately**

Figure 4. The proposed project. (Confidential, bound separately)

As discussed above, the property is within the mapped boundaries of a recorded archaeological site. The property owner contracted with Affinis to provide the archaeological services when he first acquired the property. Since that time Affinis archaeologists have visited the site, monitored the installation of fence posts on the property, and consulted with the owner and his planning team. G. Timothy Gross served as Principal Investigator/ Project Manager and both Matt Murray and Matt Sivba as the monitors.

Setting

Physical Environment

The subject property is located on alluvial flats and valley wall of Sorrento Valley, although only the portion of the flats is being affected by this project. It lies approximately 2.20 miles (3.53 km) from the ocean at the closest point, but access along this route requires climbing up the steep valley walls to the top of Torrey Pines mesa and then descending the sea cliffs to gain access to the sea. If a route is taken along the edge of the lagoon, the distance is 3.67 mi (5.91 km). The alluvial flat on the property sits at an elevation of about 50 to 60 ft (15 to 18 m) above mean sea level, with elevations on the property ranging to 240 ft (73 m) on the slope at the south end of the property.

The lot is underlain by the Quaternary alluvium and slope wash. This consists of silts, sands, and cobbles that have been derived from nearby geological formations and that have been deposited either by alluvial or colluvial processes (flood plain deposition or slope wash) (Kennedy 1975:35). The materials derived from the two sources intertongue with each other, especially near the base of steep slopes. Such deposits have a strong potential for archaeological material and culturally meaningful stratification. Such stratification has been observed on portions of Ystagua (Hector 1985:28; Schultze 1992:112).

The soil type mapped for the area is Salinas clay loam. This is a soil that formed in flood plains (Bowman 1973:74-75). The typical profile of the Salinas clay loam has an A horizon that is usually dark grayish brown overlying a C horizon that is usually very dark grayish brown (Bowman 1973:75). The area of the alluvial flats on the subject property is an archaeological site, and the sediments in this area are also darkened by organic material added to the sediments by past inhabitants.

The average annual rainfall for the San Diego's coastal strip is about 10 inches (25 cm) (Pryde 2004:36), and mean annual air temperature is between 60° and 62°F. Fresh water would have been available to people living in the area prehistorically from Soledad creek which flows through the property.

Biological Environment

Bowman (1973:75) notes the typical native vegetation associated with Salinas clay loam “is chiefly annual grasses and forbs and scattered trees and shrubs.” The general area probably supported coastal sage scrub or maritime chaparral prior to development. Coast sage brush, flat topped buckwheat, and laurel sumac would have been found in the coastal sage scrub. Chamise, mission manzanita, wart-stemmed ceanothus, Nuttall’s scrub oak, and Del Mar manzanita are found in the maritime chaparral. Marine plants such as eel grass would have been found in the nearby lagoon, and salt marsh plants would have been available around the lagoon. Kelp that washed up on shore could have been collected from nearby beaches.

The terrestrial plant communities would have been home to rabbits and other small mammals, and water fowl would have been attracted to the lagoon. Deer would have been found in the area, as well.

The marine environment in the area was very rich. The open ocean shores would have been home to important shellfish like abalone, mussels, bean clams, and wavy top shells, while the lagoon would have been home to scallops and egg cockles (Hubbs and Whitacker 1972:87). Oyster, scallop, mussels, and venus clam shells have been recovered from archaeological sites in the area (Gross and Robbins-Wade 1990:48-56).

A number of fish could have been harvested from the lagoon and the ocean in the area of the subject property. Fish could have been obtained both from the lagoon and from the ocean. In addition to fish, marine mammals like seals, sea lions, and sea otters could also have been obtained from the ocean and the shore nearby.

The environment in this area, then, would have been quite conducive to humans living there. Abundant foods were available from the ocean, and the land would have provided edible seeds, rabbits and other small mammals, deer, and birds. Wood for fires and for construction could have been obtained from the local plant communities or could have been collected as driftwood off the beaches.

Cultural Environment

The following summary of local prehistory and history is provided as a background for understanding the discussions of the archaeology that follow. First the regional sequence of complexes or archaeological manifestations defined by for the area are discussed. The various investigations at the site are discussed before proceeding with the description of the work actually done on the subject property.

Regional Prehistory

The prehistory of the San Diego area has been summarized a number of times. The most useful general discussions are found in Moratto's (1984) book on the archaeology of California and Chartkoff and Chartkoff's (1984) often overlooked book on California prehistory. Both works discuss Southern California and the San Diego area in some detail. In 2004 a review article on California focusing on the developments since the publication of the two books just mentioned was published (Arnold et al. 2004). Papers by Bull (1983, 1987), Carrico (1987), Gallegos (1987), and Warren (1985, 1987) provide summaries and interpretations of local archaeology.

Carter (1957, 1978, 1980), Minshall (1976) and others (e.g., Childers 1974; Davis 1968, 1973) have long argued for the presence of Pleistocene humans in California, including the San Diego area. The sites identified as "early man" are all controversial. Carter and Minshall are best known for their discoveries at Texas Street and Buchanan Canyon. The material from these sites is generally not considered to be artifacts, and the investigative methodology is often questioned (Moratto 1984).

The earliest accepted archaeological manifestation of Native Americans in the San Diego area is the San Dieguito complex, dating to approximately 10,000 years ago (Warren 1967). The San Dieguito complex was originally defined by Rogers (1939), and Warren published a clear synthesis of the complex in 1967. The material culture of the San Dieguito complex consists primarily of scrapers, scraper planes, choppers, large blades, and large projectile points. Rogers considered crescentic stones to be characteristic of the San Dieguito complex as well. Tools and debitage made of fine-grained green metavolcanic material, locally known as felsite, were found at many sites which Rogers identified as San Dieguito. Often these artifacts were heavily patinated. Felsite tools, especially patinated felsite, became seen as an indicator of the San Dieguito complex. Until relatively recently, many archaeologists felt that the San Dieguito culture lacked milling technology and saw this as an important difference between the San Dieguito and La Jolla complexes. Sleeping circles, trail shrines, and rock alignments have also been associated with early San Dieguito sites. The San Dieguito complex is chronologically equivalent to other Paleoindian complexes across North America, and sites are sometimes called "Paleoindian" rather than "San Dieguito". San Dieguito material underlies La Jolla complex strata at the C. W. Harris site in San Dieguito Valley (Warren, ed. 1966).

The traditional view of San Diego prehistory has the San Dieguito complex followed by the La Jolla complex at least 7,000 years ago, possibly as long as 9,000 years ago (Rogers 1966). The La Jolla complex is part of the Encinitas tradition and is included in Wallace's (1955) Millingstone Horizon. The Encinitas tradition is generally "recognized by millingstone assemblages in shell middens, often near sloughs and lagoons" (Moratto 1984:147). "Crude" cobble tools, especially choppers and scrapers, characterize the La Jolla complex (Moriarty 1966). Basin metates, manos, discoidals, a small number of Pinto series and Elko series points, and flexed burials are also characteristic.

Warren et al. (1961) proposed that the La Jolla complex developed with the arrival of a desert people on the coast who quickly adapted to their new environment. Moriarty (1966) and Kaldenberg (1976) have suggested an in situ development of the La Jolla people from the San Dieguito. Moriarty later proposed a Pleistocene migration of an ancestral stage of the La Jolla people to the San Diego coast. He suggested this Pre-La Jolla complex is represented at Texas Street, Buchanan Canyon, and the Brown site (Moriarty 1987).

In recent years, archaeologists in the region have begun to question the traditional definition of San Dieguito people simply as makers of finely crafted felsite projectile points, domed scrapers, and discoidal cores, who lacked milling technology. The traditional defining criteria for La Jolla sites (manos, metates, "crude" cobble tools, and reliance on lagoonal resources) have also been questioned (Bull 1987; Cárdenas and Robbins-Wade 1985; Robbins-Wade 1986). There is speculation that differences between artifact assemblages of "San Dieguito" and "La Jolla" sites reflect functional differences rather than temporal or cultural variability (Bull 1987; Gallegos 1987). Gallegos (1987) has proposed that the San Dieguito, La Jolla, and Pauma (an inland expression of the Millingstone Horizon) complexes are manifestations of the same culture, with differing site types "explained by site location, resources exploited, influence, innovation and adaptation to a rich coastal region over a long period of time" (Gallegos 1987:30). The classic "La Jolla" assemblage is one adapted to life on the coast and appears to continue through time (Robbins-Wade 1986; Winterrowd and Cárdenas 1987). Inland sites adapted to hunting contain a different tool kit, regardless of temporal period (Cárdenas and Van Wormer 1984).

Several archaeologists in San Diego, however, do not subscribe to the Early Prehistoric/Late Prehistoric chronology (see Cook 1985; Gross and Hildebrand 1998; Gross and Robbins-Wade 1989; Shackley 1988; Warren 1998). They feel that an apparent overlap among assemblages identified as "La Jolla," "Pauma," or "San Dieguito" does not preclude the existence of an Early Milling period culture in the San Diego region, whatever name is used to identify it, separate from an earlier culture. One problem these archaeologists perceive is that many site reports in the San Diego region present conclusions based on interpretations of stratigraphic profiles from sites at which stratigraphy cannot validly be used to address chronology or changes through time. Archaeology emphasizes stratigraphy as a tool, but many of the sites known in the San Diego region are not in depositional situations. In contexts where natural sources of sediment or anthropogenic sources of debris to bury archaeological materials are lacking, other factors must be responsible for the subsurface occurrence of cultural materials. The subsurface deposits at numerous sites are the result of such agencies as rodent burrowing and insect activity. Recent work has emphasized the importance of bioturbative factors in producing the stratigraphic profiles observed at archaeological sites (see Gross 1992). Different classes of artifacts move through the soil in different ways (Bocek 1986; Erlandson 1984; Johnson 1989), creating vertical patterning (Johnson 1989) that is not culturally relevant. Many sites which have been used to help define the culture sequence of the San Diego region are the result of just such nondepositional stratigraphy.

The Late Prehistoric period is represented by the San Luis Rey complex in northern San Diego County and the Cuyamaca complex in the southern portion of the county. The San Luis Rey complex is the archaeological manifestation of the Shoshonean predecessors of the ethnohistoric Luiseño (named for the Mission San Luis Rey). The Cuyamaca complex represents the Yuman forebears of the Kumeyaay (Diegueño, named for the San Diego Mission). Agua Hedionda is traditionally considered to be the point of separation between Luiseño and Northern Diegueño territories. Elements of the San Luis Rey complex include small, pressure-flaked projectile points (Cottonwood and Desert Side-Notched series); milling implements, including mortars and pestles; *Olivella* shell beads; ceramic vessels; and pictographs (True et al. 1974). Of these elements, mortars and pestles, ceramics, and pictographs are not associated with earlier sites. True noted a greater number of quartz projectile points at San Luis Rey sites than at Cuyamaca complex sites, which he interpreted as a cultural preference for quartz (True 1966). He considered ceramics to be a late development among the Luiseño, probably learned from the Diegueño. The general mortuary pattern at San Luis Rey sites is ungathered cremations.

The Cuyamaca complex, reported by True (1970), is similar to the San Luis Rey complex, differing in the following points:

1. Defined cemeteries away from living areas;
2. Use of grave markers;
3. Cremations placed in urns;
4. Use of specially made mortuary offerings;
5. Cultural preference for side-notched points;
6. Substantial numbers of scrapers, scraper planes, etc., in contrast to small numbers of these implements in San Luis Rey sites;
7. Emphasis placed on use of ceramics; wide range of forms and several specialized items;
8. Steatite industry;
9. Substantially higher frequency of milling stone elements compared with San Luis Rey;
10. Clay-lined hearths (True 1970:53-54).

Both the San Luis Rey and Cuyamaca complexes were defined on the basis of village sites in the foothills and mountains. Coastal manifestations of both Luiseño and Kumeyaay differ from their inland counterparts. Fewer projectile points are found on the coast, and there tends to be a greater number of scrapers and scraper planes at coastal sites (Robbins-Wade 1986, 1988). Cobble-based tools, originally defined as "La Jolla", are characteristic of coastal sites of the Late Prehistoric period as well (Cárdenas and Robbins-Wade 1985:117; Winterrowd and Cárdenas 1987:56).

The San Diego Mission and the Presidio of San Diego were founded in 1769, bringing about profound changes in the lives of the Indians of San Diego. Ethnographic work has concentrated on the mountain and desert peoples, who were able to retain some of their aboriginal culture.

Coastal groups were quickly absorbed into the mission system or died of newly introduced diseases. Therefore, ethnographic accounts of the Indians of the San Diego coast are sparse.

Soledad Valley is in the territory of the Kumeyaay. The Kumeyaay have 13 reservations in San Diego County and two in Baja California. The Indian population is not found only on reservations, however, as a number of Indians live in communities off the reservation. The Native American community takes an active interest in protecting their heritage, including archeological sites, with the 13 reservations cooperating in the Kumeyaay Cultural and Repatriation Committee which deals with repatriation of artifacts and human bone, as well as other important cultural issues. Kumeyaay use of the nearby Torrey Pines area is documented in the by Delfina Cuero in her autobiography (Cuero 1991) where she describes plant collecting and fishing as activities that went on in the area.

Investigations of *Ystagua*

The village of *Ystagua* was occupied in the historic period, and it was first encountered by Europeans when Portolá's expedition from San Diego to Monterey entered what is now Sorrento Valley. At that time the village consisted six traditional brush thatch houses (Carrico 1977). The archaeological site that is the remains of *Ystagua* was first recorded in 1974 by Jean Krase as [CAL]:E:4:18. Additional portions of the village were subsequently recorded as CA-SDI-5443 (SDM-W-1271 in the Museum of Man system of site numbers), CA-SDI-4513, and CA-SDI-4609. The Museum of Man assigned the number SDM-W-654 to an area that includes the sites just listed (Shultze:1992:15). The parcel on Roselle Street that is the focus of this project is within the area recorded as CA-SDI-4609.

A number of archaeological surveys and excavations have taken place on portions of the village of *Ystagua*. These include projects reported by Bull (1978), Carrico (1978), Carrico and Day (1981), Carrico and Taylor (1983), Carrico and Gallegos (1989), Gallegos and others (1989), Harris and others (1999), Hector (1985), Hector and Wade (1986), Krase (1972), and Smith and Moriarty (1983). Most of these projects are summarized in a thesis by Carol A. Schultze (1992) which sought to synthesize the work that had been done on the site up to that time.

In 1978 Charles S. Bull reported on archaeological testing on property adjacent to the subject parcel. Bull (1978) documented archaeological deposits to a depth of 130 cm. Carrico and Taylor (1983), also excavating in the vicinity but northwest of the subject property, found deep deposits and had radiocarbon dates run from the site.

A number of radiocarbon dates have been run on materials recovered from various excavations at the sites that make up *Ystagua*. A brief examination of the California Radiocarbon Database (Berschini et al. 2005) yields a number of dates, most of which were run on shell. The oldest for the site as a whole comes from CA-SDI-4513. This date, Beta-30173, is 5040±80 BP, and the type of shell processed is not listed. For the portion of *Ystagua* where the subject parcel is

located, CA-SDI-4609, dates range from >220 BP (no error term or lab number given) to 2890±90 (Beta-22019).

The most relevant work to the current project was conducted in 1998 and 1999 to address damage that occurred on the subject property when a water main broke. The water main runs along the northwestern boundary of the parcel, and work was conducted on the property. The archaeological monitors collected 2878 artifacts and over 200 g of bone. Artifacts included flaked and ground lithic tools, ceramics, and worked bone. During the monitoring, human bone was found and reburied by the project's Native American Monitor, Clarence Brown (Harris et al. 1999:iv-v).

Method

Background Research

The Principal Archaeologist has a long history of working with sites in the Sorrento Valley/ Soledad Lagoon area. His first archaeological experiences with prehistoric sites were as a volunteer with a Museum of Man project led by Dr. Emma Lou Davis (1976). The focus of this project was on a site on Torrey Pines Mesa just up hill from *Ystagua*, but excavations were also conducted at the Roaring Brook site (SDM-W-20). Since that time he has worked on a number of projects in the area, including excavations at two sites on Torrey Pines State Reserve (Gross 2005), at the White-tail Kite site (CA-SDI-1103; Gross and Robbins-Wade 1990; Gross 1992), the Bank Robber site (CA-SDI-197; Gross and Robbins-Wade 1995), and at the Carmel del Mar Hotel site (CA-SDI-4614; Robbins-Wade and Gross 1989). He participated in survey projects in the area, and he is in the process of writing the report on geoarchaeological monitoring of improvements to Carmel Valley Road (Gross 2008a). In January 2008 he synthesized his work in the area for a symposium "10,000 Years at Torrey Pines State Reserve: The Land, the Sea, and the People" held at Scripps Institution of Oceanography (Gross 2007). The Principal Archaeologist used his experience in the area along with review of documentation in the Affinis library and files as background research for this project. In addition, reports at the South Coastal Information were checked.

Because the subject property is within a recorded archaeological site, no formal record search was requested. Site records and reports on file at Affinis provided the necessary information.

Field Reconnaissance

A field reconnaissance was conducted on May 22, 2000. On this field visit the property was inspected, but a systematic survey was not carried out. Areas with good ground visibility were inspected and areas where pits indicated recent unauthorized excavation, presumably for artifacts, were checked. The site was revisited with the owner and Clint Linton, a Native American representative, on March 27, 2009.

Monitoring Fence Post Excavation

Affinis Archaeologists Matt Murray and Matt Sivba monitored the installation of a fence on the perimeter of the flat part of the property on September 13 and 14, 2004. The holes were dug with a two-person auger with a 6 in (15 cm) bit. The holes were excavated to a depth of approximately 2 ft (0.6 m), and the soils were placed on the ground surface adjacent to the hole where the archaeological monitor inspected the soils for artifacts. The archaeologists inspected the fill from a total of 58 holes. Artifacts were collected where they were found in the soils, and they were brought back to the Affinis Laboratory where they were cleaned, cataloged, and packaged for curation. The artifacts will be transferred to the San Diego Archaeological Center or some other curation facility that meets federal standards.

Results

Artifacts

Groundstone

A single groundstone item, a mono fragment, was found in Posthole 1. This mano fragment was a piece of a medium- to coarse-grained metavolcanic cobble which was used for grinding on two opposite surfaces, and although the use does not appear to have been particularly intensive, it was enough for shouldering to develop. Shouldering is the presence of a distinct break in curvature between the worked surfaces and the unworked surfaces. There are also signs of thermal alteration on this mano fragment, suggesting it may have been used as a heating stone after it was not longer useful as a mano.

Flaked Stone

The flaked stone collection from the posthole monitoring consisted of 12 items: a core and 11 flakes. These are discussed in turn below.

Core

Posthole 5 yielded the only flaked item that was not debitage. This item was a fine-grained metavolcanic core fragment weighing 16.8 g.

Debitage

Debitage, the flakes and shatter removed from cores and tools in the process of shaping them, was the most common type of artifact found. The most common type of debitage was medium- to coarse-grained metavolcanic material at eight pieces, followed by quartzite at two pieces, and a one piece of fine-grained metavolcanic. The debitage weighed 128.3 g and had a mean weight of 11.7 g.

Ceramics

The six sherds found in monitoring were all identified as Tizon Brownware. This is the brown ceramic associated most commonly with the Late Prehistoric occupations of the coast of the San Diego area. All six sherds were body sherds: no rims, necks, or basal pieces were recovered. The sherds weighed 39.0 g with a mean sherd weight of 6.5 g.

Shell

All of the shell recovered from the posthole monitoring came from Posthole 5. Four taxa are represented in the collection. These are, in order of abundance by weight, Pismo clam (*Tivela stultorum*), speckled scallop (*Argopecten circularis aequisulcatus*), bean clam (*Donax gouldii*), and oyster (*Ostrea lurida*). The both clams are recorded as occurring on sandy beaches in the Torrey Pines area, and the scallop is recorded from the lagoon, but oyster is not listed as a species for the Torrey Pines area (Hubbs and Whitacker 1972:87). Oysters are, however, common in sites in the area, as are the scallops (Gross and Robbins-Wade 1990:48-56).

Artifact Distribution

Table 1 presents the distribution of artifacts found during the monitoring of posthole excavation on the Roselle Street property. Figure 5 shows the location of the postholes and the surface collected artifacts. The important point here is that artifacts were found throughout the flats on the property.

Table 1. Distribution of artifacts from posthole monitoring

Provenience	Mano	Core	Debitage	Sherd	Shell	Total
General surface	0	0	3	0	0	3
Posthole 1	1	0	2	2	0	5
Posthole 8	0	0	1	0	0	1
Posthole 23	0	0	1	2	0	3
Posthole 53	0	0	2	2	0	4
Posthole 57	0	1	2	0	8.3 g	3 (and 8.3 g of shell)
Total	1	1	11	6	8.3 g	19 (and 8.3 g of shell)

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Figure 5. Location of postholes. (Confidential, bound separately)

Discussion

Based on the previous archaeological work on the property and on the monitoring of postholes excavated at the site, it is clear that the flats on the subject property contain sensitive archaeological deposits. The documented presence of human bone (Harris et al. 1999), combined with the nature and abundance of artifacts recovered, indicates the deposits are important. Testing of archaeological sites is required by the City of San Diego guidelines when development is proposed on them. Given the abundance of evidence for the presence of important archaeological deposits on the subject property and the because human remains had been found on the property, additional testing was not considered desirable since it would have had a potential to disturb human remains.

It is clear from past work on the site, both as part of the mitigation of the City impacts from the breakage of a water main (Harris et al. 1999) and the reconnaissances conducted for the current owner of the property, that there are important, intact deposits present throughout much of the flat area on the property. The water line break mitigation and the post hole monitoring reported herein indicate that these deposits contain artifacts and ecofacts. These deposits have considerable potential to inform us about the past. In addition, the documented presence of human bone makes the site important to the Native American community.

Project Effects and Mitigation Measures

Significance Criteria

The archaeological resources on the subject property were evaluated using the significance criteria of the California Environmental Quality Act (CEQA), the City of San Diego's Historical Resource Guidelines, the City of San Diego Historical Resources Board criteria for local designation, the City's Significance Determination Thresholds, and the Historical Resources Regulations of the City of San Diego Municipal Code.

Under CEQA, any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, 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:

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

- Is associated with the lives of persons important in our past;
- 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:
- Has yielded or may be likely to yield information important in prehistory or history.

The California Register includes resources listed in or formally determined eligible for listing in the National Register of Historic Places, as well as some California State Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the California Register and are presumed to be significant resources for purposes of CEQA, unless a preponderance of evidence indicates otherwise (Public Resource Code § 5024.1, 14 CCR § 4850).

The CEQA Guidelines direct that lead agencies should first evaluate an archaeological site to determine if it meets the criteria for listing in the California Register. If an archaeological site is an historical resource (i.e., listed or eligible for listing in the California Register) potential adverse impacts to it must be considered (Public Resource Code 21084.1 and 21083.2(1)). If an archaeological site is not an historical resource, the effects of the project on the resource shall not be considered a significant effect on the environment.

The City of San Diego has established the following criteria to be used in the determination of significance under CEQA:

An archaeological site must consist of at least three associated artifacts/ ecofacts (within a 50 square meter area) or a single feature and must be at least 45 years of age. Archaeological sites containing only a surface component are generally considered not significant unless demonstrated otherwise. Such site types may include isolated finds, bedrock milling stations, sparse lithic scatters, and shellfish processing stations. All other archaeological sites are considered potentially significant. The determination of significance is based on a number of factors specific to a particular site including site size, type, and integrity; presence or absence of a subsurface deposit, soil stratigraphy, features, diagnostics, and dateable material; artifact and ecofact density; assemblage complexity; cultural affiliation; association with an important person or event; and ethnic importance.

The determination of significance for historic buildings, structures, objects and landscapes is based on age, location, context, association with an important person or event, uniqueness, and integrity.

A site will be considered to possess ethnic significance if it is associated with a burial or cemetery; religious social or traditional activities of a discrete ethnic population; an important person or event as defined by a discrete ethnic population; or the mythology of a discrete ethnic population [City of San Diego 2001:15-16].

Any improvement, building, structure, sign, interior element and fixture, feature, site, place, district, area, or object may be designated as historic by the City of San Diego Historical Resources Board if it meets any of the following criteria:

- a. Exemplifies or reflects special elements of the City's, a community's or a neighborhood's historical, archaeological, cultural, social, economic, political, aesthetic, engineering, landscaping or architectural development;
- b. Is identified with persons or events significant in local, state or national history;
- c. Embodies distinctive characteristics of a style, type, period or method of construction or is a valuable example of the use of indigenous materials or craftsmanship;
- d. Is representative of the notable work of a master builder, designer, architect, engineer, landscape architect, interior designer, artist or craftsman;
- e. Is listed or has been determined eligible by the National Park Service for listing on the National Register of Historic Places or is listed or has been determined eligible by the California State Office of Historic Preservation for listing on the California Register of Historical Resources;
- f. Is a finite group of resources related to one another in a clearly distinguishable way or is a geographically definable area or neighborhood containing improvements which have a special character, historical interest or aesthetic value or which represent one or more architectural periods or styles in the history and development of the City [City of San Diego 2001:14-15].

The City's Municipal Code includes Historical Resources Regulations. "The purpose of these regulations is to protect, preserve, and where damaged, restore the historical resources of San Diego, which include historical buildings, historical structures or historical objects, important archaeological sites, historical districts, historical landscapes, and traditional cultural properties" (City of San Diego 2000:1). Section 143.0253 of the Historical Resources Regulations address development regulations for important archaeological sites:

In addition to the general development regulations in Section 143.0250, the following regulations apply to important archaeological sites.

- (a) Important archaeological sites shall be preserved in their natural state, except that development may be permitted as provided in this section or as provided in Section 143.0260.

- (1) Development may be permitted in areas containing important archaeological sites if necessary to achieve a reasonable development area, with up to 25 percent encroachment into any important archaeological site allowed. This 25 percent encroachment includes all grading, structures, public and private streets, brush management except as provided in Section 143.0225, and any project-serving utilities.
 - (2) An additional encroachment of up to 15 percent, for a total encroachment of 40 percent, into important archaeological sites may be permitted for essential public service projects that are sited, designed, and constructed to minimize adverse impacts to important archaeological sites, where it has been demonstrated that there is no feasible, less environmentally damaging location or alternative. Essential public service projects include publicly owned parks and recreation facilities, fire and police stations, publicly owned libraries, public schools, major street and primary arterials, and public utility systems.
- (b) Any encroachment into important archaeological sites shall include measures to mitigate for the partial loss of the resource as a condition of approval. Mitigation shall include the following methods, consistent with the Historical Resources Guidelines of the Land Development Manual:
- (1) The preservation through avoidance of the remaining portion of the important archaeological site; and
 - (2) The implementation of a research design and excavation program that recovers the scientific value of the portion of the important archaeological site that would be lost due to encroachment.
- (C) The following types of development shall not be considered encroachment provided that no structures, other than portable structures are erected or maintained on the premises and that adequate measures to preserve and protect the important archaeological site, consistent with the Historical Resources Guidelines of the Land Development Manual, are included as conditions of approval:
- (1) Parks and playgrounds;
 - (2) Low-intensity, passive recreational uses such as trails, access paths, and public viewpoints; and
 - (3) Parking lots [City of San Diego 2000:12-13].

Section 143.0260 addresses deviations from the Historical Resources Regulations:

- (a) If a proposed development cannot to the maximum extent feasible comply with this division, a deviation may be considered in accordance with decision Process Four.
- (b) The minimum deviation to afford relief from the regulations of this division and accommodate development may be granted only if the decision maker makes the applicable findings in Section 126.0504 [City of San Diego 2000:13].

Under Section 143.0210 (e) of the Historical Resources Regulations, a Site Development Permit in accordance with Process Four is required for a development that proposes to deviate from the development regulations for historical resources as described in this division (City of San Diego 2000:2).

Significance of Impacts

Previous investigations on the property and in the immediate vicinity document the presence of significant archaeological deposits on the property. The discovery and subsequent reburial of human remains on the site makes the deposits very important, and they meet the definition of having ethnic significance, as defined by the City of San Diego. Because of this documentation, further testing was not considered necessary and was deemed undesirable because of the possibility of disturbing human remains. According to the Historic Preservation Element of the San Diego General Plan, the Village of Ystagua is a designated historic resource (City of San Diego 2008:Table HP-1). The site is also listed on the National Register of Historic Places as the Sorrento Valley Site, although this listing appears to apply to the eastern portion of the site which is arguably less significant than the deposits on the western part of the site (Hector 1985:5).

As part of this project the property will be submitted to the City Historic Resources Board for consideration. The board will decide whether or not to designate the property as a Historic Resource. A summary of investigations for consideration by the board is included in Appendix A.

The City's Criterion A is usually used when considering an archaeological site for designation as an historical resource. Criterion A says the resource

Exemplifies or reflects special elements of the City's, a community's or a neighborhood's historical, archaeological, cultural, social, economic, political, aesthetic, engineering, landscaping or architectural development.

The portion of CA-SDI-4609 that occurs on the subject property clearly meet this criterion. Intact deposits have been demonstrated by the mitigation effort for the City water main break and by past inspection of the site by the Principle Archaeologist. Monitoring of posthole excavations reinforces this point. Artifacts recovered from the subject property include both flaked and ground stone tools, shell, worked bone, and human bone. The presence of diverse archaeological

material in intact deposits in an area that is known to have been part of a large historic coastal village clearly “reflects elements of the City’s . . . archaeological . . . development.”

Criterion E is also relevant here. This criterion is applied when a site is

Is listed or has been determined eligible by the National Park Service for listing on the National Register of Historic Places or is listed or has been determined eligible by the California State Office of Historic Preservation for listing on the California Register of Historical Resources.

Portions of the Village of Ystagua are listed on both the National Register of Historic Places and are designated historic resources by the City of San Diego. This site is clearly part of the larger entity and should be eligible for listing because of that association.

A former tenant placed a layer of fill over portions of the flats west of the creek on this property. It appears that between 2 and 4 feet (0.6 and 1.2 m) of fill have been placed over the original ground surface. The placement of fill on the archaeological deposits of the site may have slightly disturbed the uppermost deposit. These deposits were most likely already disturbed by past historic activities. Mechanical removal of the fill would be more likely to harm deposits than leaving the fill in place and recontouring it, as proposed for the current project.

Despite violations of procedure and impacts to other resources, the placement of the fill has a benefit for the sensitive deposits on the property. As noted earlier, the project area was subject to significant vandalism and unauthorized excavation in the past. The Principal Archaeologist noted this in his past visits to the site (Gross 2008b), and Bull noted it when he was working on the adjacent parcel (Hector 1985:5). This also appears to be the area where Schultze (1992:2) noted evidence of relic hunting. The placement of fill actually has the benefit of protecting the deposits of the site.

The project proposes to grade the fill to provide adequate contours. In addition, the fill will be surfaced with decomposed granite, a driveway will be created for access, utilities (sewer and water) will be brought from existing service points to the location proposed for a trailer, fencing will be installed in two areas, and a drain structure will be installed that takes runoff from the pad and conveys it to an existing storm drain. Landscaping will be installed to mitigate visual impacts of the project. Figure 6 illustrates the locations and approximate areas of the proposed impacts.

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Figure 6. Location of proposed impacts (Confidential information—bound separately)

Other options have been considered for this project such as asphalt paving, more extensive drainage structures, and more aggressive landscaping, but in each case the sensitivity of the archaeological deposits has led to changes in plans. Indeed, one of the driving forces in the design of this project has been minimizing impacts to the deposits that are ethnically significant and archeologically important. For the same reason no additional testing was done on the property.

Table 2 summarizes the proposed impacts to the archaeological deposits. It lists the proposed project feature, the estimated area of impact, and the estimated depth or range of depths of impacts. Because most of these features have depths that are variable, calculating exact volumes to be impacted is not possible.

Table 2. Impacts of the proposed project.

Proposed Feature	Area (ft ²)	Area (m ²)	Depth (ft)	Depth (m)
Driveway	376.58	34.98	< 1	<0.30
Sewer line	104.07	9.67	1-4	0.30-1.22
Water line	330.60	30.71	1-4	0.30-1.22
Fence (southwestern section)	211.98	19.64	~3	~0.91
Fence (southeastern section)	81.45	7.57	~3	~0.91
Drain	~120.00	11.15	0-3	0-0.91

Mitigation Measures

Because of the extreme sensitivity of this site, the project has been designed to minimize impacts to the natural and cultural sediments at the site that constitute both an ethnically significant location and significant archaeological deposits. Design criteria and mitigation measures both emphasize not disturbing the original soils and sediments on the subject property.

Asphalt paving is generally required for the use contemplated for this property (parking and/or storage of vehicles), but that was rejected because an asphalt layer would change the permeability of the sediments in the area which could also change soil chemistry and might adversely impact preservation of shell and bone items and other artifacts. The landscape palette has been selected with consideration to root depth. Deep-rooted plants can penetrate archaeological deposits and disturb the stratification of archaeological sites. Shallow-rooted plants have been selected for landscaping purposes. In addition, tall trees and shrubs would be used in a project such as the one proposed to provide a visual shield between passers by and the objects and activities on the property. Such shrubs and trees would likely disturb the archaeological strata with their roots, and the project has instead proposed alternative vegetation planted to accomplish the visual

shielding. The placement of the trailer that is proposed to be placed on site was even determined based at least in part on minimizing the area that would have to be disturbed to bring utilities to it.

Most archaeological site capping projects are done in a prescribed fashion. The first step is usually the excavation of an index sample to document what is being preserved, then the placement of a geotextile to mark the boundary between original deposits and the cap. Archaeologically sterile sediments (sediments that contain no archaeological material) are then placed over the geotextile to achieve the desired amount of capping, usually about a meter. Because of the sensitivity of this site and the desire to minimize impacts to subsurface deposits, existing information on the contents of the site will serve the purposes normally filled by the index sample. The recontoured cap will not have a geotextile layer marking the boundary between cap and deposit, but given the nature of the deposits on this lot it is expected that this boundary will show up clearly in the stratigraphic profile and would be recognizable to any qualified archaeologist. The capping material, after recontouring, should provide a cap that averages about a meter in thickness, although it will feather out near the street, an area where there is existing disturbance from road construction. This fill should shield the site from disturbance and the presence of people actively at the property should discourage any relic hunting or unauthorized excavation.

Implementation of this project would result in some ground disturbance, despite all the efforts to minimize it. The driveway will require minimal excavation (less than 1 ft or 0.03 m). The drain, sewer line and water line are linear features with depths of penetration of original soils that are variable. In these situations, excavation of data recovery units would most likely disturb more of the site than the actual impacts from the construction. It is recommended that a Native American monitor and a qualified archaeological monitor be present for the grading of these features.

Two segments of fence are to be installed. This will require the excavation of a number of postholes that will be about 3 ft (1 m) deep. Again, excavation of a data recovery unit or units would disturb more of the site than the individual post holes. Monitoring of posthole excavation by a Native American monitor and a qualified archaeological monitor is the recommended mitigation for the fence installation.

Data recovery and monitoring are recommended mitigation measures for this project. The following sections provide more detail on the mitigation measures and include a discussion of the Pre-excavation Agreement that should be negotiated between the City of San Diego, the applicant, and the Kumeyaay community.

Data Recovery Program

A data recovery excavation program has been recommended for this project. A research design that is specifically designed to answer questions specific to this site and which minimizes impact

to site sediments that will be preserved is included in the Appendix B of this report. The data recovery plan includes:

1. Excavation of an adequate number of units to provide a representative sample of cultural material present at the site (within the limits of the areas to be impacted, given the goal of site preservation);
2. Water screening of a portion of the excavated sediments using 1/8-in. mesh;
3. Standard screening of the remaining sediments using 1/8-in. mesh;
4. Cleaning, sorting, cataloging, and analysis of all cultural material collected;
5. Analysis of faunal material recovered;
6. Detailed analysis of a sample of debitage collected;
7. Obsidian sourcing and hydration analysis on a sample of artifacts;
8. Other lithic raw material sourcing on a sample of artifacts, as appropriate;
9. Ceramic analysis on a sample of artifacts (both petrographic and neutron activation analyses);
10. Radiocarbon analysis;
11. Other special studies, such as protein residue analysis, as applicable;
12. Preparation of a comprehensive report detailing the methods and results of the data recovery program;
13. Curation of the cultural material collected, as well as maps, field notes, catalogs, etc., at the San Diego Archaeological Center or other suitable repository meeting state and/or federal curatorial standards.

Pre-Excavation Agreement

Prior to implementation of the data recovery program, a pre-excavation agreement shall be developed and signed by the City of San Diego, the applicant, and the appropriate representatives of the Kumeyaay community. This agreement will specify the requirements for Native American monitors during the data recovery program and during grading for construction, the disposition of artifacts collected during the data recovery program and during construction monitoring, and the procedures to be implemented in the event that human remains are encountered during the data recovery program or during construction monitoring.

Monitoring

Due to the significance of the village of *Ystagua* and the potential for encountering additional culturally sensitive material in the site area, a construction monitoring program has been proposed. The monitoring program shall include both archaeological and Native American monitors. Following is a summary of key components of the monitoring program. The monitoring program shall include the following measures:

1. Prior to implementation of the monitoring, a pre-excavation agreement shall be developed, as described above.

2. The qualified archaeologist and the Native American representative shall attend the pre-grading meeting with representatives of City staff, the applicant, and the contractor to explain the requirements of the program.
3. An archaeologist and a Native American monitor shall be on-site during all grading, trenching, and other ground-disturbing activities unless both agree that the work is in fill soil and is not likely to proceed into cultural deposits.
4. If archaeological artifacts, deposits, or cultural features are discovered, grading activities shall be temporarily halted or directed away from these deposits to allow documentation and collection of cultural material. Since this is a known archaeological site, however, it is expected that some artifacts will be encountered during grading. The archaeological monitor and the Native American monitor will have to be able to exercise professional judgement about what should be collected and what can be left at the site.
5. If any human remains are discovered, the requirements agreed upon in the pre-excavation agreement shall be implemented. In addition, work shall be halted in that area and no soil shall be exported from the property until a determination can be made regarding the provenance of the human remains. The provisions set forth in CEQA guidelines Section 15064.5(e), the California Public Resources Code (Sec/ 5097.98) and State Health and Safety Code (Sec. 7050.5) shall be followed.
6. Recovered artifactual materials shall be cataloged and analyzed.
7. A report shall be completed describing the methods and results of the monitoring program.
8. Artifacts shall be curated with accompanying catalog to current professional repository standards at an appropriate curatorial facility, such as the San Diego Archaeological Center, or the collection will be repatriated to the appropriate Kumeyaay representatives, as specified in the pre-excavation agreement.

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Appendix A

Summary of Cultural Resources on the Roselle Street Parcel
For Consideration by the City of San Diego Historical Resources Board

ANALYSIS

A cultural resources study was prepared by Affinis which concludes the property lies within an area of Sorrento Valley with known significant cultural sensitivity associated with the Kumeyaay village of *Ystagua*. The report concludes the property represents an important archaeological site and significant traditional cultural property and is a significant historical resource under HRB Criterion A, as follows:

CRITERION A -Exemplifies or reflects special elements of the City's, a community's or a neighborhood's historical, archaeological, cultural, social, economic, political, aesthetic, engineering, landscaping or architectural development.

This property is located within the boundaries of an area Native Americans, historians, and archaeologists believe to be the historic Kumeyaay village of *Ystagua*. First recorded in 1974 by as [CAL]:E:4:18, additional portions of the village were subsequently recorded as CA-SDI-5443 (SDM-W-1271 in the Museum of Man system of site numbers), CA-SDI-4513, and CA-SDI-4609. The Museum of Man assigned the number SDM-W-654 to an area that includes the sites just listed. The parcel on Roselle Street that is the focus of this project is within the area recorded as CA-SDI-4609. The assignment of different number to different parts of this village reflects both the archaeological history of the area, with different parts being surveyed at different times for different projects, and the discontinuous nature of the deposits. Natural features such as ravines and streams separate the site into discrete parts.

The area is composed of several large midden areas. Shell and artifacts scatters are also present, and human burials have been found in several parts of the village complex. Portions of the site, particularly those in the valley bottom like the subject parcel, have deep, stratified deposits, while other portions located on hillsides have deposits that are more shallow and have been subject to mixing.

A number of archaeological surveys and excavations have taken place on portions of the village of *Ystagua*. These include both private and public projects. Most of the archaeological work in the village area has been summarized in a San Diego State MA thesis by Carol A. Schultze which sought to synthesize the work that had been done on the site up to that time.

In 1978 Recon reported on archaeological testing on a property adjacent to the subject parcel, where they found deposits to a depth of 130 cm. Another project in the vicinity but northwest of the subject property, found deep deposits and had radiocarbon dates run from the site.

A number of radiocarbon dates have been run on materials recovered from various excavations at the sites that make up *Ystagua*. The oldest for the site as a whole comes from CA-SDI-4513. This date, Beta-30173, is 5040±80 BP, and the type of shell processed is not listed. For the portion of *Ystagua* where the subject parcel is located, CA-SDI-4609, dates range from >220 BP (no error term or lab number given) to 2890±90 (Beta-22019).

The most relevant work to the current project was conducted by Gallegos and Associates in 1998 and 1999 to address damage that occurred on the subject property when a water main broke. The water main runs along the northwestern boundary of the parcel, and work was conducted on the property.

According to the Historic Preservation Element of the San Diego General Plan (Table HP-1), the Village of *Ystagua* is a designated historic resource, but it does not appear on the Historic Resources Board list. The site is listed on the National Register of Historic Places as the Sorrento Valley Site, although this listing appears to apply to the eastern portion of the site which is arguably less significant than the deposits on the western part of the site.

The archaeological fieldwork conducted at this property identified the presence of both intact and disturbed cultural deposits within the parcel. Previous land use and relic hunting have disturbed part of the parcel, as has the installation and repair of a water main by the City of San Diego. This disturbance has left most of the deposits on the subject parcel intact, and those intact portions of the resource retain archaeological significance due to their research potential.

The archaeological study summarizes a survey of the parcel, monitoring of posthole excavation, and work done to mitigate impacts to deposits from a water main break. Prior to the placement of fill on the parcel, artifacts or ecofacts were commonly found on the site surface. Although artifacts were found in the posthole monitoring, the most informative collection from the property resulted from the water line monitoring. The archaeological monitors collected 2878 artifacts and over 200g of bone. Artifacts included flaked and ground lithic tools, ceramics, and worked bone. During the monitoring, human bone was found and reburied by the project's Native American Monitor, Clarence Brown.

Archaeological investigations at the site have documented the presence of stratified deposits, abundant artifacts, and a variety of ecofacts. The artifact assemblage, which includes flaked lithic tools, manufacturing debris, and groundstone, has the potential to answer a number of important questions about San Diego prehistory and history. While sites with similar assemblages are relatively common in coastal San Diego, sites with well preserved stratification are quite rare. The portion of the site on the subject property clearly holds future research potential as an archaeological resource. Additionally, the larger site of *Ystagua* is clearly important, as evidenced by its inclusion on the National Register of Historic Places. The fact that sensitive cultural material is reported both from the subject property and nearby properties increases the importance of the site. Therefore, a data recovery, preservation and monitoring program has been recommended to reduce or minimize project impacts to the resource. The mitigation program was designed to specifically address issues of cultural significance and the potential discovery of human remains.

Appendix B

Research Design for Mitigation of Impacts

**RESEARCH DESIGN AND DATA RECOVERY PLAN,
ROSELLE STREET PROPERTY
CA-SDI-4609,
SAN DIEGO, CALIFORNIA
PROJECT NO. 147683**

Submitted to:

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May 2009

Affinis Job No. 2197

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I. INTRODUCTION

CA-SDI-4609 is a significant archaeological resource under the California Environmental Quality Act (CEQA) and the guidelines of the City of San Diego. The site meets the criteria for listing on the California Register of Historical Resources, due to its scientific research potential, as well as its cultural value to the Native American community. The placement of fill on the project site by a previous tenant was a violation of local ordinances because it was done without a permit and without appropriate environmental review. The proposed project is remediation for that action. The proposed remediation project would have significant impacts to CA-SDI-4609 which must be mitigated. Although the effect of the placement of the fill was to cap the site, essentially preserving it in place, some of the associated remedial actions will cause impacts to small portions of the site. A data recovery and monitoring program is proposed to mitigate impacts to below a level of significant.

This document presents a discussion of the research topics that may be addressed with data from investigations at CA-SDI-4609. Important topics that may be addressed at the site include chronology, settlement patterning, subsistence, intrasite variability, intersite patterning, exchange, and technology. The data needed to address each of these topics is considered and a program adequate for obtaining those data is outlined.

II. RESEARCH ISSUES

The questions outlined in the research design are important topics for the understanding of what the first inhabitants of the Sorrento Valley area did and how they changed through time. Questions of how they related to the environment, how they arranged themselves in space, and how they made a living all contribute details to the story of the prehistory of the west coast of America. These problems contribute not only to regional reconstructions of prehistory, but also to broader research topics currently being pursued in the San Diego region and Southern California in general (cf. Neuseius and Gross 2007). These questions help answer the larger anthropological questions about how human cultures adapt and how they organize themselves in different conditions.

Archaeological sites are the only concrete record we have that allow us to explore this sort of question. To the extent that understanding the past is important, then archaeological sites such as CA-SDI-4609 provide a key to that understanding. If those questions are to be answered and if the new questions that arise from the answers are to be addressed, it is only through investigation of archaeological sites.

This section addresses several specific research questions that could be addressed using data from the data recovery excavation program to be conducted at CA-SDI-4609. These include questions related to chronology, subsistence strategies, settlement patterns, intrasite variability, site type distribution, trade and travel, and technology. These are avenues of inquiry that have been addressed at other sites in the general area, so cross-site comparisons will be of great interest.

CHRONOLOGY

Chronological control is critical to answering most of the kinds of questions that archaeologists ask. It is necessary to control for time in analysis of both intrasite and intersite patterning, for if the archaeological entities being compared are of different ages, they cannot be part of the pattern that results from the operation of a particular prehistoric cultural system.

Based on previous archaeological work at CA-SDI-4609, the site dates to the Late Prehistoric period, but important earlier deposits are possible, too. Temporally diagnostic artifacts recovered at the site include small projectile points and Tizon Brown Ware. In addition, cremated human remains were recovered at the site; cremation came into use during the Late Prehistoric period, inhumation was the method of burial used in earlier periods. Inhumations have been found in the immediate vicinity of the property.

Radiocarbon analysis would be conducted to obtain dates on samples from the site. Past work has documented the presence of charcoal and ample amounts of shell for dating purposes. Submitting individual large shells or large pieces of charcoal for analysis is preferable to submitting bulk samples, to minimize the chance for error by grouping shell or charcoal that may be of different ages. Although many sites in the San Diego coastal region have been disturbed by copious amounts of rodent activity, stratified deposits have been reported from this property. To the extent that these strata are undisturbed cultural units, the logic of applying dates from shell or charcoal from a stratum to other artifacts recovered from that same stratum should be fairly sound. Accelerator mass spectrometry (AMS) analysis requires substantially less material than conventional radiocarbon dating; this is one option for samples from the site.

Obsidian is often a constituent of late archaeological sites in San Diego county, although it occurs in relatively small quantities. If recovered, obsidian would provide an opportunity for relative dating through obsidian source and hydration analysis. Therefore, obsidian analysis would be conducted as part of the data recovery program at CA-SDI-4609 if appropriate samples are collected.

Question: What is the occupational history of CA-SDI-4609? What is the range of dates of the occupation of the site?

Data requirements: Collection of suitable sample sizes of datable material, such as shell, charcoal, and/or obsidian, would be required. Radiocarbon samples from features are desirable as they would date the cultural features directly. A series of samples from the same unit would be useful, as would samples from several units across the site. Information from this data recovery project would be compared with data from previous work at nearby sites to refine the occupational history of the village of *Ystagua*.

Question: Is CA-SDI-4609 contemporaneous with other nearby sites in the Sorrento Valley/Torrey Pines/Del Mar area?

Data requirements: Datable material at CA-SDI-4609 and information on chronology from other sites that have been studied would be necessary. Previous studies have indicated that many of the sites in the area are contemporaneous; additional radiocarbon analysis would help to refine these relationships.

SUBSISTENCE STRATEGIES/SETTLEMENT PATTERNING

Subsistence strategies and settlement systems are interrelated to such a degree that it is difficult to address one without the other. The study of settlement patterning is dependent upon data from a number of sources, as settlement systems are the result of many interrelated factors. Variables involved include chronology, topographic setting, environmental conditions, essential food and nonfood resources, desirable (but nonessential) resources, and demographic arrangements. Understanding (or simply discerning) settlement patterning is dependent upon the archaeological visibility of elements of the settlement system. Archaeological visibility is a function not only of site type and history of use, but of natural and cultural site formation processes, both depositional and post-depositional.

Analysis of the variety of tools found at the site, as well as animal bone, shellfish, and other food remains, would be used to address subsistence and the types of activities that were undertaken at the site. Pollen, starch, and macrobotanical analyses would be useful in addressing plant resources used. Blood protein residue analysis would complement faunal studies to address animal resources used by inhabitants of the site. Comparison of the assemblage and location of the site with other sites that have been studied in the area will add to our understanding of the settlement system at work. Good chronological data is essential for addressing these research issues.

Question: What were the subsistence practices at CA-SDI-4609?

Data requirements: Faunal remains (shell and bone) and subsistence-related artifacts, such as milling equipment, various flaked stone tools, or projectile points, would be required to address this issue. Pollen, starch, and macrobotanical samples from ground stone could be used to address what plant resources were used at the site. Such samples from hearths or other in situ features would also be of value. Protein residue samples gathered from ground stone surfaces, projectile points, and the edges of various flaked stone tools could be used to address animal resources used by inhabitants of the site.

Question: Did subsistence practices change over time?

Data requirements: Faunal remains; pollen, starch, and macrobotanical samples; protein residue samples; and subsistence-related artifacts would be required for analysis. Again, good chronological control would be necessary to address the diachronic changes in the assemblage. Because of the stratified deposits, questions regarding diachronic change may be addressed at CA-SDI-4609, although the excavations necessary for mitigating impacts may not be deep enough to encounter separate, discreet deposits.

INTRASITE VARIABILITY

Studies of intrasite variability can be used to address settlement patterning in terms of activity areas and changes in site use over time.

Question: Are discrete activity areas discernable at CA-SDI-4609?

Data requirements: Good chronological control through radiocarbon dating is required, to differentiate between variations in the artifact assemblage and faunal remains across the site that reflect contemporaneous activity areas versus those variations due to changes in site use over time. Analysis of features, tool types, debitage, faunal remains, and plant remains (pollen, macrobotanical, etc.) would be used to address activity areas.

Questions: Do differences in artifact sets and faunal remains across the site reflect use of various locations within the overall site area by different groups either seasonally or over time?

Data requirements: Again, chronological control is an important key to addressing this question. Recognizing technological differences among artifact sets would be an important factor; therefore, debitage analysis and technological analysis of ground stone and flaked stone tools would be required. Seasonality can be addressed through analysis of faunal remains, including otoliths, if recovered. Macrobotanical analysis may also contribute to the question of season of use of various site areas.

INTERSITE PATTERNING

As previously discussed, comparison with other contemporaneous sites in the area is the key to addressing settlement and subsistence strategies and how such strategies may have changed through time. A number of sites in proximity to CA-SDI-4609 have been addressed in conjunction with the development of the Sorrento Valley and Carmel Valley areas, and research at Torrey Pines State Park is on going. Comparison of CA-SDI-4609 with these sites will be important in addressing settlement patterning. A recent paper by Gross (2008), for example, concluded that many of the sites within the Torrey Pines State Park were within the area that people from *Ystagua* could have exploited within their work day. Distances are sufficient to have allowed for travel to the particular site, performance of some economic activity, and return to the site within the daylight hours.

TRADE AND TRAVEL

Trade networks are another important topic receiving attention in Southern California archaeological studies today. Exchange of material operates in a cultural system to provide for the flow of materials from areas of availability to areas of need and can form a network of links that are important in the social realm, as well. The nature and mechanisms of prehistoric exchange are important topics of research (Earle and Ericson 1977; Ericson and Earle 1982; Fry 1980).

Exchange is inferred in the archaeological record based on the distributions of non-local goods recovered at archaeological sites. The distribution of lithic raw materials that do not occur locally, such as obsidian and various types of chert, are indicative of trade networks or travel to bring these materials from a distance. Certain shell beads are also indicators of trade, as are some kinds of ceramics. Again, chronological control is necessary to understand these relationships, but the mere presence of such materials indicates the potential for addressing these lines of inquiry. Other trade items may include shell artifacts from species that do not occur in local waters or foods that are considered desirable but are not found nearby (such as black oak acorns, as opposed to coast live oak acorns).

Laylander and Christenson (1988) have compiled information on obsidian exchange in San Diego County, which provides a context in which exchange in obsidian can be evaluated. Falloff in density of obsidian with distance from the source is suggested in these data. Patterning in the specific sources used as a function of time has also been suggested (Winterrowd 1987). These types of questions are addressed by sourcing and measuring hydration thickness on obsidian samples collected at sites. CA-SDI-4609 can contribute to knowledge in this area.

Besides the distribution of the obsidian, other aspects of exchange can also be addressed. Analysis of the nature of the obsidian items in terms of technology can yield interesting results. The ratio of finished tools to debitage will indicate whether obsidian was being brought to the site as tools or as raw material. The nature of the debitage should indicate whether obsidian artifacts were repaired and rejuvenated more often than items of locally available raw materials. This type of technological analysis can be applied to other non-local raw materials as well.

Neutron activation studies of the chemical constituents of clay sources and archaeological sherds and petrographic analyses have yield information of raw material use. The village of *Ystagua* sits on clay deposits of the Friars formation. Although this clay fires to resemble prehistoric pottery, and it appears to work well, no sherds of this clay have been found in the samples analyzed to date. Ceramics found on coastal sites are made from clay obtained in the foothills, mountains, or deserts to the east (Hildebrand et al. 2001). The lack of sherds of local clay is intriguing.

Question: Is there evidence of trade at CA-SDI-4609?

Question: Were items of non-local materials obtained as finished items or were they manufactured locally from traded raw materials?

Question: Were non-local items treated differently from those of local raw materials, as reflected by rejuvenation and repair frequencies?

Question: Is there a difference in obsidian sources used at different times in local prehistory?

Question: Does a falloff model describe the distribution of obsidian at San Diego County archaeological sites?

Data requirements: Exotic materials such as obsidian, various cherts, shell beads from the Chumash area, ceramic sherds made from desert clays, or *Olivella dama* beads (from the Gulf of California) would be required.

Obsidian source analysis will be important in addressing questions of trade and travel, as well as chronology (when combined with obsidian hydration). Lithic analysis should also focus on the identification of locally available metavolcanic material in the assemblage, both through chemical analysis and hand specimen identification. The abundance of raw material suitable for lithic tool manufacture in the vicinity of the site was probably a draw for native populations, but the presence of exotic material is indicative of trade and travel as well. It would be interesting to determine if metavolcanic material from other, non-local sources is present at the site, as well as the local raw material.

Debitage analysis will be necessary to address questions of rejuvenation of tools and ratios of tools todebitage of non-local materials.

Ceramic sherds will be analyzed for information on sources of clays used in their manufacture. Both optical petrographic and neutron activation trace element studies will be performed.

TECHNOLOGY

San Diego archaeologists are often interested in the dates of introduction of different technologies. For instance, when were ceramics introduced into this area? At what point did mortars and pestles come into use? Both ceramics and mortars and pestles have implications for the development of the complex, acorn- and storage-oriented ethnographic pattern found in the area. Changes in lithic technology can be used as indicators of temporal placement or cultural affiliation of assemblages, as well as reflecting different types of tasks conducted at various sites. The collection from CA-SDI-4609 may be of adequate size and variety to offer opportunities for addressing technology issues, but again, good temporal control would be important.

Question: Are there changes in lithic raw material use evident in CA-SDI-4609?

Data requirements: This issue would require sufficient quantities of lithic tools anddebitage in contexts that allow for assessment of change. These contexts could be distinct strata of different dates.

Question: Are there changes in tool manufacture (e.g., the shift to small points from dart points or the introduction of pressure flaking) evident in CA-SDI-4609?

Data requirements: Sufficient quantities of lithic tools anddebitage in contexts that allow for assessment of change would be necessary. These contexts could be distinct strata of different dates.

III. DATA RECOVERY PLAN

The data recovery program at CA-SDI-4609 will include the following measures:

1. Excavation of an adequate number of units to provide a representative sample of cultural material present at the site (within the limits of the areas to be impacted, given the goal of site preservation);
2. Water screening of a portion of the excavated sediments using 1/8-in. mesh;
3. Standard screening of the remaining sediments using 1/8-in. mesh;
4. Cleaning, sorting, cataloging, and analysis of all cultural material collected;
5. Analysis of faunal material recovered;
6. Detailed analysis of a sample of debitage collected;
7. Obsidian sourcing and hydration analysis on a sample of artifacts;
8. Other lithic raw material sourcing on a sample of artifacts, as appropriate;
9. Ceramic analysis on a sample of artifacts (both petrographic and neutron activation analyses);
10. Radiocarbon analysis;
11. Other special studies, such as protein residue analysis, as applicable;
12. Preparation of a comprehensive report detailing the methods and results of the data recovery program;
13. Curation of the cultural material collected, as well as maps, field notes, catalogs, etc., at the San Diego Archaeological Center or other suitable repository meeting state and/or federal curatorial standards. .

PRE-EXCAVATION AGREEMENT

Prior to implementation of the data recovery program, a pre-excavation agreement shall be developed and signed by the City of San Diego, the applicant, and the appropriate representatives of the Kumeyaay community. This agreement will specify the requirements for Native American monitors during the data recovery program and during grading for construction, the disposition of artifacts collected during the data recovery program and during construction monitoring, and the procedures to be implemented in the event that human remains are encountered during the data recovery program or during construction monitoring.

COLLECTION METHODS FOR SPECIAL STUDIES

The Paleo Research Institute website (www.paleoresearch.com) provides instructions for the collection and handling of samples for pollen, phytolith, starch, macrofloral, and protein residue analysis. The following field methods are a summary of the collection methods, which are presented in greater detail on the website.

1. Surface samples: a surface sample should be collected at every site to be excavated prior to clearing or excavation. The surface sample will provide data for comparison of the modern

environment with the past environment. Surface soils samples should use the pinch technique, i.e., a spoonful of sediment from various places within a diameter of approximately 30 m (100 ft) around the site. Surface samples collected in conjunction with a stratigraphic column should be collected in the same manner as the rest of the samples in the column.

2. All ceramic vessels and sherds considered for archaeobotanic analysis and all subsurface ground stone artifacts should be bagged immediately in the field and sent to the lab for removal of extraneous sediment and for pollen, starch, and/or phytolith washing.
3. Projectile points should be bagged and sent to the lab prior to removal of dirt by rubbing or other means.
4. Scrape trowel free of dirt, scrape area to be sampled to remove accumulation of modern pollen.
5. Clean trowel of dirt. Spray trowel with distilled water and wipe with paper towel.
6. Quickly remove pollen sample (150 cc or $\frac{3}{4}$ cup) or pollen and phytolith sample (300 cc or 1 $\frac{1}{2}$ cup) and place into Whirl-pak or Zip-lok bag and secure. Sand does not contain as much pollen as silty or clay sediments, so the sample sizes given here are larger than those recommended for silty or clay soils.
7. Stratigraphic columns should be sampled so that the shape of the area sampled is rectangular, 2 cm (1 in.) in height. Extend the sample as far to the side as necessary to get an adequate volume of sediment. In general, collect stratigraphic samples every 10 cm. Sample by natural levels, never collecting a sample that crosses level boundaries.
8. Place plastic sample bag into a second plastic bag or a paper bag. Record sample data in pencil on an inventory card placed between the two bags or write on the paper bag using a Sharpie marker. Double bagging will help to protect the bag from puncture and provide a convenient place for recording sample information.
9. All whole vessels, sherds to be sampled, and ground stone artifacts should be bagged in the field prior to the removal of dirt and sent to the lab.
10. Hearths and roasting pits: sample fill from the feature; if the fill is stratified, collect samples from each stratum. Collect samples from the living surface adjacent to the hearth, if it can be defined.
11. Storage cists and pits: the lower portion of the fill of these features should be sampled for macrofloral remains. Collect a scrape from the wall and the bottom of the feature.
12. Metates: When ground stone is found in situ, a suite of samples is desirable. In addition to bagging the metate, pollen/starch and macrofloral samples should be collected in front of, behind, and to each side of the metate from the living surface. If metates are recovered grinding side down, a sample should be collected from sediment in contact with the grinding surface. For protein residue analysis, all flaked lithic specimens should be placed directly in plastic bags with minimal handling. Do not spit, lick, or rub the items, as this may result in positive results for human proteins. Label the outside of the bag, and a second label may be placed inside the bag as well.
13. For protein residue analysis, a soil control sample must be submitted as well. Collect approximately 1 g samples from the soil surrounding each artifact to be analyzed and place in suitable containers, such as film canisters. Other control samples may be collected: 1 g samples from all cultural levels of stratified sites and one to three samples from off-site areas.

14. Handling cigarettes or chewing tobacco contaminates the hands, which then contaminate the work area and any samples collected. The use of tobacco should be avoided on-site; if tobacco products are handled, hands must be washed before collecting samples for analysis.
15. Dogs contaminate the pollen record and make it difficult to analyze animal fibers in the record. If dogs are present on-site for any reason, a sample of dog hair should be saved and sent with the samples to be analyzed.

LABORATORY ANALYSIS

All cultural material collected would be taken to the archaeological laboratory for processing. Standard laboratory procedures include cleaning and sorting of cultural material for cataloging and analysis. Artifacts found in a subsurface context that may be appropriate for residue analyses (e.g., protein residue, pollen, starch) would not be washed, in order to preserve this information. Standard catalog forms would be completed for the collection, recording provenience, artifact type, material, and some technological attributes. Ground stone implements, flaked stone tools, cores, and hammerstones would be given individual catalog numbers. Bulk debitage, shell, and animal bone from each unit and level would be given a group catalog number. Archival quality materials meeting federal curation standards would be used for all cultural material (e.g., acid-free plastic bags, acid-free aluminum-backed labels, acid-free archival boxes for curation). Photographs and field notes would also be labeled and placed in acid-free binders for curation. All cultural material, field notes, and photographs would be permanently curated at the San Diego Archaeological Center, unless otherwise directed by City staff or by the pre-excavation agreement.

SPECIAL ANALYSES

The specific types of specialized analyses to be conducted for the assemblage from CA-SDI-4609 are dependent upon the materials recovered. Based on previous work, it is anticipated that recovered cultural material will include ground stone (manos and metates), flaked stone tools, projectile points and bifaces, and debitage. Marine shell and animal bone are also anticipated.

A suite of samples would be submitted for radiocarbon analysis. If sufficient samples of charcoal are available, these would be sent for analysis. Submitting individual large shells or pieces of charcoal for analysis is preferable to submitting bulk samples, to minimize the chance for error by grouping shell or charcoal that may be of different ages. Samples taken directly from a feature are also preferable to general level samples.

Obsidian samples would be submitted for source identification and hydration analysis.

Lithic analysis will address morphological, functional, and technological attributes of flaked stone tools and debitage. Change in lithic technology over time is an important research avenue that it may be possible to address at this site. Lithic sourcing could be used to address issues related to trade and travel.

Faunal analyses will be conducted, including studies of shellfish remains, fish bone (including otoliths), and other animal bone, depending on what faunal material is recovered. Such studies can address subsistence issues and can add to discussions of seasonal use of the site (seasonality studies can be conducted on marine shell, otoliths, fish bone, and other animal bone), trade and travel, and the types of activities undertaken at the site .

Pollen, phytolith, and starch analyses would be conducted using samples from ground stone artifacts and ceramic sherds, if appropriate specimens are recovered. Protein residue analysis would be conducted on flaked stone tools and ground stone artifacts. The artifacts used for these analyses should be sent directly to the research lab for processing: labs, such as Paleo Research Institute, are better equipped to do pollen/starch washes and protein residue washes than most general archaeological labs. If the washes are done in the general lab, the procedures detailed on the Paleo Research Institute web site should be followed to avoid contamination of the samples.

The entire collection of sherds from the excavations will be examined and topological identification will be made where ever possible. A sample of sherds will be selected for further research by thin-section (petrographic) analysis. Some of the thinsectioned sherds will be submitted for neutron activation analysis.

REPORT PREPARATION

A comprehensive report detailing the methods and results of the data recovery program will be prepared and submitted to the City of San Diego. The report will address the research issues identified in this research design and data recovery plan and discuss how well the data from the excavation program, combined with data from previous excavations, addresses these research questions.

IV. REFERENCES

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- Neusius, Sarah W., and G. Timothy Gross
2007 *Seeking Our Past: An Introduction to North American Archaeology*. Oxford University Press, New York.
- Winterrowd, Cathy L.
1987 Paper delivered at annual meeting, Society for California Archaeology.

Red Tail Monitoring & Research, Inc.

Memorandum to Record

1-12-15

Re: Archeological Resources On A Lot On Roselle Street, San Diego,
California (Project No. 150556)

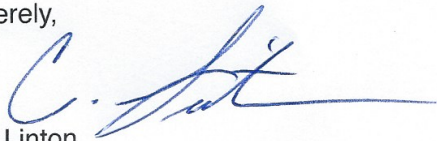
To Whom It May Concern,

I have reviewed the above referenced research design and agree with the methodology for this project. All ground disturbing activities should be monitored by both Archaeological and Kumeyaay Monitoring. Further note that surface artifacts were observed prior to production of this design. This does not promote a need for redesign but reiterates the need for monitoring.

Please feel free to contact me directly with any questions or concerns.

Thank you,

Sincerely,



Clint Linton