FINAL REPORT
PREHISTORIC ARTIFACT SCATTERS, BEDROCK MILLING STATIONS AND TIN CAN DUMPS: RESULTS OF A CULTURAL RESOURCES STUDY FOR THE SDG&E EAST COUNTY SUBSTATION PROJECT SAN DIEGO COUNTY, CALIFORNIA

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By:
Judy Berryman, PhD
Jim Whitaker, BA

Contributions by:
Nicole Blotner
Seth Rosenberg
Sara Clowery
Adriane Dorrler

Prepared for:
Insignia Environmental
540 Bryant Street, Suite 200
Palo Alto, CA 94301

Prepared by:

9449 Balboa Avenue, Suite 210
San Diego, CA 92123

August 2010

NATIONAL ARCHAEOLOGICAL DATABASE INFORMATION

Report Authors:	Judy Berryman, PhD, and Jim Whitaker
Consulting Firm:	HDR|e²M 9449 Balboa Avenue, Suite 210 San Diego, CA 92123
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Report Title:	Final Report - Prehistoric Artifact Scatters, Bedrock Milling Stations and Tin Can Dumps: Results of a Cultural Resources Study for the SDG&E East County Substation Project, San Diego County, California
Submitted to:	Insignia Environmental 540 Bryant Street, Suite 200 Palo Alto, CA 94301
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USGS Quadrangle Maps:	Morena Reservoir, Live Oak Springs, Tierra Del Sol, Jacumba, In-Ko-Pah Gorge
Acreage:	ECO Substation - 58 acres SWPL Loop-In - 0.7 acre 138 kV Transmission Line - 0.28 acre/13.3 miles Boulevard Substation Rebuild - 2 acres White Star Communication Facility Rebuild - 0.02 acre
Keywords:	San Diego County, Southern California, Old Highway 80, San Diego Arizona Railroad, agave roasting pits, bedrock milling, flaked lithic artifact scatter, prehistoric ceramic scatter, historic sites, bedrock milling features, survey, linear survey, Jacumba, positive. Recorded sites ECO Substation Survey: CA-SDI-2720, -7079, -19627, -19617, -19618, -19619, -19620, -16921, -19622, -19623, -19624, -19625, -19626, -7082, -6115, -19732, -19733, 19734, -19735, -19736, -19496, -19497, -19498, -19481, -19482. Recorded sites 138 kV Transmission Line Survey: CA-SDI-176, -7011, -7015, -7027, -7030, -7037, -7040, -7046, -7051, -7053, -7055, -7056, -7059, -7060, -7063, -7069, -7072, -7079, -7080, -7085, -7086, -8315, -8316, -8430, -8431, -8432, -9156, -9278, -9279, -19066, -19067, -19068, -19069, -19070. Recorded sites for the SWPL Loop-In Survey: CA-SDI-19624, -19496, -19497, and -19498 (also included in the ECO Substation)

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MANAGEMENT SUMMARY

This report provides information regarding cultural resources management activities completed in support of the following facilities:

- Construction of a new 500/230/138 kilovolt (kV) electric substation (East County [ECO] Substation)
- Loop-In of the existing 500 kV Southwest Powerlink (SWPL) transmission line into the new substation, which will require installation of transmission structures outside of the fenced area at the ECO Substation, but within the newly acquired San Diego Gas & Electric (SDG&E) property
- Construction of a new, approximately 13.3-mile-long 138 kV transmission line from the ECO Substation to the rebuilt Boulevard Substation, including the placement of a 0.646-inch diameter, 48-strandall-dielectric self-supporting fiber optic cable to provide critical communication services
- Rebuild of the Boulevard Substation on a new 8.5-acre parcel to provide 138 kV and 69 kV interconnection capability and 12 kV service
- Construction of a microwave communication relay system, comprised of new towers and control buildings at the ECO Substation and White Star Communication Facility and the leasing of existing T1 lines from San Diego County

The research and survey were designed to assess the maximum possible extent of the Proposed Project. Following the initial survey of an area much larger than the Proposed Project, design changes were made by SDG&E to eliminate the potential for adverse effects to cultural resources. The most substantial design change was the relocation of the ECO substation footprint to avoid archaeological site deposits. This project modification and many other design changes are described in this report.

Three cultural resource surveys were conducted for the Proposed Project along with monitoring during geotechnical explorations (2008, 2009, and 2010). The results of all three surveys have been incorporated into this document. The Area of Potential Effect (APE) for the proposed ECO Substation Project (Proposed Project) includes land owned or managed as private property and by the Bureau of Land Management. The results of cultural resources activities conducted in support of the Proposed Project are presented in accordance with the regulations and terminology associated with the National Historic Preservation Act (NHPA) of 1966 - Section 106 and 36 Code of Federal Regulations (CFR) 800: Protection of Historic Properties (revised 2000). All cultural resources activities performed in support of the Proposed Project meet the requirements of the Archaeological Resources Protection Act (ARPA) of 1979, as amended (16 United States Code [U.S.C.] 470aa – 470mm), as defined in Section 36 CFR 60.4, and are presented in the format stipulated in *Archaeological Resource Management Reports* (ARMR) *Recommended Contents and Format* (California Office of Historic Preservation 2000). The HDR|e²M personnel performing cultural resources management activities in support of the Proposed Project meet and/or exceed the requirements for professional education and experience as defined in 36 CFR 800 (NHPA), the Secretary of the Interior's Professional Qualifications Standards (Federal Register Notice, Vol. 48, No. 190, pp. 44738-44739, 1983), and ARPA standards (43 CFR Part 7).

The APE for the proposed East County (ECO) Substation Project (Proposed Project) consists of approximately 537.5 acres and includes land owned or managed as private property and by the Bureau of Land Management, El Centro Field Office. The proposed project consists of five components: the ECO Substation (158.33 acres), the SWPL Loop-In (contained within the ECO substation, no additional

acreage), a 138 kV Transmission Line (376.86 acres), the Boulevard Substation Rebuild (2.31 acres) and the White Star Communication Facility Rebuild (less than 0.5 acre).

The ECO Substation will be entirely on privately owned, undeveloped land. SDG&E will acquire up to six parcels to construct and operate the substation, of which the fenced portion of the ECO Substation will encompass approximately 58 acres. The SWPL Loop-In will be constructed in the same general location as the ECO Substation. Structures associated with this loop will be on land acquired for the new substation and within SDG&E's existing SWPL ROW. The approximately 13.3-mile-long 138 kV transmission line will be constructed from the ECO Substation to the Boulevard Substation (within the unincorporated community of Boulevard in southeastern San Diego County). Approximately 0.1 mile until it enters the Boulevard Substation. The new 138 kV transmission line will require an approximately 100-foot-wide permanent ROW (approximately 50 feet on either side of the centerline). Approximately 10 miles of the new transmission line will be adjacent to existing SDG&E easements. This area is predominantly privately owned, undeveloped open space. Looping of the SWPL transmission line into the ECO Substation will require approximately 0.7 acre of land, approximately 200 feet wide and 1,500 feet long, for placement of three transmission structures and a permanent ROW. The new ROW lies within the property that will be acquired for the ECO Substation 138 kV Transmission Line.

The fenced area of the proposed new Boulevard Substation will be approximately two acres (277 feet by 319 feet), allowing for the installation of new 138 kV and 69 kV facilities to accommodate connection of the new 138 kV transmission line, as well as the potential for up to four generation tie-lines (gen-ties). No new land rights will be required for the installation or reconstruction of these facilities or for the new White Star Communication Facility. The new facility will be approximately 30 feet by 30 feet and enclosed within a six-foot-high chain-link fence.

The archaeological survey for this project covered the maximum extension for each component, with an area slightly more than 498 acres surveyed for the proposed ECO Substation, a linear survey 13.3 miles long for the 138 kV line, and a survey of the acreage involved for the Boulevard and White Star rebuild. A total of 42 archaeological sites (both historic and prehistoric) were found in the study (22 at the ECO Substation and 20 along the 138 kV transmission line). Sites CA-SDI-19624, -19496, -19497, and -19498, are in both the ECO Substation and the SWPL Loop-In areas. There are no recorded sites at the Boulevard Substation Rebuild site or at the White Star Communication Facility.

SDG&E has redesigned the project to avoid potentially adverse effects to sites recorded during the surveys for the ECO Substation, SWPL Loop-In, and the 138 kV Transmission Line. The original footprint for the substation and the locations of several associated transmission structures have been relocated to avoid adverse effects to the sites recorded during the survey for the ECO Substation. There are widely scattered artifacts and historic cans within the redesigned substation boundary, but these are recommended by the contractor as not eligible for the National Register of Historic Places (NRHP). These are preliminary recommendations based on surface surveys only. In general terms, the project area has been disturbed by modern land use and by ongoing development as well as disturbance from off-road vehicles and border security activity. The four sites included within both the SWPL Loop-In and the ECO Substation will be avoided. Redesign along the transmission line corridor consisted of elimination of grading for work pads and access roads, and moving poles out of the archaeological resources. As a result of the redesign, identified sites along the 138 kV transmission line will not be directly impacted. The buffers between project components and avoided archaeological resources are approximately 50 ft in size. Monitoring, flagging, and temporary fencing should be incorporated into the construction project to ensure protection of the cultural resources. SDG&E should prepare a conservation plan as part of the operations and maintenance of the facility to provide long-term protection for the avoided resources.

The site areas within the ECO Substation and Transmission Line APE are not recommended as eligible for the NRHP. Therefore, if the suggested mitigation measures are implemented, it is the

recommendation of HDR|e²M that the Proposed Project will have no adverse effects on cultural resources. In general terms, the project area has been disturbed by modern land use and by ongoing development as well as disturbance from off-road vehicles and border security activity.

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ACRONYMS AND ABBREVIATIONS

APE	Area of Potential Effect
ARMR	Archaeological Resource Management Reports
ARPA	Archaeological Resources Protection Act
ASM	ASM Affiliates, Inc.
BLM	Bureau of Land Management
CARIDAP	California Archaeological Resource Identification and Data Acquisition Program: Sparse Lithic Scatters
CFR	Code of Federal Regulations
DPR	Department of Parks and Recreation
ECO	East County
gen-tie	generation tie-line
GPS	Global Positioning System
I	Interstate
kV	kilovolt
DB	National Archaeological Data Base
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act of 1966
NRHP	National Register of Historic Places
ROW	Right-of-way
SCIC	South Coastal Information Center
SDG&E	San Diego Gas and Electric Company
SHPO	State Historic Preservation Office
SWPL	Southwest Powerlink
UTM	Universal Transverse Mercator
U.S.	United States
U.S.C.	United States Code
USGS	U.S. Geological Survey

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1. INTRODUCTION

1.1. Project Location

The Proposed Project is in the southeastern portion of San Diego County, California. It is approximately 0.5 mile north of the International Border with Mexico, 0.5 mile west of the border with Imperial County, and 70 miles east of downtown San Diego, as shown in Figure 1-1.

The Area of Potential Effect (APE) for the proposed East County (ECO) Substation Project (Proposed Project) consists of approximately 537.5 acres and includes land owned or managed as private property and by the Bureau of Land Management, El Centro Field Office (BLM) (Figure 1-2).

The proposed project consists of five components: the ECO Substation (158.33 acres), the Southwest Powerlink (SWPL) Loop-In (contained within the ECO substation, no additional acreage), a 138 kV transmission line (376.86 acres), the Boulevard Substation Rebuild (2.31 acres) and the White Star Communication Facility Rebuild (less than 0.5 acres).

The ECO Substation will be entirely on privately owned, undeveloped land. San Diego Gas & Electric (SDG&E) will acquire up to six parcels to construct and operate the substation, of which the fenced portion of the ECO Substation will encompass approximately 58 acres. The SWPL Loop-In will be constructed in the same general location as the ECO Substation. Structures associated with this loop will be on land acquired for the new substation and within SDG&E's existing SWPL ROW. The approximately 13.3-mile-long 138 kV transmission line will be constructed from the ECO Substation to the Boulevard Substation (within the unincorporated community of Boulevard in southeastern San Diego County). The new 138 kV transmission line will require an approximately 100-foot-wide permanent ROW (50 feet on either side of the centerline). Approximately 10 miles of the new transmission line will be adjacent to existing SDG&E easements. This area is predominantly privately owned, undeveloped open space. Looping of the SWPL transmission line into the ECO Substation will require approximately 0.7 acre of land, approximately 200 feet wide and 1,500 feet long, for placement of three transmission structures and a permanent ROW. The new ROW lies within the property that will be acquired for the ECO Substation 138 kV transmission line.

The fenced area of the proposed new Boulevard Substation will be approximately two acres (277 feet by 319 feet), allowing for the installation of new 138 kV and 69 kV facilities to accommodate connection of the new 138 kV transmission line, as well as the potential for up to four generation tie-lines (gen-ties). No new land rights will be required for the installation or reconstruction of either the Boulevard Substation facilities or the new White Star Communication Facility. The new facility will be approximately 30 feet by 30 feet and enclosed within a six-foot-high chain-link fence.

The archaeological survey for this project extended beyond the maximum extension for each component. The entire parcel acquired by SDG&E for the substation project was surveyed, covering a little more than 537 acres, as well as a corridor (100 ft; 50 ft on each side of the center line) along the proposed transmission line. The actual acreage needed for the substation will be less than 60 acres. The combined acreage involved for the Boulevard and White Star rebuild was also subjected to a Class III survey covering approximately 3 acres. As shown in Table 1-1, the anticipated level of ground disturbance is approximately 168 acres. All anticipated impact areas were examined for cultural resources.

TABLE 1-1. ANTICIPATED LEVEL OF DISTURBANCE

Component	Acres
ECO Substation	115.64
SWPL Loop-in	7.74
138 kV Line	40.26
Boulevard and White Star Facilities	5.05
Total Acres	168.69

The results of cultural resources activities conducted in support of the Proposed Project are presented in accordance with the regulations and terminology associated with the National Historic Preservation Act (NHPA) of 1966 - Section 106 and 36 Code of Federal Regulations (CFR) 800: Protection of Historic Properties (revised 2000). All cultural resources activities performed in support of the Proposed Project meet the requirements of the Archaeological Resources Protection Act (ARPA) of 1979, as amended (16 United States Code [U.S.C.] 470aa – 470mm), as defined in section 36 CFR 60.4, and are presented in the format stipulated in *Archaeological Resource Management Reports* (ARMR) *Recommended Contents and Format* (California Office of Historic Preservation 2000). The HDR|e²M personnel performing cultural resources management activities in support of the Proposed Project meet and/or exceed the requirements for professional education and experience as defined in 36 CFR 800 (NHPA), the Secretary of the Interior's Professional Qualifications Standards (Federal Register Notice, Vol. 48, No. 190, pp. 44738-44739, 1983), and ARPA standards (43 CFR Part 7).

The strategy for the cultural resources inventory was to define and survey the maximum potential project area, then focus on designing the project to avoid as many resources as possible. As a result, a large number of archaeological sites were found during the survey. The majority of these sites are outside the potential impact areas for the proposed substation and transmission line projects and therefore will not be adversely affected by the proposed actions.

A total of 62 archaeological sites (both historic and prehistoric) were listed on the record search. Results of the Class III cultural resource inventory identified 42 archaeological sites (22 in the ECO Substation survey and 20 along the 138 kV transmission line survey). Four of the sites within the ECO Substation survey area are also included in the SWPL Loop-In survey area. There are no recorded sites in the Boulevard Substation Rebuild site or at the White Star Communication Facility. Most of the sites described in the survey report are outside the APE. SDG&E has redesigned the project to avoid adverse effects to cultural properties recorded during the survey for the 138 kV transmission line. The footprint of the ECO Substation and several associated transmission structures has also been relocated in order to avoid adverse effects to sites.

As a result of the Class III cultural resource study, project redesign and avoidance measures described in this report, HDR|e²M has concluded there will be no adverse effects to historic properties within the APE for the proposed project. None of the identified sites appear to be eligible for National Register nominations. These are preliminary recommendations based on surface surveys. BLM, in consultation with the State Historic Preservation Office (SHPO), will determine whether further testing or evaluation is necessary and will determine whether to formally evaluate any or all of these sites.

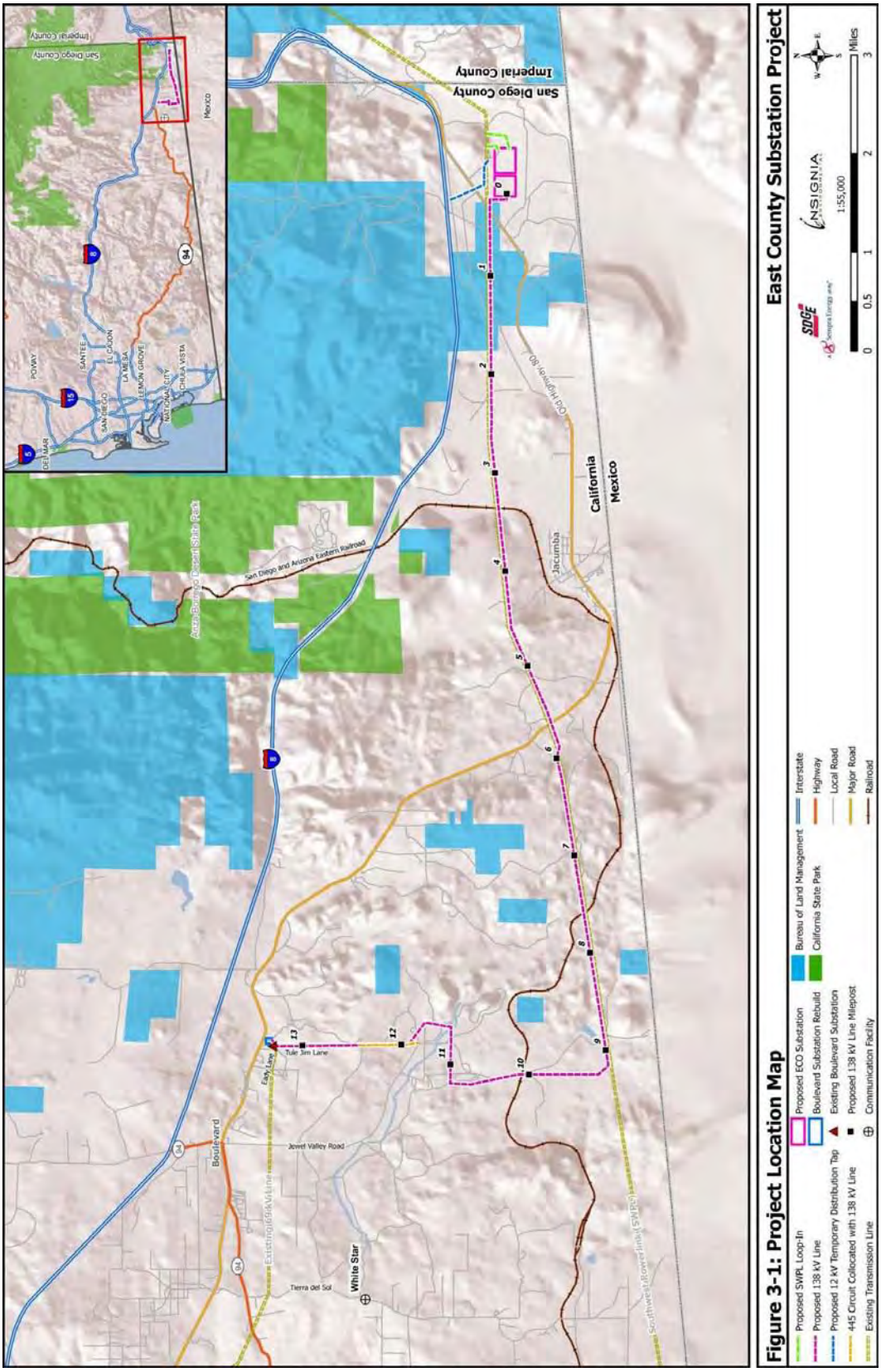


FIGURE 1-1. PROJECT OVERVIEW

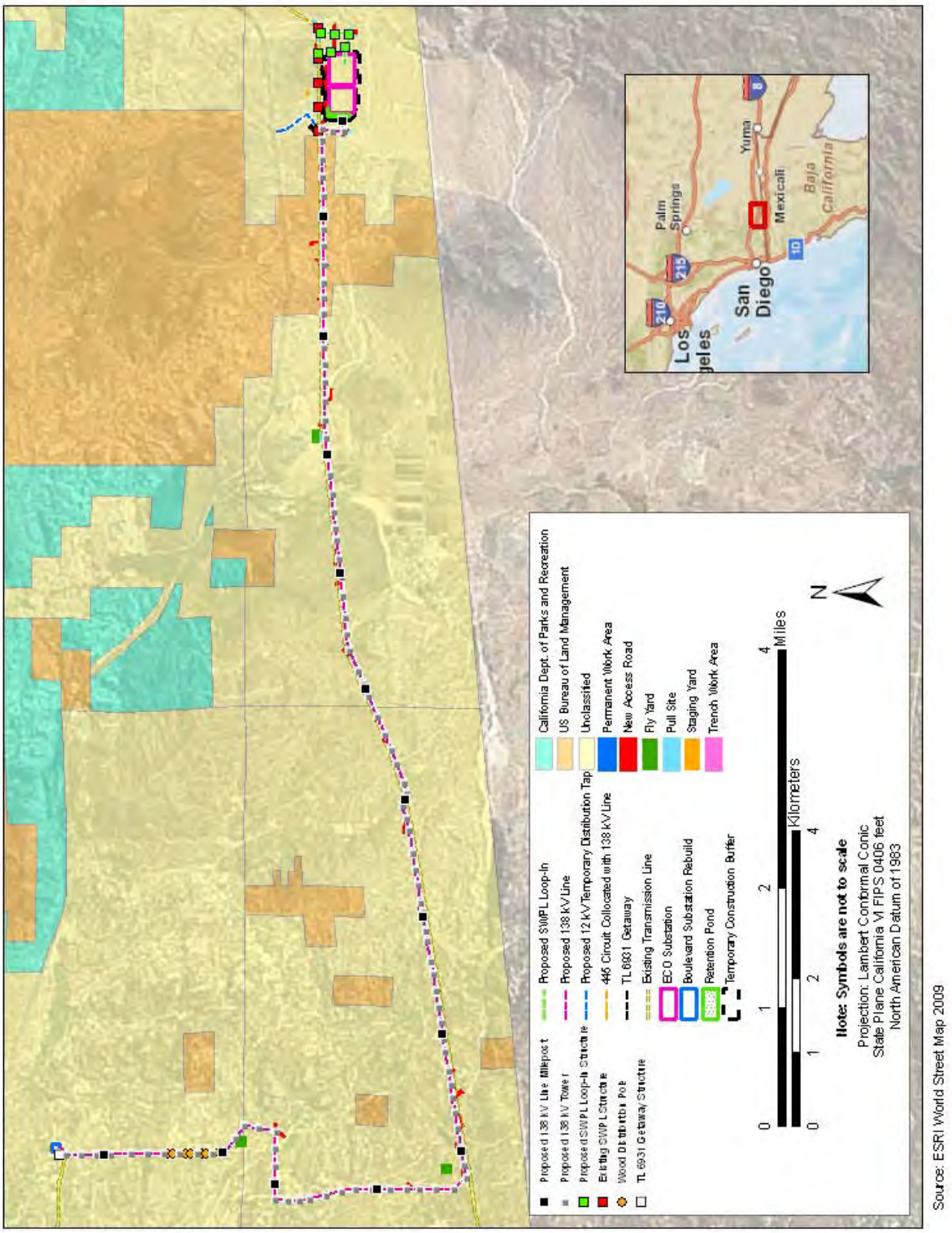


FIGURE 1-2. CURRENT OWNERSHIP FOR THE PROPOSED PROJECT AND SURROUNDING AREA

For the purposes of this document and to better describe the Proposed Project, the report is divided into the following five components:

1. ECO Substation
2. SWPL Loop-In
3. 138 kV Transmission Line
4. Boulevard Substation Rebuild
5. White Star Communication Facility Rebuild.

The locations of these Proposed Project components are depicted above in Figure 1-1 and described in more detail below.

1.2. Project Components

1.2.1. ECO Substation

The proposed substation is on the south side of Interstate (I)-8, east of the town of Jacumba, on the west side of the Jacumba Mountain Range (an extension of the Sierra de Juárez Range) as shown on the In-Ko-Pah Gorge United States Geological Survey (USGS) 7.5-minute quadrangle map. Old Highway 80 is immediately north of the Proposed Project and the International Border with Mexico is immediately to the south, as shown in Figure 1-1. Privately owned, undeveloped land borders the western side of the site, and undeveloped land managed by the BLM lies immediately to the west (see Figure 1-2). The Proposed Project can be accessed by traveling east from San Diego on I-8, exiting at In-Ko-Pah Park Road, and heading west on Old Highway 80 until it intersects the existing SWPL transmission line.

The ECO Substation will be entirely on privately owned, undeveloped land. SDG&E will acquire up to six parcels to construct and operate the substation, totaling approximately 498 acres, of which the fenced portion of the ECO Substation will encompass approximately 58 acres. The remainder of the property will be undeveloped (Figures 1-3 and 1-4).

The proposed ECO Substation will be enclosed by a chain-link fence around the perimeter of the substation. A 20-foot buffer around the perimeter of the substation pads will be maintained for security and fire prevention reasons. Construction will require permanent cut and fill slopes in the area surrounding the substation that may occupy an additional 25 acres. A new access road, drainage facilities for the site, and a design/construction buffer of approximately 100 to 150 feet around the substation will be included in the Proposed Project design. The substation will be split into two separate yards—a 500 kV yard and a 230/138 kV yard—at offset elevations, as shown on Figures 1-3 and 1-4. The fenced area of the 500 kV yard will occupy roughly 32 acres (approximately 1,290 feet by 1,080 feet). The fenced area of the 230/138 kV yard will occupy roughly 26 acres (approximately 1,060 feet by 1,080 feet). The original footprint for the substation was moved to avoid impacts to archaeological resources.

Approximately 2,900 linear feet of new access road from Old Highway 80 to the ECO Substation will be built in order to allow safe access to the substation and facilitate the delivery of equipment. Four asphalt-paved driveways, approximately 100 feet in length, will be constructed off of the access road into the four gated entrances of the substation. The new access roads will be approximately 30 feet wide, requiring approximately 2.2 acres of land. It is anticipated that approximately 115 acres could be impacted during construction. The ECO Substation will be entirely on privately owned, undeveloped land. Approximately 498 acres were examined during the planning phase to determine the location for the

substation. SDG&E will acquire up to six parcels to construct and operate the substation, of which the fenced portion of the ECO Substation will encompass less than 60 acres.

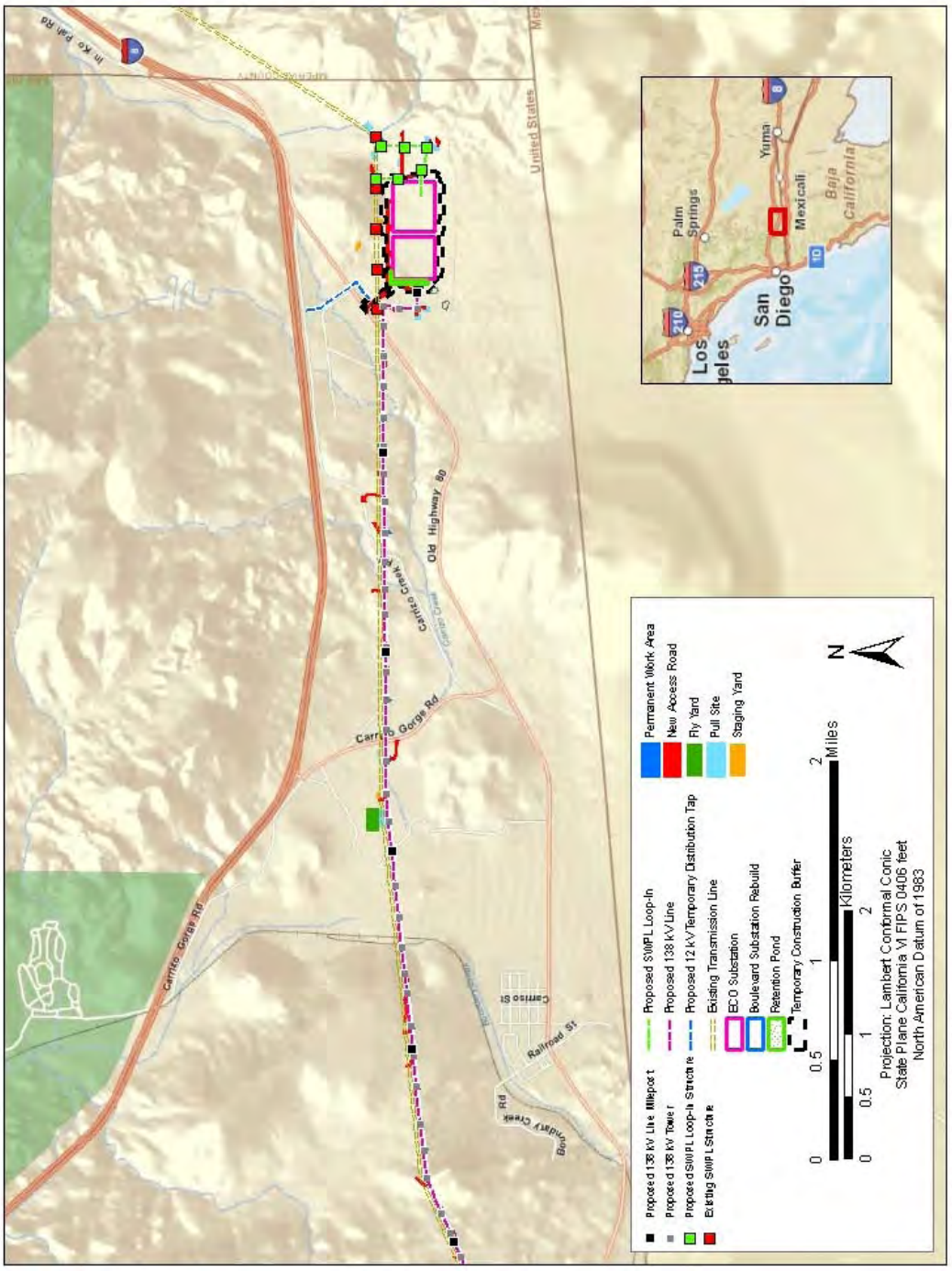


FIGURE 1-3. LOCATION OF THE PROPOSED ECO SUBSTATION

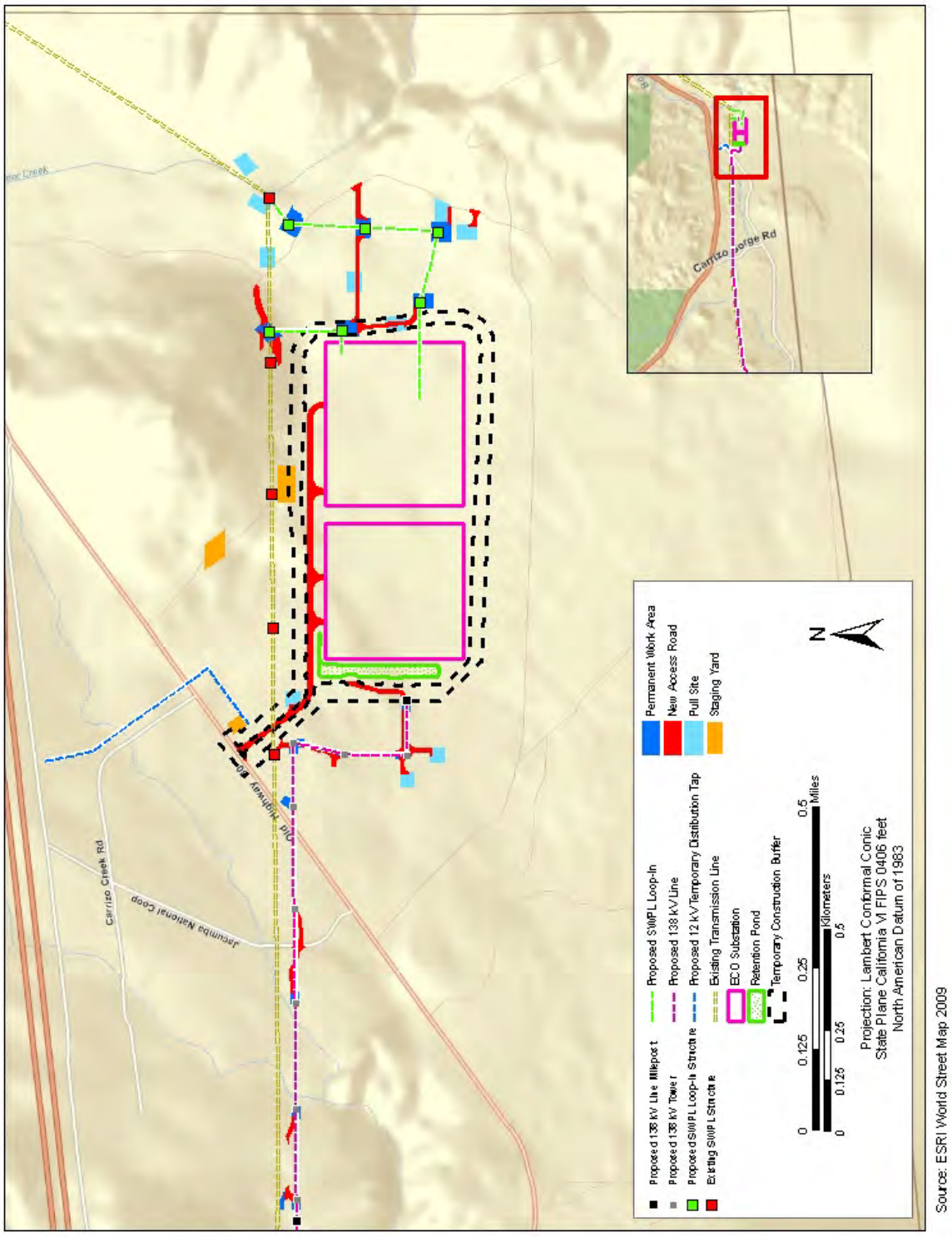


FIGURE 1-4. CLOSE-UP OF THE PROPOSED ECO SUBSTATION

1.2.2. Southwest Powerlink Loop-In

The SWPL Loop-In will be constructed in the same general location as the ECO Substation. A short loop to connect the existing 500 kV SWPL transmission line into the new substation will begin along the existing SWPL right-of-way (ROW) and extend approximately 1,200 feet to the south and 250 feet to the east to the east side of the new substation. The existing SWPL transmission line and new substation are shown in Figure 1-1. Structures associated with this loop will be on land acquired for the new substation and within SDG&E's existing SWPL ROW. Anticipated construction could impact up to 7.74 acres.

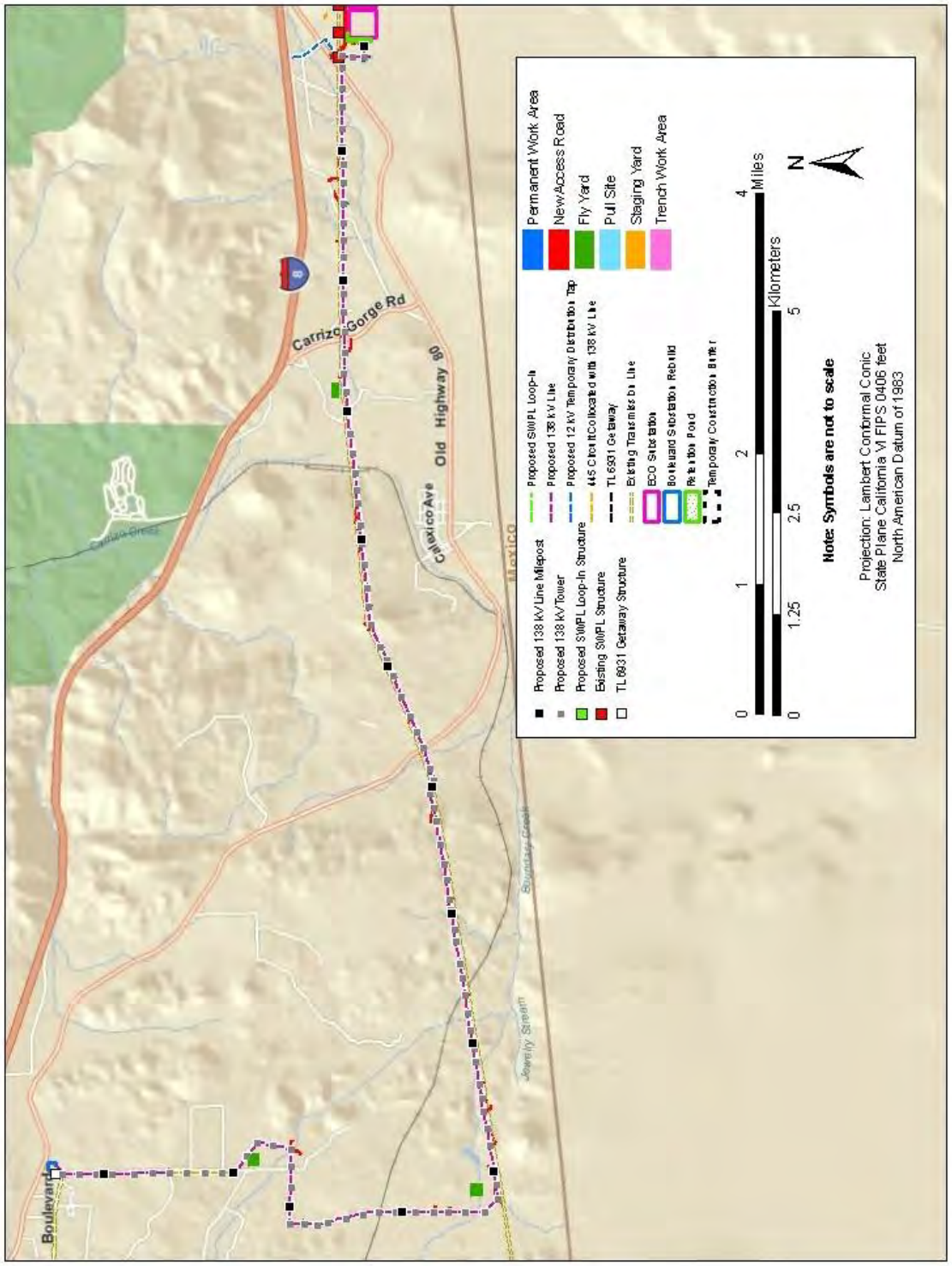
1.2.3. 138 kV Transmission Line

An approximately 13.3-mile-long 138 kV transmission line will be constructed from the ECO Substation to the Boulevard Substation (within the unincorporated community of Boulevard in southeastern San Diego County). The line will travel west out of the ECO Substation for approximately 300 feet and then turn north until reaching the existing SWPL ROW. The 138 kV transmission line will then continue parallel to the south side of the SWPL ROW for approximately 5.7 miles. At this point, the line will cross under the SWPL transmission line and continue parallel to the north side of the SWPL ROW for approximately 3.2 miles until it intersects with an existing dirt access road. The line will then turn north for approximately 1.5 miles, then east for approximately 0.7 mile, north for approximately 0.4 mile, and west for approximately 0.1 mile until it crosses over Tule Jim Lane. The line will then run north along the west side of Tule Jim Lane for approximately 1.5 miles until it crosses Eady Lane. At this point, the line will turn northeast for approximately 0.1 mile until it enters the Boulevard Substation.

The new 138 kV transmission line will require an approximately 100-foot-wide permanent ROW (approximately 50 feet on either side of the centerline). Approximately 10 miles of the new transmission line will be adjacent to existing SDG&E easements. This area is predominantly privately owned, undeveloped open space (see Figure 1-2; Figures 1-5 through 1-10).

The existing 500 kV transmission line will be looped in and out of the 500 kV bus within the ECO Substation in conjunction with the substation construction. This installation will require replacement of one existing 125-foot-tall tower, and installation of two new steel towers east of the ECO Substation fence. Depending on the final design, the anticipated maximum height of these structures will be approximately 125 feet. Looping of the SWPL transmission line into the ECO Substation will require approximately 0.7 acre of land, approximately 200 feet wide and 1,500 feet long, for placement of three transmission structures and a permanent ROW. The new ROW lies within the property that will be acquired for the ECO Substation 138 kV Transmission Line.

The structural configuration for the transmission line will be designed as a twin circuit (two conductors per phase) configuration with increased horizontal and vertical spacing. The new transmission line will be approximately 13.3 miles long and include approximately 98 steel transmission poles and 9 wooden distribution poles. Access roads will be constructed to most steel pole locations to facilitate installation and to allow for inspection and maintenance. All access roads to be built will be spur roads off of existing dirt roads. The spur roads will vary in length from 20 feet to 250 feet and will be approximately 15 feet wide. A total of approximately 2.6 miles of spur roads will be constructed, requiring approximately 5.3 acres of land. The new 138 kV transmission line will require a 100-foot-wide permanent ROW and 50-foot-by-50-foot temporary workspace around each pole location. Construction activities could impact up to 40.26 acres.



Source: ESRI World Street Map 2009

FIGURE 1-5. GENERAL OVERVIEW OF THE PROPOSED 138 KV TRANSMISSION LINE

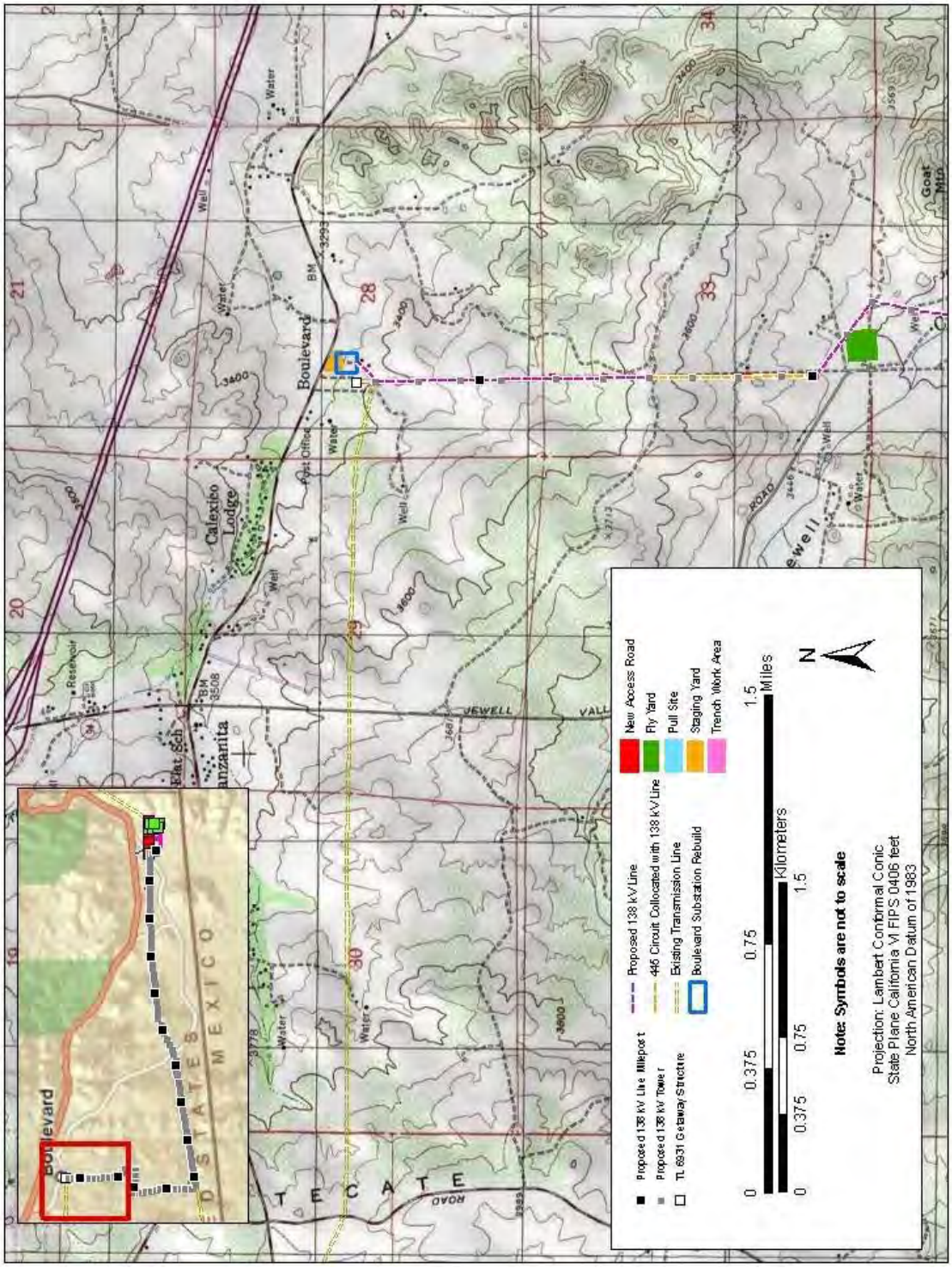


FIGURE 1-6. EXPANDED VIEW OF THE PROPOSED 138 KV TRANSMISSION LINE

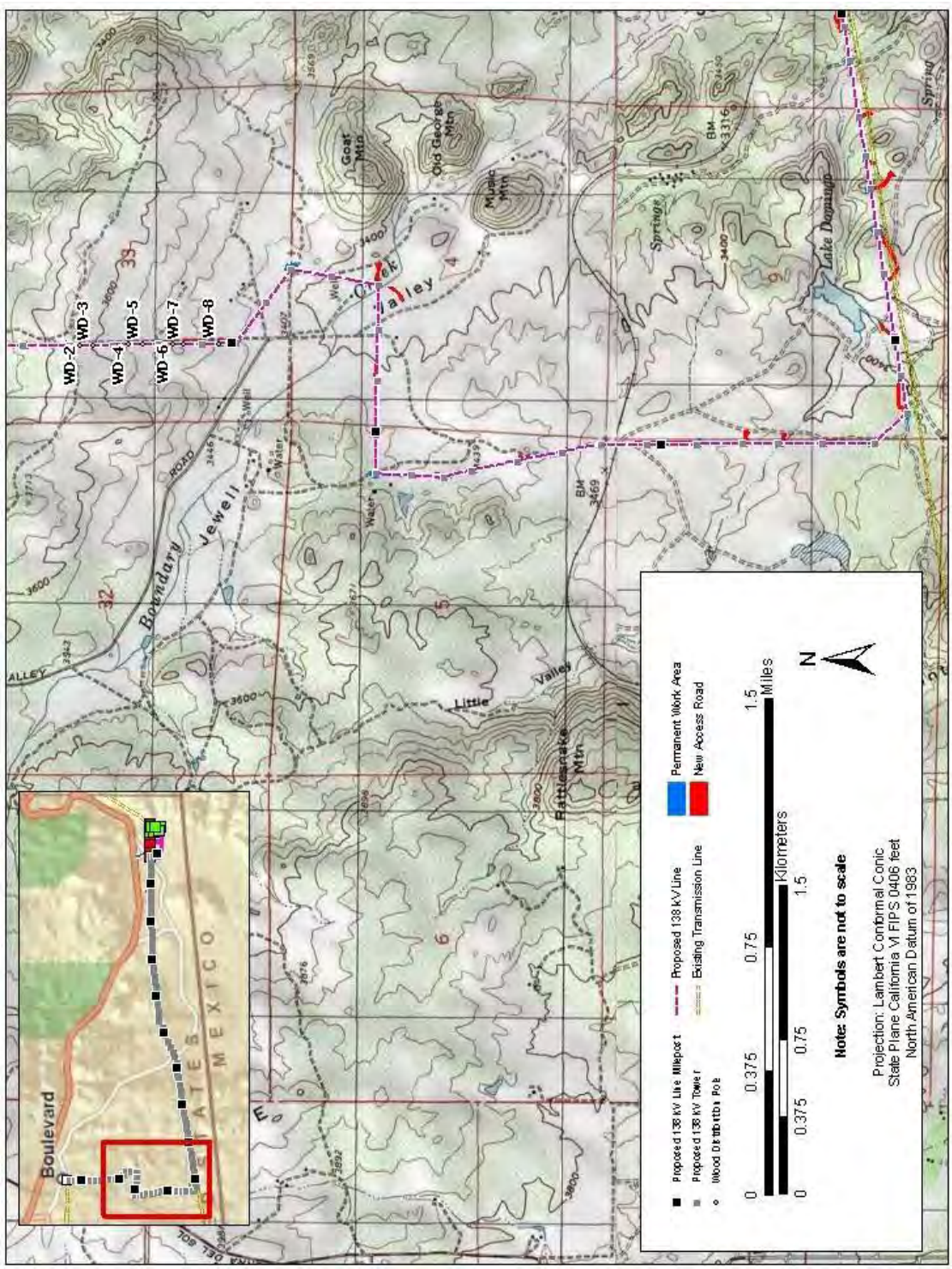


FIGURE 1-7. EXPANDED VIEW OF THE PROPOSED 138 KV TRANSMISSION LINE

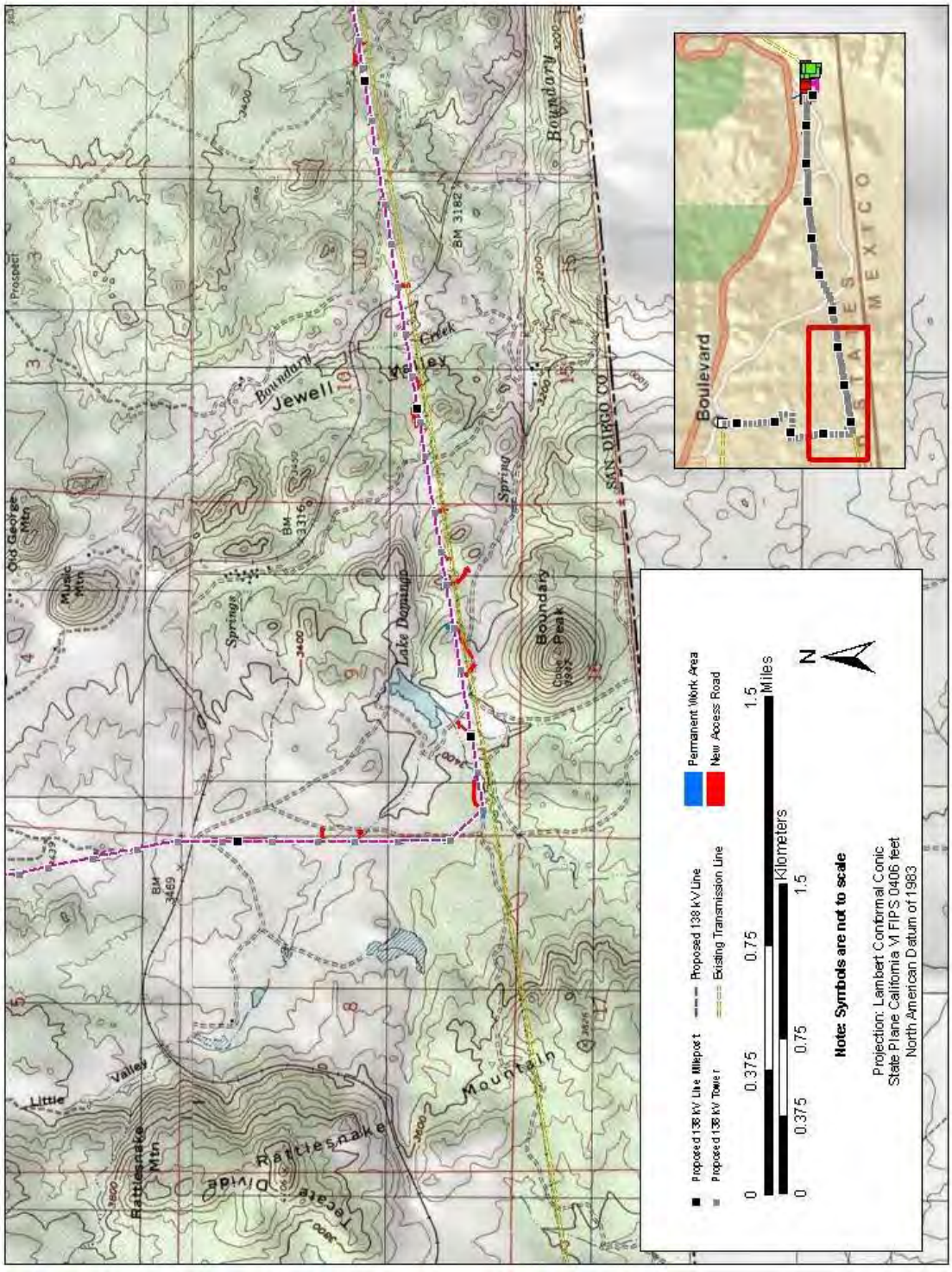
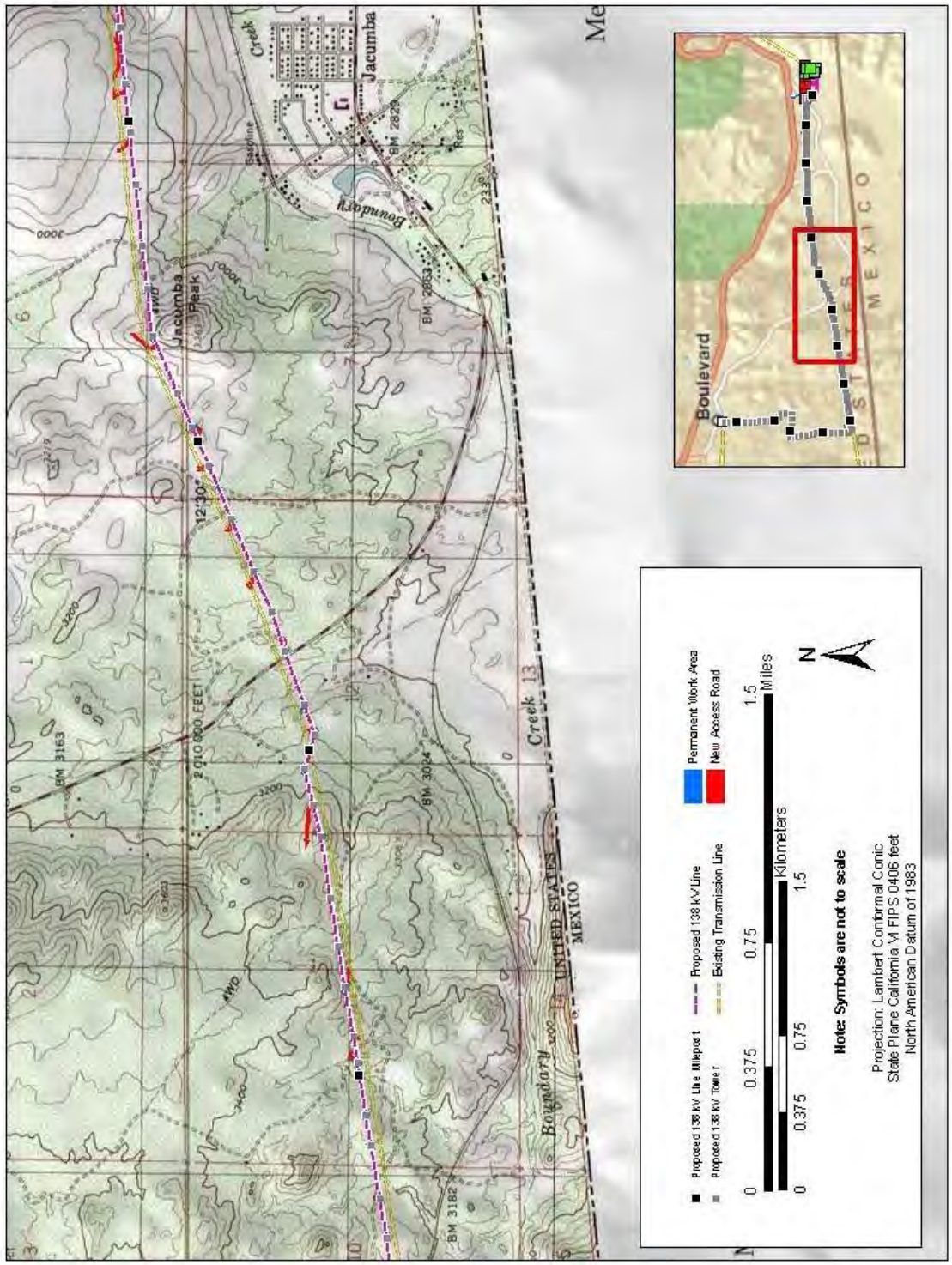


FIGURE 1-8. EXPANDED VIEW OF THE PROPOSED 138 KV TRANSMISSION LINE



Source: ESRI World Street Map 2009

FIGURE 1-9. EXPANDED VIEW OF THE PROPOSED 138 KV TRANSMISSION LINE

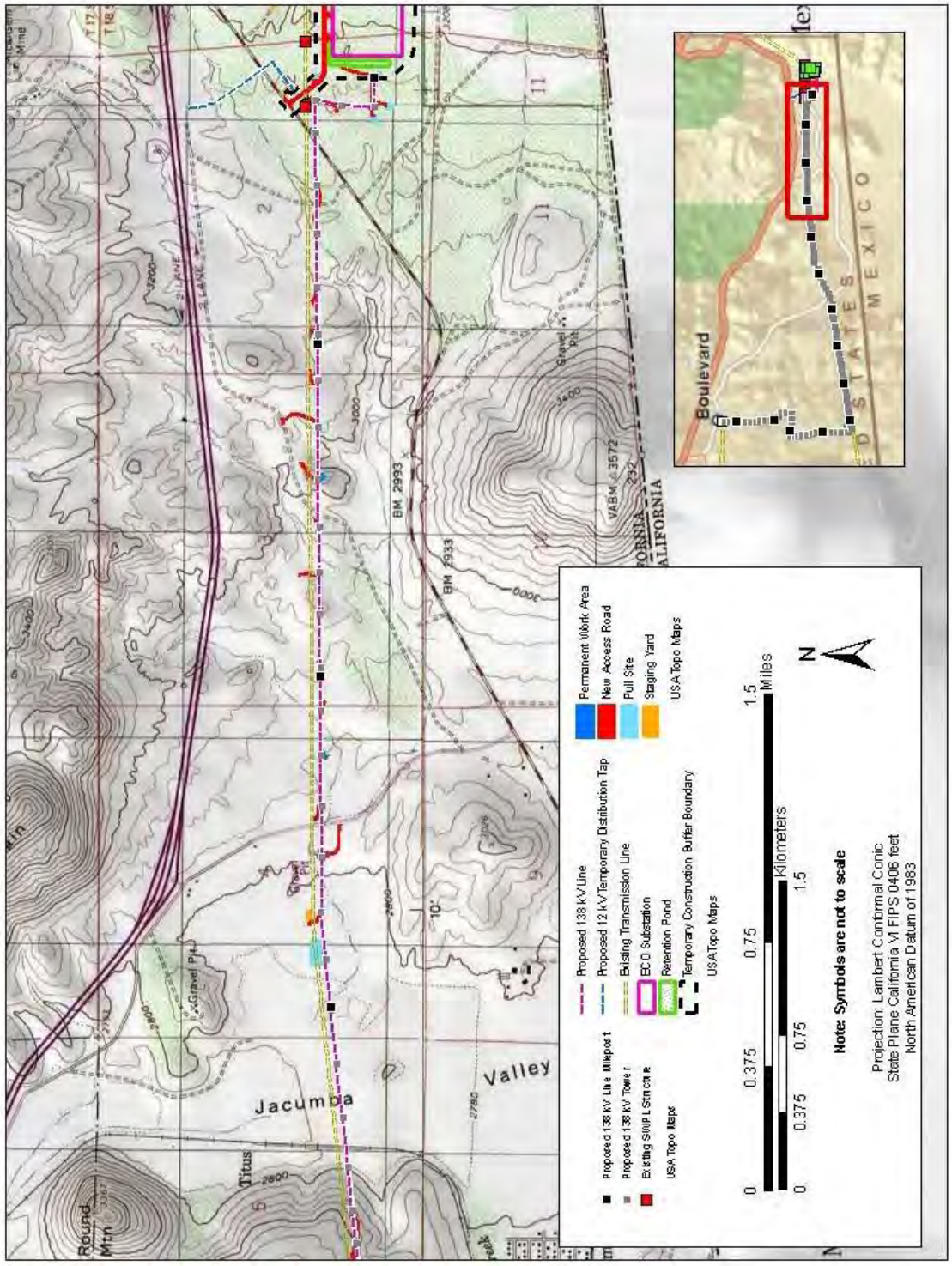


FIGURE 1-10. EXPANDED VIEW OF THE PROPOSED 138 KV TRANSMISSION LINE

1.2.4. Boulevard Substation Rebuild

The Boulevard Substation is approximately 12 miles northwest of the proposed ECO Substation, as shown in Figure 1-1. The existing Boulevard Substation will be removed from service and demolished once the new substation is energized. The Boulevard Substation will be rebuilt directly east of the existing substation. A new, asphalt-paved access road from Old Highway 80 to the rebuilt Boulevard Substation, approximately 400 feet in length and 25 feet wide, will be constructed. The fenced area of the new substation will be approximately two acres (277 feet by 319 feet), allowing for the installation of new 138 kV and 69 kV facilities to accommodate connection of the new 138 kV transmission line, as well as the potential for up to four generation tie-lines (gen-ties).

Currently, the fenced area of the Boulevard Substation is approximately 70 feet by 100 feet and composed of one 69 kV line, one 7.5- megavolt ampere transformer, and two 12 kV circuits. The existing Boulevard Substation will be removed from service and demolished once the new substation is energized. The Boulevard Substation will be rebuilt directly east of the existing substation. The fenced area of the new substation will be approximately two acres (277 feet by 319 feet), allowing for the installation of a new 138 kV switch rack to accommodate connection of the new 138 kV transmission line, as well as the potential for up to four gen-ties (Figures 1-11 and 1-12).

SDG&E will acquire one 8.5-acre parcel on which the substation will be rebuilt. One residential home and eight associated structures on this parcel will be demolished in order to construct the substation. A new, 25-foot-wide, asphalt-paved access road, approximately 190 feet in length, will be constructed off Old Highway 80 to the substation. The rebuilt substation will include 138 kV, 69 kV, and 12 kV facilities to accommodate the proposed transmission and gen-tie interconnections and provide 12 kV service to the surrounding area. The electrical facilities will include 138 kV, 69 kV and 12 kV air-insulated buses, transformers, circuit breakers, disconnect switches, communication equipment and protective relays. Construction impacts will be limited to less than 5 acres.

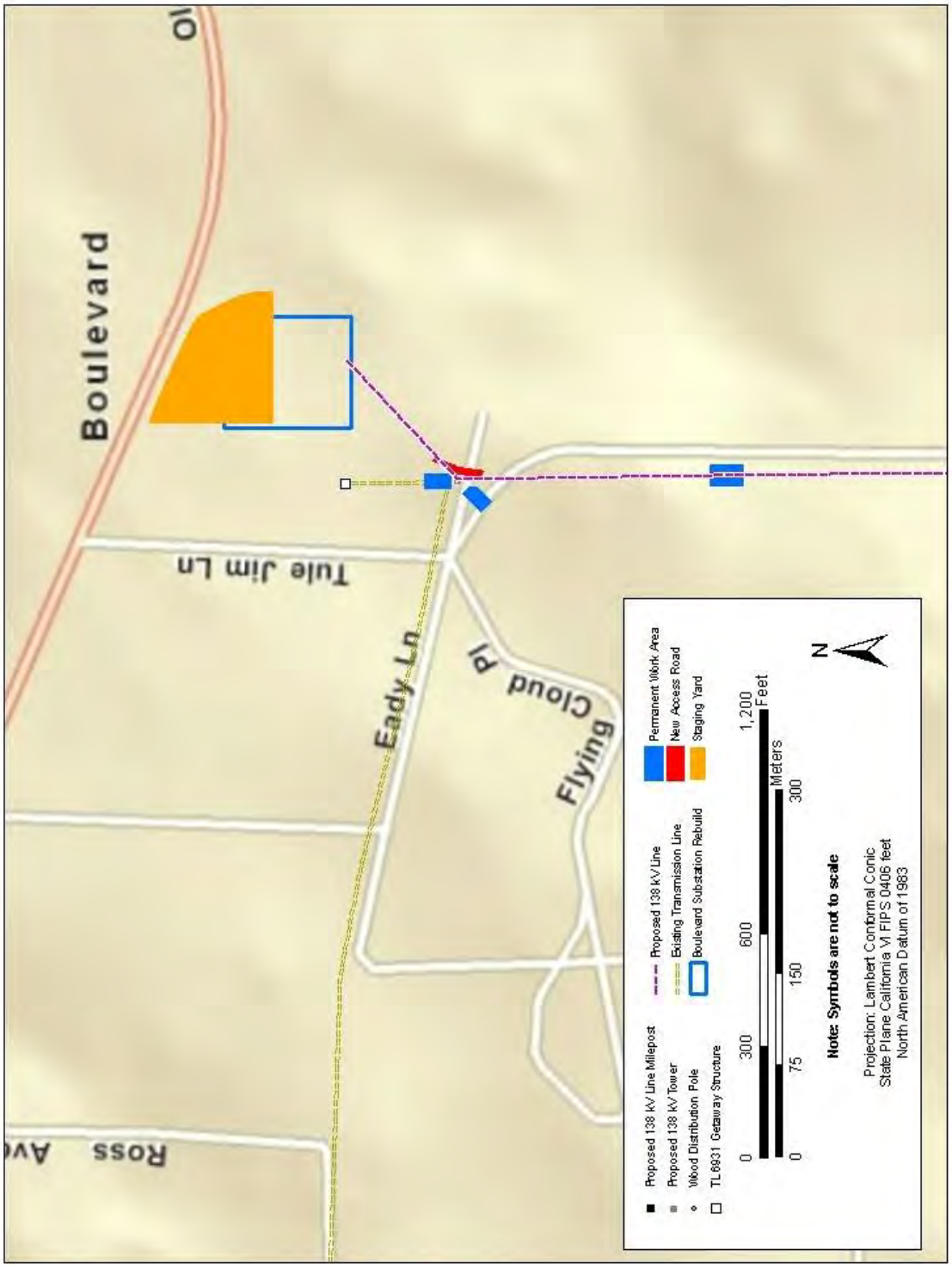


FIGURE 1-11. THE PROPOSED BOULEVARD SUBSTATION REBUILD

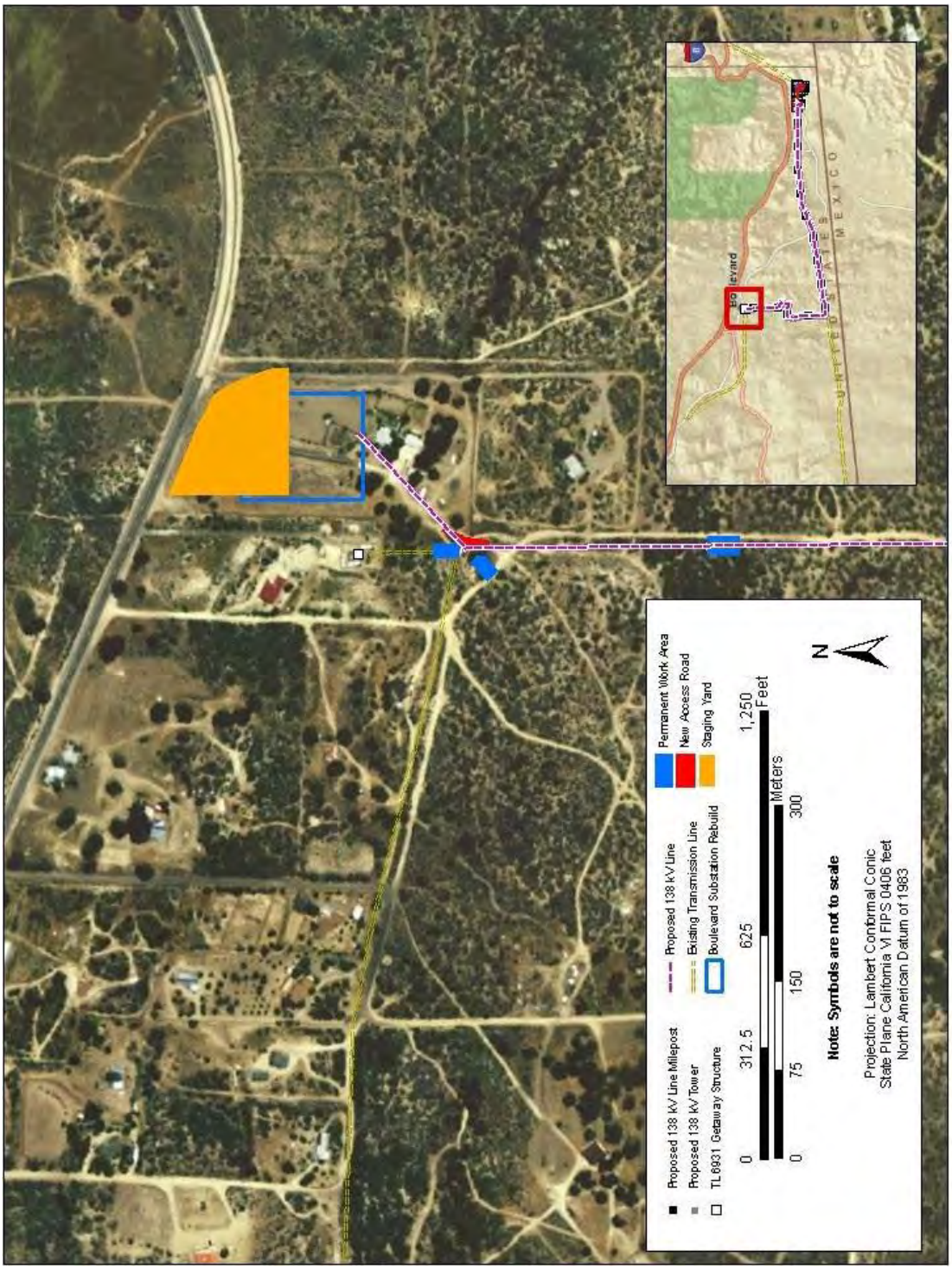
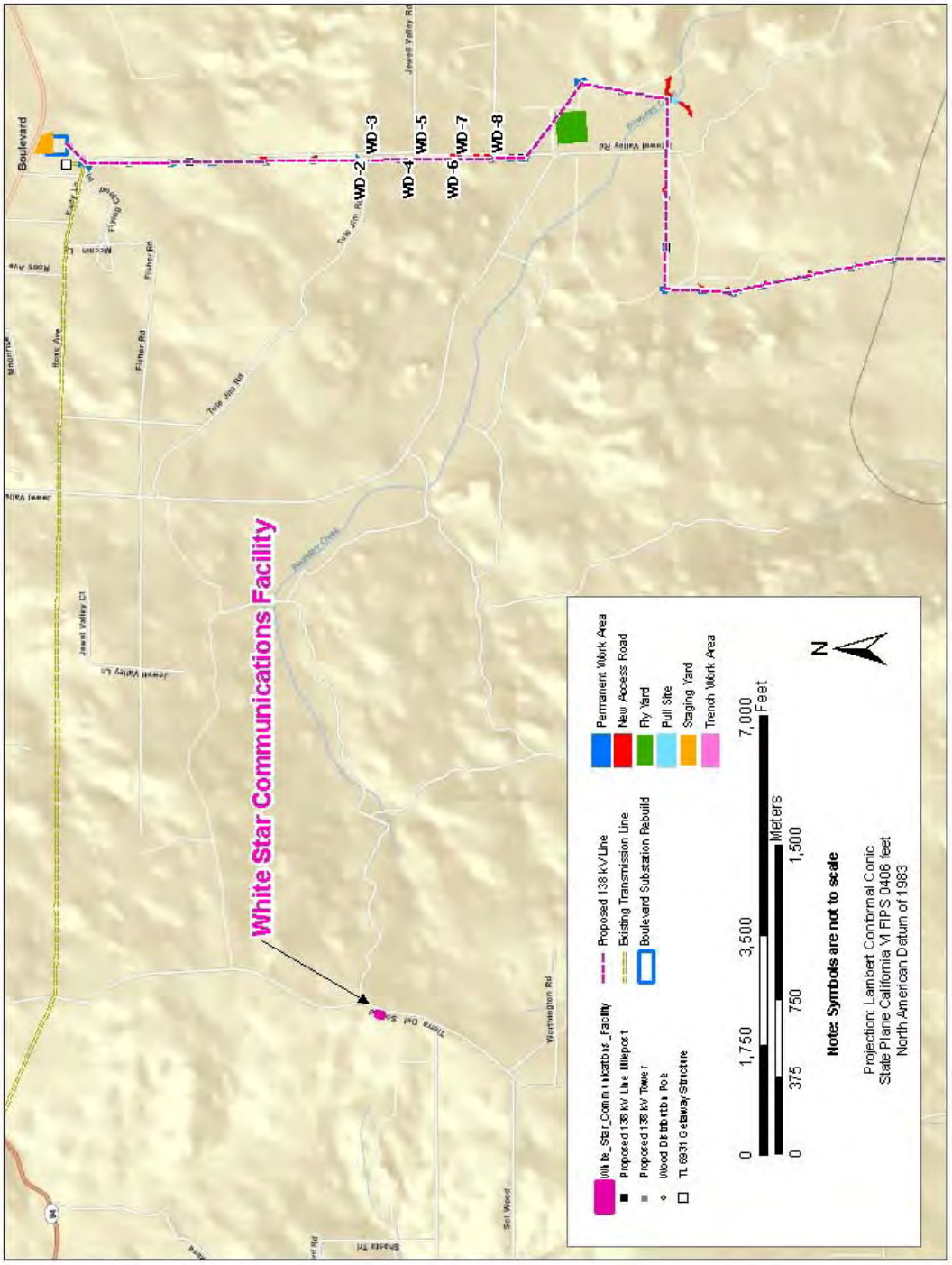


FIGURE 1-12. AERIAL SHOWING THE LOCATION OF THE PROPOSED BOULEVARD SUBSTATION REBUILD

1.2.5. White Star Communication Facility Rebuild

SDG&E owns and operates a communications facility at White Star in an easement that is adjacent to an existing communication facility owned by San Diego County (Figures 1-13 and 1-14). At this site, SDG&E will replace two wooden poles with one 75-foot-tall steel tubular pole. The new equipment to be installed will include a six-foot-diameter microwave antenna, waveguide, and grounding attached to the steel pole. The microwave dish will be attached to the tower approximately 50 feet from the ground. In addition, voice radio antennas may be attached to the tower to support electrical crews' fieldwork and operation safety. SDG&E will remove an existing equipment control shelter and install a small, pre-fabricated control building, 12 feet by 16 feet in size, adjacent to the new steel pole, which will house the microwave radio system and other telecommunication equipment. SDG&E will also be required to install a 48-VDC DC battery, including a rectifier, and one backup generator. The new facility will be approximately 30 feet by 30 feet and enclosed within a 6-foot-high chain-link fence.



Source: ESRI World Street Map 2009

FIGURE 1-13. LOCATION OF THE PROPOSED WHITE STAR COMMUNICATION FACILITY

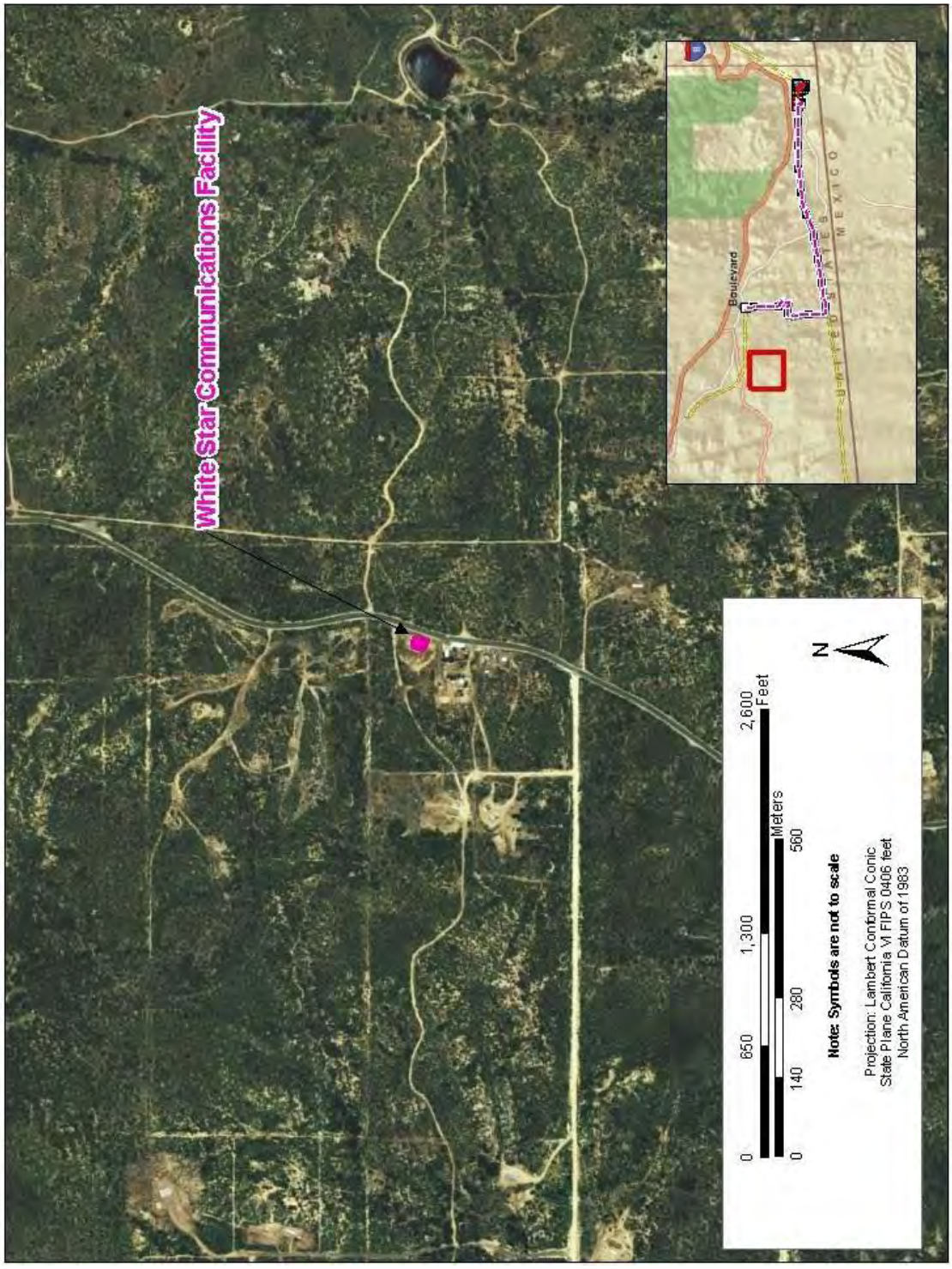


FIGURE 1-14. AERIAL MAP SHOWING THE LOCATION OF THE PROPOSED WHITE STAR COMMUNICATIONS REBUILD

2. SETTING

2.1. Environmental Setting

The Proposed Project lies within the Peninsular Range province, a well-defined geologic and physiographic unit that occupies the southwestern corner of California, as well as the Baja California peninsula. This province is characterized by northwesterly trending ranges and valleys that abruptly terminate on the north at the east-west oriented Transverse Ranges. The rocks of the Peninsular Range province consist of a range of sedimentary, volcanic, and metamorphic rock types. The sedimentary strata are highly clastic, containing a wide range of rock inclusions. Volcanic rocks include the Santiago Peak metavolcanic and rocks of the southern California batholith, among others. Santiago Peak metavolcanic stone is highly desirable for the creation of flaked stone tools and is found in archaeological sites across San Diego County (Bowman 1973).

2.1.1. Ethnographic Background

The Proposed Project area is in the southeastern portion of San Diego County within the historical territory of the Kumeyaay people. Kumeyaay is a native term referring to all Yuman-speaking aboriginal people living in the region from the San Dieguito River south to the Sierra Juarez in Baja California and roughly west of the present-day Salton Sea. Prior to European contact, Kumeyaay territory may have extended as far north as the San Luis Rey River. To the north of the Kumeyaay, live the Takic-speaking Luiseño and Cahuilla. To the east and south, are other peoples who speak a variety of distinct languages belonging to the Yuman language family (Luomala 1978:592).

The Kumeyaay have been referred to by an array of names. The standard practice during the Spanish colonial era in California was to name all native peoples within the sphere of influence of a particular mission district after that mission; hence, the native people living around mission San Diego de Alcalá came to be known as Diegueño and the people who were living close to the Mission San Luis Rey were known as Luiseño. More recent ethnographic data and historic records indicate that the native people refer to themselves as Kumeyaay, and this is now the most widely accepted name.

On the basis of linguistic and archaeological evidence, it has been suggested that the ancestors of the present-day Kumeyaay arrived in this part of California sometime between 1000 BC and AD 1000. By adding new cultural traditions to earlier patterns, the ancestral Kumeyaay seem to have assimilated with the earlier human inhabitants rather than displacing them. Evidence depends on archaeological data and comparison of languages, mythology and legends recorded only after 1540, when Spaniards arrived and the historic period began (Kroeber 1925).

The Kumeyaay were organized sociopolitically into autonomous bands, each controlling an area measuring approximately 10 to 30 miles, centered around a water source, typically a perennial drainage or occasionally a spring (Shipek 1982). Each band usually occupied a main village and several satellite living areas. These settlements were temporary, as the community would fission seasonally into smaller groups, which would establish camps to gather, process, and cache seasonally available resources. Seasonal movements were geared toward following the ripening of major plants dispersed from canyon floor to the higher mountain slopes. During the winter months, a band would typically aggregate back to the main village.

The complexity of Kumeyaay residential structures varied according to locality and need. In summer camps, for instance, a windbreak or rock shelter might be sufficient protection from the elements. In

winter, however, more substantial structures might be needed, in which case the Kumeyaay built a thatch-covered dome or gable house (Luomala 1978:597).

Leadership of each band was invested in a clan chief and at least one assistant. Positions were generally inherited, although a chief could be selected by consensus. Chiefs typically derived their authority through strength of personality and social skills rather than by force, as they had no real coercive powers. The duties of the chief included resolving disputes, advising about marriages, appointing leaders for important gathering expeditions, and directing clan and interclan ceremonies (Spier 1923).

The Kumeyaay practiced a fairly typical California hunting and gathering subsistence regime based on a variety of locally abundant terrestrial and aquatic resources. The Kumeyaay diet was heavily dependent on harvesting wild plant foods, with a strong emphasis on acorns and pinion. An abundance of other plant food, including many different kinds of seeds, bulbs, and other plants, rounded out the diet. In desert areas, agave plants were harvested, roasted, and eaten. Meat was procured through hunting of small game, including rabbits, squirrels, and various reptiles. Many of these animals were captured with nets or by hand. Larger game, such as deer, was taken with bow and arrow, but probably did not figure prominently in the diet. Besides abundant plants, the inhabitants living in the coastal zone had access to rich marine environments, which provided abundant shellfish, fish, and sea birds and sea mammals (Kroeber 1925).

Interaction with neighboring tribes was maintained through extensive trade networks involving the movement of goods and information across diverse ecological zones. The San Diego area Kumeyaay appear to have maintained stronger trade relationships with their neighbors to the east than with groups to the north and south, as evidenced by a lively trade between the seacoast and inland areas as far east as the Colorado River (Luomala 1978). Acorns, dried seafood, ornamental marine shell, and other materials moved eastward from the coast and uplands, and salt, gourd seeds, and mesquite beans moved in the opposite direction.

Contact between the Kumeyaay and Europeans began in 1542 when Juan Rodríguez Cabrillo landed the first Spanish expedition in San Diego. Sustained cultural interaction did not develop, however, until the founding of Mission San Diego Alcalá in 1769. Although the Kumeyaay culture was not as severely impacted by Spanish colonization as some other California tribes, its sociopolitical structure was drastically disrupted during the Mission period and later. Those Kumeyaay living closest to the mission were hardest hit by European civilization, whereas groups living in the mountains were less traumatized by cultural interaction and preserved more of their culture longer (Luomala 1978:595).

By the end of the nineteenth century, most Kumeyaay had been disenfranchised from their lands and relegated either to reservations or in some cases, acculturated into mainstream Euro-American society, generally in rural areas or at the edges of small towns on land that immigrants did not want. Employment opportunities were few. Most were poorly paid and labored in mines, on ranches, or in town, although some still supplemented their income with traditional subsistence activities (Chartkoff and Chartkoff 1984).

Throughout the twentieth century, the Kumeyaay have struggled and worked toward maintaining their autonomy and sovereignty. Today their culture is thriving and the Kumeyaay are represented by federally recognized tribes with reservations throughout San Diego County. At present, about 20,000 Kumeyaay descendants live in San Diego County, with approximately 10 percent of the total population living on the 18 established Kumeyaay reservations (Anderson 2005).

A number of ethnographic locations and possible Traditional Cultural Properties were identified by Clyde Woods in 1982 for the APS/SDG&E Interconnection Project (Woods 1982). Identified areas include Jacumba Hot Springs, Round Mountain, Jacumba Valley, Jacumba Peak, clay sources for ceramics in

Jewell Valley, various trails, and various sources for cordage and other resources. Based on the current project configuration, none of these areas will be directly impacted by the proposed construction. Specific information on potential TCPs or other areas with tribal values will be requested from Native American tribes by BLM through the government-to-government consultation process.

2.1.2. Prehistoric Background

Southeastern San Diego County contains archaeological evidence of human use and occupation that spans thousands of years of prehistory. The earliest regional sites date to the early Holocene (9,000–7,500 years ago) and are known as the San Dieguito complex, so-named because the culture was first defined through the investigation of a site along the San Dieguito River, about 30 miles north of the current Proposed Project area. The archaeological remains of this period consist of large, stemmed projectile points and finely made scraping and chopping tools, which were used for hunting and processing large game animals (Moratto 1984). San Dieguito stone tools generally exhibit a high degree of workmanship and careful raw material selection. Leaf-shaped blades, occasionally with wide-stemmed hafting elements, are common point and/or knife forms in this material culture. The hafting and delivery systems associated with these artifacts are widely debated but probably included hardened foreshafts fastened to atlatl darts and lances. Bows may have been used, but the mass (weight) of many of the projectiles associated with this cultural tradition implies that it was rare, if in fact present at all.

The La Jolla complex (7,500–2,000 years ago) followed the San Dieguito complex. La Jolla period sites are recognized by the presence of abundant millingstone implements and shell middens near lagoons and sloughs. This period brought a shift from hunting to a more generalized subsistence strategy relying on a broader range of resources, including plant, shellfish, and small game. During this period, the number of sites increased from the earlier San Dieguito presence, and sites are found across a greater range of environmental zones (Chartkoff and Chartkoff 1984).

In addition to the presence of ground stone tools, La Jolla period sites are typically associated with flexed human burials with grave offerings and the development of shell middens. Occasionally cogstones and discoidals are found in these assemblages. The flaked stone assemblages from these sites generally contain higher percentages of battering and crushing implements, with less emphasis on tools with a finely worked cutting edge, and collections with significantly lower percentages of large bifacially worked knives and unifacially worked scraper/cores (Moratto 1984).

The origin of the La Jolla cultural complex is unclear. Some researchers believe that it developed out of the earlier San Dieguito complex, whereas others feel that it may have coexisted with the San Dieguito, and merely represents use of distinct environments by the same culture. Regardless of the origins, the archaeological remains of these two complexes indicate very different subsistence strategies, with the San Dieguito complex focusing on hunting and the La Jolla complex based on a broader-based foraging strategy. Regional variants of the San Dieguito and La Jolla complexes are found in interior regions of San Diego County. The Pauma complex, originally believed to be a distinct archaeological culture, is more likely a regional variant of the better-known La Jolla complex (Rogers 1945, Meighan 1954)

As elsewhere during late prehistory in southern California, the Yuman complex (1,300–200 years ago), or Late Period, was a time of cultural transformation. Beginning about 1,000 years ago, Yuman-speaking groups moved into the San Diego area. These later populations are recognized by distinctive, small projectile points, ceramic vessels, and an increase in the use of mortars. The acorn became an increasingly important component of the diet, although subsistence pursuits from earlier periods continued (Warren 1964).

Although there are differences in the settlement patterns noted for each successive prehistoric period, habitation sites from all periods are most commonly found near lagoons and along the open coast, or along inland valley stream channels and rivers (Chartkoff and Chartkoff 1984).

The general study area is within a semi-arid climate with a distinct seasonal pattern to rain and relatively few reliable sources of potable water. In general, the coastal zone and mouths of canyons at the confluences of streams are considered to be archaeologically sensitive and the most likely places to support archaeological sites ranging from small activity areas to habitation sites. Smaller, special-use or satellite sites are found scattered across all environmental zones, particularly near water sources. One common archaeological feature in eastern San Diego County is the agave roasting pit. The Canebrake Canyon archaeological model (Kumeyaay) suggests that agave roasting pits might be characterized by (a) a basal layer of rocks underlying the coals, which presumably would not have been disturbed by pit opening or reuse; (b) a large central rock, reaching to the surface, perhaps not disturbed by pit opening or reuse; (c) large rocks lining the pit walls and reaching from the base of the pit to the ground surface, also presumably not disturbed by pit opening or reuse; and (d) no rocks overlying the coals, no surface scatter of rocks, and no rocks with multiple fire-affected surface (Cook and Fulmer 1981).

There are a number of these roasting pits recorded within the Proposed Project area, in particular within the ECO Substation parcel. The clustering of these pits may be related to the presence of the plants that were collected and prepared in these pits as well as the overall conditions that has allowed for the preservation of these features. In nearly all cases these features have been recorded based on surface indications with few of them excavated, making the re-identification of individual features difficult.

2.1.3. Historic Background

The historic period began in the San Diego area with the voyage of Juan Rodríguez Cabrillo, who landed near Point Loma on September 28, 1542. Although several expeditions were later sent to explore the Alta California coast, for nearly two centuries following Cabrillo's voyage the Spanish government showed little interest in the region, focusing instead on the Mexican mainland and on Baja California. In the 1760s, however, spurred on by the threat to Spanish holdings in Alta California by southward expansion of the Russian sphere of influence, the Spanish government began planning for the colonization of Alta California (Rolle 1978).

The Spanish originally planned to establish their first settlement in Alta California at San Diego using a four-pronged expedition. Two groups would arrive by sea and two by land. The various expeditions departed from their respective locations throughout the first half of 1769. The two ships and both over-land parties eventually reached San Diego. A third supply ship was dispatched to join the expedition, but it was apparently lost at sea. Meeting in San Diego, the colonists succeeded in establishing Mission San Diego de Alcalá on July 16, 1769 at the present-day location of Presidio Park. The Mission was moved inland to its present location after the original setting proved unsatisfactory. The Presidio remained on the hillside overlooking present-day Old Town and the mouth of the San Diego River and gradually fell to disrepair (Luomala 1978:595).

For the next 50 years, mission influence grew in southern California: Mission San Luis Rey de Francia, north of San Diego in present-day Oceanside, was established on June 13, 1798 (James 1912), and a dam and flume in Mission Gorge was constructed around 1818 (Collett and Cheever 2002; Luomala 1978). The mission economy was based on farming and open-range ranching over vast expanses of territory.

As part of their colonization goals, the church hierarchy felt an obligation to convert the native people to Christianity, and the church worked diligently at converting the local aboriginal populations. The mission priests gathered as many Kumeyaay into the mission as possible. Once there, the neophytes essentially were held captive while they received religious instructions and provided free labor for the mission, often

forcibly. The effects of mission influence upon the local native population were devastating. The reorganization of their traditional lifestyle alienated them from their previous subsistence patterns and social customs. European diseases for which the Kumeyaay had no immunities reached epidemic proportions and many died (Anderson 2005).

Mexican independence from Spain in 1821 was followed by secularization of the California missions in 1832. Between 1833 and 1845, the newly formed Mexican government began to divide up the immense church holdings into land grants. By the 1840s, ranches, farms, and dairies were being established throughout the El Cajon Valley, along the Sweetwater River, and in nearby areas (Shipek 1978).

The rancho era in California was short lived and in 1848 Mexico ceded California to the U.S. under the Treaty of Guadalupe Hidalgo. Growth of the region was comparatively rapid after succession. Subsequent gold rushes, land booms, and transportation development all played a part in attracting settlers to the area. San Diego County was created in 1850, the same year that the City of San Diego was incorporated. Over the next 20 years, the county's population increased six-fold and the city population more than tripled (San Diego Historical Society 2004). By the late 1800s, the county was still growing and a number of outlying communities developed around the old ranchos and land grants, in particular areas in the southern limits of the county (Collett and Cheever 2002).

Throughout the early twentieth century most of San Diego County remained rural. Like most of southern California, this region changed rapidly following World War II when the pace of migration and growth quickened (Hof 1990). Today, eastern San Diego County remains one of the few under-developed areas of the county although this is also changing. The remoteness of the Proposed Project area has resulted in a generally undeveloped appearance with the exception of access roads, target practice ranges, and the accumulation of modern trash.

The Proposed Project area includes a segment of Old Highway 80. Old Highway 80 was a transcontinental highway that crossed the U.S. from coast to coast. This highway was largely decommissioned in 1964 when I-8 was completed. Old Highway 80 entered California after passing over the 1914 Ocean-to-Ocean Highway Bridge in Yuma, Arizona. After passing through Winterhaven, Old Highway 80 traveled through the Colorado Desert and the Algodones Dunes until it reached the former shoreline of prehistoric Lake Cahuilla. The path through the dunes replaced the Old Plank Road originally built in 1915. Sections of this plank road remain in Imperial County. Old Highway 80 then passed into the farmland of the Imperial Valley at Holtville and continued parallel to the Holton Interurban Railway into El Centro. From this point to Ocotillo, the road is designated as Imperial County Route S80 (Evan Hewes Highway) (Historic Highway 80 Committee 2006).

In El Centro, the original highway alignment went through the middle of town on Main Street, but this was later bypassed in favor of a route along Fourth Street and Adams Avenue. Old Highway 80 then passed through Seeley, the gypsum plant at Plaster City, and into Coyote Wells near present-day Ocotillo. From Coyote Wells, Old Highway 80 ascended the In-Ko-Pah Gorge to Jacumba near the Mexican border. Old 1917 period concrete sections of highway are still present in and around the community of Jacumba (Historic Highway 80 Committee 2006).

Old Highway 80 was a mountain highway from Jacumba to the Laguna Mountains, and passed through the towns of Bankhead Springs, Boulevard, Live Oak Springs, La Posta, Pine Valley, Guatay, and Descanso Junction. More old sections of the highway are found east of Boulevard, west of Guatay, and on the long Wildwood Glen section west of Descanso Junction. Old Highway 80 is cut by I-8 at Descanso but resumes a short distance to the west and passes through the Viejas Indian Reservation. The highway traveled through Alpine on more than one path, passed through Flinn Springs, and continued along the main streets of El Cajon, La Mesa, and east San Diego (Raftery 2009).Old Highway 80 was declared a state historic route in August of 2006 by the California State legislature. The designation was

intended to increase tourism and business development along the remaining stretches of this historic roadway(Senate Transportation and Housing Committee 2006).

3. RECORD SEARCH RESULTS

An archaeological site record and archival search was conducted at the South Coastal Information Center (SCIC) for the entire Proposed Project and included detailed study for each of the four components. The record search was completed to identify and collect data regarding known cultural resources recorded within a 0.5-mile radius of the Proposed Project APE. Pertinent site records were identified and collected and supporting cultural resources management reports were collected, reviewed, and evaluated. A search of the National Archaeological Data Base (NADB) was also completed in an effort to identify cultural resource management reports for previously completed cultural resources management activities (archaeological survey and/or evaluation excavations) in the study area and in the immediate vicinity. Results of the record search are included in Attachment A.

3.1. ECO Substation

Two reports are on file with SCIC for the ECO Substation project area (Table 3-1). Both were completed in the 1980s and represent Class III surveys.

TABLE 3-1. RECORD SEARCH RESULTS FOR THE ECO SUBSTATION

NADB Number	Report Title	Author/Date
1125760	*Archaeology and History of the McCain Valley Study Area, Eastern San Diego County, California: A Class II Cultural Resource Inventory*	Cook and Fulmer 1980
1123836	*Southwest Powerlink Cultural Resources Management Plan*	Townsend 1984

Ten prehistoric archaeological resources were previously recorded for the proposed ECO Substation project area and are described in Table 3-2. With the exception of sites CA-SDI-19431, -19432, -19496, -19497, and -19498, the previously known resources were recorded in the late 1970s. Although DPR forms and CA-SDI numbers were assigned, there are no associated survey reports on file. The existing DPR form for CA-SDI-2720 is incomplete with only estimated UTM coordinates given and no site description and/or field map.

TABLE 3-2. PREVIOUSLY RECORDED SITES WITHIN THE PROPOSED ECO SUBSTATION PROJECT AREA

Site Number	Original Site Description	Recorder/Date	Relationship to the APE Relocated?
CA-SDI-2720	Unknown(there is no site description on the form; no attached site map); DPR form states artifacts collected (no description, quantity, type of material)	Prewitt (1964)	There is no information regarding this site; no associated site map UTM coordinates placed the resource within the APE; site was not relocated
CA-SDI-6115	Eighteen agave roasting pits with sparse prehistoric ceramic and lithic artifact scatter	Unknown (1976)	Site outside of APE: No pottery or roasting pits— Relocated sparse lithic scatter, +15 flakes and 2 cores
CA-SDI-7074	Widespread, lightly dense lithic artifact scatter with two smaller concentrations of lithic and pottery scatters. Artifact counts include ±50 pieces of Tizon brown ware, ±30 flakes, 2 cores, portable metate fragment, hammerstone and 2 bedrock milling features	Moore (1979b)	Portion within APE: Relocated a widespread, lightly dense lithic artifact scatter with two smaller concentrations of lithic and pottery scatters- Only southern most area of site surveyed
CA-SDI-7079 (includes portions of CA-SDI-7080 and -7081)	Multi-component site with both prehistoric and historic artifact scatters. The site includes portions of CA-SDI-7080 and CA-SDI-7081.	CA-SDI-7079 (Moore 1979a) CA-SDI-7080 (Townsend 1979) CA-SDI-7081 (Crotteau 1979)	Site outside of APE: Relocated a multi-component site with both prehistoric and historic artifact scatters
CA-SDI-7082	Sparse/low-density lithic artifact scatter	Crotteau (1979)	Site within APE: Relocated a large low density lithic artifact scatter with three artifact concentrations
CA-SDI-19481	Roasting pit with 11 rocks in a 2-by-2-meter area. Two quartz cores were also found in close association.	Pentney et al. (2008d)	Site outside of APE: The roasting pit and artifacts were not relocated.
CA-SDI-19482	Roasting pit with 14 rocks in a 4-by-3-meter area.	Pentney et al. (2008e)	Site outside of APE: Not relocated
CA-SDI-19496	Lithic scatter with 3 flakes in a 15-by-15-meter area.	Pentney et al. (2008a)	Site outside of APE: Not relocated
CA-SDI-19497	Roasting pit with 8 rocks in a 2.5-by-2.5-meter area.	Pentney et al. (2008b)	Site outside of APE: Roasting pit not relocated; 3 pieces of chipping waste observed within site boundary
CA-SDI-19498	Lithic scatter with 20 flakes in a 10-meter area.	Pentney et al. (2008c)	Site outside of APE: Relocated 30 flakes in an area 24 m by 24 m

3.2. Southwest Powerlink Loop-In

The same reports/documents listed for the ECO Substation in Table 3-1 are also listed for the Southwest Powerlink Loop-In. Recorded sites along this Loop-In are listed in Table 3-3. Previously recorded sites CA-SDI-19496, -19497, and -19498 are within both the ECO Substation and the SWPL Loop-In survey areas.

TABLE 3-3. PREVIOUSLY RECORDED SITES WITHIN THE SOUTHWEST POWERLINK LOOP-IN PROJECT AREA

Site Number	Original Site Description	Recorder/Date	Relationship to the APE Relocated?
CA-SDI-19496	Lithic scatter with 3 flakes in a 15-by-15-meter area.	Pentney et al. (2008a)	Site outside of APE: Not relocated
CA-SDI-19497	Roasting pit with 8 rocks in a 2.5-by-2.5-meter area. There were no associated artifacts or evidence that this "feature" represented a roasting pit.	Pentney et al. (2008b)	Site outside of APE: Roasting pit not relocated; 3 pieces of chipping waste observed within site boundary
CA-SDI-19498	Lithic scatter with 20 flakes in a 10-meter area. There were no associated features or potential for a subsurface deposit.	Pentney et al. (2008c)	Site outside of APE: Relocated 30 flakes in an area 24 m by 24 m

3.3. 138 kV Transmission Line

Site record information indicates that 25 cultural resource studies have been completed within this portion of the Proposed Project. These work efforts date back to 1974 and include survey coverage of large areas associated with previously completed transmission line projects, substations, private development, roadways, trails, and campground surveys. The majority of the studies have been positive with both prehistoric and historic resources. Identified sites include portions of a highway, a railroad line, a historic homestead, fences, small historic artifact scatters, prehistoric artifact scatters, and bedrock milling.

Reports on file with the SCIC are listed in Table 3-4.

TABLE 3-4. RECORD SEARCH RESULTS WITHIN THE 138 KV TRANSMISSION LINE PROJECT AREA

NADB Number	Report Title	Author/Date
1121495	*Boundary Peak Burn Archaeological Survey*, Department of the Interior, Bureau of Land Management	Ritter 1974
1130066	*Live Oak Springs Subregional Analysis and Draft Environmental Impact Report for TPM 10677*	County of San Diego 1975
1121267	*An Archaeological Inventory and Assessment of Corridor Segments 46 and 49, Preferred Southern Route, San Diego County*	Johnson 1976
1121001	*Archaeological Reconnaissance of the Valley of the Jewells Campground*	Fulmer 1977
1121609	*Documentation of the Phase II (Plant Site to Devers and Miguel Substations) Archaeological Inventory Report*	White 1978
1120487	*An Archaeological Survey of the Fuquay Ranch, Boulevard, County of San Diego*	Chace 1979
1121318	*Archaeological Survey of the Mazzanti Property, Jacumba, California*	McCoy and Thesken 1979
1120479	*A Cultural Resources Assessment of Jacumba*, San Diego County	Chace 1980
1121271	*An Archaeological Reconnaissance of TPM #16354/Log #79-22-6, Near Jacumba, California*	Peterson-May 1980
1120914	*Archaeological and Biological Investigations of the Westover Project, Boulevard, California*	Flower, Ike and Roth 1980
1121463	*Archaeological Report-Volume II Data Presentation on the Re-Survey, Surface Collection and Test Excavations of the Archaeological Resources on the Mazzanti Property, located in the Jacumba Area of the County of San Diego*	Scientific Resource Surveys Inc. 1982
1125214	*Cultural Resource Report: Lark Canyon Motorcycle Trails & Trail Location*	Welch 1982
1122065	*Final Environmental Assessment for the Table Mountain Study Area Wind Energy Development*, U.S. Department of Interior	Bureau of Land Management 1984
1123836	*Southwest Powerlink Cultural Resources Management Plan*	Townsend 1984
1121907	*Archaeological Investigations at Site SDI-10088 De Anza Campground, Jacumba, California*	Hector 1985
1121633	*Archaeological Investigations at SDI-4470*	Wirth Environmental Services 1987
1124401	*Jacumba Archaeological District*	Wirth Environmental Services 1987
1125490	*Appendix F Cultural Resources Draft Environmental Impact Report for Jacumba Valley Ranch Specific Plan* Volume I	Mooney and Associates 1991
1123014	*Cultural Resource Survey Report Form for the Richard Cox Property, Jacumba, California*	Wade 1995
1128282	*Historic Property Survey Report for Old Highway 80, San Diego County*	Rosen and Lortie 2001
1128422	*An Archaeological Survey for the Grizzle Project, McCain Valley TPM*	Smith 2003
1130796	*An Archaeological Survey and Testing Program for the Grizzle Project*	Smith and Clifford 2005
1130551	*Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project*	Arrington 2006
1131373	*Archaeological Survey of Eastern San Diego County Roads, Trails, and Campgrounds*	Hector et al. 2007
1131546	*Class III-Intensive Field Survey for the Gap Filler Project*	Rosenberg and Smith 2008

Thirty-one previously recorded sites are listed within the proposed 138 kV Transmission Line survey (Table 3-5). The majority of these sites were recorded during cultural surveys associated with the existing SWPL transmission line, which dates to the mid-1980s (surveys were done in the late 1970s).

TABLE 3-5. PREVIOUSLY RECORDED SITES IN THE 138 KV TRANSMISSION LINE PROJECT AREA

Site Number	Original Site Description	Recorder/Date	Relationship to the APE Relocated?
P-37-024023	Segment of Historic U.S. Highway 80	Lortie (2000)	Relocated: 138 kV line will span the road in two places
CA-SDI-176 Update	Bedrock milling feature with dense flaked lithic artifact scatter	Hector et al. (2006)	Site outside of APE: Relocated
CA-SDI-7011H	Early Twentieth Century homestead with associated historic artifacts	Burkenroad (1979a)	Site outside of APE: Relocated: House currently occupied
CA-SDI-7015H	Segment of San Diego and Arizona Railroad built between 1907 and 1919	Burkenroad (1979b)	Relocated:138 kV line will span the railroad in three areas
CA-SDI-7027	Sparse flaked lithic artifact scatter	Dominici (1979a)	2 flakes not relocated
CA-SDI-7030	Flaked lithic artifact scatter with historic garbage dump	Donovan (1979a)	Not relocated
CA-SDI-7040	Sparse flaked lithic artifact scatter	Dominici (1979b)	6 flakes and 1 core not relocated
CA-SDI-7037	Sparse flaked lithic artifact scatter	Moore (1979c)	2 flakes not relocated
CA-SDI-7046	Quartz quarry and sparse flaked lithic artifact scatter	Townsend (1978a)	Relocated sparse lithic scatter
CA-SDI-7051	Temporary camp with rock shelter, bedrock milling and moderate flaked lithic and prehistoric ceramic scatter	Donovan (1979b)	Relocated bedrock milling, rock shelter, flakes and pottery sherds
CA-SDI-7053/H Update	Historic road segment and historic can dump with sparse flaked lithic artifact scatter	Hector et al. (2006)	Relocated sparse flaked lithic scatter within the survey corridor The historic road and can dump are outside the APE
CA-SDI-7055	Quarry and sparse flaked lithic artifact scatter	Townsend (1978b)	Relocated sparse flaked lithic scatter
CA-SDI-7056	Moderate flaked lithic artifact scatter	Crotteau (1979)	Relocated sparse flaked lithic scatter
CA-SDI-7059	Temporary camp with rock shelter, bedrock milling and moderate flaked lithic and prehistoric ceramic scatter	Crotteau (1979	Relocated sparse flaked lithic and prehistoric ceramic scatter; bedrock milling and rock shelter outside of APE
CA-SDI-7060	Temporary camp with moderate flaked lithic and prehistoric ceramic scatter	Donovan (1979c)	Relocated sparse flaked lithic and prehistoric ceramic scatter
CA-SDI-7063	Temporary camp with rock shelter, moderate flaked lithic artifact scatter, sparse ground stone and prehistoric ceramic scatter	Moore (1979d)	Relocated rock overhang, single bedrock milling, and sparse flaked lithic and prehistoric ceramic
CA-SDI-7069	Sparse flaked lithic artifact scatter	Moore (1979e)	Not relocated
CA-SDI-7072	Sparse flaked lithic artifact scatter	Burkenroad (1979c)	Not relocated
CA-SDI-7079	Sparse flaked lithic artifact scatter	Moore (1979a)	Not relocated

TABLE 3-5. PREVIOUSLY RECORDED SITES IN THE 138 KV TRANSMISSION LINE PROJECT AREA (CONT.)

Site Number	Original Site Description	Recorder/Date	Relationship to the APE Relocated?
CA-SDI-7080H	Historic can dump	Townsend (1978c)	Not relocated
CA-SDI-7085	Base camp with large milling complex, moderate flaked lithic artifact scatter and sparse prehistoric ceramic scatter	Crotteau (1979)	Relocated sparse flaked lithic scatter. Bedrock milling is outside of project area, will not be impacted
CA-SDI-7086	Sparse flaked lithic and prehistoric ceramic scatter	Townsend (1978d)	Relocated sparse flaked lithic and prehistoric ceramic scatter
CA-SDI-7951	Quarry and moderate flaked lithic artifact scatter	Donovan (1979d)	Relocated sparse flaked lithic scatter
CA-SDI-8315	Sparse flaked lithic artifact scatter and fallen stone monument	Johnson (1980a)	Not relocated
CA-SDI-8316	Sparse flaked lithic artifact scatter	Johnson (1980b)	Not relocated
CA-SDI-8430	Sparse flaked lithic artifact scatter	Van Horn & White (1988)	Not relocated
CA-SDI-8431	Sparse flaked lithic artifact scatter	Goldberg (1980a)	Not relocated
CA-SDI-8432	Bedrock milling feature and sparse flaked lithic artifact scatter	Goldberg (1980b)	Not relocated
CA-SDI-9156	Sparse flaked lithic artifact scatter	Townsend (1978e)	Not relocated
CA-SDI-9278H	Historic well and corral with metal, glass and wood artifacts	Donovan (1979e)	Not relocated
CA-SDI-9279	Sparse prehistoric ceramic scatter	Donovan (1979f)	Not relocated

3.4. Boulevard Substation Rebuild

There are no listed reports or previously recorded cultural resources for this portion of the project.

3.5. White Star Communication Facility Rebuild

A review of the archaeological site records and archival information indicates that only a small portion of the study area and the general vicinity have been previously surveyed and/or subjected to archaeological evaluation. There is one listed report in and within the vicinity of this Proposed Project component: *Brooks Lot Split Archaeology and Botany Survey Reports* (Polan 1980, NADB Number 1129784). There are no previously recorded cultural resources for this portion of the project.

4. FIELD METHODS

The archaeological fieldwork was completed under BLM Permit CA-08-03 and meets the BLM Manual standards. Each Project area was surveyed by a minimum of two archaeologists from HDR|e²M. Access to the project was gained by foot and the project was examined using a spaced transect pedestrian coverage with no more than 15 meters between individuals. All open areas were examined and field notes were taken, as appropriate. Disturbed soil was examined for evidence of buried or partially buried archaeological items. Newly identified sites were recorded, assigned state trinomial numbers by the SCIC, mapped, and photographed. Previously recorded sites were assessed as to condition and accuracy of the existing Department of Parks and Recreation (DPR) information. In most cases, the documentation for the previously recorded sites was not consistent, including missing site maps and inadequate site descriptions. The majority of the previously known sites were recorded at least 20 years ago before modern global positioning system (GPS) technology facilitated precise mapping for archaeological resources.

The archaeological survey for this project covered the maximum extension for each component. The parcel acquired by SDG&E for the ECO substation was surveyed (approximately 537 acres), as well as a 100-foot corridor (50 feet on either side of the center line) along the proposed transmission line. The actual acreage needed for the ECO Substation structure and direct impacts will be less than 60 acres. The acreage (less than 3 acres, fenced area approximately 277 by 319 feet) involved for both the Boulevard Rebuild and the White Star Communication Rebuild was also surveyed.

The proposed ECO Substation parcel and the Boulevard Substation rebuild along with a 100-foot-wide corridor along the proposed transmission line were examined by HDR|e²M archaeologists. The initial Class III survey was conducted over an approximate six-month period between February and October of 2008 (Whitaker and Cheever 2008). The 2008 survey included approximately 78.7 acres for the proposed ECO Substation and SWPL Loop-In, and a linear survey 14 miles long and 100 feet wide for the 138 kV transmission line. The survey for the SWPL Loop-In is totally contained within the footprint of the ECO Substation.

Two Class III archaeological surveys were completed for the proposed project, one in 2008 and one in 2009. The two surveys represent an ongoing effort by SDGE to limit direct impacts to known resources. The two surveys were required because of the need to shift particular infrastructures to reduce the level of impacts to various resources. Through the course of the entire project, the specific location for the ECO Substation, access roads, staging areas, individual poles and project components have shifted in order to reduce impacts to known cultural resources. Archaeological monitoring (geotechnical testing for the ECO Substation) and/or surveys have been completed for modifications made during the entire planning process. The final field assessment was conducted on December 12, 2009, with representatives from SDG&E and HDR|e²M present. The objective of the December visit was to determine which pole locations, pad locations, and/or access road locations needed to be moved to avoid any conflict with cultural resources. As specific areas were modified, additional rechecks were conducted in early 2010.

When sites were encountered, boundaries were defined using BLM guidelines and GPS technology. Artifacts and features were marked with pin flags and site boundaries were determined by the maximum distribution of the visible artifacts plus a 5-meter buffer.

A sketch map was drawn for each site and the site locations were plotted on the appropriate USGS quadrangle. GPS readings were taken to verify the accuracy of the field plot and were taken from a datum shown of the sketch map. Multiple GPS points were taken for sites larger than 10 meter in

diameter. Photographs were taken showing the setting of each site and any unique or representative feature, artifact cluster, or diagnostic artifact. Artifacts or other materials were not collected during the various surveys and field inspections. Isolated occurrences were given a field number, described and plotted using a hand-held Trimble XT. Individual isolates were not collected. As defined for this desert study, isolates are 3 to 5 artifacts of similar material found in one 10-meter diameter area (i.e., 5 pieces of basalt shatter in a 10-meter area). A single feature, such as a hearth, a scatter of fire-cracked rock, or a milling surface with no associated artifacts were considered part of a site and were not recorded as isolates.

5. FIELD RESULTS

As a result of the Class III survey process, a large number of archaeological sites were identified. Most of these sites are outside the possible impact areas for the proposed substation and transmission line project. Information about the sites outside the project area is included in this report as part of the overall Class III survey for the project. This section represents the cumulative results of studies initiated in 2008 and completed in 2010.

A total of 42 archaeological sites (both historic and prehistoric) were identified in the Class III survey (22 in the ECO Substation survey and 20 along the 138 kV transmission line survey). Sites CA-SDI-19624, -19496, -19497, and -19498 were included in the surveys for both the ECO Substation and the SWPL Loop-In (these sites are avoided). There are no recorded sites in either the Boulevard Substation or the White Star Communication Facility project areas. DPR forms were completed and filed with the SCIC for all newly discovered sites (Appendices A and B).

Where possible, the guidelines for the Sparse Lithic Scatter (California Archaeological Resource Identification and Data Acquisition Program: Sparse Lithic Scatters; CARIDAP) program was applied to the smaller flaked stone artifact scatters. By definition a sparse lithic scatter:

- Contains only flaked stone and lacks other classes of archaeological materials (e.g., ground stone, fire-affected rock, bone, shellfish, pottery)
- Lacks a substantial subsurface deposit
- Exhibits surface densities equal to or less than three flaked stone items per square meter.

The sites that were assigned to the sparse lithic scatter category during the field investigations do not contain time-sensitive and/or functionally diagnostic artifacts (formal tools), have less than 3 artifacts per square meter, and lack the potential for subsurface deposits. None of the sites contain obsidian or other exotic materials that could provide additional site information. These sites are generally categorized as having limited data potential and are not recommended as eligible for inclusion in the NRHP.

As noted previously, most of the archaeological sites identified during the project study were recorded in the 1970s, before GPS technology facilitated detailed mapping of resources. These sites were mapped originally as very large, disperse, scatters of flakes, with occasional potsherds and flaked or ground stone tools. The distance between the artifacts is sometimes very large. One goal of the HDR|e²M survey was to accurately map the cultural materials contained within these large site boundaries to obtain a better understanding of the significance and interpretive value of the resource.

5.1. East County Substation

The ECO Substation will be entirely on privately owned, undeveloped land. SDG&E will acquire up to six parcels to construct and operate the substation, of which the fenced portion of the ECO Substation will encompass approximately 58 acres. An approximate 400-acre area was surveyed during the initial planning phases.

Twenty-six cultural resources were identified within the East County Substation. These include 10 previously recorded sites (CA-SDI-2720, -6115, -7074, - 7079 (includes -7080 and -7081), -7082, -19481, -19482, -19496, -19497, and -19498,) and 16 previously unknown sites (CA-SDI-19617, -19618, -19619,

-19620, -19621, -19622, -19623, -19624, -19625, -19626, -19627,-19732, -19733, -19734, -19735, and -19736).

During the study, a number of problems were encountered in relocating the previously recorded sites. In some cases the UTM coordinates were incorrect, the map locations were incorrect, and/or the site descriptions lacked adequate information. A number of the previously recorded sites contain minimum artifacts assemblages that could have been recorded as "isolates." The term roasting pit or fire-affected rock is often difficult to accurately define in a field context. Although sites CA-SDI-19481, -19482, and -19497 were recorded as roasting pits, they could also represent residue from modern campers rather than evidence of prehistoric activity because the rocks appear to be sitting on the surface of the ground indicating recent origin. The existing site form for CA-SDI-2720 contains no information regarding type of site (prehistoric or historic), number and quantity of materials, and site size. The only information on the form were UTM coordinates generated in 1964.

A number of the identified sites represent surface scatters of historic "tin" cans. Fragments of coffee, evaporated milk, cooking oil, baking power, fruit/vegetables, and canned meat cans were found in the historic artifact scatters. In general, these scatters represent sporadic dumping that cannot be directly associated with a work camp or occupation area. For consistency, the following terms were used in this report: key wind cans (post 1917), vent-hole or drop solder cans (post 1920s), sanitary cans (post 1900s), and machine solder (post 1883) (Berryman 1983). Diagnostic can types include vacuum packed coffee cans (post 1903) and pocket tobacco tins (patented after 1913 and popular up to the 1950s). In addition to the can fragments, a number of the artifact scatters contained fragments of canning jars and various bottle fragments.

Of the 25 archaeological sites, CA-SDI-2720, -7074, -7082, -19618, -19619, -19621, -19622, -19626 and -19627 are within the redesigned footprint. The remaining sites are outside the project area.

Site boundaries shown for the ECO Substation are based on GPS data acquired during the Class III surveys. Two USGS maps are attached for each site; one shows the location of the site within the appropriate USGS quadrangle and the other showing its relationship to the substation. More detailed maps showing sites within the project area are shown in Section 6.0.

Updated site forms were completed for all relocated sites.

5.1.1. Previously Recorded Sites

Ten previously recorded sites are within the East County Substation (Table 5-1). As described above in Section 3.1, sites CA-SDI-2720, -19496, -19481, and -10482 were not relocated. Updated DPR forms were completed for the previously recorded sites.

TABLE 5-1. EAST COUNTY SUBSTATION - PREVIOUSLY RECORDED SITES

Site Number	Site Description	Potential NR Eligibility Recommendations*
CA-SDI-2720 (not relocated)	Unknown(1964 site form lacks information of site type, time period, size, quantity and type of artifacts)	Area where the site is shown on the Record Search Map was investigated; there are no isolates or other evidence of cultural materials within or near the area plotted as CA-SDI-2720
CA-SDI-6115 (Relocated)	CA-SDI-6115 was previously recorded as a artifact scatter with associated roasting pits. As relocated, CA-SDI-6115 is a small lithic artifact scatter with approximately 15+ flakes and 2 cores. The roasting pits and ceramic artifacts were not relocated during the current survey.	There is a low potential for subsurface deposits.NR Eligibility: not recommended
CA-SDI-7074 (Relocated)	CA-SDI-7074 is a widespread, lightly dense lithic artifact scatter with two smaller concentrations of lithic and pottery scatters. The boundaries of the site were expanded during the current survey.	The site may have a limited potential for a subsurface materials. The portion within the substation footprint represents a outlying scatter of surface artifacts. NR Eligibility unknown.
CA-SDI-7079 (includes portions of CA-SDI-7080 and -7081) (Relocated)	CA-SDI-7079 is a multi-component site with both prehistoric and historic artifact scatters. The boundaries of the survey were expanded during the current survey.	None of the artifact concentrations appear to have a subsurface depth or represent more than a single-use episode. NR Eligibility: not recommended
CA-SDI-7082 (Relocated)	CA-SDI-7082 is a large, low-density lithic artifact scatter with three artifact concentrations. The boundaries of the survey were expanded during the current survey.	The site components do not appear to have associated depth or subsurface deposits. NR Eligibility: not recommended
CA-SDI-19481 (not relocated)	CA-SDI- was recorded as a roasting pit with 11 rocks in a 2-by-2-meter area. Two quartz cores were also found in close association.	There are no associated features or artifacts at this location. The potential for a subsurface deposit is low. NR Eligibility: not recommended
CA-SDI-19482 (not relocated)	CA-SDI-19482 was recorded as a roasting pit with 14 rocks in a 4-by-3-meter area.	There are no associated features or artifacts at this location. The potential for a subsurface deposit is low. NR Eligibility: not recommended
CA-SDI-19496 (Not relocated)	CA-SDI-19496 was previously recorded in 2008 and described as a lithic scatter. The site was not relocated during the current survey.	There are no associated features or potential for a subsurface deposit. Based on current DPR standards, this site should have been recorded as an "isolate." NR Eligibility: not recommended

TABLE 5-1. EAST COUNTY SUBSTATION - PREVIOUSLY RECORDED SITES (CONT.)

Site Number	Site Description	Potential NR Eligibility Recommendations*
CA-SDI-19497 (Relocated)	CA-SDI-19497 was previously recorded in 2008 and described as a roasting pit with 8 rocks in a 2.5-by-2.5-meter area. 3 pieces of chipping waste were found for this area. The roasting pits were not relocated during the current survey.	There is a low potential for an associated subsurface deposit. NR Eligibility: not recommended
CA-SDI-19498 (Relocated)	CA-SDI-19498 was previously recorded in 2008 and described as a lithic scatter with 20 flakes in a 10-meter area. The site was relocated during the current survey.	There were no associated features. There is a low potential for associated subsurface deposits. This site meets the definition of a sparse lithic artifact scatter. There is no associated subsurface depth or deposit. NR Eligibility: not recommended

*National Register eligibility recommendations are based on survey results, types of soils present and site characteristics. Subsurface testing may be required to confirm conclusions.

CA-SDI-2720

This site was recorded by Prewitt in 1964 with no information given regarding site type, time period, size, type and/or quantity of materials. The 1964 DPR forms describe the site as: "at the 3280 ft contour . . . . site description: unknown . . . . artifacts- collected" (DPR Form). There is no mention of what was collected. The area shown on the record search map was relocated and inspected. There is no evidence of prehistoric or historic activity at the recorded UTM coordinates or the location shown on the USGS map.

CA-SDI-6115

The site is on upland desert formation with limited vegetation; primary soils are poorly sorted sands and chunks of quartz. The artifact assemblage identified at this location overlaps the eastern boundary of the recorded location of CA-SDI-6115, which is recorded as a series of "roasting pits" and "sherd scatters." No pottery was identified during the Class III survey for the current project, and the roasting pits appeared to be modern trash burns and have no depth.

The revised site description for CA-SDI-6115 is a small diffuse lithic artifact scatter with approximately 15+ flakes/chipping waste and 2 cores in an area 75 meters north/south by 37 meters east/west (Figures 5-1 through 5-2). The site density is less than 1 artifact/5 meters with no evidence of a buried deposit. The chipping waste is metavolcanic in material with no evidence of retouch or modification. Individually, none of the pieces are more than 2centimeters (cm) in size. The 2 cores are also metavolcanic in material, irregular in outline and measure 2.4 by 3.1 by 2.6 cm and 2.8 by 2.2 by 3.3 cm. Both cores have minimal retouch with less than 3 flakes removed.

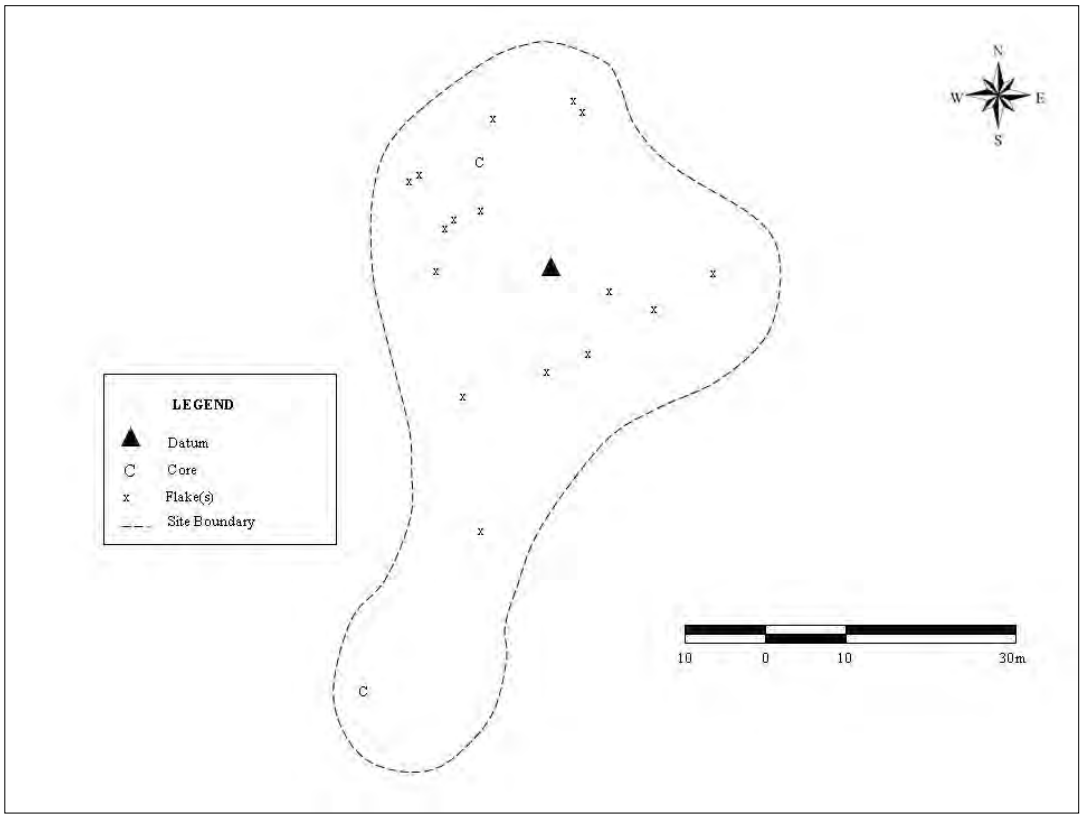


FIGURE 5-1. CA-SDI-6115 SITE MAP

FIGURE 5-2. CA-SDI-6115 GENERAL OVERVIEW

CA-SDI-7074

The site is on upland desert formation with limited vegetation; primary soils are poorly sorted sands and chunks of quartz. Information on the existing site form for CA-SDI-7074 describes the area as: "lithic scatter on the lower one-third of southwest slope of a high rock-boulder knoll or small mountain at an elevation of 3240-3320 ft. Site vegetation is desert transition; Carrizo Creek is approximately 2,000 ft to the northwest; intermittent wash within the site. Site soils are reddish-brown sandy soil with large pebbles and cobbles. A dirt road has impacted a portion of the site." There is no DPR site map with the original site records. The original site form did not note the presence of milling features and/or Tizon brown ware.

The site was relocated using the original UTM coordinates and the location shown on the USGS map. Based on the diffuse nature of the artifact scatter, a post field decision was made to include two smaller concentrations of lithic and pottery within the overall boundaries for CA-SDI-7074 (see Figure 5-1). Only the most southern part of the site was examined for the Class III survey. The remaining portions of the site are outside the current project.

The portion of the site within the study measures approximately 300 meters north/south by 215 meters east/west with a maximum density of less than 1 artifact/5 meters. Artifact counts include ±50 pieces of Tizon brown ware, ±30 flakes, 2 cores, a portable metate fragment, and a hammerstone (Figures 5-3 through 5-6). Materials include fine grain metavolcanic, andesites, quartz and various basalts. All are locally available within the immediate area. The cores are metavolcanic in material, irregular in shape and measure 3.5 by 1.2 by 0.8 cm and 2.6 by 1.1 by 1.2 cm. Both artifacts have at least 30 percent of the original cortex with limited evidence of edge wear. The metate fragment is granitic in material and measures 3.1 by 4.5 by 0.9 cm. The hammerstone is metavolcanic in materials, globular in outline and measures 4.5 by 3.4 by 2.8 cm. The entire circumference of this tool exhibits battering scars.

Within the larger artifact scatter are 2 smaller concentrations: one containing ±12 flakes, a core and ±8 pieces of Tizon, the other containing ±20 flakes, a core, and ±20 pieces of Tizon. These two smaller scatters could be recorded as individual sites. All of the Tizon brown ware appears to be from more than 1 vessel; there are no rim sherds present. The chipping waste represents small shatter with no cortex. Based on the density and distribution of the surface artifacts, there may be the potential for subsurface materials in the northern and eastern portions of the site. The two cores are metavolcanic in material with over 75 percent remaining cortex. The cores measure 3.8 by 2.1 by 1.7cm and 4.2 by 3.6 by 1.1 cm.

The bedrock features include two basins and a bedrock milling station on two granitic outcrops (Table 5-2). Both outcrops are along the eastern edge of the site. The presence of bedrock milling may suggest site use over an extended period of time, rather than a single event. There is no associated ground stone (manos, pestles) or other artifact types in the immediate vicinity of the two outcrops.

TABLE 5-2. CA-SDI-7074 BEDROCK MILLING FEATURES

Outcrop	Dimensions	Milling Feature	Dimensions
1	130 x 65 x 23 cm; coarse granitic	Bedrock mortar	30 x 30 x 2 cm
		Bedrock mortar	17 x 15 x 2 cm
2	106 x 54 x 15 cm; coarse granitic	Milling slick	47 x 47 x 0 cm; boulder on eastern bank of a drainage

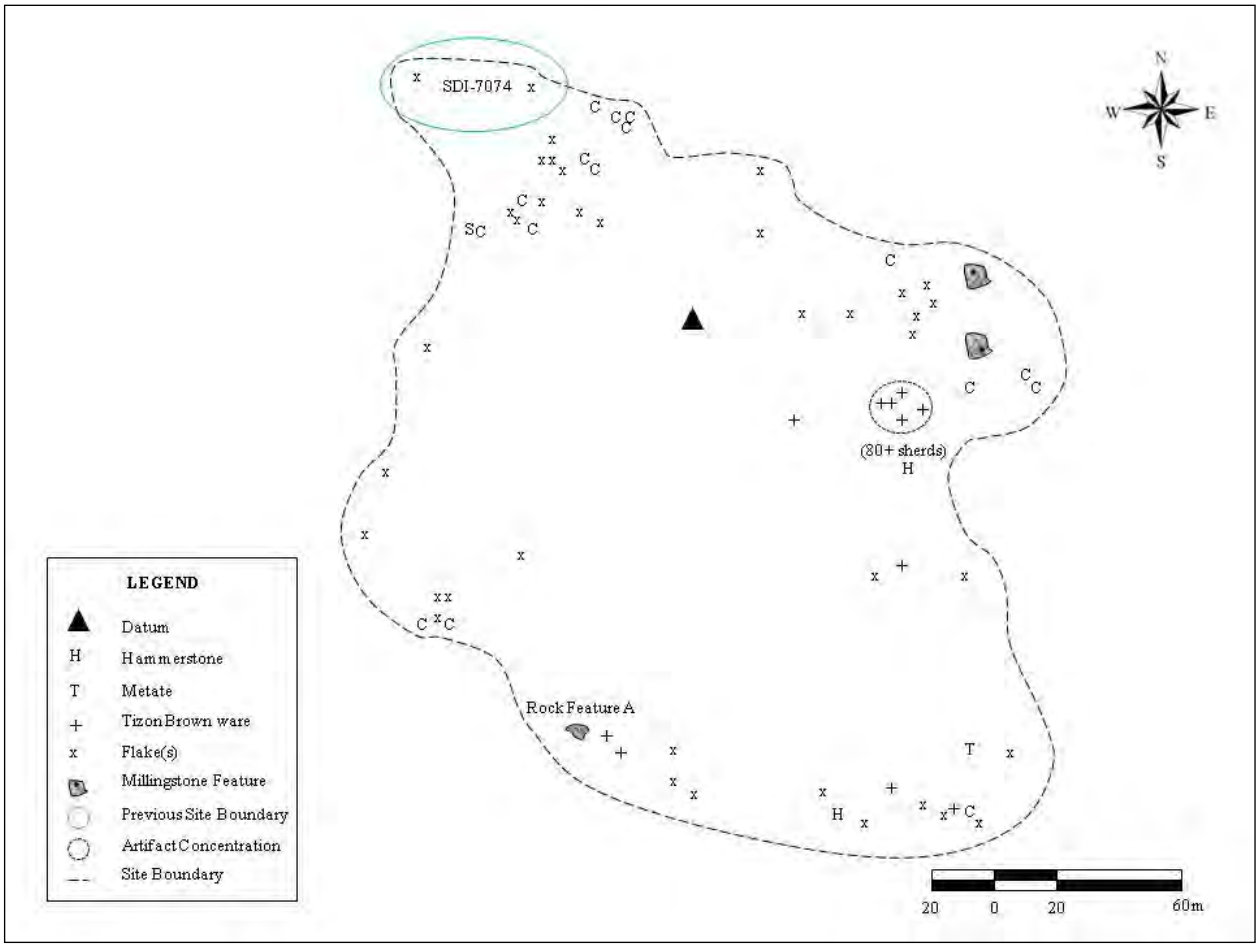


FIGURE 5-3. CA-SDI-7074 SITE MAP

FIGURE 5-4. CA-SDI-7074 GENERAL SETTING

FIGURE 5-5. CA-SDI-7074 BEDROCK MILLING FEATURE 1 (BASIN)

FIGURE 5-6. CA-SDI-7074 BEDROCK MILLING FEATURE 2 (BASIN AND SLICK)

CA-SDI-7079

CA-SDI-7079 is in the upper northwestern section of the study and includes three previously recorded sites: portions of CA-SDI-7080 and -7081 and all of CA-SDI-7079 (see Figure 5-1). The overall site is on upland desert formation with limited vegetation; primary soils are poorly sorted sands and chunks of quartz. Based on the SCIC interpretation of the site maps, CA-SDI-7079 subsumes -7080 and -7081.

- CA-SDI-7079: original site form lists a concentration of artifacts on ridge tops and extending into a fan in an area 40 x 70 meters and at an elevation of 2,800 ft. A site map was never made for this resource (1979 DPR Form by Jan Moore)

- CA-SDI-7080: historic can dump measuring 4 by 3 ft in size (no site map was generated; DPR Form J. Townsend 1979). Artifact descriptions include key strip coffee, soldered cans, Calumet baking powder cans and Kerr canning jar fragments; ±50 cans ranging in size from 6 ounces to #10 were noted by Townsend.

- CA-SDI-7081: large lithic scatter with ±100 flakes and numerous cores of varying materials; surface deposition. No site map made (DPR Form K. Crotteau 1979).

The expanded site boundaries for CA-SDI-7079 are based on the maximum dispersion of isolated artifacts, the outline shapes for the previously recorded sites and the extent of each artifact concentration. Because of the low density and dispersed nature of the flake scatter, a post field decision was made to group all of the various disperse artifact concentrations and isolates under a single site rather than break them down into smaller artifact scatters. Based on the maximum extent of the artifact scatter, CA-SDI-7079 measures 218 meters north/south by 220 meters east/west (Figure 5-7). CA-SDI-7079 contains a diffuse historic and prehistoric artifact scatter.

The historic component is found mainly in the northern one-third of the site and includes two dispersed historic can and glass scatters (Figure 5-8). Diagnostics included key-opened coffee cans, Calumet baking powder, and a fragment of a Kerr glass jar.

With the exception of the datable can types and a few isolated pieces of bottle glass, none of the historic assemblages are temporally or culturally diagnostic. In addition to a light scatter of historic debris, several modern rock rings were recorded at CA-SDI-7079. These rings were probably used by hunters, campers, or migrants moving through the area. All of the historic assemblages represent opportunistic dumping. There are no associated historic structures, structural remains, foundations, or other evidence of historic habitation or use. Historic isolates found outside of the three concentrations include ±10 can fragments and multiple pieces of modern bottle glass.

The prehistoric materials are concentrated within the boundaries of two previously recorded sites, CA-SDI-7079 and -7081, and two smaller flake concentrations (Figure 5-9). Prehistoric isolates associated with this area include approximately 50 pieces of debitage (quartz, fine-grained metavolcanics and chert), ±5 metavolcanic cores, and 2 mano fragments. Artifact density found in the concentrated scatters range from 1 flake/0.5 meter to 1 flake/20 meters. None of the concentrations appear to have associated buried deposits, visible features or evidence suggesting extended site use. The artifact concentrations appear to represent opportunistic site use and basic tool manufacture. Artifacts found in this concentration include ±125 flakes, a core, scraper/retouch flake, and a mano fragment. Site materials include fine- to medium-grained metavolcanics, andesites, basalts, and some quartz. The core is basalt in material and measures 4.8 by 3.9 by 2.1 cm. The mano is granitic in material, irregular in shape with evidence of unifacial wear and measures 8.7 by 4.8 by 3.6 cm. The metavolcanic retouch flake exhibits flake scars along one edge and measures 3.4 by 2.6 by 0.9 cm.

There is no apparent evidence of a buried deposit or features, such as a hearth or fire-cracked rock. Prehistoric pottery (Tizon brown ware) was not present at this location. There is no evidence for extended site use for either the historic or prehistoric component of this site. Based on the shallow nature of the soils for this area, a subsurface deposit is not likely.

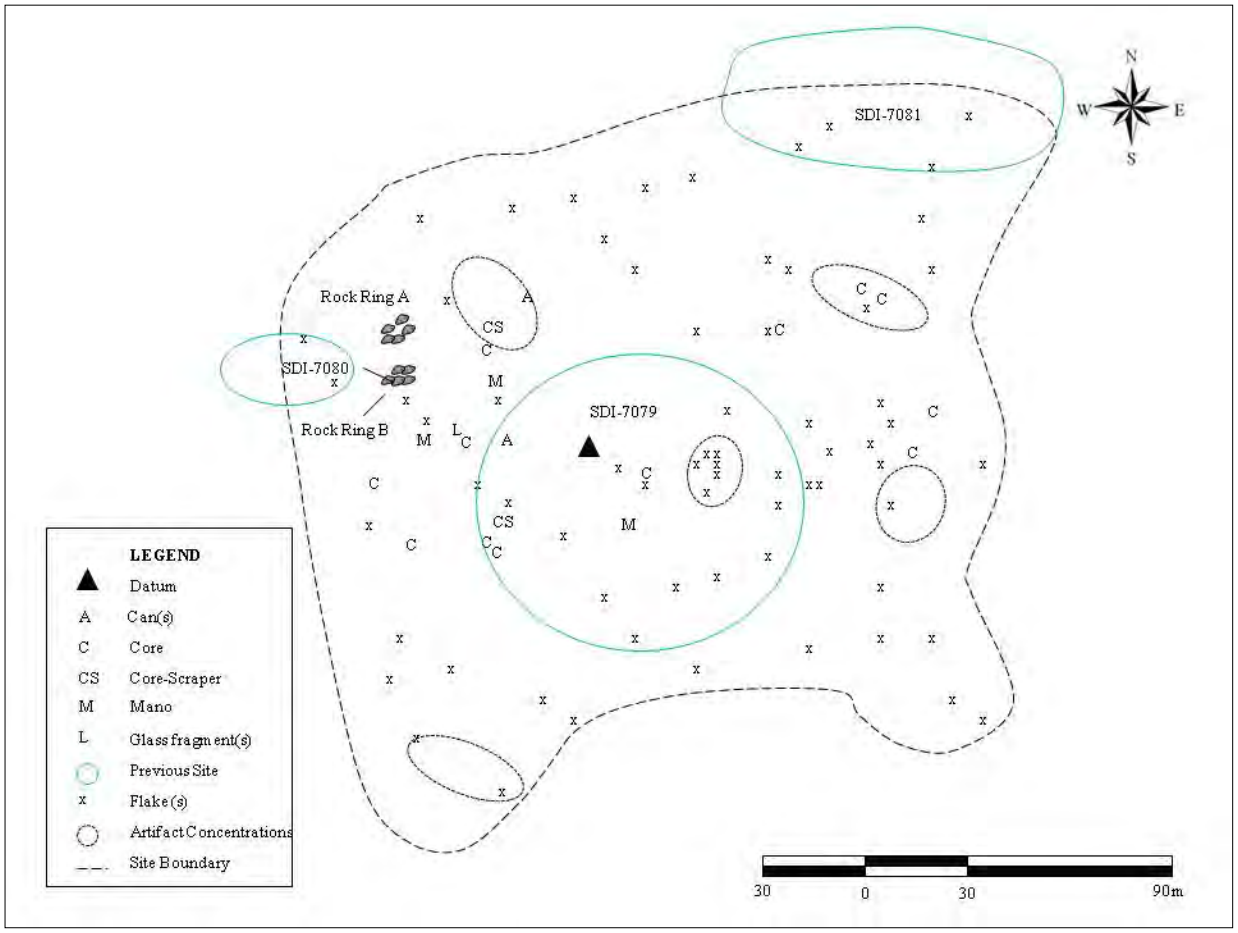


FIGURE 5-7. CA-SDI-7079 SITE MAP

FIGURE 5-8. CA-SDI-7079 HISTORIC CANS SCATTER

FIGURE 5-9. CA-SDI-7079 EXAMPLE DENSITY OF PREHISTORIC ASSEMBLAGE

CA-SDI-7082

The site is on upland desert formation with limited vegetation; primary soils are poorly sorted sands and chunks of quartz. The original DPR site form (Crotteau 1979) described this resource as "a lithic scatter on a small ridge at the base of Jade Mountain; artifacts include 5 flakes, 1 cutting tool in a 10 x 10m area." A site map was not made in 1979.

The results of the Class III area survey expanded the boundaries for CA-SDI-7082 to include a large low-density lithic artifact scatter with three artifact concentrations: a can/glass dump and two smaller flake scatters (see Figure 5-1; Figure 5-10).

The overall artifact scatter extends 280 meters north/south by 251 meters east/west. The density for CA-SDI-7082 ranges from a very sparse lithic artifact scatter to a can concentration with ±50 cans in a one-meter area (Figures 5-11 and 5-12). All of the historic cans appear to be sanitary in construction that contained milk and various food products. Neither the prehistoric or historic component suggests long-term use or the potential for a subsurface deposit. The historic component represents opportunistic dumping with no clear association with house foundations or other permanent features. The prehistoric flake scatter does not appear to be associated with long-term occupation or use of this immediate area. Materials present include quartz and metavolcanics.

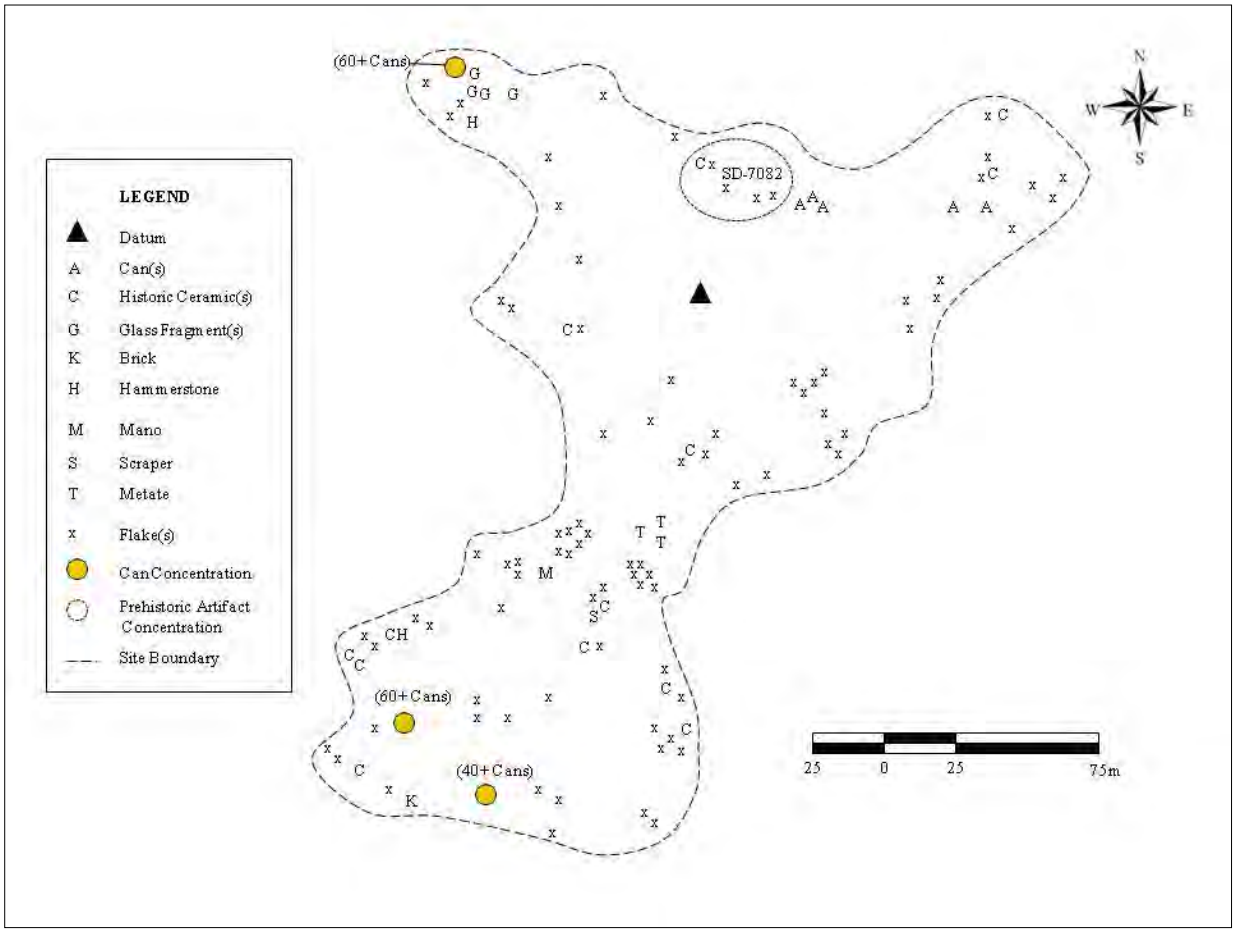


FIGURE 5-10. CA-SDI-7082 SITE MAP

FIGURE 5-11. CA-SDI-7082 CAN SCATTER

FIGURE 5-12. CA-SDI-7082 PREHISTORIC ARTIFACT SCATTER

CA-SDI-19481

CA-SDI-19481 was recorded in 2008 and described as a roasting pit with 11 rocks in a 2-by-2-meter area (see Figure 5-1; Figure 5-13). In addition to the broken rock scatter, two pieces of quartz were identified as cores (see Figure 5-13).

The location for CA-SDI-19481 was relocated based upon the information recorded on the original DPR site form. The site is on a small wash that has been impacted by alluvial action. The two quartz cores were not relocated. It is possible that the two pieces of quartz originally identified as "cores" were natural and not altered. The area described as a roasting pit was examined; there is no fire-cracked rock, a deposition, or other evidence of a possible roasting pit. A scatter of broken rock (5 pieces of metavolcanic rock, less than 4cm in size) may represent what was originally described as a roasting pit. This scatter does not exhibit any characteristics associated with this activity. A revised field map was not made for this recorded site.

FIGURE 5-13. CA-SDI-19481 VIEW TO THE NORTH

CA-SDI-19482

CA-SDI-19482 was recorded in 2008 and described as a roasting pit with 14 rocks in a 4-by-3-meter area (see Figure 5-1; Figure 5-14). As plotted, the site was relocated.

The Class III survey identified a dispersed scatter of rock in the area identified as CA-SDI-19482 (see Figure 5-14). There are no associated artifacts or evidence of a buried deposit for this area. The dispersed scatter of rock does not contain fire-affected rock, charcoal, or other evidence of a roasting pit. A revised field map was not made for this area.

FIGURE 5-14. CA-SDI-19482 VIEW TO THE SOUTH

CA-SDI-19496

CA-SDI-19496 was recorded in 2008 and described as a roasting pit with 8 rocks in a 2.5-by-2.5-meter area (see Figure 5-1; Figure 5-15). The site is above a general wash with limited ground cover. According to the 2008 site form, there were no additional features or artifacts associated with the site.

The area was relocated based on the information on the original site form. Based on past experience with agave roasting pits, the 8 rocks forming this site do not appear to be related to prehistoric activity. The lack of associated artifacts makes the association with "roasting pits" doubtful. The area defined as CA-SDI-19496 does not contain any surface artifacts or apparent potential for buried materials. A revised field map was not made for this recorded site.

FIGURE 5-15. CA-SDI-19496 VIEW TO THE EAST

CA-SDI-19497

CA-SDI-19497 was recorded in 2008 and described as a hearth with 8 rocks in a 2.5-by-2.5-meter area (see Figure 5-1). Limited information was given on the existing DPR form. According to the 2008 site form, there were no additional features or artifacts associated with the site.

The Class III survey identified 3 pieces of metavolcanic chipping waste 10 meters from the plotted location of CA-SDI-19497. No other artifacts, such as Tizon brown ware, ground stone, or cobble-based tools were found. Based on the site records, it is unclear if these artifacts represent isolate occurrences or were associated with CA-SDI-19497. Evidence of a hearth or roasting pit was not found in the location of the previously plotted site. Based on the site setting and soils, there does not appear to be a potential for a buried deposit. A revised field map was not made for this recorded site.

CA-SDI-19498

CA-SDI-19498 was recorded in 2008 and described as a flake scatter in a 10-meter area. The assemblage included 20 pieces of rhyolite chipping waste along a small finger ridge (see Figure 5-1).

The site was relocated based on the UTM coordinates and the location shown on the original site form. The Class III survey identified 30 pieces of debitage/chipping waste in an area 24 by 24 meters. Raw materials included fine grain metavolcanics, basalts, and andesites. All of the materials found within the site are locally available. Further examination failed to identify any formal tools, pottery, or ground stone. Based on the site setting and soil formation, there is little to no potential for a subsurface deposit. A revised field map was not made for this recorded site.

5.1.2. Newly Recorded Sites

Results of the Class III survey identified 16 previously unknown sites (CA-SDI-19617, -19618, -19619, -19620, -19621, -19622, -19623, -19624, -19625, -19626, -19627,-19732, -19733, -19734, -19735, and -19736; Table 5-3). None of these sites appear to have extensive artifact scatters or the potential for substantial subsurface deposits.

TABLE 5-3. NEWLY IDENTIFIED SITES EAST COUNTY SUBSTATION

Site Number	Site Description	Potential NR Eligibility*
CA-SDI-19617	CA-SDI-19617 is a historic-era can and glass dump.	Artifacts represent opportunistic dumping with no associated habitation. There is no apparent subsurface depth or deposit. NR Eligibility: not recommended
CA-SDI-19618	CA-SDI-19618 is a small lithic artifact scatter.	Site meets the definition of a sparse lithic artifact scatter. There is no apparent subsurface depth or deposit. NR Eligibility: not recommended
CA-SDI-19619	CA-SDI-19619 is a small historic scatter.	Artifacts represent opportunistic dumping with no associated occupation. There is no apparent subsurface depth or deposit NR Eligibility: not recommended
CA-SDI-19620	CA-SDI-19620 is a moderate artifact scatter containing both prehistoric and historic artifacts.	The historic component of the site does not contain a subsurface depth. The prehistoric component may have associated limited subsurface materials. NR Eligibility: not recommended for the historic artifact scatter; prehistoric scatter unknown
CA-SDI-19621	CA-SDI-19621 contains both a historic and prehistoric artifact scatter.	The site does not appear to have potential for a subsurface depth. NR Eligibility: not recommended
CA-SDI-19622	CA-SDI-19622 is a diffuse artifact scatter. Neither the historic or prehistoric component appears to have a subsurface deposit.	The site does not appear to have a subsurface deposit. NR Eligibility: not recommended
CA-SDI-19623	CA-SDI-19623 is a diffuse lithic artifact scatter.	The site does not appear to have a subsurface deposit or depth. NR Eligibility: not recommended
CA-SDI-19624	CA-SDI-19624 is a dispersed, low-density artifact scatter.	This site meets the definition of a sparse lithic artifact scatter. There is no apparent subsurface depth or deposit. NR Eligibility: not recommended

TABLE 5-3. NEWLY IDENTIFIED SITES EAST COUNTY SUBSTATION (CONT.)

Site Number	Site Description	Potential NR Eligibility*
CA-SDI-19625	CA-SDI-19625 is a small prehistoric pottery scatter.	There is no apparent subsurface deposits or depth. NR Eligibility: not recommended
CA-SDI-19626	CA-SDI-19626 is a low-density flake and Tizon brown ware scatter with no apparent subsurface depth or associated features.	There is no apparent a subsurface deposit or depth. NR Eligibility: not recommended
CA-SDI-19627	CA-SDI-19627 is a large, multi-component site that includes a widespread, lightly dense to heavily dense lithic artifact scatter and multiple dense pockets of historic refuse	Portions of this site may have limited subsurface materials. NR Eligibility: unknown
CA-SDI-19732	CA-SDI-19732 contains a single milling slick with no associated artifacts or subsurface deposits.	There is no apparent subsurface deposit or depth. NR Eligibility: not recommended
CA-SDI-19733	CA-SDI-19733 is an artifact scatter with associated bedrock milling.	Portions of this site may have limited subsurface materials. NR Eligibility: unknown
CA-SDI-19734	CA-SDI-19734 is a sparse lithic scatter This site meets the definition of a sparse lithic artifact scatter. There is no associated subsurface depth or deposit.	This site meets the definition of a sparse lithic artifact scatter. There is no apparent subsurface deposit. NR Eligibility: not recommended
CA-SDI-19735	CA-SDI-19735 is sparse artifact scatter	The site does not appear to have the potential for a subsurface deposit. NR Eligibility: not recommended
CA-SDI-19736	CA-SDI-19736 may represent a prehistoric petroglyph (rock art) referred to as a “Yoni.”	There are no associated features, artifacts. The site does not appear to have potential for a subsurface deposit. NR eligibility: unknown

*National Register eligibility recommendations are based on survey results, types of soils present and site characteristics. Subsurface testing may be required to confirm conclusions.

CA-SDI-19617

CA-SDI-19617 is a historic-era can dump with approximately 25+ cans (sanitary, vent-hole) and a 1938 Owens-Illinois bottle base. The site is on upland desert formation with limited vegetation; primary soils are poorly sorted sands and chunks of quartz. Historic artifacts are found in an area 25 meters north/south by 27 meters east/west (see Figure 5-1; Figures 5-16 and 5-17). There is no evidence of a structure, foundation, or other associated habitation area. Artifacts represent opportunistic dumping with no associated habitation. Based on the soils and the diffuse artifact scatter, CA-SDI-19617 has little potential for a subsurface deposit.

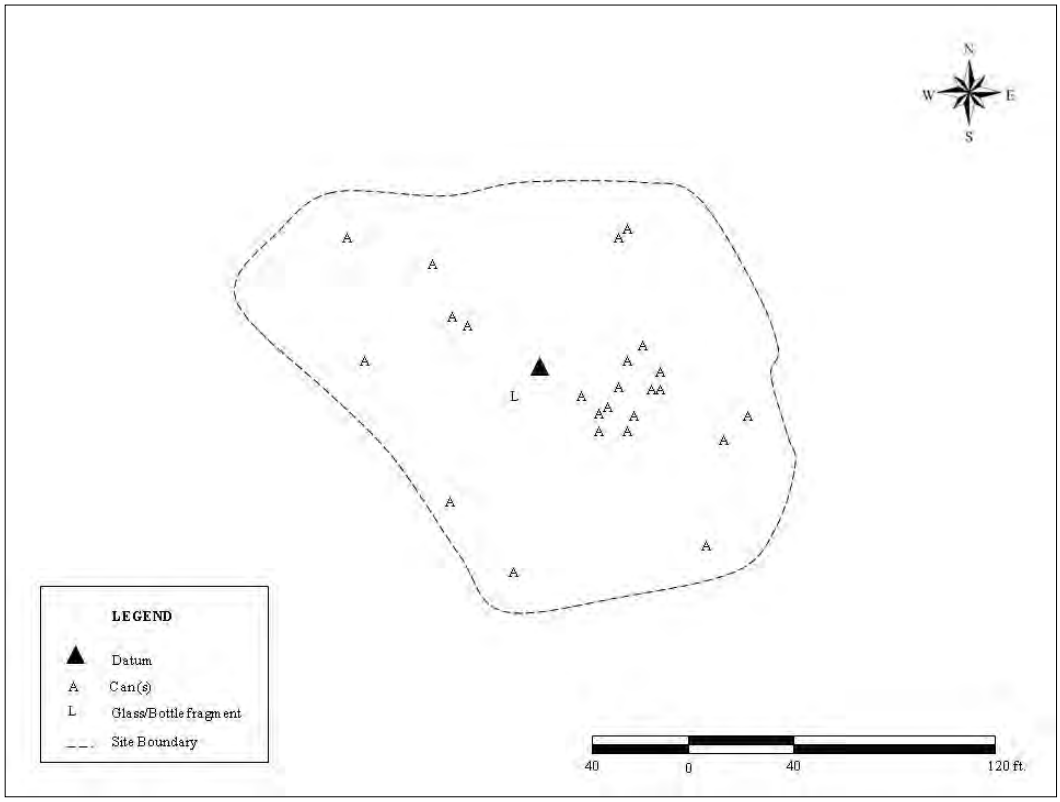


FIGURE 5-16. CA-SDI-19617 SITE MAP

FIGURE 5-17. CA-SDI-19617 GENERAL SETTING

CA-SDI-19618

CA-SDI-19618 is a small lithic artifact scatter consisting of ±10 flakes in an area 28 meters north/south by 48 meters east/west. The site is on upland desert formation with limited vegetation; primary soils are poorly sorted sands and chunks of quartz. Artifact materials include fine-grained metavolcanics and andesites (see Figure 5-1; Figure 5-18). There are no visible features, ground stone, or other associated artifacts. The scatter is widely dispersed along an east/west ridge. Although the density is very sparse, the ±10 flakes were combined to form a single site. CA-SDI-19618 meets the definition of a sparse lithic artifact scatter. There is no apparent subsurface deposit or associated features.

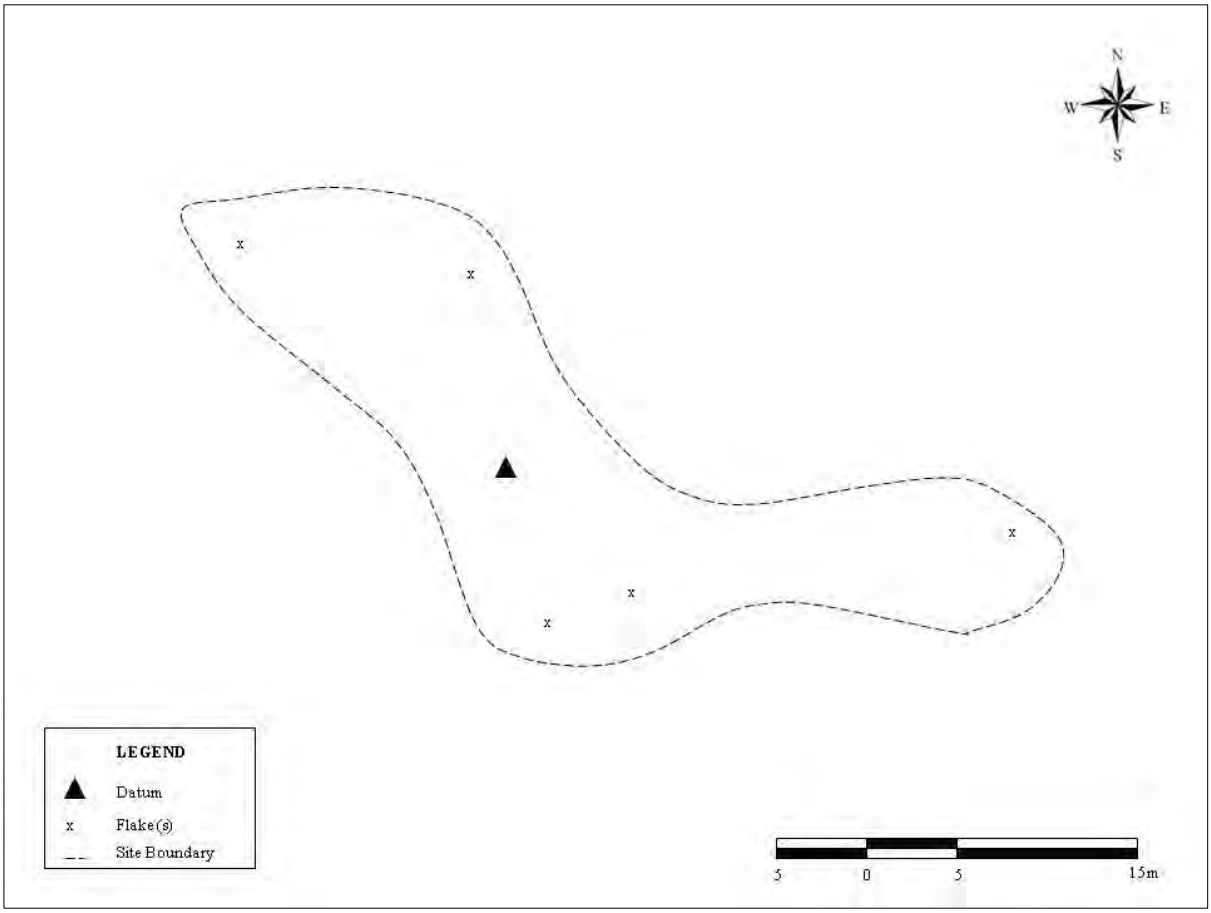


FIGURE 5-18. CA-SDI-19618 SITE MAP

CA-SDI-19619

CA-SDI-19619 is a small historic scatter measuring 5 meters north/south by 9 meters east/west. The site is on upland desert formation with limited vegetation; primary soils are poorly sorted sands and chunks of quartz. Artifact scatter includes ±15 cans (sanitary and vent-hole) and ±5 pieces of bottle glass (see Figure 5-1; Figures 5-19 and 5-20). There is no evidence of associated structures or other surface features. This artifact scatter represents an opportunistic dumping with no associated occupation (Figure 5-21). Based on the soils and the type of artifact distribution, there is a low potential for a subsurface deposit.

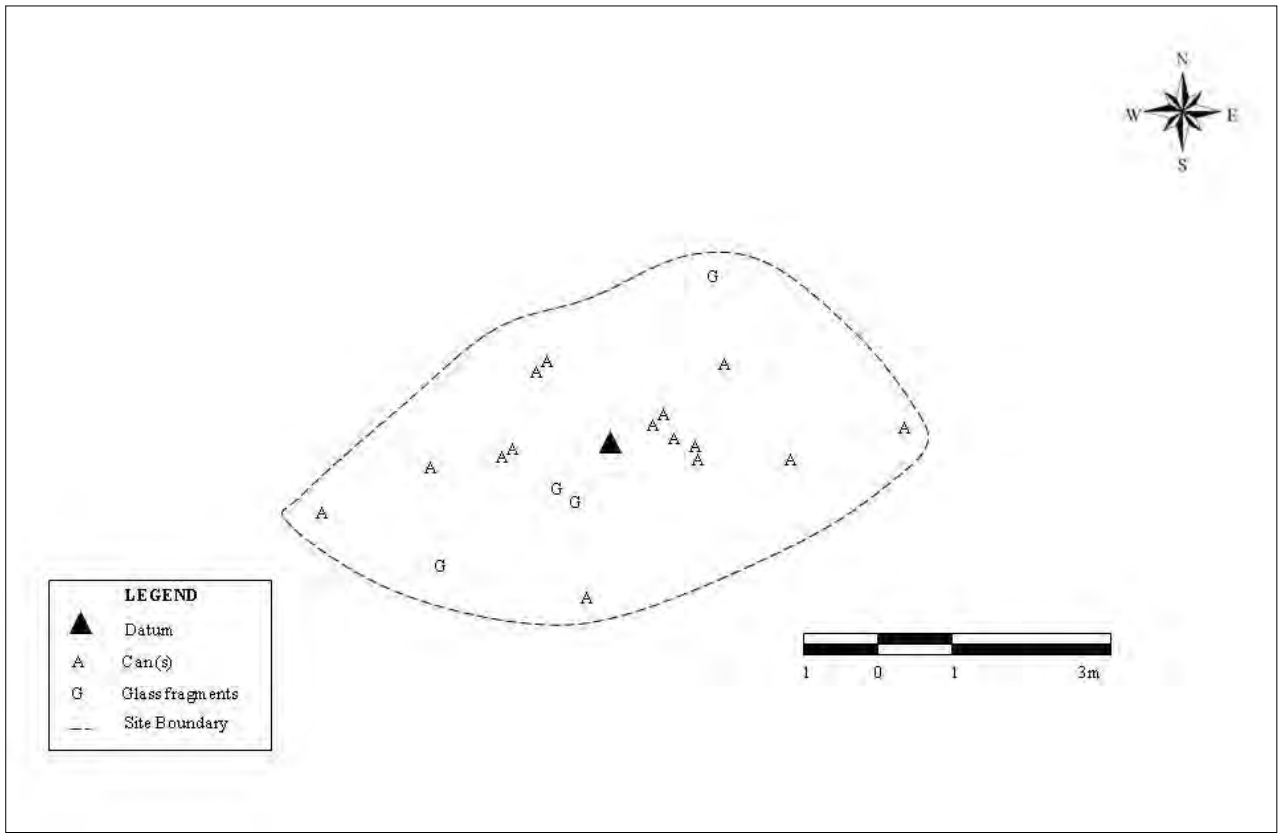


FIGURE 5-19. CA-SDI-19619 SITE MAP

FIGURE 5-20. CA-SDI-19619 GENERAL SETTING

FIGURE 5-21. CA-SDI-19619 CAN DENSITY

CA-SDI-19620

CA-SDI-19620 contains both a prehistoric and historic artifact scatter (see Figure 5-1; Figure 5-22). The site is on upland desert formation with limited vegetation; primary soils are poorly sorted sands and chunks of quartz. The maximum extent of the entire artifact scatter is 62 meters north/south by 68 meters east/west. The prehistoric component includes a moderate concentration of stone artifacts, including ground stone, 50+ flakes and approximately 30+ Tizon brown ware sherds. The ground stone consists of a single granitic mano measuring 7.5 by 5.9 by 3.4 cm. This tool is oblong in shape and exhibits wear patterns on both faces (bifacial wear) (Figure 5-23). The flake/debitage includes fine- and coarse-grain metavolcanics, basalt, andesite, and 5 pieces of quartz. All of the debitage represent primary and secondary shatter. The Tizon brown ware sherds are less than 3 cm in diameter and may belong to the same vessel. Rims, evidence of decoration and/or repair was not found among the pottery.

The historic component consists of approximately 25+ cans, 4 pieces of clear bottleglass, 5 pieces of historic ceramics, and an oil burning lamp (Figure 5-24). The cans are sanitary food containers, including both fruit and milk. The can openings are a combination of knife cuts and rotary can openers. The four pieces of glass probably represents a single clear bottle with no maker's marks and no rims. The five pieces of ceramics are iron ware and probably represent a single plate fragment. The historic materials appear to date to post 1900s. The historic artifact scatter represents opportunistic dumping rather than a discrete occupation. Based on the density of artifacts on the surface, there is a potential for subsurface materials in the northern portion of the site. There is no evidence for extended site use for either the prehistoric or historic components.

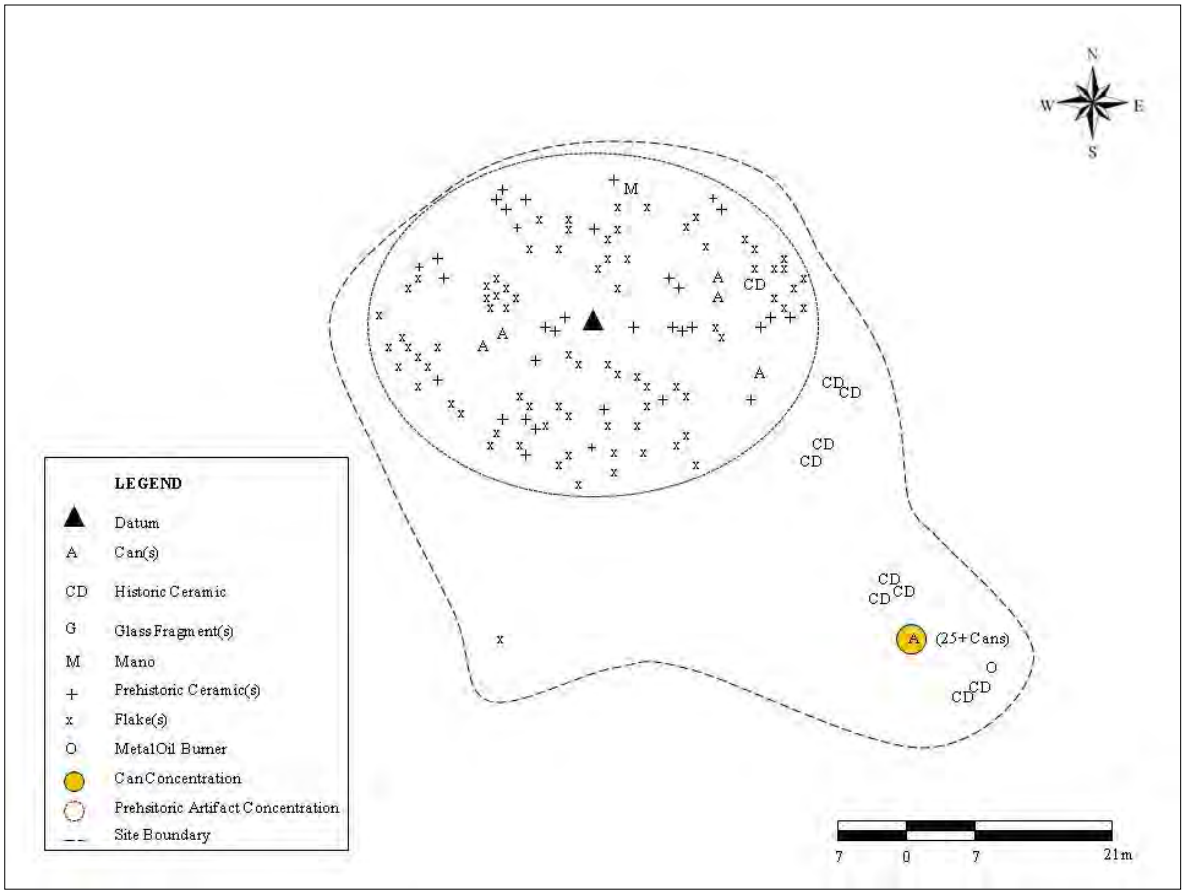


FIGURE 5-22. CA-SDI-19620 SITE MAP

FIGURE 5-23. CA-SDI-19620 MANO

FIGURE 5-24. CA-SDI-19620 HISTORIC OIL BURNING LAMP

CA-SDI-19621

CA-SDI-19621 is a dispersed, small flake and pottery scatter in an area 68 meters north/south by 28 meters east/west (see Figure 5-1). The site is on upland desert formation with limited vegetation; primary soils are poorly sorted sands and chunks of quartz. The prehistoric assemblage contains ±15 pieces of Tizon brown ware, a metate fragment, 2 cores, and ±5 flakes (Figures 5-25 and 5-26). The maximum density of the prehistoric artifact scatter is 1 artifact/10 meters. The metate fragment is a granitic slab with limited use measuring 11.6 by 8.5 by 3.9 cm. The two cores are metavolcanic in material with limited wear. The cores measure 5.4 by 4.8 by 3.9 cm and 3.7 by 3.5 by 2.8 cm. Site materials are fine-grained metavolcanics and andesites.

In addition to the prehistoric scatter, there is a small historic component consisting of ±8 sanitary cans (fruit). The cans may represent remnants from modern camping activity. Neither component represents site use over an extended period of time; a substantial subsurface deposit is not likely for either assemblage.

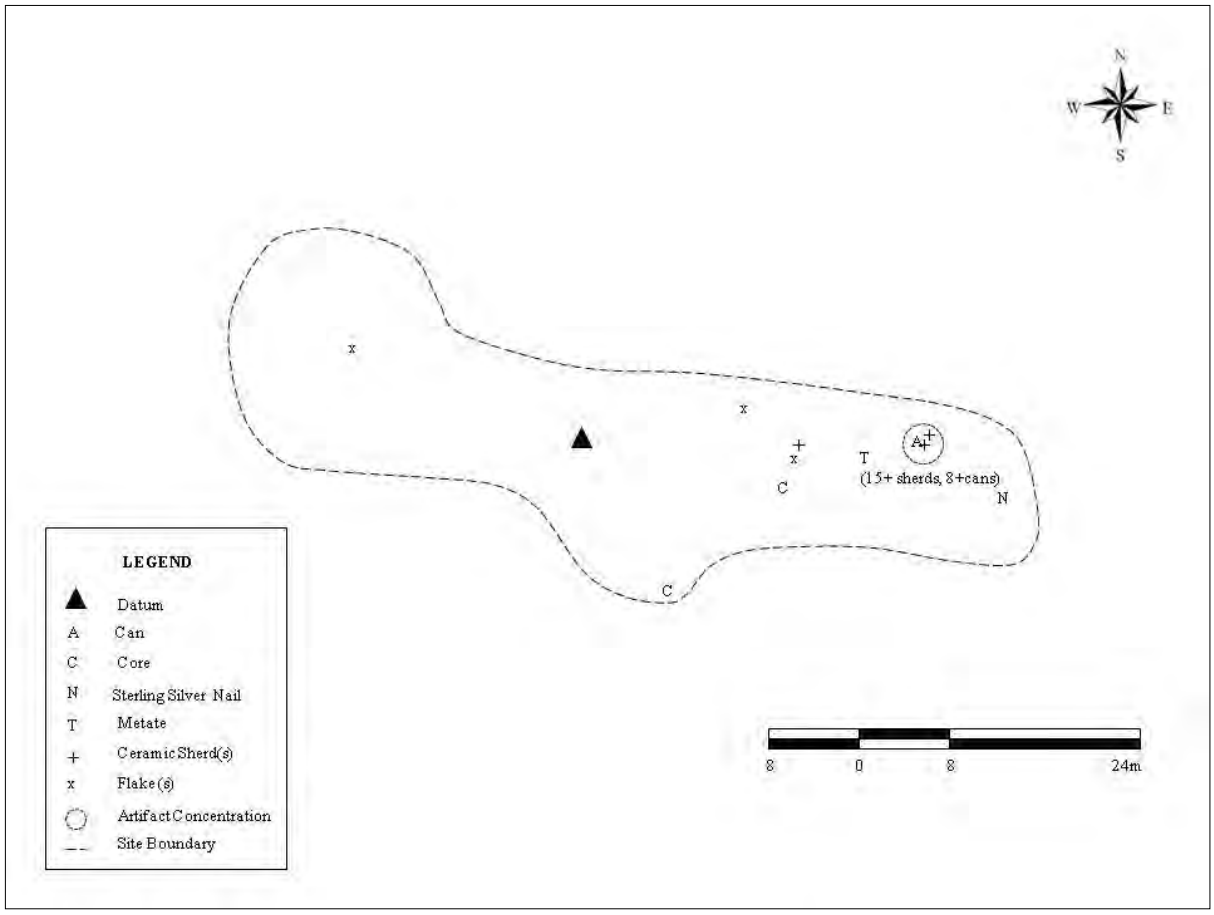


FIGURE 5-25. CA-SDI-19621 SITE MAP

FIGURE 5-26. CA-SDI-19621 TIZON BROWN WARE SCATTER

CA-SDI-19622

CA-SDI-19622 is a diffuse artifact scatter that contains ±35 flakes and a single piece of Tizon brown ware that has been repaired (see Figure 5-1; Figure 5-27). The site is on upland desert formation with limited vegetation; primary soils are poorly sorted sands and chunks of quartz. The artifact assemblage extends over an area 30 meters north/south by 64 meters east/west with a maximum flake density of 1 flake/5 meters. The flake assemblage includes coarse- and fine-grain metavolcanics, basalt, and andesite. All of the materials found on-site are locally available. The flakes/chipping waste represent secondary and primary shatter with little to no remaining cortex. There are no associated features or evidence of a buried deposit. This site probably represents a one-time or short-use site with no associated habitation refuse.

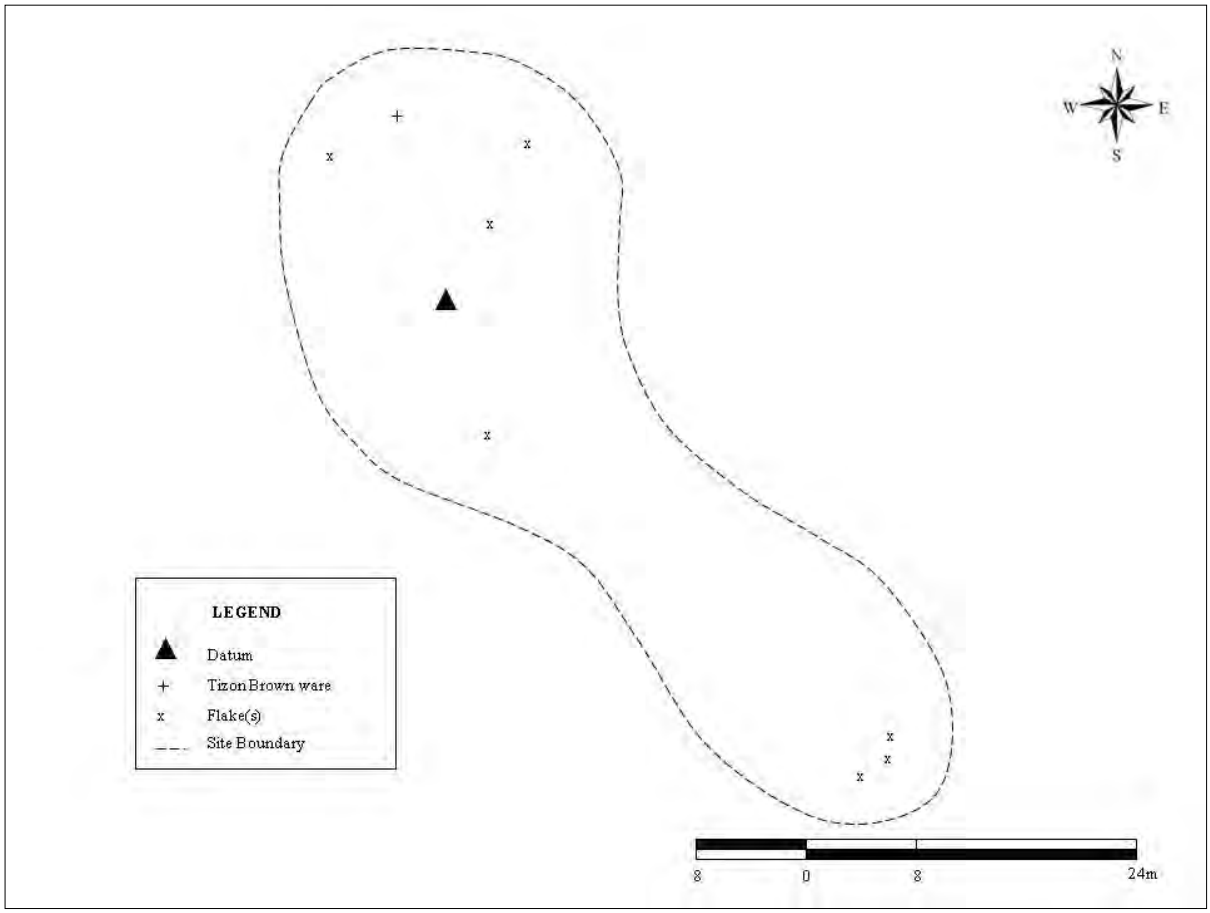


FIGURE 5-27. CA-SDI-19622 SITE MAP

CA-SDI-19623

CA-SDI-19623 is a diffuse lithic artifact scatter found along a ridge line and extending approximately 76 meters north/south by 18 meters east/west (see Figure 5-1; Figures 5-28 and 5-29). The site contains ±10 flakes (fine-grain metavolcanic, andesites), 2 cores, and 2 test boulders. This type of activity involves breaking down larger natural metavolcanic cobbles to determine if they contain materials usable as tools. There is evidence of opportunistic quarry activity where larger primary rocks were broken to determine if they contain materials useable as tools. The two cores are irregular in outline with limited wear and over 75 percent of the original cortex. They measure 4.3 by 3.5 by 2.8 and 4.1 by 2.1 by 2.0 cm. Diagnostic artifacts are not present at this location. Based on the location and soil type, there is no potential for a subsurface deposit. The site could be included under the definitions for a sparse lithic scatter.

Although the location for CA-SDI-19623 overlaps the southeastern boundary of the previously recorded site CA-SDI-9170, the records for CA-SDI-9170 are inadequate to determine any relationship between the two. Although shown as a large site on the USGS, CA-SDI-9170 was described as a single core. Current standards would redefine CA-SDI-9170 as an isolate.

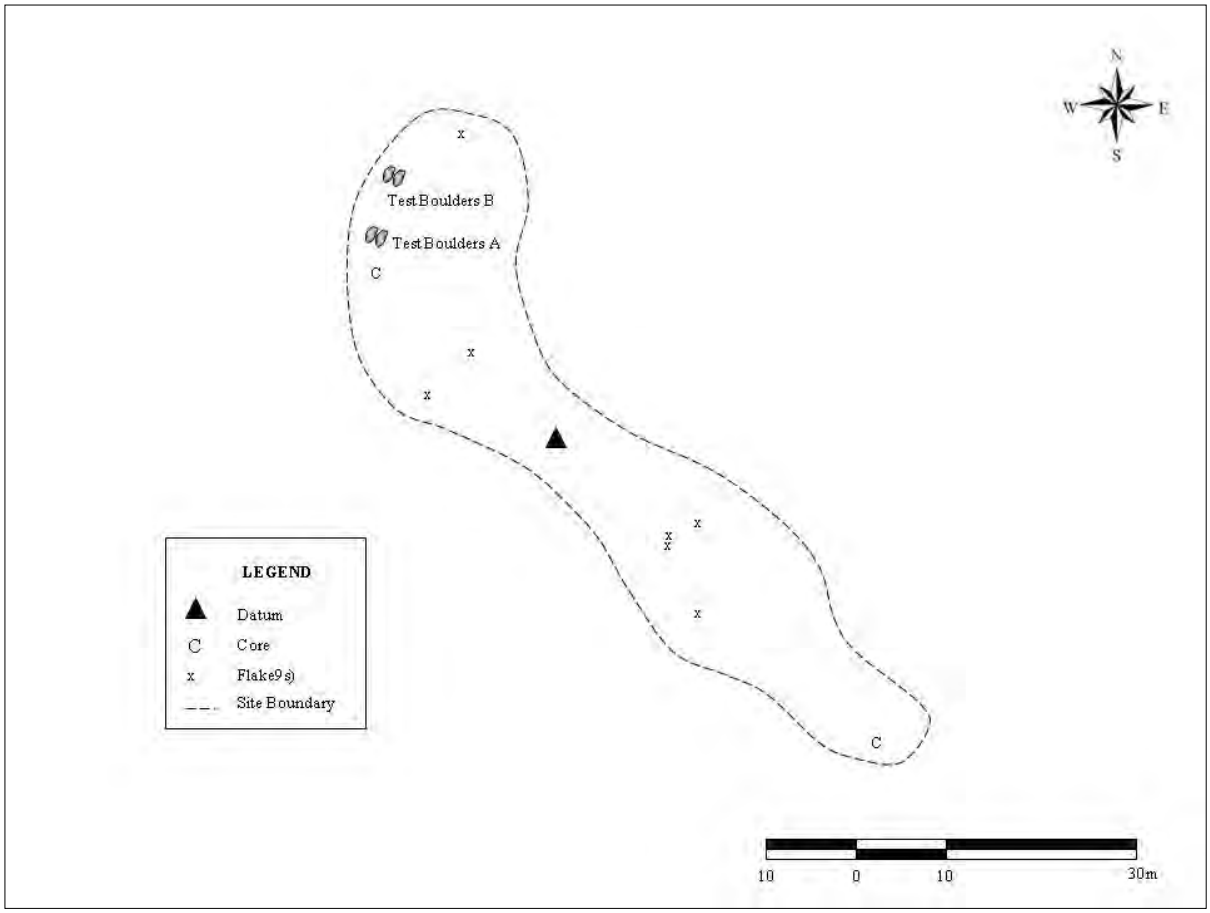


FIGURE 5-28. CA-SDI-19623 SITE MAP

FIGURE 5-29. CA-SDI-19623 GENERAL SETTING

CA-SDI-19624

CA-SDI-19624 is a dispersed, low-density artifact scatter in an area roughly 60 meters north/south by 40 meters east/west (see Figure 5-1; Figures 5-30 and 5-31). Materials in the scatter include ±10 flakes and an unmodified core. Materials for the flakes include fine-grained metavolcanics and andesites. The core is irregular in shape and measures 4.1 by 3.4 by 1.8 cm. There are no associated surface features, or apparent subsurface deposit. The assemblage is scattered along an active drainage. Site density for this site is less than 1 flake/10 meters. Based on the low density of artifacts and the lack of soils that might contain subsurface deposits, CA-SDI-19624 probably represents a limited use area.

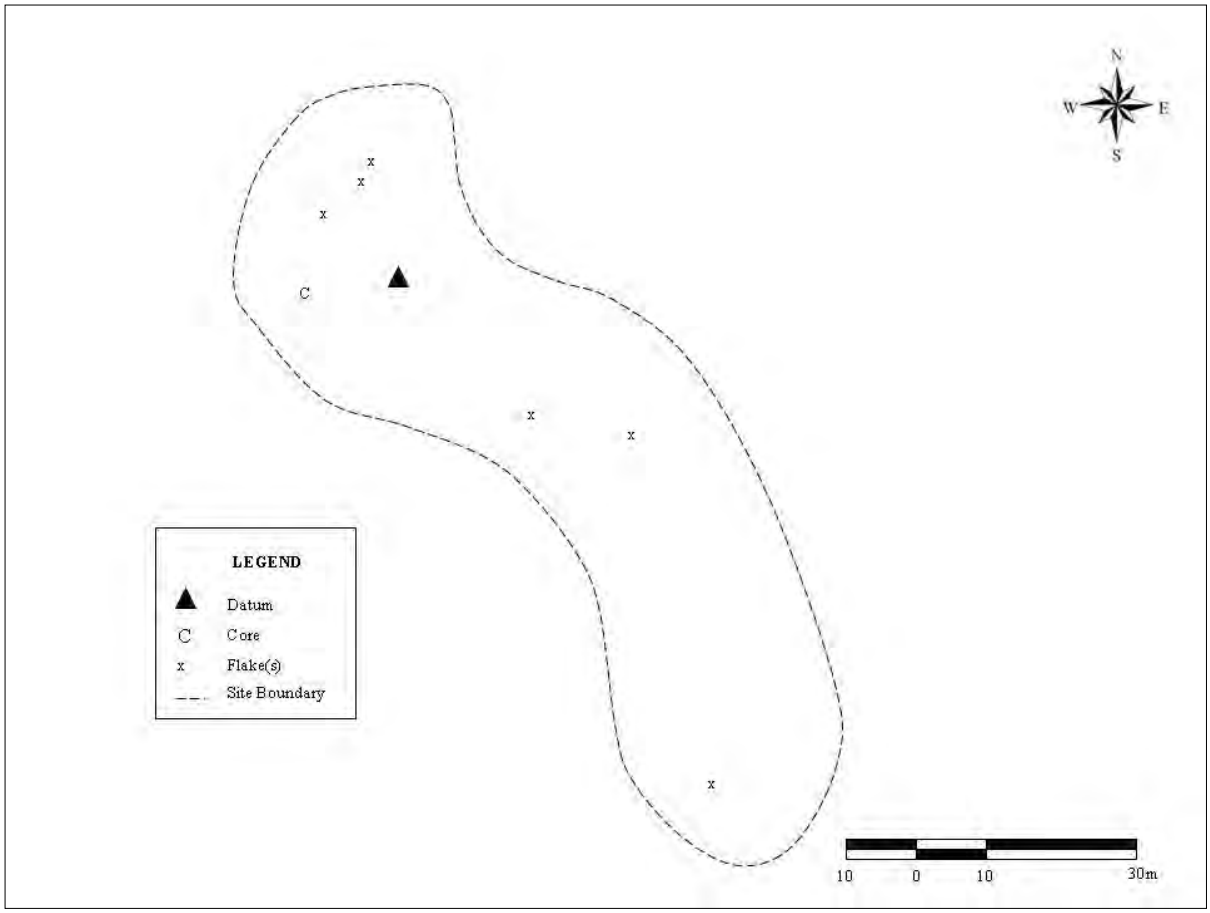


FIGURE 5-30. CA-SDI-19624 SITE MAP

FIGURE 5-31. CA-SDI-19624 GENERAL SETTING

CA-SDI-19625

CA-SDI-19625 is a small prehistoric pottery scatter with approximately 15+ Tizon brown ware pottery sherds in a 9-meter north/south by 8-meter east/west area found along a ridge line (see Figure 5-1; Figure 5-32). There are no associated features or other evidence of prehistoric use. This site represents a concentrated scatter of pottery from what appears to be the same vessel, fragments of a Tizon brown ware jar or *olla.* Individual potsherds are less than 2 cm in diameter. This site probably represents a single pot drop episode.

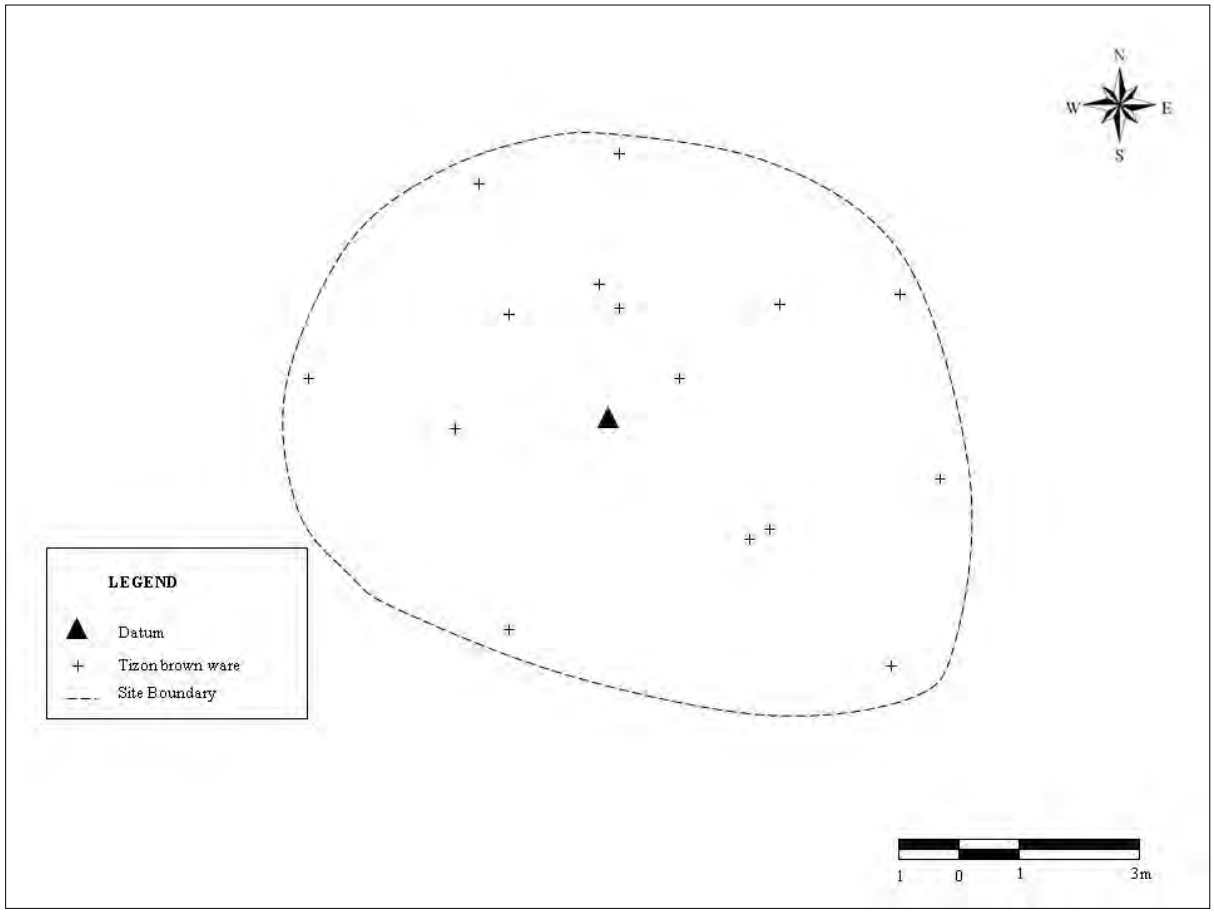


FIGURE 5-32. CA-SDI-19625 SITE MAP

CA-SDI-19626

CA-SDI-19626 is a low-density flake and Tizon brown ware scatter with no apparent subsurface depth or associated features (see Figure 5-1). The site contains ±2 fine grain metavolcanic flakes and ±20 pieces of Tizon brown ware in an area 13 meters north/south by 6 meters east/west (Figures 5-33 through 5-35). The individual potsherds are less than 2 cm in diameter. Based on the limited artifact assemblage and the apparent lack of subsurface features, this site likely represents a one-time or limited use.

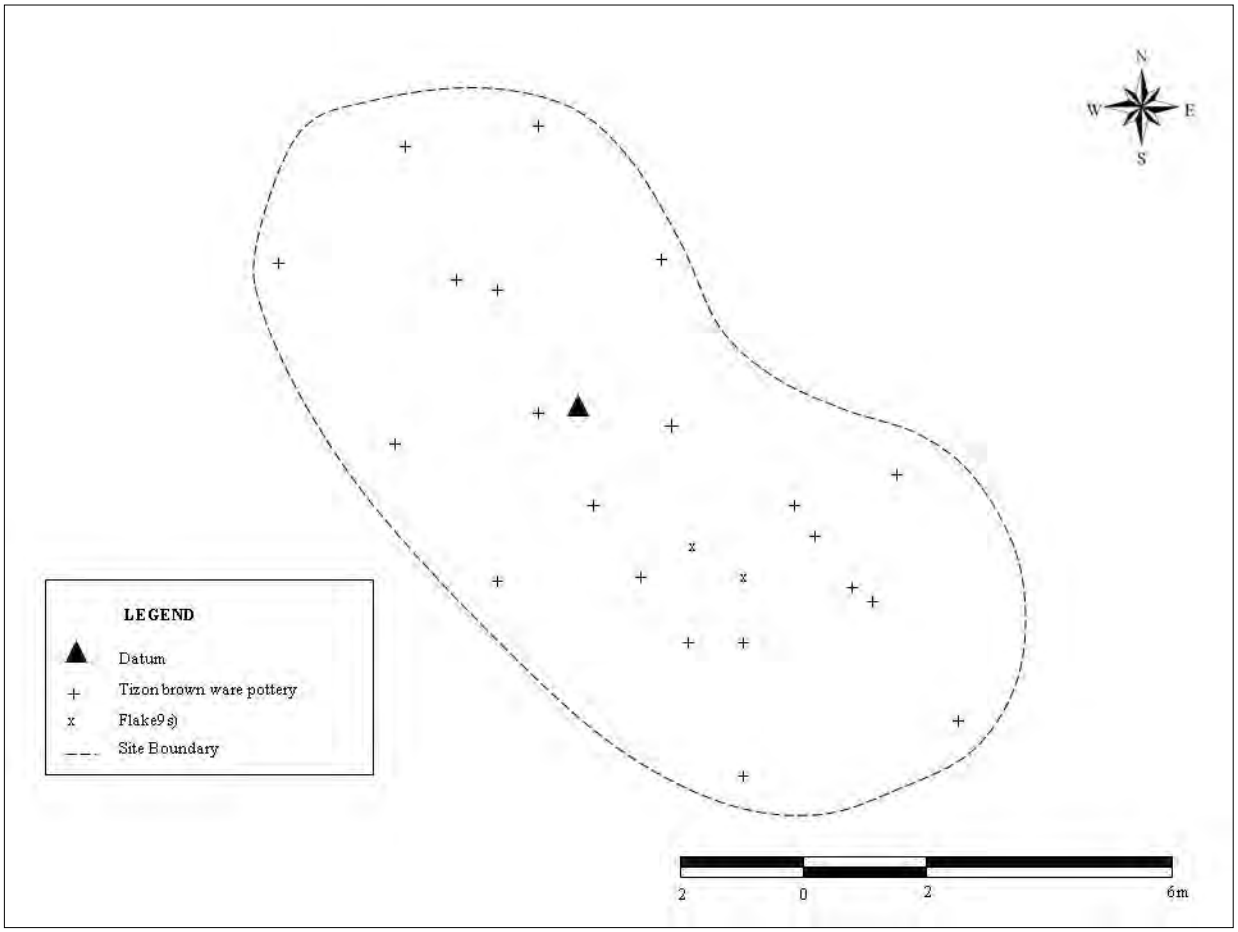


FIGURE 5-33. CA-SDI-19626 SITE MAP

FIGURE 5-34. CA-SDI-19626 GENERAL SETTING

FIGURE 5-35. CA-SDI-19626 TIZON BROWN WARE SCATTER

CA-SDI-19627

CA-SDI-19627 is a large, multi-component site that includes a widespread, lightly dense to heavily dense lithic artifact scatter and multiple dense pockets of historic refuse (mostly food cans with moderate quantities of historic glass bottle fragments and ceramics) (see Figure 5-1). Of particular note are two prehistoric habitation areas, one within the southwest portion of the site and the other within the southeast portion of the site that might have subsurface deposit (Figure 5-36). The prehistoric artifact scatter extends 400 meters north/south by 330 meters east/west and varies from 1 artifact/meter to over 1 artifact/10 meters. The prehistoric assemblage represents a campsite or occupation area that appears to have been used over an extended period of time. Although the updated site form for CA-SDI-6119 places it immediately to the west of CA-SDI-19627, the artifacts associated with CA-SDI-19627 are considered a separate resource.

The historic component includes remnants of a cement foundation measuring 75 inches by 125 inches and approximately 4 inches thick. A light scatter of historic artifacts (glass, metal, cans) was found around the existing foundation (Figure 5-37). The historic assemblage includes ±150 cans (solder end, sanitary, vent-hole, food/fruit cans, coffee, baking powder, miscellaneous cans), ±25 pieces of historic glass (clear, light blue, and solarized glass), ±10 pieces of ceramics (tableware), and miscellaneous construction material. There is no plotting of a homestead or structure on the earlier USGS maps.

The prehistoric assemblage contains ±200 flakes (fine-grained metavolcanics, andesites, quartz), ±5 cores, ±3 hammerstones, several retouch/modified flakes, and ±100 pieces of Tizon brown ware pottery (Figure 5-38). The hammerstones are metavolcanic in material and measure 5.4 by 4.9 by 3.2 cm, 6.3 by 4.8 by 2.9 cm and 6.1 by 5.4 by 3.5 cm with limited battering along the entire tool circumference. The cores are fine-grained metavolcanics and andesite and vary in size and shape, ranging from 3.3 by 2.9 cm to slightly over 4.8 by 2.9 cm. None of the cores have extensive wear patterns or evidence of multiple flake scars.

The presence of Tizon brown ware within the prehistoric assemblage suggests a Late Archaic/Kumeyaay affiliation. The historic component is post 1920s.

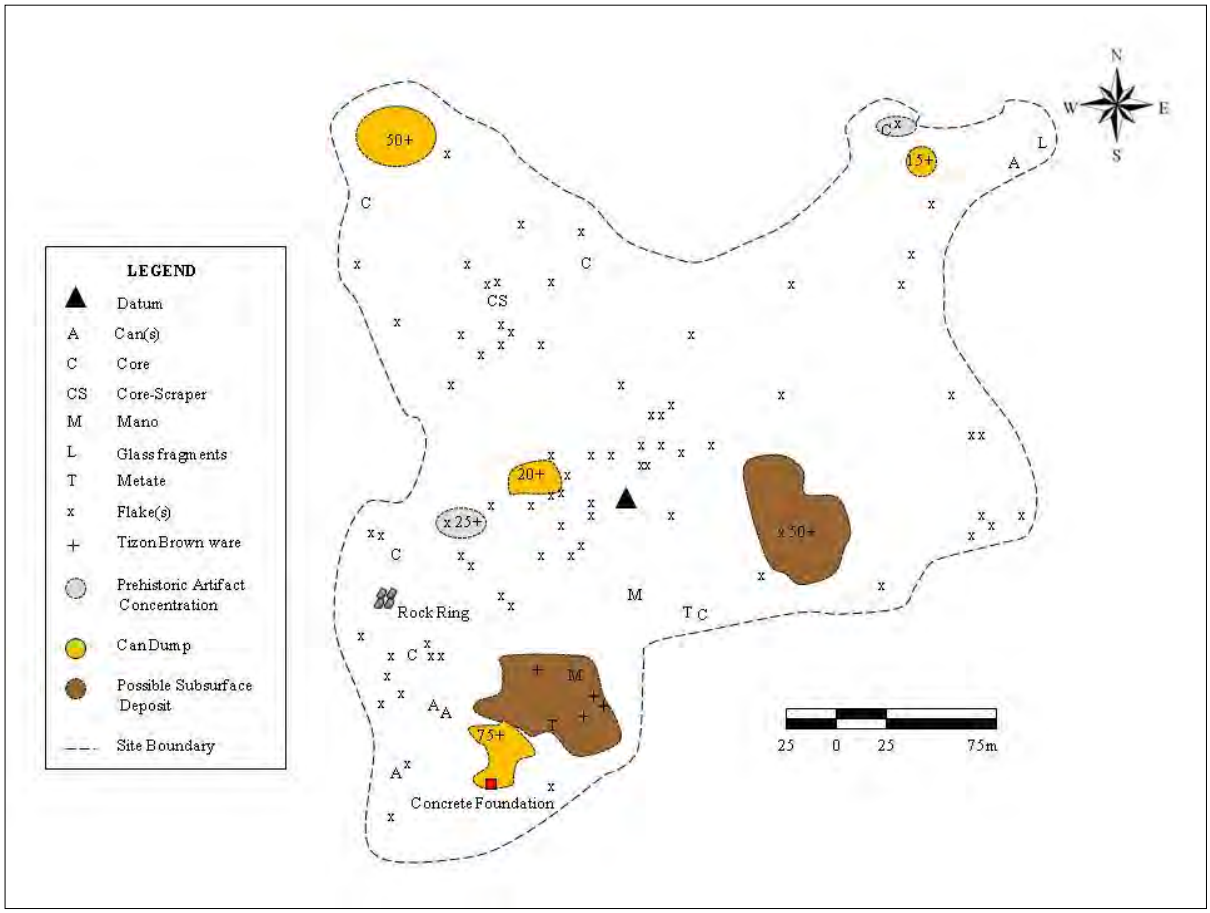


FIGURE 5-36. CA-SDI-19627 SITE MAP

FIGURE 5-37. CA-SDI-19627 HISTORIC GLASS

FIGURE 5-38. CA-SDI-19627 TIZON BROWN WARE SCATTER

CA-SDI-19732

CA-SDI-19732 is a single bedrock milling feature with no associated artifacts (see Figure 5-1). The identified milling feature is a single shallow, oval shaped slick measuring 16 by 30 cm. The site is on a knoll with a number of large boulders and rock outcrops (see Figure 5-38; Figure 5-39). Although the surrounding boulders are unsuitable for milling because of size, orientation, and poor quality of the granite, they were examined for evidence of milling. CA-SDI-19732 overlooks Jade Mountain in the distance to the northwest and an unnamed valley to the west. There are no associated artifacts or apparent buried deposits with this outcrop. Based on the absence of associated artifacts and the intensity of use, this site represents a one-time or limited use.

FIGURE 5-39. CA-SDI-19732 MILLING SLICK

CA-SDI-19733

CA-SDI-19733 is a prehistoric site with bedrock milling and an associated artifact scatter (see Figure 5-1). The site is located on a knoll with many large boulders and rock outcrops. The majority of the surrounding boulders and rock outcrops are unsuitable for milling. The site overlooks Jade Mountain in the distance to the northwest and a valley to the west. A narrow dirt road lies just south of the site's southern boundary.

A total of six grinding slicks on three outcrops were identified in a 50-by-35-meter area (Table 5-4).

TABLE 5-4. CA-SDI-19733 MILLING FEATURES

Feature	Outcrop Dimensions (m)	Definition	Milling Surface	Dimensions (cm)
A	4.8 x 5.2 x 1.2	Slick	1	35 x 25
		Slick	2	28 x 18
		Slick	3	40 x 25
		Slick	4	40 x 27
B	3.6 x 2.8 x 1.0	Slick	1	40 x 26
C	2.4 x 1.0 x 0.5	Slick	1	20 x 16

The three bedrock milling features are likely a part of one large exposed bedrock/boulder that has cracked and separated through time (Figure 5-40). All of the slicks are shallow (less than 0.5 cm deep) and exhibit limited wear. The features consist of large granitic boulders with generally rough exposed exterior surfaces. Based on the general orientation and depth, each individual milling surface represents limited use.

The site assemblage also includes a sparse scatter of ±100 artifacts including approximately 30 pieces of Tizon brown ware, 50 pieces of chipping waste, 2 manos, a quartz biface fragment and a metavolcanic scraping tool. The chipping waste/flakes represent secondary and primary shatter with no retouch or cortex and consists of fine- to coarse-grain metavolcanics, basalt, andesite, and 3 pieces of quartz. All of the chipping waste represents locally acquired materials. The two manos are granitic in material and have been unifacially worked. Across the site surface to the east, southeast, and south of the bedrock milling features are lithic and ceramic scatters. Raw materials used at the site include quartz, quartzites, and various grades of metavolcanic cobbles. None of the material is considered exotic or possible trade items and can be locally obtained. The quartz biface fragment consists of a midsection and is not temporally diagnostic. The presence of Tizon brown ware pottery places the site with the Late Archaic/Kumeyaay time period.

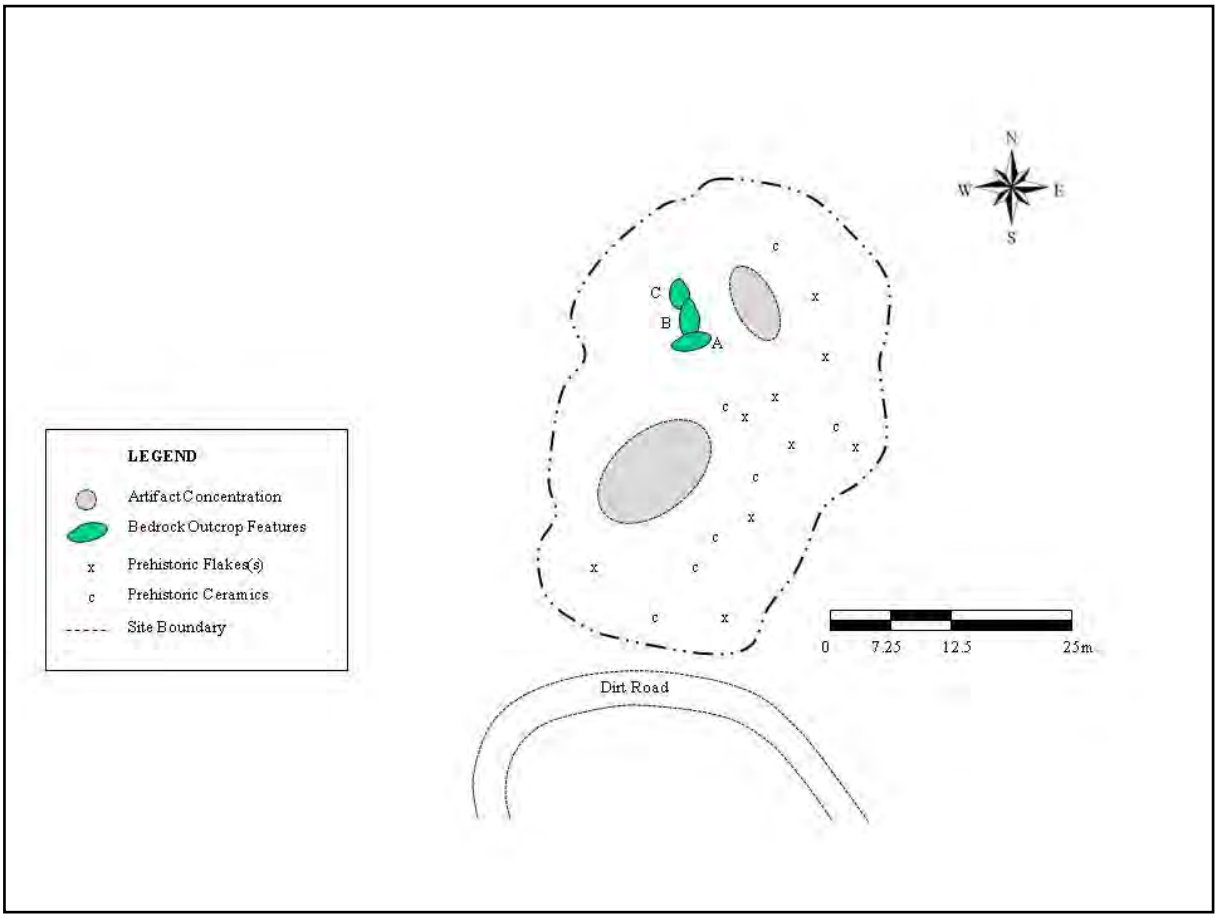


FIGURE 5-40. CA-SDI-19733 SKETCH MAP

CA-SDI-19734

CA-SDI-19734 is a sparse lithic scatter containing 4 pieces of quartz debitage and ±3 pieces of unidentified metavolcanic shatter in an area 5 by 5 meters in size. The site is on a knoll with associated large boulders and rock outcrops (see Figure 5-1; Figure 5-41). The adjacent boulders were examined for milling features, none were found. The site represents an opportunistic flake scatter with no associated occupation or long-term use. Based on the types of soil within the site, there is no potential for substantial subsurface deposits. The site meets the definition of a sparse lithic scatter.

FIGURE 5-41. CA-SDI-19734 QUARTZ SCATTER

CA-SDI-19735

CA-SDI-19735 is a sparse artifact scatter containing 5 artifacts in a 76-square-meter area (30 by 8 meters). The site is situated near a cluster of boulder outcrops along a southwest-trending ridge overlooking a seasonal drainage (Figure 5-1; Figures 5-42 and 43). Artifacts identified within the site include 3 pieces of Tizon brown ware pottery, a quartz hammerstone, and a single quartz flake. The hammerstone is irregular in shape and measures 4.5 x 3.9 x 2.8 cm. The 3 pieces of Tizon brown ware are less than 2 cm in size. The prehistoric ceramics are associated with the Late Archaic/Kumeyaay generalized use of the entire study. Based on the setting and soil deposition, associated subsurface deposits or features are not likely. There is no evidence of long-term occupation or use at this location.

FIGURE 5-42. CA-SDI-19735 SITE SETTING

FIGURE 5-43. CA-SDI-19735 ARTIFACT DISTRIBUTION SHOWN BY PIN FLAGS

CA-SDI-19736

CA-SDI-19736 is a possible prehistoric petroglyph. The feature is at the easternmost extent of a cluster of large boulders and rock outcrops (see Figure 5-1). The boulder contains a large natural fissure that runs along the length of the outcrop (Figure 5-44). The lower portion of the fissure appears to have been intentionally shaped with pecking and some grinding. This feature is visible from various portions of the desert valley. There are no associated artifacts, other features, or potential for cultural soils associated with this possible example of rock art.

This feature is similar to those found in the Anza-Borrego Desert State Park. Petroglyphs are common in the northern part of the park. The nearest known pictograph to this area is located in the upper part of Carrizo Gorge, within Anza-Borrego Desert State Park.

FIGURE 5-44. CA-SDI-19736 NATURAL FISSURE THAT APPEARS TO HAVE BEEN MODIFIED

5.2. Southwest Powerlink Loop-In

The SWPL Loop-In will be constructed in the same general location as the ECO Substation. A short loop to connect the existing 500 kV SWPL transmission line into the new substation will begin along the existing SWPL right-of-way (ROW) and extend approximately 1,200 feet to the south and 250 feet to the west to the east side of the new substation. The existing SWPL transmission line and new substation are shown in Figure 1-1. Structures associated with this loop will be on land acquired for the new substation and within SDG&E's existing SWPL ROW.

A Class III survey was completed for the Southwest Powerlink Loop-In. Four sites, CA-SDI-19624, -19496, -19497, and -19498, are within both the ECO Substation and the Powerlink Loop-In. All four sites will be avoided in the project design. Sites CA-SDI-19496, -19497, and -19498 were previously

recorded, while CA-SDI-19624 is a newly identified resource. All four sites are discussed in the section for the ECO Substation above.

No additional sites were found for the Powerlink Loop-In.

5.3. 138 kV Transmission Line

The transmission line project corridor was surveyed by two HDR|e²M archaeologists in June, July, August, and October, 2008. Access to the area was facilitated by SDG&E for rights-of-entry on numerous private parcels and a BLM Field Authorization Permit was granted by the BLM for a portion of the alignment within BLM jurisdiction (State Permit #CA-08-0 3, Fieldwork Authorization CA-670-2009-088FA01).

The new 138 kV transmission line will require an approximate 100-foot-wide permanent ROW (50 feet on either side of the centerline). Ten miles of the proposed new transmission line will be adjacent to existing SDG&E easements. This area is predominantly privately owned, undeveloped open space.

A total of 36 archaeological sites are recorded in the 138 kV transmission line survey area. These sites include portions of a highway, a railroad line, a historic homestead, fences, small historic artifact scatters, prehistoric artifact scatters, and bedrock milling features.

In addition to the 31 previously recorded sites, 5 new sites (CA-SDI-19066, CA-SDI-19067, CA-SDI-19068, CA-SDI-19069, and CA-SDI-19070) and 3 isolates (P-37-029818, P-37-030190, and P-37-030191) were recorded during the Class III field survey for the proposed 138 kV transmission line.

A transmission line field visit was conducted by SDG&E, Nolte and Associates, and HDR|e²M in December 2009 in order to redesign pole locations, access roads, and work pads to avoid impacts from the 138 kV line. The Nolte and Associates survey crew then mapped in revised pole locations, pad locations, and/or access road locations. The revised work areas are the APE for cultural resources review. The field visit resulted in moving poles outside the recorded site boundaries and relocating poles and access roads to minimize adverse effects. Based on the results of the December 2009 SDG&E assessment survey, proposed poles, pads, and/or work areas were moved to reduce or eliminate potential impacts to sites CA-SDI-7051, -7055, -7053, -7059, -7060, -7085, -7086, -7951, and -19627. The prehistoric component of CA-SDI-7053 was identified, the historic portion was not. Based on project redesign, impacts related to construction activity will occur outside identified artifact concentrations and will be monitored during construction. All of the other sites identified during the transmission line corridor survey and discussed below will be outside the project area, as redesigned.

The cultural resource survey completed by HDR|e²M for the transmission line defined the maximum extent of each relocated site. For this portion of the study, individual artifacts were not plotted during the field trips. The individual site boundaries shown on the appropriate USGS and project maps depict the maximum extent of each identified resource along with a 10-meter buffer.

As shown in Table 5-5, sites CA-SDI-8432, -8431, and 7080 were not relocated. These three resources are shown in a yellow outline to distinguish from those that were relocated (shown in red). Although they are shown as “large” sites, the site descriptions indicate all four were originally identified as small artifact scatters or bedrock milling outcrops.

5.3.1. Previously Recorded Cultural Resources - Not Relocated

Sixteen of the 31 previously recorded sites were not relocated (Table 5-5). These sites were recorded in the 1970s and 1980s prior to the advent of GPS recording. The DPR forms for each of these sites lack a site map and provide limited information regarding site size and types/numbers of materials identified.

In all cases the area shown on the USGS was checked, along with the descriptions provided on the DPR forms. In each case, there is no evidence of prehistoric activity; flakes/debitage, pottery, stone tools, other artifact types, features, or other archaeological elements are not present. Results from the field check also suggest that none of these sites could have been buried in situ. None of these sites will be impacted by the proposed project.

TABLE 5-5. PREVIOUSLY RECORDED SITES ALONG THE 138 KV TRANSMISSION LINE - SITES NOT RELOCATED

Site Number	Site Description	Recorded
CA-SDI-7027	2 flakes	Dominici (1979a)
CA-SDI-7030	Low density prehistoric and historic artifact scatter	Donovan (1979a)
CA-SDI-7037	2 flakes	Moore (1979c)
CA-SDI-7040	6 flakes and a core	Dominici (1979b)
CA-SDI-7069	Sparse lithic scatter	Moore (1979e)
CA-SDI-7072	Sparse lithic scatter	Burkenroad (1979c)
CA-SDI-7080	Historic can and bottle scatter	Townsend (1978c)
CA-SDI-8315	2 flakes and a stone monument	Johnson (1980a)
CA-SDI-8316	Sparse flake scatter	Johnson (1980b)
CA-SDI-8430	Sparse flake scatter	Van Horn & White (1988)
CA-SDI-8431	Sparse flake scatter	Goldberg (1980a)
CA-SDI-8432	Bedrock milling surface with artifact scatter	Goldberg (1980b)
CA-SDI-9156	2 flakes	Townsend (1978e)
CA-SDI-9278	Rock line well and corral	Donovan (1979e)
CA-SDI-9279	5 Tizon brown ware sherds	Donovan (1979f)

CA-SDI-7027

This site was described as an artifact scatter with two flakes (Dominici 1979a). The DPR forms contain limited site information and no site map. The two flakes were not relocated during the survey and there was no cultural material matching the description of this site found in the area surrounding the plotted site boundary. No other artifacts or evidence of prehistoric use was found during the inspection of this area. Based on current standards, CA-SDI-7027 would be considered an isolate rather than a site.

CA-SDI-7030

CA-SDI-7030 was described as a lithic artifact scatter with various stone materials dispersed across the site on the lower slopes of Jacumba Peak. (Donovan 1979a) The site also contained a smaller historic component of historic glass and tableware. The DPR form contains limited information and no site map. The site area was revisited based on data provided as UTM coordinates on the site record form. The site was not relocated at the previously recorded coordinates during the current survey and there was no evidence of any cultural resources found within the survey area, in the vicinity of the recorded

coordinates, or as shown on the USGS map. As shown on the record search map, the boundaries do not reflect the size given on the DPR form (site description). No other artifacts or evidence of prehistoric use was found during the inspection of this area.

CA-SDI-7037

CA-SDI-7037 was recorded as an artifact scatter with two flakes. The DPR form contains limited information and no site map. The two flakes were not relocated during the survey and there was no cultural material matching the description of this site found in the area surrounding the plotted site boundary. No other artifacts or evidence of prehistoric use was found during the inspection of this area. Based on current standards, CA-SDI-7037 would have been an isolate, rather than an archaeological site.

CA-SDI-7040

CA-SDI-7040 was described as a sparse flaked lithic artifact scatter with six porphyritic felsite flakes and one core (Dominici 1979b). Limited information and no site map is included with the DPR form. The site was not relocated at the coordinates during the current survey and there was no evidence of this site found within the survey area, in the vicinity of the recorded coordinates, or the described position. Based on current standards, this site would have been classified as a sparse lithic artifact scatter (Jackson et al. 1988).

CA-SDI-7069

This site was described as a sparse flaked lithic artifact scatter with 25± pieces of coarse-grain metavolcanics debitage in an area 25 by 25 meters (Moore 1979e). Limited information and no site map was provided with the DPR form. The site location was revisited based on the UTM coordinates provided on the site form. The site was not relocated at those coordinates during the current survey and there was no evidence of this site found within the survey area, in the vicinity of the recorded coordinates, or the described position. There are no associated cultural materials or artifacts in the area.

CA-SDI-7072

This site was described as a sparse flaked lithic artifact scatter with 2 flakes and a hammerstone in an area 30 x 30 meters (Burkenroad 1979c). The DPR form contains limited site information and no site map. The site was not relocated at the coordinates during the current survey and there was no evidence of this site found within the survey area, in the vicinity of the recorded coordinates, or the described position. No artifacts or features were found for this location.

CA-SDI-7079

This site was described as a sparse flaked lithic artifact scatter in an area 40 x 70 meters (Moore [1979a]). Artifacts listed on the form indicate that the site contained: “site contains materials of medium sized flakes of green and black porphyry.” The DPR form lacks a site map or any description of the quantity and types of artifacts that were present. The site was not relocated at the coordinates during the current survey and there was no evidence of any cultural resources found within the survey area, in the vicinity of the recorded coordinates, or the described position.

CA-SDI-7080

This site was described as a historic tin can dump consisting of 50 rusted tin cans with a few broken historic bottles scattered over an area measuring four meters by three meters (Townsend 1978c). The DPR forms lack additional information regarding the site and does not contain a site map. The site was revisited based on the UTM coordinates provided on the site form. The site was not relocated at the coordinates during the current survey and there was no evidence of this site found within the survey area,

in the vicinity of the recorded coordinates, or the described position. There is no evidence of a historic or prehistoric use for this location.

CA-SDI-8315

This site is described as a sparse flaked lithic artifact scatter with two flakes and a fallen stone monument in a 5-by-5-meter area. Additional information regarding the monument was not provided on the DPR form. A site map was not provided with the site form. The site was not relocated at the coordinates during the current survey and there was no evidence of this site found within the survey area, in the vicinity of the recorded coordinates, or the described position. A monument or other cement feature was not found during the site recheck. Evidence of prehistoric or historic activity is not present at this location.

CA-SDI-8316

This site was described as a sparse flaked lithic artifact scatter with a stone scraper, hammerstone and five flakes in an area 30 by 30 meters (Johnson 1980b). A site map or additional information regarding the site extent or integrity was not provided on the DPR form. The site was not relocated at the coordinates during the current survey and there was no evidence of this site found within the survey area, in the vicinity of the recorded coordinates, or the described position.

CA-SDI-8430

CA-SDI-8430 consists of four loci (A, B, C, and D) covering an area measuring 350 meters by 150 meters (Van Horn and White 1988). The original site form states that the site was severely impacted with little integrity. The recheck for this site was limited to the northern end of the recorded location, closest to the APE. Because of private property issues and access, the remaining portion of the site was not examined. No evidence of the site was found in the area examined.

CA-SDI-8431

This site was described a sparse flaked lithic artifact scatter in an area measuring 30 meters by 10 meters (Goldberg 1980a). The form has limited information regarding the site extent, types of artifacts and materials present and does not contain a site map. The site was not relocated at the coordinates during the current survey and there was no evidence of this site found within the survey area, in the vicinity of the recorded coordinates, or the described position. As shown on the USGS, the SCIC map and the DPR site form maps do not match.

CA-SDI-8432

CA-SDI-8432 was described as an irregularly shaped bedrock milling feature with an associated sparse flaked lithic and ceramic artifact scatter (Goldberg 1980b). Limited information is present in the DPR form; a site map was not made for this site. The site was not relocated at the coordinates during the current survey and there was no evidence of this site found within the survey area, in the vicinity of the recorded coordinates, or described position. As shown on the USGS, the plotted size of the site and descriptions provided on the DPR form do not match.

CA-SDI-9156

SDI-9156 was described as a sparse flaked lithic artifact scatter with two porphyritic felsite flakes Townsend 1978e). The existing DPR form lacks a site map. Based on current accepted definitions, two artifacts would be recorded as an isolate rather than a site. The site was not relocated at the provided coordinates and there was no evidence of this site found within the survey area, in the vicinity of the recorded coordinates, or the described position.

CA-SDI-9278/H

This site was described as a rock-lined well and animal corral consisting of two rock walls with mud mortar, running east-west between large granite boulders (Donovan 1979e). The site also had an associated surface scatter of glass and wooden artifacts. During the current survey the site location was revisited based on the UTM coordinates provided on the site record form. This site was not relocated as plotted and there was no cultural material found in the area surrounding the plotted location.

CA-SDI-9279

This site was described as a sparse scatter of prehistoric ceramic fragments consisting of five Tizon brown ware sherds (Donovan 1979f). During the current survey, the plotted site location was revisited based on the UTM coordinates provided on the site record form. The site was not relocated. There are no ceramic sherds or other cultural materials at this location.

5.3.2. Previously Recorded Cultural Resources - Relocated

Fifteen of the previously recorded sites along the proposed new 138 kV line were relocated. These range in size from small, low density artifact scatters to an existing railroad line and portion of a highway to a historic homestead (Table 5-6).

TABLE 5-6. PREVIOUSLY RECORDED SITES ALONG THE 138 KV LINE - RELOCATED SITES

Site Number	Site Description	Potential NR Eligibility Recommendations*
P-37-024023	This site is a two-lane undivided highway.	Unknown
CA-SDI-176	CA-SDI-176 is a moderate flake scatter with associated milling features	Unknown
CA-SDI-7011/H	CA-SDI-7011/H is a twentieth century homestead with a residence and associated outbuildings	Not Recommended
CA-SDI-7015/H	CA-SDI-7015/H contains a portion of the San Diego & Arizona Eastern railroad line built between 1907 and 1919	Low Potential
CA-SDI-7046	CA-SDI-7046 is a light scatter of 17 flakes	Not Recommended
CA-SDI-7051	CA-SDI-7051 contains bedrock milling and a flake/ceramic artifact scatter	Unknown
CA-SDI-7053	CA-SDI-7053 meets the definition of a sparse lithic scatter	Not Recommended
CA-SDI-7055	CA-SDI-7055 meets the definition of a sparse lithic scatter	Not Recommended
CA-SDI-7056	CA-SDI-7056 meets the definition of a sparse lithic scatter	Not Recommended
CA-SDI-7059	CA-SDI-7059 contains milling and a low density artifact scatter	Unknown
CA-SDI-7060	CA-SDI-7060 contains a low density artifact scatter	Unknown
CA-SDI-7063	CA-SDI-7063 contains a low density artifact scatter	Unknown
CA-SDI-7085	CA-SDI-7085 contains bedrock milling and a low density scatter of flakes	Unknown
CA-SDI-7086	CA-SDI-7086 contains a low density artifact scatter	Unknown
CA-SDI-7951	CA-SDI-7951 meets the definition of a sparse lithic scatter	Not Recommended

*****National Register eligibility recommendations are based on survey results, types of soils present and site characteristics. Subsurface testing may be required to confirm conclusions.

Old Highway 80 (P-37-024023)

This resource is an historic two-lane undivided highway with a 20-foot-wide roadway in the rural and mountainous eastern part of San Diego County (Figure 5-45). The route was laid out between 1911 and 1918 but the highway was rehabilitated and upgraded between 1918 and 1933. The highway has changed significantly since the 1960s, with only a few segments of the original road still in use. One of these segments ends about 5.5 miles east of Jacumba where it merges into I-8 about two miles south of Mountain Springs in the mountains on the San Diego-Imperial County boundary line. The proposed 138 kV transmission line will span the highway in two areas.

FIGURE 5-45. OLD HIGHWAY 80 WITH EXISTING SWPL TRANSMISSION LINE

CA-SDI-176

The original site record was completed from field notes taken by Treganza in the 1930s and 1940s. The site form does not provide detail, quantification of features and artifacts, a sketch map, defined boundaries, or a location map. The original site record describes the site as a "camp site with a large area of prehistoric pottery with bedrock mortars, metates and human cremations." The site location was revisited on September 19, 2006 by ASM Affiliates Inc. (ASM) during a survey of various roads and trails for the BLM. The updated site record describes the site in poor condition as a result of past collecting and damage from vehicles. Although the site is in poor condition it is described as a moderate flaked lithic artifact scatter with milling features.

During the Class III field survey the location of the flaked lithic artifact scatter and milling features were confirmed. Based on the site boundaries, the northern boundary of this site is on the southern most ROW boundary for the proposed undertaking and the milling feature may be outside of the ROW. There was no

evidence of prehistoric human cremations noted during the ASM survey in 2006 and the current survey found no evidence of these features.

CA-SDI-7011/H

CA-SDI-7011/H is an early twentieth century homestead with three cisterns, a smokehouse, two troughs, and house foundations (Burkenroad 1978). During the survey, this homestead was relocated based on the Universal Transverse Mercator (UTM) coordinates. The homestead is currently being occupied with at least two houses and one animal enclosure with barbed-wire fence surrounding the property. This area is posted as private property and, as a result, was not closely inspected as the survey team did not have access permission for this property.

CA-SDI-7015/H San Diego & Arizona Railroad

CA-SDI-7015/H contains a portion of the San Diego & Arizona Eastern railroad line. The line was built between 1907 and 1919. The railroad line traverses a flat portion of Jacumba Valley within the study area, 0.5 mile northeast of Jacumba (Figure 5-46). The portion of the line passing through Mexico was originally constructed as part of the Main Line, and is now owned and operated by the Carrizo Gorge Railway. The proposed 138 kV transmission line will span the railroad tracks in one area. The spanning of the transmission line above the existing line should not impact the integrity of the site. The visual landscape will be reviewed to determine potential impacts to this portion of the railroad line. Heavy equipment and machinery will not be used on or adjacent to the railroad bed.

FIGURE 5-46. SAN DIEGO ARIZONA RAILROAD SEGMENT

CA-SDI-7046

CA-SDI-7046 was described as a prehistoric quarry with associated quartz and felsite flakes and cores. The site was revisited based on the data provided on the site form and was relocated during the survey. The current condition of the site is a sparse flaked lithic artifact scatter with approximately 15 porphyritic felsite and 2 quartz flakes over an area approximately 20 meters by 20 meters. There is no evidence of a buried deposit or potential for associated features. No other artifact types were found at the site. There is no evidence of an intensive flake activity such as a "quarry." This site would meet the criteria for a sparse lithic scatter.

CA-SDI-7051

This site was originally recorded in 1979 (Donovan 1979b) and described as a temporary camp with a rock shelter, bedrock milling stations, prehistoric pottery, and a lithic artifact scatter. CA-SDI-7051 was revisited by ASM in 2006 while surveying various roads and trails for the BLM. The ASM survey only examined areas within 50 feet of an unpaved road that passes through the northern edge of the site.

During the current survey the site was relocated based on the UTM coordinates and site descriptions. The bedrock milling stations as described by ASM were relocated. A sparse lithic scatter with 15± fine-grained metavolcanic flakes and 2 pieces of Tizon brown ware were found in an area approximately 20 by 20 meters. The rock shelter showed evidence of recent use for a campfire. In addition, the area has a distribution of modern garbage, shotgun shells, and disturbance from off-road vehicles across the site area.

CA-SDI-7053/H

CA-SDI-7053/H was originally recorded in 1979 (Donovan 1979) and described as an artifact scatter consisting of 100 porphyritic flakes. The site was revisited in 1980 and again in 1981, increasing the size and density of the artifact scatter. A third revisit was completed by ASM while surveying roads and trails for the BLM (Hector et al. 2006). During the survey, one disturbed historic can dump and a segment of an old road were recorded within the existing site boundaries. These features had not been previously recorded.

The site was relocated based on the UTM coordinates provided on the most recently updated site form and found to be a sparse flaked lithic artifact scatter in an area measuring about 30 meters by 30 meters. Identified artifacts included 15± coarse-grain metavolcanic flakes and 2 pieces of quartz debitage. The historic can dump was not relocated within the transmission line study area.

CA-SDI-7055

CA-SDI-7055 was recorded by J. Townsend (1978b) and described as a lithic artifact scatter and quarry site on a small knoll. The site was relocated from the UTM coordinates. There was no evidence of a quarry found; however, 10± porphyritic felsite flakes were found scattered over the small knoll within an area measuring about 20 meters by 20 meters. Cores, tested cobbles, or other evidence of a prehistoric quarry were not found at this location. With the exception of the 10± flakes, there is no evidence of prehistoric activity. This site would meet the criteria for a sparse lithic scatter.

CA-SDI-7056

This site was described as a moderate flaked lithic artifact scatter on a terrace (Crotteau (1979). The site boundaries on the site form and on the SCIC map do not match. The scatter was contained within an area measuring four meters by eight meters. During the current survey, the site was relocated based on the UTM coordinates. A recheck of this area located a sparse flaked lithic artifact scatter of 8 porphyritic felsite flakes over an area of approximately five meters by five meters. The current configuration of the

site would meet the criteria of a sparse lithic scatter. Cores, hammerstones, or other stone tools are not present at this location.

CA-SDI-7059

This site was originally recorded by Crotteau (1979) and described as a temporary camp with a rock shelter, bedrock milling, prehistoric pottery, and a lithic artifact scatter. The site record form was updated in 1981 when the boundaries of the site were extended. In 2006, ASM revisited the site while surveying for the BLM, expanding the boundaries. The current Class III study identified a sparse flaked lithic and prehistoric ceramic scatter, a rock shelter, and bedrock milling features. The artifact assemblage includes approximately 10 pieces of coarse-grain metavolcanic shatter, 2 pieces of quartz, a basalt flake, and 3 pieces of Tizon brown ware. There is no evidence of a buried deposit or extended use within the artifact scatter. Both the milling features and the rock shelter are well outside the project area and overlook a creek. The rock shelter may not have been used during prehistoric times, since there are no associated artifacts inside the overhang. There is evidence of site disturbance in the form of modern garbage, shotgun shells, and off-road vehicle tracks, which were encountered throughout the site.

CA-SDI-7060

This site was originally recorded in 1979 (Donovan 1979c) and described as a temporary camp with a widely dispersed scatter of flakes, prehistoric pottery, and ground stone tools in an area measuring 320 meters by 120 meters. In 2006, ASM revisited the site and updated the site record form by expanding the site boundary. ASM did not relocate the ground stone tools during the site visit. The Class III survey of this site identified a sparse flaked lithic and prehistoric ceramic scatter containing 15± pieces of coarse-grain debitage and 3 pieces of Tizon brown ware. There is no evidence of a buried deposit at this location. The ground stone previously identified in 1979 was also not relocated. The site has been disturbed by recent activity as evidenced by modern garbage and off-road vehicle tracks, which were encountered throughout portions of the site.

CA-SDI-7063

CA-SDI-7063 was described as a temporary camp with a rock shelter, moderate flaked lithic artifact scatter, and sparse ground stone scatter (Moore 1979d). The site area was revisited based on the UTM coordinates provided on the site record form. The current condition of the site includes a rock overhang, a single bedrock mortar and a sparse flaked lithic and prehistoric ceramic scatter. There is no evidence that the rock overhang was used as a rock shelter. Artifacts found in a 10-meter-by-10-meter area include 14± basalt flakes, a felsites flake, and 4 pieces of Tizon brown ware pottery. The site has been disturbed by recent activity as evidenced by modern garbage and recent campfires in the rock shelter.

CA-SDI-7085

CA-SDI-7085 was described as a base camp with bedrock milling, a moderate flaked lithic artifact scatter, and a sparse prehistoric ceramic scatter (Crotteau 1979). The milling complex contains ±50 slicks on various granite boulders. The site was described as being on a west slope of a rocky ledge. Minimal information is provided on the DPR form in terms of artifact concentrations and measurements of the various milling features.

This site was relocated at the UTM-provided coordinates provided on the DPR form. The milling complex is outside the project area and will not be impacted by the transmission line. Although a thorough review of the milling was not made, it does not appear to be as extensive as reported. In addition to the milling features, a sparse scatter of flake/debitage was found in a 10-by-10-meter area. This scatter contained 8 pieces of metavolcanic rock and 2 pieces of basalt. No evidence of prehistoric

pottery or other artifact types were found within the proposed work area or along the proposed access road.

CA-SDI-7086

This site was described as a sparse flaked lithic and prehistoric ceramic scatter (Townsend 1978d). During the survey for the Proposed Project, the site was revisited based on the UTM coordinates provided on the site form. The existing DPR form described three pieces of Tizon brown ware and numerous lithic artifacts. Although a report was not listed with the record search, five 2-m^2 grids and/or units were sampled during the 1978 study.

As relocated, a sparse flaked lithic and prehistoric ceramic scatter was found at this location. The stone assemblage included 15 pieces of coarse-grain metavolcanics and 2 pieces of Tizon brown ware in an area 10 by 15 meters. There was no evidence of a buried deposit.

CA-SDI-7951

CA-SDI-7951 was recorded in 1979 and updated in 1981 when the boundary was expanded (Donovan 1979 and 1981). The site is on the north slope of Jacumba Peak and described as a quarry site with a moderate surface distribution of flaked stone artifacts. During the current survey, the site was revisited at the UTM coordinates provided on the site record. As relocated, materials present at this location represent a sparse artifact scatter, rather than a more extensive prehistoric quarry. Although plotted as a large area on the USGS, the dimension given on the DPR form does not equate with the density found on the ground. Materials found during the site visit included approximately 20 pieces of metavolcanic shatter, 5 basalt flakes, and 2 pieces of quartz in an area 20 by 50 meters. The initial assessment of a quarry with multiple flakes described in 1979 may represent more natural stone rather than resulting from cultural activity.

5.3.3. Newly Recorded Cultural Resources

This section summarizes the newly recorded cultural resources found as a result of the Class III survey along the proposed 138 kV transmission line. The 138 kV transmission line covers an approximate 376-acre area along a linear corridor.

TABLE 5-7. NEWLY IDENTIFIED SITES ALONG THE 138 KV LINE- RELOCATED SITES

Site Number	Site Description	Potential NR Eligibility*
CA-SDI-19066	CA-SDI-19066 is a moderate density flake scatter	Low Potential
CA-SDI-19067	CA-SDI-19067 is a low density flake scatter	Low Potential
CA-SDI-19068	CA-SDI-19068 is a low density flake scatter	Low Potential
CA-SDI-19069	CA-SDI-19069 meets the definition of a sparse lithic scatter	Not Eligible
CA-SDI-19070	CA-SDI-19070 meets the definition of a sparse lithic scatter	Not Eligible

*National Register eligibility recommendations are based on survey results, types of soils present and site characteristics. Subsurface testing may be required to confirm conclusions.

CA-SDI-19066

CA-SDI-19066 is a moderate density scatter of flaked stone artifacts consisting of approximately 60 fine-grained and coarse-grained metavolcanic flakes, three fine-grained metavolcanic cores, two coarse-grained metavolcanic cores, and one fine-grained metavolcanic hammerstone scattered over an area measuring approximately 15 meters by 8 meters.

CA-SDI-19067

CA-SDI-19067 is a moderate density scatter of flaked stone artifacts consisting of approximately 50 fine-grained and coarse-grained metavolcanic flakes and two coarse-grained metavolcanic cores in an area measuring approximately 15 meters by 15 meters. The site is situated on a small knoll with a small seasonal drainage about five meters east of the eastern site boundary (Figure 5-47).

FIGURE 5-47. OVERVIEW OF CA-SDI-19067 VIEW TO THE SOUTH

CA-SDI-19068

CA-SDI-19068 is a moderate density surface scatter of debitage consisting of approximately 50 fine-grained and coarse-grained metavolcanic flakes over an area measuring approximately 20 meters by 15 meters. The site is situated on a south-facing slope and is approximately 30 meters south of the existing SWPL transmission line.

CA-SDI-19069

CA-SDI-19069 is a sparse surface scatter of debitage consisting of 10 fine-grained metavolcanic flakes scattered over an area measuring approximately 10 meters by 10 meters. The site is approximately 20 meters south of the existing SWPL transmission line.

CA-SDI-19070

CA-SDI-19070 is as a sparse surface scatter of debitage consisting of three fine-grained metavolcanic flakes in an area measuring three meters by two meters. The site is located approximately 10 meters south of the existing SWPL transmission line.

5.4. Boulevard Substation Rebuild

5.4.1. Fieldwork Results

The Class III survey for the Boulevard Substation is less than 3 acres and was completed by two archaeologists in August of 2008. The survey area was carefully inspected for surface evidence of archaeological materials such as ceramics, debitage, ground stone, formal flaked-stone implements, agave roasting pits, and historic-era materials. There were no previously unknown cultural resource sites or features found during the survey and none are believed to be present in the Proposed Project area (Figures 5-48 and 5-49).

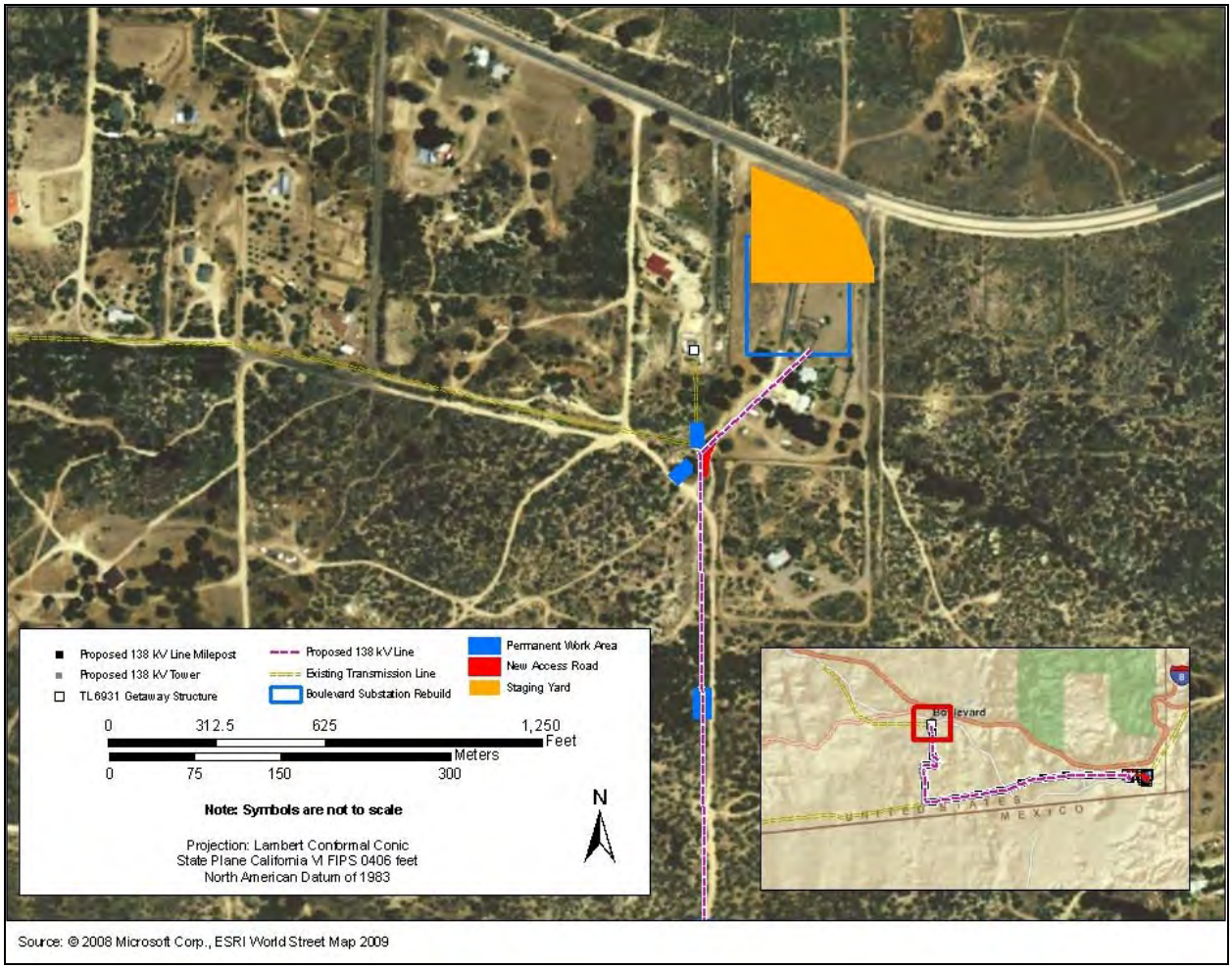


FIGURE 5-48. FOOTPRINT OF THE BOULEVARD SUBSTATION

FIGURE 5-49. EXISTING BOULEVARD SUBSTATION VIEW EAST

5.5. White Star Communication Facility Rebuild

SDG&E owns and operates a communications facility at White Star in an easement that is adjacent to an existing communication facility owned by the County of San Diego. At this site, SDG&E will replace two wooden poles with one 75-foot-tall steel tubular pole. SDG&E will remove an existing equipment control shelter and install a small, pre-fabricated control building, 12 feet by 16 feet in size, adjacent to the new steel pole, which will house the microwave radio system and other telecommunication equipment. The new facility will be approximately 30 feet by 30 feet and enclosed within a six-foot-high chain-link fence. The Class III survey for the rebuild included all construction and impact areas (less than 0.5 acre) and was completed by two archaeologists in August of 2008. The survey area was carefully inspected for surface evidence of archaeological materials such as ceramics, debitage, ground stone, formal flaked stone implements, agave roasting pits, and historic-era materials. There were no previously unknown cultural resource sites or features found during the survey and none are believed to be present in the Proposed Project area.

6. CONCLUSIONS

The purpose of the Class III cultural resources inventory was to first define and survey the four components associated with the proposed project and then to work with the client on designing and relocating work areas to avoid as many resources as possible. The entire parcel acquired by SDG&E was surveyed, as well as a 100-foot- wide corridor along the proposed transmission line. As a result, a large number of archaeological sites were found during the survey. Most of these sites are outside the possible impact areas for the proposed substation and transmission line project. A total of 42 cultural resource sites are identified for the entire project (4 sites are recorded for both the Eco Substation and the Powerlink). Because of project redesign and proposed monitoring during project implementation, impacts to known cultural resources were reduced. Subsurface testing during the resource evaluation phase can allow for formal determinations of NRHP eligibility for sites that will be impacted by the project as currently proposed. HDR|e²M's preliminary determinations of NRHP eligibility based upon the surface inventory, as well as their preliminary determinations of effects to cultural resources, are discussed below.

- **ECO Substation**: There are 12 archaeological sites that may require some form of mitigation. Sites CA-SDI-7074, -7082, -19618, -19619, -19621, -19622, and -19626 are within the redesigned ECO Substation footprint. Sites CA-SDI-7079 and -19627 are near an associated transmission pole. A portion of CA-SDI-19620 is crossed by an access road. Isolated artifacts associated with CA-SDI-6115 were found within the APE. The remaining sites are outside the project area. As discussed in Chapter 5 these sites are prehistoric artifact scatters and/or historic debris scatters. None of the identified sites exhibit evidence of substantial subsurface deposits and are situated in areas where soil deflation is present. The sites have been disturbed by off road vehicle activity, modern dumping, and dirt road construction. At the survey level none of these resources apparent to be eligible for inclusion in the NRHP.

- **Southwest Powerlink Loop-in**: There are four archaeological sites within the SWPL Loop-In APE: CA-SDI-19624, -19496 (isolate), -19497, and -19498. All of these sites will be avoided in the current design.

- **138 kV Transmission Line**: 15 of the 36 previously recorded archaeological sites were identified during the Class III study. These sites include portions of a highway, a railroad line, a historic homestead, fences, small historic artifact scatters, prehistoric artifact scatters, and bedrock milling features. In addition to the relocated sites, 5 new sites (CA-SDI-19066, CA-SDI-19067, CA-SDI-19068, CA-SDI-19069, and CA-SDI-19070) and 3 isolates (P-37-029818, P-37-030190, and P-37-030191) were recorded. A total of 8 sites are within the transmission line impact area. None of the identified sites exhibit evidence of substantial or apparent subsurface deposits and are situated in areas where soil deflation is present. The sites have been disturbed by off road vehicle activity, modern dumping, and dirt road construction. None of these resources appear to be eligible for inclusion in the NRHP.

- **Boulevard Substation Rebuild**: There are no previously or newly identified sites within this component; there will be no direct or indirect impacts to cultural resources

A discussion regarding NRHP eligibility criteria and general recommendations are included in this section.

6.1. NRHP Eligibility Criteria

The criteria for determining National Register eligibility pursuant to NHPA are the basis for evaluating significance. Determining NRHP eligibility is based on four criteria regarding a particular resource attribute:

A. That is associated with events that have made a significant contribution to the broad patterns of history

B. That is associated with the lives of persons significant in the past

C. That embody the distinctive characteristics of a type, period, method of construction, or that represent the work of a master, or that possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction

D. That has yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.6).

Prehistoric sites are most frequently evaluated for NRHP eligibility nomination according to their ability to satisfy the requirements of Criterion D, as they are frequently lacking in the attributers that would allow them to meet the eligibility requirements of Criteria A, B, or C. However, Criterion D is perhaps the vaguest and potentially inclusive of the four National Register criteria. Nearly every prehistoric archaeological site has the potential to yield some information that could add to the current understanding of prehistory. However, not every prehistoric site has the potential to yield information regarding prehistory that would be considered to be "important" and therefore significant. In the case of prehistoric sites, the potential for important additional data is often dependent on the presence or absence of buried cultural deposits. At each site, the possibility of buried cultural deposits was assessed by a variety of means. Observations included the type of soils present, examination of rodent burrows and areas of disturbance.

For historic sites to qualify for nomination to the NRHP, an individual historic period archaeological site must contain deposits that are likely to yield or have yielded, information significant to local, regional, or national history. Information obtained from a site must be specific and related to some aspect of local, regional, or national history that has not been well documented in the historic record.

6.2. NRHP Eligibility Recommendations

As noted previously, most of the archaeological sites identified during the project study were recorded in the 1970s, before GPS technology facilitated detailed mapping of resources. These sites were mapped originally as very large, disperse, scatters of flakes, with occasional potsherds and flaked or ground stone tools. The distance between the artifacts is sometimes very large. The majority of the sites described in this report are dispersed, low density artifact scatters with little to no potential for substantial subsurface deposits. These sites are often difficult to evaluate since most lack any discernible concentration of artifacts and contain materials that are widely dispersed over a large area. As noted in Section 5, a number of the previously recorded sites were not relocated, although their locations are shown on SCIC maps and site forms as within the project APE. Many of these sites have plotted site locations that do not match or exceed the descriptions given in the DPR forms. This type of problem can be attributed to post-GPS mapping. Extensive time and effort was given in an attempt to relocate these resources.

Sites that were assigned to the sparse lithic scatter category during the field investigations do not contain time-sensitive and/or functionally diagnostic artifacts (formal tools), have less than 3 artifacts per square meter, and lack the potential for subsurface deposits. None of the sites contain obsidian or other exotic materials that could provide additional information or answer research questions. These sites are generally

categorized as having limited data potential and are recommended by HDR as not eligible for inclusion in the NRHP.

Throughout the course of the entire project, the specific location for the ECO Substation, access roads, staging areas, individual poles and project components have shifted in order to reduce impacts to known cultural resources. Archaeological monitoring (geotechnical testing for the ECO Substation) and/or surveys have been completed for all modifications made during the entire planning process. In cases where project redesign, shifting or eliminating staging areas, moving project components, and/or monitoring is not a feasible alternative, a NRHP eligibility testing and evaluation program is recommended prior to the implementation of construction operations or maintenance activities that could potentially cause adverse effects to these archaeological sites. In this case, the potential impacts to individual cultural resources can be reduced to a level that is less than significant (Class II) through the implementation of the mitigation measures and project protocols. Site testing will be particularly important to confirm the lack of subsurface deposits for sites within the proposed ECO Substation footprint. The extent of subsurface testing at any site will vary according to individual site size, complexity, integrity, and extent of unavoidable project impacts.

Potential impacts will be discussed by component and will include National Register eligibility recommendations. The National Register recommendations are preliminary based on surface surveys. BLM, in consultation with SHPO, will determine whether further testing or evaluation is necessary and will determine whether to formally evaluate any or all of these sites.

6.3. Component Summary - Recommended Mitigation Measures

6.3.1. East County Substation

As discussed in Section 5, the Class III survey for the proposed ECO Substation identified 26 cultural resources: 10 previously recorded site locations (CA-SDI-2720, -7074, -7079 [includes -7080 and -7081], -7082, -6115, -19481, -19482, -19496, -19497, and -19498) and 16 newly recorded sites (CA-SDI-19617, -19618, -19619, -19620, -19621, -19622, -19623, -19624, -19625, -19626, -19627, -19732, -19733, -19734, -19735, and -19736) (Table 6-1). The sites include large to sparse artifact scatters, bedrock milling, historic debris scatters, and a possible prehistoric rock art site. Of these sites CA-SDI-7074, CA-SDI-7082, CA-SDI-19618, CA-SDI-19619, CA-SDI-19621, CA-SDI-19622, and CA-SDI-19626 will be discussed below. Two additional sites, CA-SDI-7079 and CA-SDI-19627, are near associated transmission poles; implementation of avoidance measures will ensure avoidance of adverse effects to these cultural resources. A portion of site CA-SDI-7074 is within the substation APE. Portions of sites CA-SDI-19620 and CA-SDI-6115 are present within the proposed APE; along with fencing, this portion of the site will be monitored during construction. Using GIS data collected from the surveys, aerial maps and site locations showing the anticipated pads, access roads, and associated ground disturbance were generated for the sites recorded within the ECO Substation.

TABLE 6-1. ECO SUBSTATION COMPONENT - SUMMARY OF RECOMMENDED MITIGATION MEASURES

CA-SDI-	Relationship to the APE/Project Area	National Register Eligibility/Recommended Mitigation Measures
6115	Within the Project Area	Not evaluated; monitoring and fencing recommended
7074	Within the Project Area	Not Evaluated If avoidance is not possible, site evaluation is recommended. Fencing and monitoring recommended for portions of the site considered significant.
7079	Within the Project Area	National Register Potential for the entire site is unknown.
7082	Within the Project Area	Recommended not eligible; monitoring recommended for this area
19481	Outside the Project Area	Not evaluated; no impacts
19482	Outside the Project Area	Not evaluated; no impacts
19496	Outside the Project Area	Not evaluated; no impacts
19497	Outside the Project Area	Not evaluated; no impacts
19498	Outside the Project Area	Not evaluated; no impacts
19617	Outside the Project Area	Not evaluated; no impacts
19618	Within the Project Area	Recommended not eligible
19619	Within the Project Area	Recommended not eligible
19620	Within the Project Area	Not evaluated; no impacts
19621	Within the Project Area	Recommended not eligible
19622	Within the Project Area	Recommended not eligible
19623	Outside the Project Area	Not evaluated; no impacts
19624	Outside the Project Area	Not evaluated; no impacts
19625	Outside the Project Area	Not evaluated; no impacts
19626	Within the Project Area	Recommended not eligible
19627	Within the Project Area	Recommended not eligible
19732	Outside the Project Area	Not evaluated; no impacts
19733	Outside the Project Area	Not evaluated; no impacts
19734	Outside the Project Area	Not evaluated; no impacts
19735	Outside the Project Area	Not evaluated; no impacts
19736	Outside the Project area	Not evaluated; no impacts

NOTE: Sites that are shaded may be potentially impacted by the proposed action.

CA-SDI-6115

CA-SDI-6115 is recorded as a series of "roasting pits" and "sherd scatters." No pottery or roasting pits were identified at this location. There are several modern "camp rings" that may have been mistaken for prehistoric activity. Because of the extent of this resource, monitoring is recommended along the northern site boundary. Because site evaluations have not been conducted, the site will require some fencing and monitoring on both the north and south ends. A proposed construction zone overlaps the reported center of the site. Isolated artifacts were found in this area. If avoidance is not possible, this portion of the site will require testing and monitoring.

CA-SDI-7074

Results of the survey for the ECO Substation expanded the boundaries for CA-SDI-7074 to include a widespread, lightly dense lithic artifact scatter with two smaller concentrations of lithic and pottery scatters. The prehistoric artifact scatter measures approximately 300 meters north/south by 215 meters east/west and includes 3 bedrock milling features. The portion north of the substation project area represents the original site boundary and was not examined during the current study. Although the overall significance of the site has not been evaluated, the portion adjacent to the proposed substation does not contain a robust artifact assemblage to be a contributing element to the overall significance. Portions of

the site may be impacted by two staging areas outside the footprint of the substation. Two staging areas were deleted from the project to avoid damaging the sites. Part of CA-SDI-7074 is within the APE. The current design will require testing and evaluation of those portions of the site that will be impacted. Fencing and monitoring during any construction and/or ground disturbance is recommended for those portions considered eligible for National Register nominations.

CA-SDI-7079

CA-SDI-7079 is within the APE and includes portions of three previously recorded sites, CA-SDI-7080 and -7081 and all of CA-SDI-7079. There is no evidence for extended site use for either the historic or prehistoric component of this site. Based on the shallow nature of the soils for this area, a subsurface deposit is not anticipated.

The original configuration of the poles was redesigned to avoid potential impacts. Poles were moved to avoid any artifact concentrations. Cultural materials were not found at the current proposed locations for these poles. The approved road route shall be marked with stakes and temporary fencing by surveyors and an archaeologist. Work at the poles shall be monitored to ensure that no archaeological artifacts are disturbed. The overhead transmission lines will not impact the site.

CA-SDI-7082

The results of the ECO Substation survey expanded the boundaries for CA-SDI-7082 to include a large low density lithic artifact scatter with three artifact concentrations: a can/glass dump and two smaller flake scatters. Based on the artifact distribution, it is possible to divide this low density artifact scatter into three sites. The artifact scatter extends 280 meters north/south by 251 meters east/west. Neither the prehistoric or historic component suggests long-term use or the potential for a subsurface deposit. The historic component represents opportunistic dumping with no clear association with house foundations or other permanent features. The site is within the APE. This site is recommended as not eligible for the NRHP, and subsurface testing is recommended during the evaluation phase to formally evaluate the site.

CA-SDI-19618

CA-SDI-19618 is a small lithic artifact scatter consisting of ±10 flakes in an area 28 meters north/south by 48 meters east/west. It is within the proposed APE. CA-SDI-19618 meets the definition of a sparse lithic artifact scatter. This site is recommended as not eligible for inclusion in the NRHP. Since it could be impacted by the current proposed action, subsurface testing is recommended during the evaluation phase to formally evaluate the site.

CA-SDI-19619

CA-SDI-19619 is a small historic scatter measuring 5 meters north/south by 9 meters east/west. The site is located within the APE. The artifact scatter includes ±15 cans (sanitary and vent-hole) and ±5 pieces of bottle glass. There is no evidence of associated structures or other surface features. This artifact scatter represents an opportunistic dumping with no associated occupation and is not recommended as eligible for inclusion in the NRHP. Since it could be impacted by the current proposed action, subsurface testing is recommended during the evaluation phase in order to formally evaluate the site.

CA-SDI-19620

CA-SDI-19620 contains both a prehistoric and historic artifact scatter. The prehistoric component includes a moderate concentration of stone artifacts, including ground stone and flakes and approximately 30+ Tizon brown ware sherds. The historic component consists of approximately 25+ cans, a few bottle fragments, some historic ceramic fragments, and an oil burner lamp. The maximum extent of the artifact

scatter is 62 meters north/south by 68 meters east/west. There is no evidence for extended site use for either the prehistoric or historic components. The historic artifact scatter represents opportunistic dumping rather than a discrete occupation. Based on the density of artifacts on the surface, there is a potential for subsurface materials in the northern portion of the site.

The site is located within the APE. During the field inspection, this portion of the site did not contain evidence of a buried deposit or a substantial number of artifacts. Subsurface testing is recommended during the evaluation phase in order to formally evaluate the site. Project modification, fencing and monitoring during construction is recommended to avoid impacts to the site.

CA-SDI-19621

CA-SDI-19621 is a dispersed, small flake and pottery scatter in an area 68 meters north/south by 28 meters east/west. The maximum density of the prehistoric artifact scatter is 1 artifact/10 meters. In addition to the prehistoric scatter, there is a small historic component consisting of ±8 sanitary cans. The cans may represent remnants from modern camping activity. Neither component represents site use over an extended period of time; a subsurface deposit is not expected for either assemblage. The location for CA-SDI-19621 is within the APE. This site is recommended as not eligible for the NRHP. Since it could be impacted by the current proposed action, subsurface testing is recommended during the evaluation phase in order to formally evaluate the site.

CA-SDI-19622

CA-SDI-19622 is a diffuse artifact scatter that contains ±35 flakes and a single piece of Tizon brown ware that has been repaired. This site is within the APE. There are no associated features or evidence of a buried deposit. This site probably represents a one-time or short-use site with no associated habitation refuse and is recommended as not eligible for inclusion in the NRHP. Since it could be impacted by the current proposed action, subsurface testing is recommended during the evaluation phase in order to formally evaluate the site.

CA-SDI-19626

CA-SDI-19626 is a low density flake and Tizon brown ware scatter with no apparent subsurface depth or associated features. Based on the limited artifact assemblage and the apparent lack of subsurface features, this site represents a one-time or limited use. This site is within the APE and would be impacted by the proposed action. This site meets the definition of a sparse lithic artifact scatter and is recommended as not eligible for the NRHP. Since it could be impacted by the current proposed action, subsurface testing is recommended during the evaluation phase in order to formally evaluate the site.

CA-SDI-19627

CA-SDI-19627 is a large, multi-component site that includes a widespread, lightly dense to heavily dense lithic artifact scatter and multiple dense pockets of historic refuse (mostly cans with moderate quantities of historic glass bottle fragments and ceramics). The prehistoric assemblage contains flakes, cores, hammerstones, several retouched/modified flakes, and Tizon brown ware pottery. There is no evidence of a well-defined buried deposit.

Based on current plans, the site is within the APE. The primary artifact concentrations are outside anticipated impacted areas. During the field review, no evidence of cultural materials, including any buried deposits or surface artifacts, was found in this part of the site. Monitoring is recommended during the project. The portion of the site within the APE does not exhibit the artifact concentration found in the other parts of the site. This part of the site may not be a contributing element to the overall significance of

the site. Monitoring is recommended during construction. If some elements of the proposed project are moved outside of the site boundary, there will be no impacts to CA-SDI-19627. Because the site is within the APE for the current proposed action, subsurface testing is recommended during the evaluation phase in order to formally evaluate the site.

6.3.2. Southwest Powerlink Loop-In

There are four archaeological sites within the SWPL Loop-In APE: CA-SDI-19624, -19496 (isolate), -19497, and -19498 (see discussion under the ECO Substation). Direct impacts to these sites will be avoided in the current design. Temporary fencing and monitoring are recommended to ensure that personnel stay within approved work areas. The proposed SWPL Loop-in will not have an adverse effect to historic properties.

6.3.3. 138 kV Transmission Line

Record search information indicates that 25 cultural resource studies have been completed for this component of the Proposed Project. These work efforts date back to 1974 and include survey coverage of large areas associated with previously completed transmission line projects, substations, private development, roadways, trails, and campground surveys. The majority of the studies have been positive with both prehistoric and historic resources identified within the surveyed lands.

Thirty-one archaeological sites were previously recorded during prior surveys for the proposed 138 kV transmission line. Of these, 15 were relocated and 16 were not. In addition to the previously recorded sites, five new sites and three isolates were identified within the APE during the current Class III survey. Protective measures, including monitoring, are described for 10 sites (P-37-024023, CA-SDI-7015, CA-SDI-7051, CA-SDI-7055, CA-SDI-7056, CA-SDI-7059, CA-SDI-7060, CA-SDI-7085, CA-SDI-7086, and CA-SDI-7951; Table 6-2).

TABLE 6-2. 138 KV TRANSMISSION LINE - SUMMARY OF RECOMMENDED MITIGATION MEASURES

CA-SDI-	Relationship to the APE/Project Area	National Register Eligibility Recommendations
P-37-024023	Within the Project Area	Portion of the site is not recommended as a contributing element to NR significance
176	Outside the Project Area	No Impacts
7011	Outside the Project Area	No Impacts
7015	Within the Project Area	Portion of SDI-7015 is not recommended as a contributing element to NR significance
7027	Outside the Project Area	No Impacts
7030	Outside the Project Area	No Impacts
7037	Outside the Project Area	No Impacts
7040	Outside the Project Area	No Impacts
7046	Outside the Project Area	No Impacts
7051	Inside the Project Area	Portion of SDI-7051 is not recommended as a contributing element to NR significance
7053	Outside the Project Area	No Impacts
7055	Inside the Project Area	Portion of CA-SDI-7055 is not recommended as a contributing element to NR significance
7056	Inside the Project Area	Portion of CA-SDI-7056 not recommended as a contributing element to NR significance
7059	Inside the Project Area	Portion of SDI-7959 is not recommended as a contributing element to NR significance

TABLE 6-2. 138 KV TRANSMISSION LINE - SUMMARY OF RECOMMENDED MITIGATION MEASURES (CONT.)

CA-SDI-	Relationship to the APE/Project Area	National Register Eligibility Recommendations
7060	Inside the Project Area	Portion of CA-SDI-7060 is not recommended as a contributing element to NR significance
7063	Outside the Project Area	No Impacts
7069	Outside the Project Area	No Impacts
7072	Outside the Project Area	No Impacts
7079	Outside the Project Area	No Impacts
7080	Outside the Project Area	No Impacts
7085	Inside the Project Area	Portion of CA-SDI-7085 not recommended as a contributing element to NR significance
7086	Inside the Project Area	Portion of CA-SDI-7086 not recommended as a contributing element to NR significance
7951	Inside the Project Area	Portion of SDI-7951is not recommended as a contributing element to NR significance
8315	Outside the Project Area	No Impacts
8316	Outside the Project Area	No Impacts
8430	Outside the project area	No Impacts
8431	Outside the project area	No Impacts
8432	Outside the project area	No Impacts
9156	Outside the project area	No Impacts
9278	Outside the project area	No Impacts
9279	Outside the project area	No Impacts
19066	Outside the project area	No Impacts
19067	Outside the project area	No Impacts
19068	Outside the project area	No Impacts
19089	Outside the project area	No Impacts
19070	Outside the project area	No Impacts

NOTE: Shading denotes sites that could possibly be impacted by the proposed action.

P-37-024023 (Portions of Old Highway 80)

This resource is an historic two-lane undivided highway with a 20-foot-wide roadway. The highway has changed significantly since the 1960s, with only a few segments of the original road still in use. The proposed 138 kV transmission line will span the highway in two areas. Any visual impacts to the existing highway by the proposed 138 kV transmission line have not been evaluated.

CA-SDI-7015

CA-SDI-7015/H contains a portion of the San Diego & Arizona Eastern railroad line. The line was built between 1907 and 1919. The railroad line traverses a flat portion of Jacumba Valley within the study area, 0.5 mile northeast of Jacumba. The proposed 138 kV transmission line will span the railroad tracks in one area. The spanning of the transmission line above the existing line should not impact the integrity of the site. The visual landscape will be reviewed to determine potential impacts to this portion of the railroad line. Heavy equipment and machinery will not be used on or adjacent to the railroad bed.

CA-SDI-7051

This site was recorded in 1979 as a temporary camp with a rock shelter near a creek. The site was revisited by HDR|e²M during the field check, and no archaeological resources are located at the location of the proposed transmission pole. During project redesign, the access road to the pole was redesigned to avoid any artifacts. A monitor should erect temporary fencing to ensure that all work is done within

cleared areas, and should be present for all work at both the pole and its access road. There are no artifacts in the proposed impact area; this portion of the site is not recommended as a contributing element to the overall significance of CA-SDI-7051. Because the site is within the APE for the current proposed action, subsurface testing is recommended during the evaluation phase in order to formally evaluate the site.

CA-SDI-7055

CA-SDI-7055 was recorded in 1979 and described as a lithic artifact scatter and quarry site on a small knoll. The site was relocated from the UTM coordinates. There was no evidence of a quarry found; however, flakes were found scattered over the small knoll within an area measuring about 20 meters by 20 meters. The redesigned pole and pad location will avoid impacts to the site. The eastern end of the work area will be reduced to provide a buffer between the work and the cultural resource, and the southern and eastern boundaries of the work area will be fenced. Monitoring for all work on the pole is recommended.

CA-SDI-7056

This site was described as a moderate flaked lithic artifact scatter on a terrace. The scatter was contained within an area measuring 4 meters by 8 meters. During the current survey, the site was relocated based on the UTM coordinates. A recheck of this area located a sparse flaked lithic artifact scatter of flakes over an area of approximately 5 meters by 5 meters within the southern portion of the original site outline. Based on the proposed project maps, the small flake scatter will not be impacted. Work in the vicinity of the nearest pole should be monitored. The overhead transmission line will not impact the site.

CA-SDI-7059

This site was originally recorded in 1979 and described as a temporary camp with a rock shelter, bedrock milling, prehistoric pottery, and a lithic artifact scatter. During the survey, flaked lithic artifacts were observed on the surface in the general vicinity of the original potential location of a transmission pole. This pole was moved to avoid potential impacts to the site. The access road and all work areas should be fenced and monitored by an archaeologist to ensure that the site is not impacted. Although the road and pole appear to go through the middle of the site, no artifacts or features were found within the APE related to the pole. There is no evidence of site materials at the current location of the pole; this portion of the site is recommended as not a contributing element to the overall significance of SDI-7059. Because the site is within the APE for the current proposed action, subsurface testing is recommended during the evaluation phase in order to formally evaluate the site.

CA-SDI-7060

This site was originally recorded in 1979 and described as a temporary camp with a widely dispersed scatter of flakes, prehistoric pottery, and ground stone tools in an area measuring 320 meters by 120 meters. The original locations of two transmission poles were within the site boundaries for CA-SDI-7060. These poles were moved to avoid artifacts and features. A proposed access road to two poles should be fenced by an archaeologist, and the pad size at one pole should be reduced to ensure avoidance of archaeological resources. The access road to one pole will be cleared and brushed only; no grading will take place. There is no access road to the other nearby pole. A monitor should be present for all work for the three nearest poles. Although two poles are within the site boundary of CA-SDI-7060, there were no artifacts found within the APEs for those poles.

CA-SDI-7085

CA-SDI-7085 is described as a base camp with bedrock milling, a moderate flaked lithic artifact scatter, and a sparse prehistoric ceramic scatter. There were no cultural resources within the proposed work

areas. A diffuse scatter of artifacts and the bedrock milling station are outside and south of the proposed APE. No evidence of this site was observed in the work area one pole or along the proposed access road to the north. An archaeologist should monitor all work at the pole and fence the access road and the eastern boundary of the work area to ensure avoidance of the site.

CA-SDI-7086

This site was described as a sparse flaked lithic and prehistoric ceramic scatter. The proposed location of one transmission pole is within the site boundaries. During the survey, two flakes were observed within 20 feet of the pole location. No grading is proposed for this pole location. Access will be from an existing dirt road. If the pole location and work area cannot be moved to the east, an archaeologist should fence off the work area, and monitor all work at the pole.

CA-SDI-7951

This site was originally recorded in 1979 and described as a temporary camp with a rock shelter, bedrock milling, prehistoric pottery, and a lithic artifact scatter. There are two poles near this site. The proposed location for one pole and work area is disturbed but several flakes were observed nearby, north of the proposed pole. Grubbing and clearing on the south side of the existing access road were eliminated during the project redesign. As part of the redesign, a second pole was moved 75 feet to avoid a concentration of artifacts. This eliminated the need for an access road. An archaeologist should fence and monitor all work at both poles to ensure avoidance of archaeological resources. The portion of the site containing proposed work areas is not recommended as a contributing element to the overall significance of the site. Because the site is within the APE for the current proposed action, subsurface testing is recommended during the evaluation phase in order to formally evaluate the site.

6.3.4. Boulevard Substation Rebuild

The results of the record search and the Class III survey for this portion of the project failed to identify any previously known or newly discovered cultural resources. The proposed Boulevard Substation Rebuild does not represent a potential impact to known significant or eligible archaeological sites or features. Based on the completed record search and Class III survey, no additional cultural resource evaluation is recommended prior to the implementation of this component.

6.3.5. White Star Communication Facility Rebuild

There were no previously identified sites within the White Star Communication Facility Rebuild (based on the record search). The Class III survey for this component did not find any previously unknown resources. The proposed communication tower construction does not represent a potential impact to known significant or eligible archaeological sites or features. Based on the completed record search and survey work, no additional cultural resource evaluation is recommended prior to the implementation of this component.

6.4. General Recommendations

All work within the cultural resources APE for the proposed project should be monitored by an archaeologist. All work areas for pole locations should be marked with temporary fencing by the archaeologist prior to beginning any work at the location. The project has been redesigned to avoid sites recommended as eligible for inclusion in the NRHP, but several sites are still relatively close to project elements. It was not possible to provide large buffers and preserve the integrity of the proposed project. Therefore, close involvement with monitors, use of temporary fencing, and flagging should be implemented for work at the ECO Substation, the 138 kV transmission line, and the SWPL Loop-In.

Specific monitoring requirements have been recommended for some of the poles, work pads, and access roads along the transmission line. If these avoidance measures are followed, it is the preliminary recommendation of HDR|e²M that implementation of the project should not result in adverse effects to archaeological sites eligible for inclusion in the NRHP. A testing and evaluation phase will provide additional data to inform the formal determinations of NRHP eligibility.

The presence of preserved archaeological resources in proximity to the substation will require development of a long-term operation and maintenance plan to ensure site protection. Buffers between the resources and project elements are small. The plan should include assembly of baseline conditions information prior to construction, documentation of avoidance during construction, protective elements such as fencing and signage as appropriate (for example, signs designating parking restrictions and prohibiting off road vehicle use), and regular, period inspections for compliance.

6.4.1. Recommended Mitigation Measures

General provisions for the all pole locations and for the proposed ECO substation would include:

- All work within the cultural resources APE shall be monitored by an archaeologist;
- All work areas for pole locations shall be marked off with temporary fencing by an archaeologist prior to beginning any work at the location;
- Staging areas, lay down areas, proposed construction areas shall be marked off with temporary fencing by an archaeologist prior to beginning any work at the location, and may be reduced to reduce or eliminate impacts to cultural resources.
- Neither the stakes nor the flags shall identify archaeological sites as the resources being protected and monitored.

6.4.2. Inadvertent Discoveries

No cemeteries, isolated Native American, or other human remains have been documented within the project area. Therefore, the potential for impacts to unrecorded Native American or other human remains during the implementation of the proposed project is considered to be low for all segments of the project area. If Native American or other human remains are inadvertently discovered during the course of project actions, there will be no further excavation or disturbance of the site of the remains or the vicinity until the remains and the vicinity have been evaluated in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA), as appropriate.

A construction monitoring plan and a plan for inadvertent discoveries approved by SHPO is recommended prior to implementation of any fieldwork or ground disturbance. The monitoring and inadvertent discovery plan would outline the procedures for recording and identifying previously unknown resources, the chain of command and individuals that need to be contacted, and the level of recording and evaluations that will be required.

Individuals performing eligibility determination activities will meet the qualification requirements for professional education and experience as defined in 36 CFR 800 of the NHPA. Professional services will be performed by individuals meeting all applicable regulations and guidelines according to the Secretary of the Interior's Professional Qualifications Standards (Federal Register Notice, Vol. 48, No. 190, pp. 44738-44739, 1983) and the ARPA (43 CFR Part 7). All cultural resource management work performed in association with this project will be conducted in accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966.

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7. REFERENCES

Anderson, M. Kat
2005 Tending the Wild: Native American Knowledge and the Management of California's Natural Resources. University of California Press.

Arrington, Cindy
2006 Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California.

Berryman, PhD, J.
1983 Tin Can Alley: A Suggested Typology for the Study of Tin Cans. Manuscript submitted to San Diego State University as part of requirements for the Master of Arts degree.

Bowman, R.
1973 Soil Survey, San Diego Area, California. United States Department of Agriculture, Washington, D.C.

Brian F. Mooney & Associates
1991 Appendix F Cultural Resources Draft Environmental Impact Report for Jacumba Valley Specific Plan Volume I.

Bureau of Land Management
1984 Final Environmental Assessment for the Table Mountain Study Area Wind Energy Development, U.S. Department of Interior.

Burkenroad, David
1979a DPR Form CA-SDI-7011 and on file at South Coastal Information Center.

1979b DPR Form CA-SDI-7015H and on file at South Coastal Information Center.

1979c DPR Form CA-SDI-7072 and on file at South Coastal Information Center.

California Office of Historic Preservation
2000 ARMR Recommended Contents and Format.

Chace, Paul G.
1979 An Archaeological Survey of the Fuquay Ranch Boulevard, County of San Diego.

1980 A Cultural Resources Assessment of Jacumba, San Diego County.

Chartkoff, J. L., and K. K. Chartkoff
1984 *The Archaeology of California*. Stanford University Press, Stanford.

Collett, R., and D. Cheever
2002 Results of Cultural Resource Survey for the Proposed Miguel-Mission 230 kV #2 Project, San Diego County, California. RECON Environmental, Inc., San Diego, California.

Cook, John, and Scott Fulmer
1980 Archaeology and History of the McCain Valley Study Area, Eastern San Diego County, California: A Class II Cultural Resource Inventory.

Crotteau, Karen
1979a DPR Form CA-SDI-7081 on file at South Coastal Information Center.

1979b DPR Form CA-SDI-7082 on file at South Coastal Information Center.

1979c DPR Form CA-SDI-7056 on file at South Coastal Information Center.

1979d DPR Form CA-SDI-7059 on file at South Coastal Information Center.

1979e DPR Form CA-SDI-7085 on file at South Coastal Information Center.

Dominici, Deb
1979a DPR Form CA-SDI-7027 on file at South Coastal Information Center.

1979b DPR Form CA-SDI-7040 on file at South Coastal Information Center.

Donovan, Mary Jane
1979a DPR Form CA-SDI-7030 on file at South Coastal Information Center.

1979b DPR Form CA-SDI-7051 on file at South Coastal Information Center.

1979c DPR Form CA-SDI-7060 on file at South Coastal Information Center.

1979d DPR Form CA-SDI-7951 on file at South Coastal Information Center.

1979e DPR Form CA-SDI-9278 on file at South Coastal Information Center.

1979f DPR Form CA-SDI-9279 on file at South Coastal Information Center.

Flower, Douglas M., Darcy Ike, and Linda Roth
1980 Archeological and Biological Investigations of the Westover Project Boulevard, California.

Fulmer, Scott
1977 Archaeological Reconnaissance of the Valley of the Jewells Campground.

Goldberg, D.
1980a DPR Form CA-SDI-8431 on file at South Coastal Information Center.

1980b DPR Form CA-SDI-8432 on file at South Coastal Information Center.

Hector, Susan
1985 Archaeological Investigations at Site SDI-10088 De Anza Campground, Jacumba, California.

Hector, Susan, Ken Moslak, and Drew Pallette
2006 DPR Form CA-SDI-176 Update and CA-SDI-7053 Update on file at South Coastal Information Center.

2007 Archaeological Survey of Eastern San Diego County Roads, Trails, and Campgrounds.

Historic 80 Committee
2006 Historic U.S. Highway 80 in California: Yuman to San Diego. Published by American Roads for Historic Highway 80 Committee Corporation, Inc.

Hof, Reiner
1990 San Diego: The Formative Years of Redevelopment. *Journal of San Diego History* Winter 1990:36(1).

Jackson, Robert, Michael Boynton, William Olsen, and Richard Weaver
1988 California Archaeological Resource Identification and Data Acquisition Program: Sparse Lithic Scatters. A Program for the Identification and Management of an Archaeological Resource Class. State Historic Preservation Office. February.

James, G. W.
1912 *In and Out of the Old Missions*. Little, Brown, and Company, Boston.

Johnson, Melissa J.
1976 An Archaeological Inventory and Assessment of Corridor Segments 46 and 49, Preferred Southern Route, San Diego County.

1980a DPR Form CA-SDI-8315 on file at South Coastal Information Center.

1980b DPR Form CA-SDI-8316 on file at South Coastal Information Center.

Kroeber, A.
1925 Handbook of the Indians of California. *Bureau of American Ethnology Bulletin* 78, Washington D.C.

Lortie, F.
2000 DPR Form P-37-024023 on file at South Coastal Information Center.

Luomala, K. L.
1978 "Tipai-Ipai." In *Handbook of the North American Indians: California*, edited by R. F. Heizer, Vol. 8, pp. 592-609. W. C. Sturtevant, general editor. Smithsonian Institution, Washington D.C.

McCoy, Lesley C., and Jay Thesken
1979 Archaeological Survey of the Mazzanti Property, Jacumba, California.

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

Moore, Jan
1979a DPR Form CA-SDI-7079 on file at South Coastal Information Center.

1979b DPR Form CA-SDI-7074 on file at South Coastal Information Center.

1979c DPR Form CA-SDI-7037 on file at South Coastal Information Center.

1979d DPR Form CA-SDI-7063 on file at South Coastal Information Center.

1979e DPR Form CA-SDI-7069 on file at South Coastal Information Center.

Moratto, M. J., J. D. Tordoff, and L. H. Shoup
1984 *California Archaeology*. Academic Press, New York.

MSA, Inc.
1980 Focused Draft Environmental Impact Report GPA 80-02 Mountain Empire No. 4.

Pentney, S., J. Stout, and H. Thomson
2008a DPR Form CA-SDI-19496 on file at South Coastal Information Center.

2008b DPR Form CA-SDI-19497 on file at South Coastal Information Center.

2008c DPR Form CA-SDI-19498 on file at South Coastal Information Center.

2008d DPR Form CA-SDI-19481 on file at South Coastal Information Center.

2008e DPR Form CA-SDI-19482 on file at South Coastal Information Center.

Peterson-May, Carolyn
1980 An Archaeological Reconnaissance of TPM #16354/Log #79-22-6 Near Jacumba, California.

Polan, Keith
1980 Brooks Lot Split Archaeology and Botany Survey Reports.

Prewitt L.
1964 DPR Form CA-SDI-2720 on file at South Coastal Information Center.

Raftery, Miriam
2009 Lost Highways of East County, Traveling Old Highway 80. *East County Magazine*.

Ritter, Eric W.
1974 Boundary Peak Burn Archaeological Survey, Department of the Interior, Bureau of Land Management.

Rogers, M.
1945 An Outline of Yuman Prehistory. *Southwestern Journal of Anthropology* 1(1): 167-198

Rolle, A. F.
1978 *California: A History*. 3rd ed. AHM Publishing, Arlington Heights, Illinois.

Rosen, Martin, and Frank Lortie
2001 Historic Property Survey Report for Old Highway 80, San Diego County, California.

Rosenberg, Seth A., and Brian F. Smith
2008 A Class III – Intensive Field Survey for the Gap Filler Project.

San Diego, County of, Environmental Development Agency
1975 Live Oak Springs Subregional Analysis and Draft Environmental Impact Report for TPM 10677, File No. 74-21-29201. Impact Analysis Section.

San Diego Historical Society
2004 *Time Line of San Diego History*. San Diego Historical Society. Available online <http://www.sandiegohistory.org/timeline/timeline1.htm>.

Scientific Resource Surveys, Inc.
1982 Archaeological Report-Volume II Data Presentation on the Re-Survey, Surface Collection and Test Excavations of the Archaeological Resources on the Mazzanti Property Located in the Jacumba Area of the County of San Diego.

Senate Transportation and Housing Committee
2006 U.S. Senate Bill #ACR 123: Approval of U.S. Highway Route 80 as a Historic Route Designation.

Shipek, F. C.
1978 History of Southern California Mission Indians. In *Handbook of the North American Indians: California*, edited by R. F. Heizer, Vol. 8, pp. 610--618. W. C. Sturtevant, general editor. Smithsonian Institution, Washington D.C

1982 Kumeyaay Socio-Political Structure. *Journal of California and Great Basin Anthropology*.

Smith, Brian F.
2003 An Archaeological Survey for the Grizzle Project, McCain Valley TPM.

Smith, Brian F. and James Clifford
2005 An Archaeological Survey and Testing Program for the Grizzle Project.

Spier, L
1923 *Southern Diegueno Customs*. University of California Publications in American Archaeology and Ethnology 20(16):295-358. Berkeley.

Townsend, Jan
1978a DPR Form CA-SDI-7046 on file at South Coastal Information Center.

1978b DPR Form CA-SDI-7055 on file at South Coastal Information Center.

1978c DPR Form CA-SDI-7080H on file at South Coastal Information Center.

1978d DPR Form CA-SDI-7086 on file at South Coastal Information Center.

1978e DPR Form CA-SDI-9156 on file at South Coastal Information Center.

1979 DPR Form CA-SDI-7080 on file at South Coastal Information Center.

1984 Southwest Powerlink Cultural Resources Management Plan.

Unknown
1976 DPR Form CA-SDI-6115 on file at South Coastal Information Center.

Van Horn, D., and White, R.
1988 DPR Form CA-SDI-8430 on file at South Coastal Information Center.

Wade, Sue A.
1995 Cultural Resource Survey Report Form for the Richard Cox Property, Jacumba, California.

Warren, C.
1964 Cultural Change and Continuity on the San Diego Coast. Unpublished Ph.D. Dissertation, Department of Anthropology, University of California, Los Angeles.

Welch, Patrick
1982 Cultural Resource Report: Lark Canyon Motorcycle Trails & Trail Location.

Whitaker, James
2008a DPR Form CA-SDI-19066 on file at South Coastal Information Center.

2008b DPR Form CA-SDI-19067 on file at South Coastal Information Center.

2008c DPR Form CA-SDI-19068 on file at South Coastal Information Center.

2008d DPR Form CA-SDI-19069 on file at South Coastal Information Center.

2008e DPR Form CA-SDI-19070 on file at South Coastal Information Center.

Whitaker, James, and Dayle Cheever
2008 *Cultural Resources Study SDG&E East County 500/230/69kv Substation Project San Diego County, CA.* November. Prepared for Insignia Environmental. Engineering-environmental Management, Inc.

White, Christopher W.
1978 Documentation of the Phase II (Plant Site to Devers and Miguel Substations) Archaeology Inventory Report.

Wirth Associates
1987 Jacumba Archaeology District.

Wirth Environmental Services
1987 Archaeological Investigations at CA-SDI-4470.

Woods, Clyde
1982 *Miguel Substation Expansion Area Data Recovery*. Prepared by CSRI for San Diego Gas & Electric. Unpublished Report on file at SCIC, San Diego State University.

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