

APPENDIX C1 (CONTINUED)  
SPECIAL-STATUS PLANT SPECIES OBSERVED IN PROJECT AREA

---

INTENTIONALLY LEFT BLANK

Appendix C-1 Archaeological Assessment





LSA ASSOCIATES, INC.  
703 PALOMAR AIRPORT ROAD  
SUITE 260  
CARLSBAD, CALIFORNIA 92011

760.931.5471 TEL  
760.918.2458 FAX

BERKELEY  
FRESNO

IRVINE  
PALM SPRINGS  
PT. RICHMOND

RIVERSIDE  
ROCKLIN  
SAN LUIS OBISPO

May 31, 2016

Ms. Brianna Pilkinton  
Burns & McDonnell  
4225 Executive Square, Suite 500  
La Jolla, California 92037

Subject: Archaeological Assessment for the Park Drive Retaining Wall Project, City of Carlsbad, California (LSA Project No. BUM1601)

Dear Ms. Pilkinton:

LSA Associates, Inc. (LSA) completed a cultural resources study for the Park Drive Retaining Wall Project near Agua Hedionda Lagoon in the City of Carlsbad (City) in 2011 (Brodie and Davidson 2011). The study included a records search for the project area, pedestrian survey, and results report. The current study included an updated records search, a brief pedestrian survey, and this summary report. Additional archaeological and historical research included a records search and the examination of historic maps and aerial photographs. Twenty-seven documented archaeological investigations have been completed within a quarter-mile of the project area, six of which included portions of the project area. Four cultural resources have been previously recorded within a quarter-mile of the project area, although none are within the specific project area.

LSA conducted an additional archaeological field survey on May 13, 2016 of the approximately 4.8-acre project area. The survey consisted of walking along exposed areas in the eastern and western portions of the project area. No previously recorded sites are within the project area, and the nearest recorded cultural resource is located approximately 100 meters northeast of the project area. No prehistoric or historic sites, artifacts, or features were identified during the survey. Based on the literature search, field survey, and landform, the project area retains a limited probability of containing cultural resources.

## PROJECT DESCRIPTION

The City of Carlsbad (City) intends to stabilize a slope and repair and/or replace a drainage system on a steep slope located on the northeast side of Park Drive between Cove Drive and Bayshore Drive. The purpose of the project is to repair drainage and erosion problems that are a public safety concern. The slope seeps water constantly, which has caused the retaining wall at the base of the slope to buckle, soil to erode onto the pedestrian sidewalk, and nuisance drainage to flow over the sidewalk creating a slippery surface unsafe for pedestrian use.

The project area is approximately 4.8-acres located in the City of Carlsbad, San Diego County, California. The survey area is located within projected Section 8, Township 11 South, Range 4 West, within the Agua Hedionda Land Grant as shown on the *San Luis Rey, California 7.5-minute series* United States Geological Survey (USGS) topographic map (attached Figure 1).

## **REGULATORY CONTEXT**

The project includes approval from the U.S. Army Corps of Engineers in accordance with Section 404 of the Federal Clean Water Act. Therefore, this project is a Federal undertaking and is subject to 36 C.F.R. Part 800, the regulations implementing Section 106 of the National Historic Preservation Act (NHPA), as amended. The purpose of the NHPA is to provide guidelines for the preservation of national history and heritage as public interest. Additionally, the NHPA emphasizes the need to preserve our irreplaceable heritage for future generations. Section 106 of the NHPA requires Federal agencies to take into account the effect of any Federal undertaking on existing districts, sites, buildings, or objects that may be listed in, or eligible for listing in, the National Register of Historic Places (NRHP). The research was conducted to identify cultural resources.

## **PROJECT PERSONNEL**

The cultural resources survey was conducted by LSA, whose cultural resources staff meets Federal, State, and local requirements. Ms. Natalie Brodie, M.A., RPA, served as Principal Investigator for the project. Ms. Brodie completed the survey of the project area and prepared the report. Ms. Brodie has a B.A. in Anthropology and Archaeology from the University of California, San Diego, an M.A. in Applied Anthropology from San Diego State University, and has more than 15 years of experience in the archaeology of Southern California.

## **NATURAL AND CULTURAL SETTINGS**

### **Natural Setting**

The project area is located on the north side of Agua Hedionda Lagoon on a gradual south-facing slope. The elevation on site ranges from approximately 60–100 feet above mean sea level. The Agua Hedionda Lagoon is a critical resource in the area as it is one of five fully tidal lagoons in San Diego County (Pryde 2004). The lagoon environment is crucial to marine fish and provides refuge for large populations of waterfowl.

The climate of the region can generally be described as Mediterranean, with cool, wet winters and hot, dry summers. Lack of rainfall limits vegetation growth and habitat types adapted to the dry conditions of the region occur in the project area. Prior to development, the project area would have been dominated by coastal sage scrub and the lagoon habitat associated with Agua Hedionda. This habitat would have been an ideal source of marine resources including varieties of shellfish, such as scallops and clams, fish (rockfish and surfperch) dependent on eelgrass, and water birds such as cormorants and pelicans. Terrestrial animal resources in the region include deer, fox, raccoon, skunk, bobcat, coyote, rabbit, and various rodent, reptile, and bird species.

### **Cultural Setting**

San Diego County archaeological investigations indicate humans have inhabited the area for at least 10,000 years. Malcolm Rogers was the first to develop a cultural chronology of the region. In general, they can be divided into five consecutive periods: Paleoindian, Archaic, Late Prehistoric, Ethnohistoric, and Historic (Bull 1983; Ezell 1987; Moriarty 1966; Warren et al. 1993).

The earliest sites in San Diego County are identified as the Paleoindian period (9,000 to 8,000 YBP [years before present]), and include the San Dieguito and Pauma complexes. The majority of these sites are located around inland dry lakes, on old terrace deposits in the California desert, and on or near the coast on mesas or terraces. The artifacts associated with this period are heavily patinated felsite tools primarily consisting of scrapers, scraper planes, choppers, large blades, and large projectile points.

Around 8,000 years ago, changes in technology begin to appear in the archaeological record. During the Early Archaic period, there is an increase in the use of grinding and seed processing technology and a change in mortuary practices, indicating population movements or internal change (Moratto 1984). There is a marked increase in the exploitation of plant and animal resources inland and on the coast. Artifacts associated with this period include an increase of Pinto and Elko series projectile points, large bifaces, manos, metates, and core tools.

The Late Prehistoric period is characterized by a series of dramatic technological changes indicating that around 2,000 YBP, people from the Colorado River area migrated to the Southwestern California region. This period is characterized by the appearance of smaller projectile points, ceramics, permanent bedrock milling sites, and cremation burials. There also appears to be an increase in the establishment of permanent or semi-permanent seasonal villages indicating a shift to inland plant food collection and processing.

The Ethnohistoric period occurred shortly before Europeans colonized Southern California. Documentation by the Spanish and the material culture left by the native people indicate that at the time of contact there were four distinct native groups, Luiseño, Diegueño, Cupeño, and the Cahuilla (Kroeber 1925) in the area. During this period, the Native American populations dramatically decreased and were quickly assimilated into the mission system. The project area is located on the border of the Luiseño and Kumeyaay (Diegueño) territory.

The Historic period in San Diego County is generally divided into three politically defined periods: Spanish, Mexican, and American periods. The Spanish colonists first settled the Southern California region in 1769 and established military and religious institutions along the coast. In 1821, Mexico won independence from Spain and California came under Mexican rule. By 1834, the Spanish missions had been secularized and large tracts of land, or ranchos, were granted to Mexican citizens. The project area is within the Rancho Agua Hedionda. Mexican rule ended with the signing of the Treaty of Guadalupe Hidalgo in 1848 when California was ceded to the United States.

**History of Agua Hedionda and Carlsbad.** Rancho Agua Hedionda originally consisted of 13,311 acres and was granted to Juan María Romualdo Marrón in 1842 by Mexican Governor Juan Bautista Alvarado (Christenson and Sweet 2008). The land had been used for sheep ranching to support Mission San Luis Rey, but following secularization, the rancho was converted to cattle ranching (Christenson and Sweet 2008). One of the main features at the Rancho includes the Marrón adobe, which was restored in the late 1940s (Christenson and Sweet 2008).

The City of Carlsbad first began as a train stop and tourist destination when a mineral spring was discovered in the area in 1880s by John Frazier (Sprague-Bentley 2009). Frazier settled just south of Buena Vista Lagoon and, realizing the difficulty of farming without a reliable water supply, started to dig a well. Water was discovered at 245 feet in 1885 and the newly tapped mineral and artisanal well

provided water to the Frazier farm and to thirsty railroad passengers stopping at Carlsbad (Carlsbad Historical Society n.d.). The discovery of water increased the land value by 50 percent nearly overnight. A school, general store, and hotels were quickly constructed to allow for new residents and tourists, providing new opportunities for industry and development (Sprague-Bentley 2009). The fledgling town, however, faced a dramatic decline in population after the initial boom in the late 1880s.

Ed Fletcher formed the Carlsbad Mutual Water Company in 1919 to bring water from the San Luis Rey River and, by the early 1920s, agriculturalists and families had moved to Carlsbad. Floriculture excelled in Carlsbad, thanks to the mild climate and availability of water (Sprague-Bentley 2009). The incoming U.S. Highway 101 in 1928 provided additional opportunities for development in Carlsbad, although much of the surrounding area remained in agriculture for many years.

## **METHODS**

### **Research**

An updated records search of the project area was performed at the South Coastal Information Center (SCIC), located at San Diego State University, on May 9, 2016. The SCIC provided records of all previous surveys, archaeological sites, subsurface investigations, and all historic resources over 45 years in age that are located within a one quarter-mile radius of the project area. Site records of archaeological sites and bibliographical references for all surveys and investigations within the one quarter-mile search radius were provided. Historic maps and aerial photographs were investigated and the following inventories were examined: National Register of Historic Places, California Register of Historical Resources, California Historical Landmarks, California Historic Properties Directory, and the California Points of Historical Interest.

### **Field Survey**

The goal of the additional survey was to identify and document any cultural resources greater than 45 years in age per the Office of Historic Preservation Guidelines (1995), and to identify any substantial changes to the landscape from the prior survey in 2011. To accomplish this, a pedestrian survey of the project area was conducted on May 13, 2016 by Ms. Natalie Brodie. The area was surveyed on foot within exposed areas in the western and eastern portions of the project area.

## **RESULTS**

### **Records Search**

Twenty-seven documented archaeological investigations have taken place within a one quarter-mile radius of the project area, six of which include all or part of the project area (Table A). Most of the investigations date between 1970 and 2007 and indicate there was a moderate amount of prehistoric activity within the project area. Table A summarizes the investigations within a one quarter-mile radius of the project.

**Table A: Previous Studies within a 0.25-Mile Radius of the APE**

<b>Report No.</b>	<b>Author</b>	<b>Report Title</b>	<b>Date</b>
SD-00424	Carrico, Richard and Roxana Phillips	Archaeological Salvage at W-132A Carlsbad, California	1981
SD-00681	Hector, Susan and Sue Wade	Archaeological Excavations at SDM-W-132/SDi-10,024 Carlsbad California	1986
SD-00716	Kaldenberg, Russell L.	A Predevelopment Archaeological Resource Survey for the Agua Hedionda Lagoon North Shores Project	1976
SD-00980	Gross, Tim and Charles Bull	An Archaeological Survey of Tract #72-28	1973
SD-02016	Elfend Associates	Environmental Information Kelly Ranch Master Plan/Specific Plan	1984
SD-02045	Michael Brandman Associates, INC.	Draft Environmental Impact Report 83-4 General Plan Amendment and Zone Change Kelly Ranch SCH #83042707	1983
SD-02088	Environmental Impact Profile	Draft Environmental Impact Report For Lagoon Shores Carlsbad California	1974
SD-02694	Mooney, Brian and John Cook	Archaeological Survey Report For a Portion of Adams Street Widening Project in The City Of Carlsbad, California	1993
SD-03272	Schroth, Adella, Nina Harris, and Dennis R. Gallegos	Archaeological Survey and Test for The Huber Property, Carlsbad, California	1996
SD-03273	Schroth, Adella And Dennis R. Gallegos	Archaeological Survey And Test For The Cade Property, Carlsbad, California	1996
SD-03586	Smith, Brian F.	The Results of a Cultural Resource Survey and Evaluation Program for "Area A" at the Kelly Ranch and the Improvement Corridor for Park Drive	1998
SD-04111	Larry Seeman	Draft Environmental Impact Report Revised Parks and Recreation Element, Carlsbad, California	1982
SD-04440	Mooney, Brian F.	Archaeological Survey Report for a Portion of Adams Street Widening Project in the City Of Carlsbad, California	1993
SD-05343	Brown, Joan C.	Archaeological Monitoring During Excavation for the Hamptons Project, Located in Carlsbad, California	2001
SD-08738	Hector, Susan	An Archaeological Survey Of The Panonia Property, Carlsbad, California	1985
SD-08750	Ultra Systems, Inc. and Archaeological Associates	Results Of Supplemental Archaeological Studies at SDI-9649 (KR-1) on the Kelly Ranch	1983
SD-09361	Byrd, Brian F. and Collin O'Neill	Archaeological Survey Report for the Phase I Archaeological Survey along Interstate 5 San Diego County, California	2002
SD-09571	Guerrero, Monica C And Dennis R. Gallegos	City Of Carlsbad Water and Sewer Master Plans Cultural Resource Background Study City Of Carlsbad, California	2003
SD-09575	Guerrero, Monica C. And Dennis R. Gallegos	Cultural Resource Background Study for The North Agua Hedionda Interceptor Sewer Maintenance Access Road Project City of Carlsbad, California	2003

**Table A: Previous Studies within a 0.25-Mile Radius of the APE**

<b>Report No.</b>	<b>Author</b>	<b>Report Title</b>	<b>Date</b>
SD-09586	Guerrero, Monica C. And Dennis R. Gallegos	Cultural Resource Survey and Test Program for the Carlsbad Sewer Line Project Carlsbad, California	2003
SD-11177	Greene, Richard	A Phase I Archaeological Assessment of the Carlsbad Boat Club Project, City Of Carlsbad, APN 206-200-06	2007
SD-11224	Robbins-Wade, Mary	Encina East Stormwater Management Cultural Resources (Affinis Job No. 2244)	2007
SD-11783	Laylander, Don And Linda Akyuz	Archaeological Survey for the Caltrans I-5 North Coast Corridor Project Biological Mitigation Parcels, San Diego County, California	2008
SD-12016	Guerrero, Monica And Dennis R. Gallegos	Cultural Resource Survey for the Adams Street Property Carlsbad, California	2004
SD-12444	McGinnis, Patrick	Cultural Resources Extended Phase I Report for The Interstate 5 North Coast Corridor Project Biomitigation Parcels Sites CA-SDI-209 and CA-SDI-18917 Carlsbad, San Diego County, California	2009
SD-12762	Dominici, Deborah	Historic Property Survey Report For The Interstate 5 North Coast Corridor Project	2010
SD-14615	Caltrans	I-5 North Corridor Project Supplementals	2013

\*Highlighted item represents study within the project area

Four previously recorded cultural resources are located within a one quarter-mile radius of the project area, none of which are within the specific project area (Table B). All of the sites are prehistoric in age, and include lithic and shell scatters, groundstone, and habitation areas. The site nearest to the project area is CA-SDI-10024, located approximately 100 meters northeast of the project area. Site CA-SDI-10024 was originally recorded by Malcolm Rogers, and contained at least one human burial, pottery, shell, metates, and a cobble hearth feature. Testing was completed at the site in 1986 (Hector and Wade 1986), and a residential subdivision was constructed on the site by the early 1990s ([www.historicaerials.com](http://www.historicaerials.com)).

**Table B: Previously Recorded Resources within a 0.25-Mile Radius of the APE**

<b>Site Number</b>	<b>Type</b>	<b>Recorder and Year</b>
CA-SDI-209	Shell and Lithic Scatter	Van Horn and Murray (1982) Laylander and Akyuz (2008) McGinnis and Murphy (2009)
CA-SDI-10,024 (SDM-W-132)	Groundstone, Shell, and Burial	Rogers (nd)
CA-SDI-13,701	Habitation Area	Rogers (nd) Strudwick and Gallegos (1994) Rosenberg (2006)
CA-SDI-14,335	Habitation Area	Schroth and Harris (1960)

## Field Survey

The additional pedestrian field survey was completed by Natalie Brodie, M.A., RPA on May 13, 2016. No previously recorded sites were documented within the project APE and no new prehistoric or historic sites, artifacts, or features were identified during the survey. No substantial changes to the landscape have occurred from the prior 2011 survey. Approximately 80 percent of the project area is situated on a steep (40% slope) west-facing slope (Photograph 1). Small, low density areas of scattered and weathered shell are located in the northeastern portion of the project area, but no other artifacts were observed. The sediment on the slope appears to have been severely eroded from a higher terrace on which the current residential subdivision is located (Photograph 2). There are three concrete brow ditches situated in the central and northern portions of the project area, none of which are historic in age.

## DISCUSSION

Based on the literature search and field survey, no significant cultural resources were observed within the project area. One previously recorded cultural resources site, CA-SDI-10024, is located outside the project area approximately 100 meters to the northeast at the top of the slope. This site contained human remains, pottery, shell, hearth features, and groundstone, and had been disturbed upon initial recording from agricultural work (Rogers n.d.). This area was used for agricultural purposes from the late 1930s until the late 1980s, and a subdivision had been constructed by the early 1990s ([www.historicaerials.com](http://www.historicaerials.com)).

Based on the disturbed landform context, steep slope, and field survey observations, there is a low potential for the presence of buried deposits. However, given the proximity of significant archaeological sites with burials and habitation artifacts, and the physical location of the project area just north of Agua Hedionda, archaeological monitoring is recommended. The duration of monitoring will be based on on-site observations and the overall project design.

Although no archaeological resources were identified in the project area, the presence of significant subsurface archaeological resources is a possibility in areas where only surface inspection has taken place. If archaeological material is identified during ground-disturbing activities, work in that location should be diverted and a qualified archaeologist should evaluate the nature and significance of the find.

If human remains are encountered at any time during construction or routine maintenance in the project area, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the San Diego County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98, so the County Coroner must be notified of the find immediately. If the remains are determined to be Native American, the County Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). The MLD may inspect the site of the discovery, and shall complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

Sincerely,

**LSA ASSOCIATES, INC.**

A handwritten signature in purple ink that reads "Natalie Brodie".

Natalie Brodie, M.A., RPA  
Senior Cultural Resources Manager

Attachments: Citations  
Photograph Sheet  
Figure 1 showing Project Area on a USGS 7.5-minute Topographic Map

## CITATIONS

Brodie, Natalie and Elizabeth Davidson

- 2011 *Cultural Resources Survey Results: Park Drive Retaining Wall Repair Project, City of Carlsbad, San Diego County, California*. Report on file at LSA.

Bull, Charles

- 1983 *Shaking the Foundations: The Evidence for San Diego Prehistory. Casual Papers*, Cultural Resource Management Center, Department of Anthropology, San Diego State University.

Carlsbad Historical Society

- n.d. History of Carlsbad. [www.carlsbadhistoricalsociety.com](http://www.carlsbadhistoricalsociety.com). Accessed July 5, 2012.

Christenson, Lynne N., and Ellen L. Sweet

- 2008 *Images of America: Ranchos of San Diego County*. Arcadia Press, Charleston, North Carolina.

Ezell, Paul

- 1987 "The Harris Site—An Atypical San Dieguito Site or am I beating a Dead Horse?" In *San Dieguito—La Jolla: Chronology and Controversy*, edited by Dennis Gallegos, pp. 15–22. San Diego Archaeological Society Research Paper No. 1. San Diego.

Hector, Susan and Sue Wade

- 1986 *Archaeological Excavations at SDM-W-132/SDi-10,024 Carlsbad California*. Report on file at South Coastal Information Center, San Diego State University, California.

Historic Aerials

- 1938-1990 <http://www.historicaerials.com> Aerial Photographs north of Agua Hedionda Lagoon, 1938-1990. Accessed May 31, 2016.

Kroeber, A.L.

- 1925 *The Handbook of Indians of California*. Bureau of American Ethnology Bulletin 78. Smithsonian Institute, Washington. Reprinted in 1976 by Drover Publications, New York.

Moriarty, James R., III

- 1966 Culture Phase Divisions Suggested by Typological Change Coordinated with Stratigraphically Controlled Radiocarbon Dating at San Diego. *Canadian Journal of Anthropology*.

Moratto, M.J.

- 1984 *California Archaeology*. Academic Press, Inc. San Diego, California.

Norris, Robert M., and Robert W. Webb

- 1990 *Geology of California*. Second Edition. John Wiley and Sons, Inc. New York.

Office of Historic Preservation

- 1995 *Instructions for Recording Historical Resources*. OHP, Sacramento, California.

Pryde, Philip R.

2004 *San Diego: An Introduction to the Region*. Fourth Edition. Sunbelt Publications, San Diego, California.

Rogers, Malcom

n.d Department of Parks and Recreation Site Record: CA-SDI-10024. On file at South Coastal Information Center, San Diego State University, California.

Sprague-Bentley, Jeannie

2009 *Images of America: Carlsbad*. Arcadia Press, Charleston, North Carolina.

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

1993 Paleoindian and Early Archaic Periods. An Historic Properties Background Study for the City of San Diego Clean Water Program.

## PHOTOGRAPHS



**Photograph 1:** Overview of project area from northeast corner, view to south-southwest.



**Photograph 2:** Portion of project area below residential subdivision, concrete brow ditch in background, view to southeast.



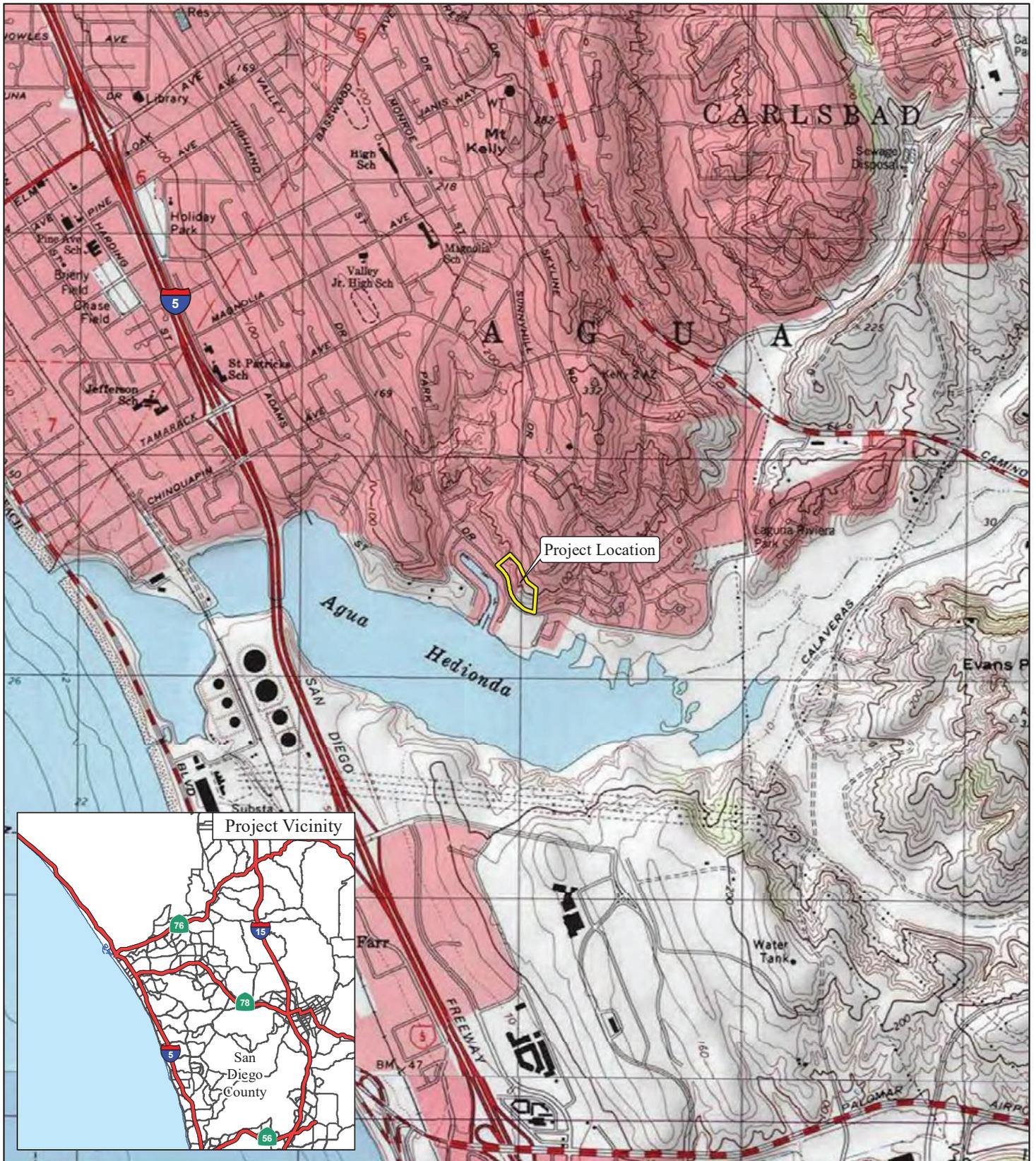
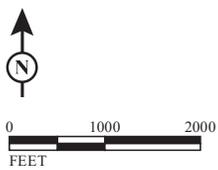


FIGURE 1

LEGEND

 Project Location



SOURCE: USGS 7.5' Quad - San Luis Rey (1975), CA  
 I:\BUM1601\GIS\ProjectLocation\_USGS.mxd (5/31/2016)

