

APPENDIX M
CULTURAL RESOURCES

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	ES-1
1.0 INTRODUCTION	1-1
1.1 CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM	1-1
1.2 NATIVE AMERICAN HERITAGE COMMISSION	1-2
1.3 REGULATIONS AND COMPLIANCE OVERVIEW	1-2
1.4 PROJECT LOCATION AND DESCRIPTION	1-3
1.4.1 Project Location and Area of Potential Effects	1-3
1.4.2 Project Description	1-3
1.4.3 Summary of Major Proposed Project Components	1-4
1.5 ENVIRONMENTAL SETTING	1-9
1.5.1 Present Environment of the Project Study Area	1-9
1.5.2 Historic Land Changes within the Project Study Area	1-10
1.5.3 Plants and Animals within the Project Study Area	1-10
1.5.4 Soils within the Project Study Area	1-10
1.5.5 Geological Formations within the Project Study Area	1-10
1.5.6 Disturbance within the Project Study Area	1-11
1.6 BACKGROUND – PREHISTORIC SETTING	1-11
1.6.1 Paleoindian Period	1-11
1.6.2 Millingstone Period	1-12
1.6.3 Intermediate Period	1-12
1.6.4 Late Prehistoric Period	1-13
1.6.5 Ethnohistoric / Mission Period	1-13
1.7 BACKGROUND – HISTORIC SETTING	1-17
1.7.1 Regional / Local History	1-17
1.7.2 Electrical Generation History of the Project Area	1-17
1.8 CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM RECORDS SEARCH AND RESULTS	1-18
1.8.1 Previously Conducted Studies or Surveys within One Mile of the Project APE ...	1-18
1.8.2 Previously Recorded Cultural Resources within One Mile of the Project APE	1-27
1.9 NATIVE AMERICAN CONSULTATION	1-28
1.9.1 Native American Heritage Commission	1-28
1.9.2 Native American Correspondence	1-28
2.0 SURVEY METHODS AND RESULTS	2-1
2.1 SURVEY METHODS	2-1
2.1.1 Archaeological Resources	2-1
2.1.2 Built Environment Resources	2-1
2.2 SURVEY RESULTS	2-1
2.2.1 San Gabriel Generating Station Project Site	2-1
2.2.2 Linear Components	2-2
2.2.3 Detention Basin and Access Bridge	2-2
2.2.4 Offsite Construction Laydown Area	2-6
2.2.5 Onsite Construction Laydown Areas #1-9	2-7
2.2.6 Temporary Construction Access Road	2-7
3.0 SIGNIFICANCE, IMPACTS, AND MITIGATION RECOMMENDATIONS	3-1
3.1 STATE, FEDERAL, LOCAL COMPLIANCE REQUIREMENTS	3-1
3.1.1 State Mandates	3-1

3.1.2	Federal Mandates	3-1
3.1.3	Local Mandates	3-1
3.2	SPECIFIC CRITERIA FOR ASSESSING AND DETERMINING SIGNIFICANCE	3-2
3.3	ENVIRONMENTAL CONSEQUENCES.....	3-3
3.3.1	San Gabriel Generating Station Project Site	3-3
3.3.2	Linear Components	3-3
3.3.3	Detention Basin and Access Bridge	3-3
3.3.4	Offsite Construction Laydown Area	3-4
3.3.5	Construction Onsite Laydown Areas #1-9	3-4
3.3.6	Temporary Construction Access Road.....	3-4
3.4	DIRECT IMPACTS	3-4
3.4.1	Direct Impacts	3-4
3.4.2	Mitigation of Construction Related Impacts	3-5
3.4.3	Impacts and Mitigation Measures	3-5
3.4.4	Specific Mitigation Measures	3-6
3.5	LORS COMPLIANCE	3-7
4.0	REFERENCES CITED	4-1

TABLES

Table 1	Previously Conducted Studies / Surveys within 1 Mile of the Project APE
Table 2	Previously Recorded Cultural Resources within 1 Mile of the Project APE
Table 3	Survey Coverage by Project Component and Field Conditions

FIGURES

Figure 1	Project Location Map
Figure 2	Archaeological Resources Area of Potential Effects
Figure 3	Ethnographic Tribal Territory of the Gabrieliño
Figure 4	Previously Conducted Studies / Surveys within 1 Mile of the Project APE
Figure 5	Prehistoric and Historic Resources within 1 Mile of the Project APE
Figure 6	Area Surveyed for Archaeological Resources

APPENDICES

Appendix A	Resumes of Key Personnel
Appendix B	Archaeological Information Center Records Search [confidential]
Appendix C	Native American Consultation / Correspondence
Appendix D	Historical Resources Inventory and Evaluation Report for the Proposed San Gabriel Generating Station Project

List of Acronyms

AFC	Application for Certification
AIC	Archaeological Information Center
Applicant	San Gabriel Power Generation, LLC
Band	Morongo Band of Mission Indians
B.P.	before present
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
City	the City of Rancho Cucamonga
CRHR	California Register of Historic Resources
CTG	combustion turbine generator
EGS	Etiwanda Generating Station
HRSR	heat recovery steam generator
I-10	Interstate 10
I-15	Interstate 15
JRP	JRP Historical Consulting, LLC
LORS	Laws, ordinances, regulations, and standards
MW	megawatt
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
PRC	(California) Public Resources Code
ROW	right-of-way
RPA	Register of Professional Archaeologists
SCE	Southern California Edison
SCS	Soil Conservation Service
SGGS	San Gabriel Generating Station
STG	steam turbine generator
URS	URS Corporation

EXECUTIVE SUMMARY

TITLE: Archaeological Inventory Report for the San Gabriel Generating Station Project

AUTHORS: Christine K. Michalczuk, RPA, and Brian Hatoff, RPA

URS Corporation
1333 Broadway, Suite 800
Oakland, California 94612

DATE: March 2007

SOURCE OF COPIES: Archaeological Information Center
San Bernardino County Museum
Redlands, California

ABSTRACT:

San Gabriel Power Generation, LLC (the Applicant) proposes to construct a new combined cycle power plant within the Etiwanda Generating Station (EGS) property. The proposed San Gabriel Generating Station (SGGS) project includes the plant site and transmission line and adjacent gas pipeline corridor.

All cultural resources work for this project was carried out under the direct supervision of an archaeologist who meets the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (USDI, NPS 1983). The resumes of key personnel are attached as Appendix A to this report.

This cultural resources study documents the results of the literature review, record search, and field survey for the proposed SGGS project. The literature review was conducted at the Archaeological Information Center (AIC) and is Appendix B to this report. Appendix B is confidential and is being submitted separately under rules of confidentiality. This inventory identified 12 historic sites and no prehistoric sites within one mile of the proposed SGGS. Copies of the information gathered during the Native American consultation process are attached as Appendix C to this report.

The history of the project area, outlined as a key to the growth of electrical generation in California, is extensively documented by JRP Historical Consulting, LLC (JRP). The inventory and evaluation report (JRP 2007) is attached as Appendix D to this report.

The SGGS will incorporate into project design measures to completely avoid cultural resources wherever possible to ensure that effects to cultural resources will be minimized. If avoidance of any potentially eligible resource proves impossible, formal compliance with the procedures for determination of eligibility and effect and for formalizing mitigation agreements, consistent with *Instructions to the California Energy Commission Staff for the Review of an Information Requirements for an Application for Certification* (CEC 1992) and *Rules of Practice and Procedure & Power Plant Site Certification Regulations Revisions* (CEC 2006), as well as the California Environmental Quality Act (CEQA) compliance procedures and/or Section 106 of the National Historic Preservation Act (NHPA), set forth at 36 Code of Federal Regulations (CFR) 800, will be required.

1.0 INTRODUCTION

The Applicant proposes to expand the San Gabriel Generating Station (SGGS), an existing gas-fired power steam plant located on EGS property, by replacing two 1950s-vintage steam generation units and one 1960s-vintage gas-fired peaker unit with two combustion turbines and one steam turbine. The proposed SGGS site is located in the southern portion of the City of Rancho Cucamonga (the City) in San Bernardino County, California.

In addition to the SGGS site and the gas pipeline corridor, there are 11 proposed construction laydown areas. Nine of the laydown areas are onsite and located within the boundaries of the EGS property. The remaining two laydown areas are located within a half mile of the SGGS site; Alternative Laydown A is located south of the EGS property and Alternative Laydown Area B is located west of the EGS property. These elements describe the various SGGS components.

California Energy Commission (CEC) regulations require that the project undergo environmental assessment as part of an Application for Certification (AFC) for the facility. The AFC serves as CEQA environmental documentation. Under CEQA, the potential effects of the project upon cultural resources must be evaluated. Although not considered a Federal undertaking at this time, the proposed project has been concurrently assessed with regard to requirements of Section 106 of the NHPA and its implementing regulations, set forth as 36 CFR 800.

URS Corporation (URS) is in the process of conducting environmental studies for the proposed project. This document prepared by URS is a technical report of the methods and results of the cultural resources inventory and associated activities. The purpose of the cultural resources technical study is to inventory and tentatively assess the significance of cultural resources that the proposed project could potentially affect. Included in this report are archaeological site records and records of correspondence with local Native Americans. These site records and locational data are confidential and should be made available only to qualified cultural resource specialists and project managers on an as-needed basis.

1.1 CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

Before the initiation of the cultural resources inventory, pre-field research was conducted to identify the extent of prior archaeological surveys and known cultural resources or sensitivities within the project corridor. The pre-field research included an initial records search conducted at the AIC of the California Historical Resources Information System (CHRIS). The initial records search encompassed the SGGS site and an approximate half-mile radius around the SGGS site. Information obtained during this records search included all recorded sites (prehistoric, historic, and built environment resources), surveys, historical listings, and historical maps. Review of the existing archaeological survey information was positive, identifying previously conducted surveys and resources. Given that these surveys did not cover the entire project area and were not current, it was therefore determined that the project area should be subjected to an intensive field inventory.

Due to the revisions to the CEC *Rules of Practice and Procedure & Power Plant Site Certification Regulations* (CEC 1997), dated December 14, 2006 (which are expected to be approved prior to the completion of this project), URS was required to obtain additional information to ensure compliance with CEC regulations. As such, a revised records search was conducted at the AIC to obtain the required information. The review of this archaeological survey data was also positive, identifying previously 46 conducted surveys and 12 historic resources.

1.2 NATIVE AMERICAN HERITAGE COMMISSION

Prior to the beginning of fieldwork, Ms. Debbie Pilas-Treadway of the California Native American Heritage Commission (NAHC) was contacted to request a records search of the Sacred Lands File and a list of appropriate Native American contacts (individuals and / or organizations) that may have knowledge of cultural resources. According to the NAHC, the search failed to indicate the presence of Native American cultural resources in the project area.

The NAHC provided a list of six individuals/organizations that may have knowledge of cultural resources in the project area. Letters describing the project and a map depicting the proposed SGGs site, the offsite gas line corridor, and the temporary new construction access road were sent to these individuals on January 31, 2007. The letter inquired whether the individuals/organizations had any concerns regarding the project or wished to provide input regarding cultural resources in the project area. As of February 20, 2007, one response has been received. Mr. Britt Wilson with the Morongo Band of Mission Indians (the Band) called Ms. Christine K. Michalczuk on February 5, 2007, to state that the Band had no specific information regarding cultural resources in the project areas, but they did have comments/mitigation measures they would like URS to consider in its permitting process.

1.3 REGULATIONS AND COMPLIANCE OVERVIEW

Cultural resources work was conducted in compliance with CEC Instructions to the California Energy Commission Staff for the Review of and Information Requirements for an Application for Certification (CEC 1992) and Rules of Practice and Procedure & Power Plant Site Certification Regulations Revisions (CEC 2006).

Laws, ordinances, regulations, and standards (LORS) pertinent to the identification, assessment of significance, and assessment of and mitigation of adverse effects to cultural resources are identified in Section 3.1. Compliance with these LORS is discussed in Section 3.5. In summary, all cultural resources work for this project was carried out under the direct supervision of an archaeologist who meets the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (USDI, NPS 1983). The report was prepared by the following individuals:

- Brian W. Hatoff, Senior Project Archaeologist, M.A., and Registered Professional Archaeologist (RPA) in Anthropology – 30 years' experience in cultural resources management and archaeological studies in the western United States; principal investigator for cultural resources for the proposed SGGs project.
- Christine K. Michalczuk, Senior Archaeologist, M.A., and RPA in Anthropology – seven years' experience in cultural resources management and archaeological studies in Southern and Northern California; archaeologist for cultural resources for the proposed SGGs project.

Key personnel resumes are included as Appendix A.

This analysis complies with *Instructions to the California Energy Commission Staff for the Review of and Information Requirements for an Application for Certification (CEC 1992)* and *Rules of Practice and Procedure & Power Plant Site Certification Regulations Revisions (CEC 2006)*. This analysis is consistent with the with the procedures for compliance with Section 15064.5 of the CEQA / Section 21082 of the California Public Resources Code (PRC), and the California Register of Historic Resources (CRHR), and/or Section 106 of the NHPA, set forth at 36 CFR 800.

The regulatory framework for addressing cultural resources at the state level includes such criteria as:

- the definition of significance (as found in CEQA) for “important archaeological resource” and
- the draft criteria for resource eligibility for inclusion in the CRHR.

Although this is not considered a “Federal undertaking,” the legal frameworks for addressing cultural resources at the Federal and State level are generally equivalent and are used somewhat interchangeably in the following discussion. Consideration was also given to criteria for eligibility for the NRHP, identified at 36 CFR 60.4.

The State of California references cultural resources in the CEQA PRC Division 13, Sections 21000-21178; archaeological and historical resources are specifically treated under Sections 21083.2 and 21084.1, respectively. California PRC 5020.1 through 5024.6 (effective 1992) creates the CRHR and sets forth requirements for protection of historic cultural resources. The criteria for listing properties in the CRHR are in Section 15064.5 (a)(2)-(4) of the CEQA Guidelines, which provide the criteria from Section 5024.1 of the PRC. The CRHR is in the California Code of Regulations Title 14, Chapter 11.5. The CRHR criteria closely parallel those of the NRHP. The eligibility criteria for listing properties in the NRHP are codified in CFR 36 Part 60 and explained in guidelines published by the Keeper of the National Register.

1.4 PROJECT LOCATION AND DESCRIPTION

1.4.1 Project Location and Area of Potential Effects

The proposed SGGS site is located on SGGS property, which falls within the southwestern portion of San Bernardino County, and is situated along the city boundaries for Rancho Cucamonga and Ontario, California. The proposed SGGS site falls within the City, just east of Interstate 15 (I-15) and north of Interstate 10 (I-10). Nearly all of the construction activity will occur within in the boundaries of the EGS property, though two of the associated potential laydown areas are located south and west of the EGS property. The project location is shown on the Guasti, California (1981) 7.5’ USGS topographic map, Township 1 South, Range 6 West, Sections 16 and 17 (Figure 1).

The archaeological area of potential effects (APE) is defined as the extent of an area that will be affected by ground-disturbing activities. The APE for this project includes the proposed SGGS site and the footprints for all the associated project components (see Chapter 2 of the AFC for further discussion) (Figure 2).

1.4.2 Project Description

The EGS property is approximately 60 fenced acres of land, roughly one mile east of I-15 and one and a half miles north of I-10. This property is bordered by Etiwanda Avenue to the east, an existing Southern California Edison (SCE) switching yard and vacant SCE-owned land to the south, undeveloped SCE-owned land to the west, a parcel to the southwest owned by Inland Empire Utilities Agency containing two water tanks, and Burlington Northern Santa Fe Railroad tracks to the north. The proposed SGGS site will be located primarily on the EGS property, where an existing power plant is owned and operated by Reliant Energy Etiwanda, Inc.

The proposed SGGS will be a 656-megawatt (MW) combined cycle power plant, which will consist of two combustion turbine generators (CTGs), two supplementally fired heat recovery steam generators (HRSGs), one steam turbine generator (STG), and ancillary equipment. The project’s related linear

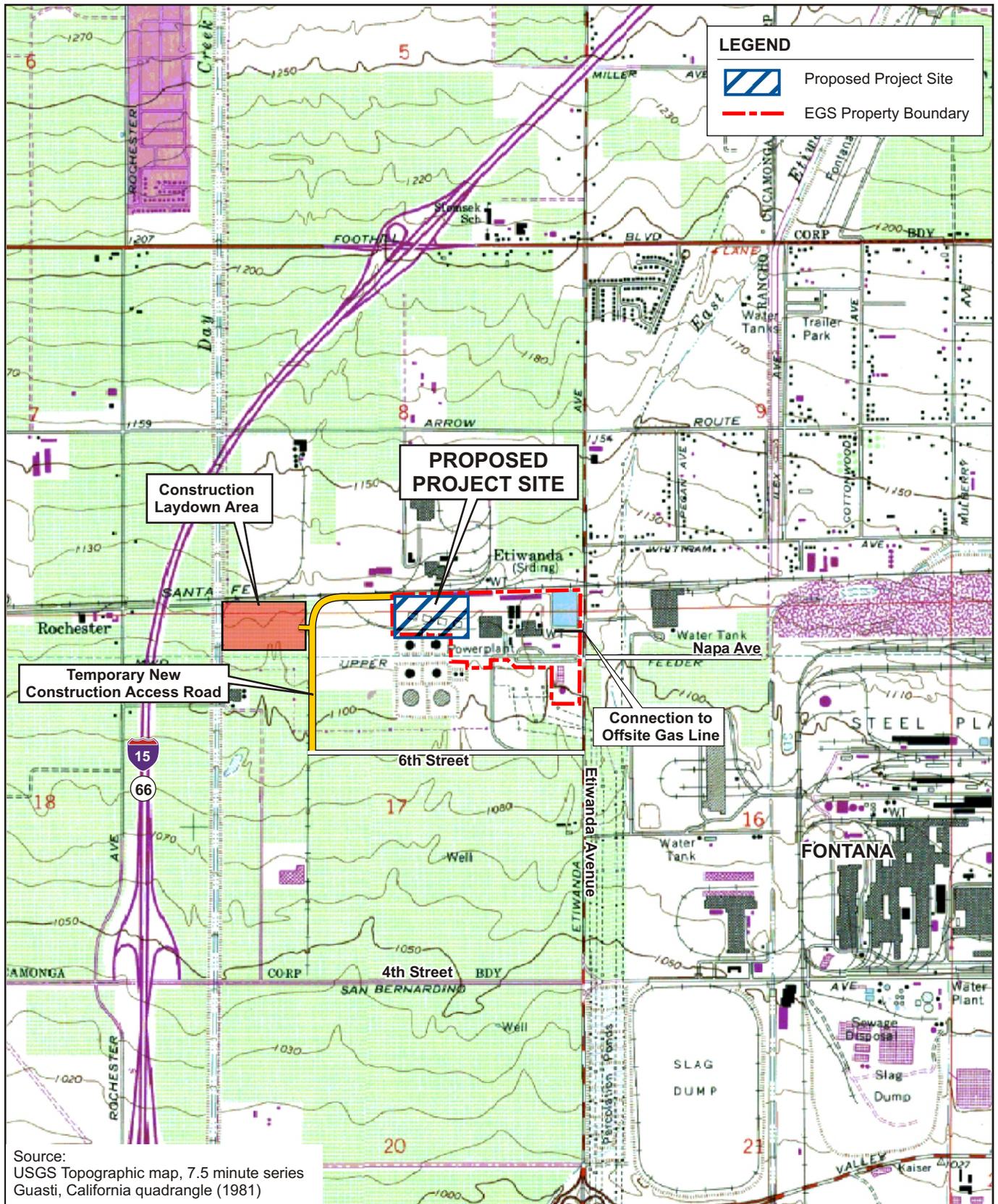
facilities include potable and makeup water lines, a new fire loop connected to the existing EGS fire loop system, a process wastewater discharge line, and natural gas lines. Project components include offsite parking and staging areas for use during construction. The locations of all the project features, including the linear features and offsite facilities, are depicted on Figure 2.

The proposed SGGS site is zoned industrial, designated for heavy industrial use. Adjoining and nearby property within one mile of the EGS property are industrial facilities, undeveloped land, or transmission line corridors. The closest agricultural lands are located approximately seven miles southwest in the area surrounding Ontario. Primary access to the site areas during construction will be from the south, via 6th Street. Permanent access to the power plant will remain on Etiwanda Avenue.

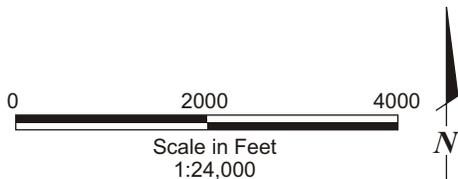
1.4.3 Summary of Major Proposed Project Components

The proposed project consists of the following major project components (as depicted on Figure 2):

- Proposed San Gabriel Generating Station Site – the proposed SGGS site is located on approximately 17 acres located along 8th Avenue in Rancho Cucamonga, California. The proposed SGGS site is located primarily within the 60-acre EGS property that contains an existing onsite gas-fired power steam plant. Main access to the proposed SGGS site will be from the existing EGS access on Etiwanda Avenue. The vertical extent of construction impacts has not yet been determined, though based upon prior experience, grading and excavation activities should not extend beyond three feet below the ground surface.
- Linear Components – the vertical extent of these project components has not yet been determined, though based upon prior experience, excavation activities can extend three to five feet below the ground surface. It should be noted that these components are going to be placed in a heavily disturbed area and will connect with existing utilities.
 - **Makeup Waterline** – this 10-inch-diameter water line will extend from the SGGS (in a west-east direction) to the EGS makeup water supply reservoir.
 - **Potable Water Line** – this 3-inch-diameter water line will extend from the SGGS to the EGS' well water supply system.
 - **New Fire Loop** – this water line will connect to the existing fire loop near the Construction Onsite Laydown Area 4.
 - **Process Wastewater Discharge Line** – this component falls within the EGS property, though specific details have yet to be provided.
 - **Natural Gas Lines and the Offsite Gas Line Corridor** – this 20-inch-diameter gas line will have an underground connection to the existing metering station on the eastern edge of the EGS property. It will extend approximately 200 feet east of the EGS property line and will terminate at an existing Southern California Gas Company gas line.
- **Retention Basin and Access Bridge** – the vertical extent of the proposed retention basin and the adjacent access bridge has yet to be determined, though based upon prior experience, excavation activities can extend up to three to six feet below the ground surface. The access bridge will be constructed over an existing drainage ditch (Chadwick Channel). The new bridge will be 30 feet wide by 100 feet long. The vertical extent of the proposed access bridge has not been determined, though based upon prior experience, excavation activities can extend up to three to six feet below the ground surface.



Source:
USGS Topographic map, 7.5 minute series
Guasti, California quadrangle (1981)

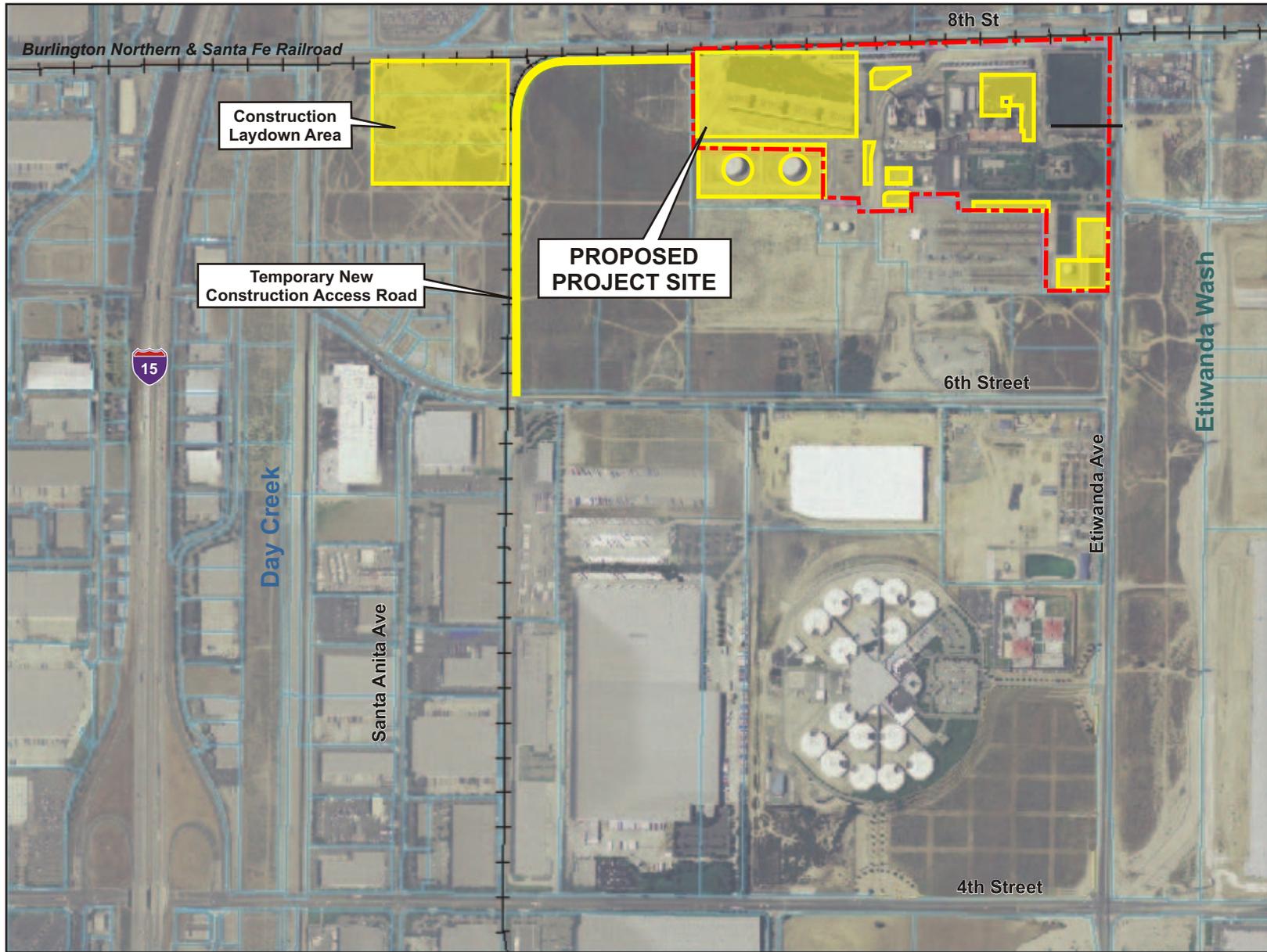


PROJECT LOCATION MAP

San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California



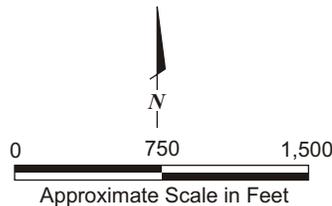
FIGURE 1



Source: San Bernardino County image mosaic; USDA FSA Aerial Photography Field Office, 2005; City/County Boundaries, Parcels, Streets and Railroads, San Bernardino County, 2001-2006.

LEGEND

- +++ Railroad
- - - EGS Property Boundary
- Area of Potential Effect



**ARCHAEOLOGICAL RESOURCES
AREA OF POTENTIAL EFFECTS**

April 2007
28067169
San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California



FIGURE 2

- **Laydown Areas** - the vertical extent of the Offsite Construction Laydown Area and Onsite Construction Laydown Area 1 has not yet been determined, though based upon prior experience, excavation and grading activities can extend up to three feet below the ground surface. Laydown Areas 2-9 would not require grading or excavation. It should be noted that these components are going to be placed in a heavily disturbed area and will connect with existing utilities.
 - **Offsite Construction Laydown Area.** This 12-acre area is located along the southern side of the Burlington Northern Santa Fe Railroad tracks, east of Day Creek and west of the proposed SGGS site. Heavy vegetation removal is required at this location. All 12 acres will be grade, though six acres will be cut and the remaining six will be filled with the cut material.
 - **Construction Onsite Laydown Area 1.** This 4.5-acre area is located on land owned by IEUA and to the south of the proposed SGGS site.
 - **Construction Onsite Laydown Area 2.** This 0.5-acre area is located onsite and within the EGS property, east of the proposed SGGS site.
 - **Construction Onsite Laydown Area 3.** This 2.2-acre area is located onsite and within the EGS property, east of the proposed SGGS site.
 - **Construction Onsite Laydown Area 4.** This 0.3-acre area is located onsite and within the EGS property, east of the proposed SGGS site.
 - **Construction Onsite Laydown Area 5.** This 0.35-acre area is located onsite and within the EGS property, east of the proposed SGGS site.
 - **Construction Onsite Laydown Area 6.** This 0.3-acre area is located onsite and within the EGS property, east of the proposed SGGS site.
 - **Construction Onsite Laydown Area 7.** This 0.7-acre area is located onsite and within the EGS property, east of the proposed SGGS site.
 - **Construction Onsite Laydown Area 8.** This 1.4-acre area is located onsite and within the EGS property, southeast of the proposed SGGS site.
 - **Construction Onsite Laydown Area 9.** This 1.4-acre area is located onsite and within the EGS property, southeast of the proposed SGGS site.
- **Temporary Construction Access Road** – This is considered to be a temporary component to the SGGS. It will extend west from the proposed SGGS site, along the Burlington Northern Santa Fe Railroad tracks, then south to 6th Street. The vertical extent of this project component has not yet been determined, though based upon prior experience, excavation and grading activities can extend up to three feet below the ground surface. Vegetation removal will be required for this project component.

1.5 ENVIRONMENTAL SETTING¹

For the purposes of discussion, the “project study area” describes the proposed SGGS site and an approximate five-mile radius surrounding the site.

1.5.1 Present Environment of the Project Study Area

San Bernardino County is located in southern California, approximately 35 miles east of the City of Los Angeles. The proposed SGGS site is located on approximately 17 acres in the northwest portion of the

¹ Information in portions of this section has been adapted from *A Class I Cultural Resources Assessment for the FEMA Vegetation Management Project, City of San Bernardino, California* written for URS (SRI 2001).

EGS property, within southwestern San Bernardino County in the City of Rancho Cucamonga. The project study area lies within a geographical basin, which includes Orange County and portions of Los Angeles, Riverside, and San Bernardino counties. This basin is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The terrain is generally flat, with the San Bernardino Mountains located approximately seven miles to the north.

The climate of the project study area is Mediterranean, characterized by hot and dry summers, with cool and moist winters. The mean monthly temperature ranges in the mid-70s, with summer months reaching temperatures that frequently surpass 100 degrees Fahrenheit. Temperatures in the winter months fall to the low 50s, with 70% of the annual rainfall occurring during that season. Seasonal changes in pressure and circulation have an effect on the surface winds that sweep through the region at the mouth of the Cajon Pass. North winds coming through the pass, as a result of high pressure in the desert, are known as Santa Ana winds. In the early fall, these winds can be quite warm as they travel down the mountain slopes and the humidity levels drop dramatically under these conditions.

1.5.2 Historic Land Changes within the Project Study Area

The site has been historically used as a power plant prior to most of the other development in the general vicinity and is surrounded by other industrial and commercial uses. While Rancho Cucamonga and most of the surrounding area were used for agriculture, most of this land use type disappeared about the time the existing plant was originally constructed in the early 1950s.

1.5.3 Plants and Animals within the Project Study Area

The proposed project site contains developed areas (plant operations facilities) and ruderal (i.e., disturbed) areas. The proposed SGGs site currently houses four large cooling towers that will be demolished prior to new construction. The two proposed laydown areas are dominated by non-native vegetation (mustard and vineyards) with some native shrubs interspersed. Common wildlife (rabbits, small mammals, sparrows) was observed at the proposed SGGs site and both laydown areas. The area surrounding the project site is largely developed by heavy industry. The closest natural habitat to the site is the Etiwanda Wash, which is approximately 250 meters east of the EGS.

1.5.4 Soils within the Project Study Area

Much of San Bernardino County is made up of alluvial valley floors, fans, and terraces. The regional elevation in this area ranges from 600 to 3,400 feet and the average annual rainfall ranges from 12 to 18 inches (USDA 1980). Soil types within the SGGs site consist of Tujunga loamy sand. The soil types within a mile radius of the SGGs site consist of Tujunga loamy sand, Hanford coarse sandy loam, Tujunga gravelly loamy sand, and Soboba gravelly loamy sand. In addition, Delhi fine sand is located adjacent to the southwest corner of the proposed project site and beyond the site to the south, west, and southwest. The temporary access road will be on Tujunga loamy sand and Delhi fine sand.

1.5.5 Geological Formations within the Project Study Area

The project study area is along the southern slopes of the San Bernardino Mountains, which reach elevations ranging from 1,600 to 4,000 feet above mean sea level. The San Bernardino Mountains form the eastern portion of the Transverse Ranges, which separate the coastal basins of southern California from the Mojave Desert. The southern slopes of the mountains uplifted from the San Andreas Fault at their base during the middle Pleistocene rise steeply from the valley floor and are cut by many rugged canyons.

These southern slopes are mainly composed of a Precambrian igneous and metamorphic rock complex that includes schists, gneiss, and migmatites, with some outcrops of Mesozoic granitic rocks (Rogers 1975; Clarke 1979:13; Bortugno and Spittler 1986). These materials were available to aboriginal inhabitant of the region for use as groundstone implements, although lithic materials suitable for the manufacture of flaked-stone tools are more rare, limited to quartzites and metavolcanic rocks.

1.5.6 Disturbance within the Project Study Area

Disturbance within the project study area includes paved and graded dirt roads, numerous buildings, structures, and tanks as well as ornamental landscaping elements. Specifically with the proposed SGGs site and the footprints for each of the project components, elements such as existing infrastructure, which includes utility lines (including water and gas) and paved foundations / parking lots, have also previously disturbed the area.

1.6 BACKGROUND – PREHISTORIC SETTING

The Los Angeles plain and fringing coastlines have supported a continuous cultural occupation for at least the last 8,000 years. This date represents an estimate for the origins of relatively sedentary populations. This time span is generally divided into seven cultural sequences: the Prehistoric Period, the Paleoindian Period, the Millingstone Period, the Intermediate Period, the Late Prehistoric Period, the Ethnohistoric/Mission Period and the Historic Period. Each of the cultural periods produced rich material inventories and complex social organizations. However, only their respective subsistence and settlement patterns will be discussed, as they reflect directly to the project under study.

An Archaic occupation has been identified in the archaeological record that reflects the early emergence of non-agricultural village-based groups in the Los Angeles Basin. Current archaeological evidence suggests that a relatively small population existed in the basin until approximately 2,000 years before present (B.P.). After that time, populations appear to have expanded considerably into resource-rich coastal and near-shore estuarine environments (Dillon 1990:6). Reports from early European contacts to the area, such as Juan Rodríguez Cabrillo (Wagner 1929:79-93) and Sebastian Vizcaino (Bolton 1930:52-103), indicated that some of the large coastal villages had hundreds of occupants. These observations appear to be supported by the archaeological evidence (Bean and Smith 1978:540) although, by the late 18th Century, reports indicate that the Los Angeles environs supported only a small, though well-established, hunter/gatherer culture (Dillon 1990:6).

1.6.1 Paleoindian Period

The academic community generally accepts the “La Brea Woman” remains as the earliest confirmed Paleoindian evidence in the Los Angeles Basin. The “La Brea Woman” remains consist of a cranium, mandible, and post-cranial fragments of a twenty-five-year-old adult female that was recovered from Pit 10 at the Rancho La Brea tar pits (Note: a mano was recovered in proximity to the remains). The remains were assigned to the Early Holocene due to their geological association with avifaunal remains typical from that period (Dixon 1999:130). Berger (1975) provides a radiometric date of 9,000 +/- 80 B.P. (uncalibrated). This would make the “La Brea Woman” contemporaneous with the so-called big game hunting tradition found at that time across most of the North American continent (Willey 1966:37-38; Dixon 1999:45-89).

The earliest substantial evidence of occupation in the general project vicinity comes from the Del Rey bluffs along the southern coastal fringes of the ancient outlet of the Los Angeles River, approximately thirty miles south of the project site (Lambert 1983). This evidence, mainly in the form of non-fluted points with a few crescents, appears to have typological connections with early desert sites to the east.

Points collected by Lambert include Lake Mohave types (Campbell *et al.* 1937), San Dieguito types (Rogers 1939), and Borax Lake points (Harrington 1948). Based on the chronologies established at these inland regions, many of the Del Rey bluff artifacts might date as far back as 9,000 B.P. (Dillon 1990:7).

1.6.2 Millingstone Period

In Southern California, the Millingstone Period, also called the Millingstone Culture, extends to at least 6,000 B.P. and probably as far back to 8,500 B.P. (Warren 1968; Wallace 1955). Hard seed processing became one of the major components of subsistence during this period. Overall, the economy was based on plant collecting, but was supplemented by fishing and hunting. Evident in near-shore and coastal locations, there also appears to have been infrequent exploitation of marine and estuarine resources (Wallace 1955).

The Millingstone Period is typified by large, heavy ground stone milling tools such as deep basin metates and wedge-shaped manos, and large core/cobble choppers and scrapers (Dillon 1990:8). The portable manos and metates that characterize the Millingstone lithic assemblage were undoubtedly used as portable processing equipment for collected plant materials. The reliance on this subsistence strategy and associated tools is further supported by the apparent scarcity of faunal remains at Millingstone sites. The flaked lithic tools generally represent a larger and cruder assemblage than is characteristic in the later periods. Projectile points and apparent hunting-type tools tend to be absent from Millingstone Culture assemblages. The so-called cogged stones, made by a characteristic pecking and grinding process, also are present in the Millingstone Horizon assemblages (Eberhart 1961:361-370).

Millingstone Horizon sites are found from Santa Barbara to Los Angeles County and into San Diego County, in both coastal and inland settings. In the Los Angeles area, the Millingstone Culture is typified by the so-called Topanga Culture, with type sites from the Topanga Canyon area just south of Malibu (Wallace 1955; Leonard 1971). Topanga Culture sites have the typical Millingstone assemblage materials such as core/cobble tools and an abundance of ground stone implements (manos, metates), while projectile points tend to occur less frequently.

Meighan indicated that the Topanga Culture sites may date as far back as 8,000 B.C. (1959:289), and excavations at CA-LAN-1, also known as the Tank Site, have revealed a multi-phase evolution of the Millingstone Culture probably going back to the aforementioned date (Treganza and Bierman 1958:75). Based on the excavations at the Tank Site, it appears that Phase I ranges from roughly 8,000 and 4,000 B.C., while Phase II ranges roughly between 5,000 B.C. and 2,500 B.C. Excavations at the nearby CA-LAN-2 site indicate that the Millingstone cultural tradition may have prevailed until 1,000 B.C. - much later than previously thought - though it is important to note that pestles and mortars (as opposed to mano/metates) prevail in the assemblage (Johnson 1966).

1.6.3 Intermediate Period

This period has also been called the "Hunting Period" or "Middle Horizon." About 5,000 years ago, people of the Millingstone traditions (which relied heavily on vegetal food sources) began increasing utilization of animal proteins and marine resources. Procurement of plants for caloric intake was not necessarily replaced in kind by game hunting, but rather the local Millingstone dietary regimen began to expand in breadth to incorporate additional resources. In the Los Angeles Basin, a higher percentage of projectile points and smaller chipped stone tools appear. Marine resources such as estuarine and saltwater shellfish, marine mammals, and fish were now abundant in the diets of the local inhabitants.

However, as excavations at sites such as the Little Sycamore shellmound in coastal Ventura County (Wallace *et al.* 1956), the CA-LAN-2 site in Topanga (Johnson 1966), and the Gilmore Ranch site in

eastern Ventura County (Wallace 1955) indicate, the transition in the archaeological record from the typical Millingstone assemblage to the Intermediate mortar/pestle and hunting tool kit is not well-marked. Specifically, manos and pestles appear in some instances as being contemporaneous, while at other sites, there is an adherence to the traditional Millingstone lifestyle. At Gilmore Ranch, more refined stemmed projectile points (unlike those in the Millingstone Horizon) are present and yet the types are not necessarily akin to refined points typical of the Late Prehistoric Period.

1.6.4 Late Prehistoric Period

Meighan (1954) first characterized the Late Prehistoric Period in Southern California. The period probably began sometime around the B.C./A.D. transition, but probably expanded culturally around 500 A.D. with the introduction of the bow and arrow. The end of the period is recognized as the end of the 18th Century, when the Spanish mission system was fully implemented. During the Late Prehistoric period, the ethnographic Gabrieliño lived in large villages along the Los Angeles coast and the wide valleys leading into the California interior, including much of the San Fernando Valley. Neighboring groups to the north and east included the Chumash, the Tataviam, and the Serrano. In the archaeological record, the rich Gabrieliño material culture (Johnston 1962; Blackburn 1963; Bean and Smith 1978) may be indistinguishable from the Chumash (Landberg 1965; Grant 1965, 1978a, 1978b). The Gabrieliño language derives from Shoshonean stock, which suggests that the group may have originated from the east, perhaps from the eastern California deserts or the southern Great Basin (Kroeber 1925:578-580). Unfortunately, there is not much archaeological evidence for the Gabrieliño occupation of the Los Angeles Basin, because rapid development within the last century has destroyed much of the archaeological database of the area.

Certain indicators such as diagnostic shell beads and finely worked projectile points help identify many Late Prehistoric sites in Southern California archaeologically. Among the coastal Gabrieliño, a maritime tradition at least partially carried over from the Millingstone and Intermediate Period cultures (Harrington 1978). By 1,000 B.P. the Canaliño / Chumash / Gabrieliño maritime traditions were using blue-water vessels in an exploitation strategy partially based on deep-sea fishing and marine mammal hunting. During the Late Period, *circa* 900 to 200 years ago, a highly advanced fishing and hunting strategy developed that included the exploitation of a wider variety of fish and shellfish. These new subsistence strategies, coupled with the appearance of the bow and arrow, enabled a substantial increase in local populations, the development of permanent settlements, and a “money” economy based on the shell trade.

Both the Chumash and Gabrieliño produced distinctive polychrome pictographs prehistorically (Grant 1965). The Santa Monica Mountains pictograph site CA-LAN-717 featured red monochrome paintings in direct association with an archaeological deposit. Dillon (1990) notes that there were surely Gabrieliño pictograph sites in the lowlands of the Los Angeles Basin, but that these probably did not survive the massive development of Los Angeles.

1.6.5 Ethnohistoric / Mission Period

The project APE is located within the ethnographic boundaries of the Gabrieliño (Figure 3). The following discussion is synthesized from Dillon (1990), Bean and Smith (1978), Moratto (1984), and Grant (1978a, 1978b).

The Gabrieliño, speakers of a Shoshonean-based language from the eastern Californian deserts, probably arrived into the Los Angeles Basin late during the prehistoric period. These occupants of the San Fernando Valley, and the Los Angeles basin as far east as San Bernardino, may have numbered 5,000 at the time of Spanish contact.

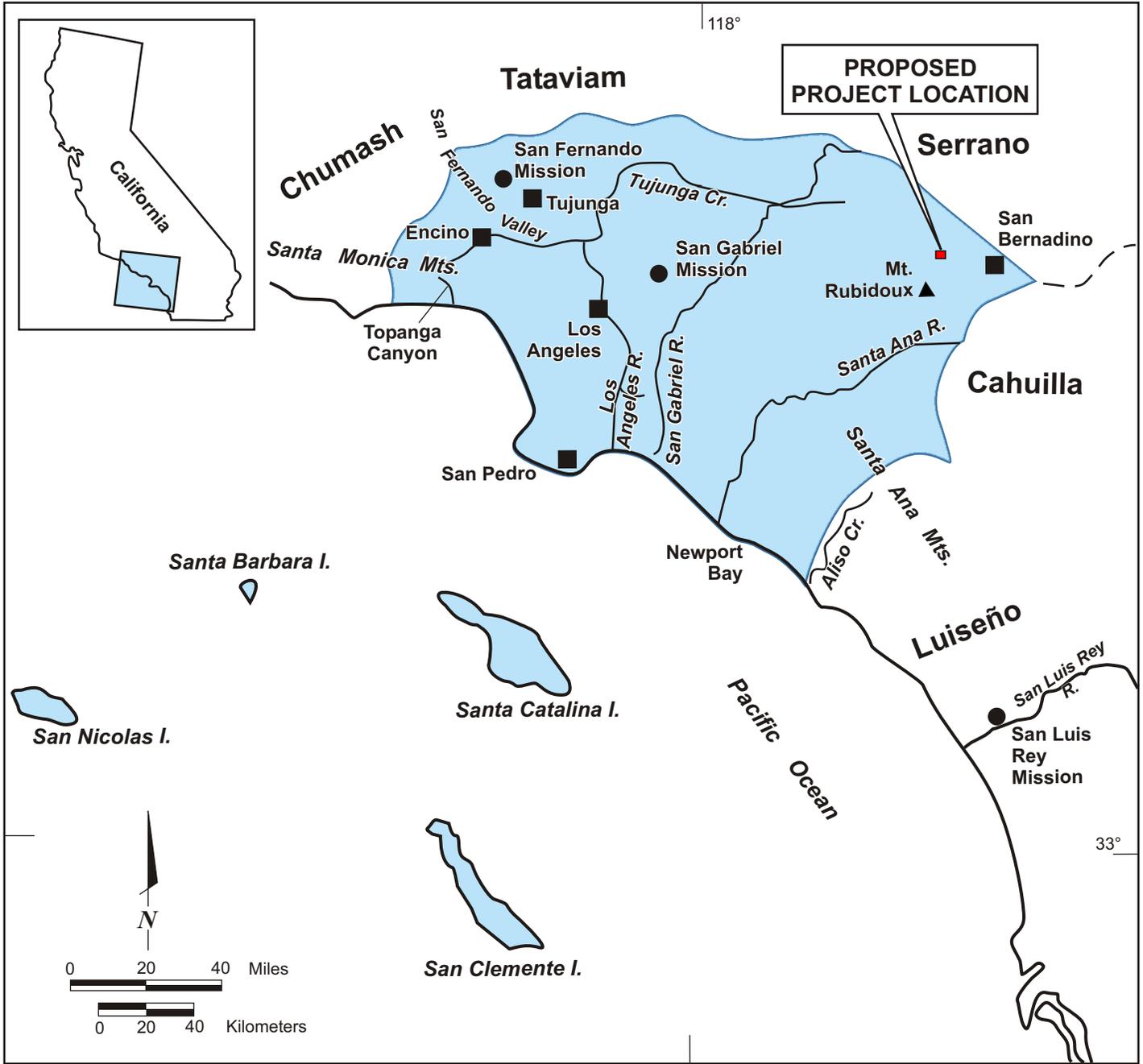
Gabrieliño territory included four macro-environmental zones: the interior mountains and foothills, prairie, exposed coast, and sheltered coast. The subsistence and settlement patterns of the inhabitants of each of these zones were adapted to the local setting and resources. The project site falls within the prairie zone. Primary food resources in these areas included acorns, sage, yucca, deer, small rodents, cacti, and a wide variety of marsh animals, plants, and birds. As in the other zones, virtually all settlements were situated near watercourses or springs. Primary subsistence villages probably were occupied continuously by larger groups, while smaller secondary gathering camps were used seasonally (possibly by family groups). The Gabrieliño had a high level of material culture and craftsmanship, with many cultural features in common with the Chumash, their neighbors immediately to the north. Their material culture included intricate basketry, woodcarving, fine stone objects, well-developed rock art and, on the coast, well-built sea-going canoes.

Antonio de la Ascencion, a friar accompanying Viscaino in 1602, documented that the Gabrieliño of Santa Catalina Island were constantly trading with their mainland counterparts (Ascencion 1615 [1929]). Steatite and shell ornaments, including the shell bead “money” (Ascencion 1615 [1929:95-99]), were the principal trade commodities. Bean and Smith (1978:540) estimate that perhaps 50 to 100 inhabitants occupied each Gabrieliño village at the time of the first Spanish contacts. The number of Gabrieliño in each household must have varied. Ascencion (1615 [1929:237]) noted that some huts were large enough to hold fifty people, but were considered “single family dwellings.” However, Dillon noted the observation by Costanso in 1911 (1990:21) that multiple families lived in Gabrieliño houses on Santa Catalina Island.

The Gabrieliño traded and intermarried with the Chumash and other neighboring groups. As Dillon has indicated (1990:14-15), the coastal and inland areas were a more or less permeable ethnic frontier, continually in flux between the Chumash and the Gabrieliño groups at varying times in the archaeological record. Indeed, it is only in the later part of the Late Prehistoric (and even then only in certain marginal areas) that researchers can assume with any confidence which areas were typically Gabrieliño. Territorial boundaries are not well defined. However, there also was significant inter- and intra-group warfare. There may have been significant divisions between the inland and the coastal Gabrieliño, as well as between the Gabrieliño and their Chumash neighbors. Coastal Gabrieliño, with better access to coastal resources than inland Gabrieliño groups, may at times effectively have prevented inland Gabrieliño groups from directly accessing the sea for fishing and trading purposes (Bean and Smith 1978:546).

The Chinigchinich cult, a religion which involved the use of the psychotropic plant *Datura*, or “Jimson weed,” was practiced by Southern California groups during the protohistoric period, and probably prehistorically as well (Boscana 1983). Boscana’s informants who were either Gabrieliño or Luiseño (Juaneño), were from the San Juan Capistrano Mission. Kroeber (1959), through Luiseño informants at San Juan Capistrano, maintains that the Chinigchinich cult had come over from Santa Catalina Island (hence, was originally Gabrieliño).

Hugo Reid, an immigrant from Scotland who became a Mexican citizen of Los Angeles and married a Gabrieliño woman, is considered to be an important source for Gabrieliño village names and locations (Dillon 1990:22). He noted twenty-eight Gabrieliño villages or place names known to him from the 1830s and 1840s (Dakin 1978:220-221).



Adopted from:
 Gabrielino Handbook of North American Indians,
 Volume 8, California, pg. 538 (Bean and Smith, 1978).

**ETHNOGRAPHIC TRIBAL TERRITORY
 OF THE GABRIELIÑO**

San Gabriel Generating Station
 April 2007 San Gabriel Power Generation, LLC
 28067169 Rancho Cucamonga, California



FIGURE 3

1.7 BACKGROUND – HISTORIC SETTING

For further information discussing the setting and regional history of the project study area, the reader is referred to the *Historical Resources Inventory and Evaluation Report for the Proposed San Gabriel Generating Station Project* (JRP 2007), attached as Appendix D to this report.

1.7.1 Regional / Local History

The history of San Bernardino County reflects political, economic and social characteristics associated with Spanish, Mexican and American political rule. From the first Spanish explorers to American settlers, the area has hosted various enterprises including mining and farming, as described in the following:

Spanish Period (in California)	1771-1834
Mexican Period	1834-1850
American Period	1850-present

The first recorded European contact with the Gabrieliño was by Juan Rodriguez Cabrillo in October of 1542 (Wagner 1929). However, it was not until 1769 that Portola made the first Spanish overland expedition through present day Los Angeles County. Prior to that time, the Spanish were focused on the immediate coast and islands. Hence, the interior Gabrieliño probably had little European contact prior to Portola's journey. While *en route* from San Diego to Monterey Bay, Portola stopped at an interior Gabrieliño village called *Yang'na*, situated on the western bank of the Los Angeles River, near what is now downtown Los Angeles. From there, Portola and his crew traveled northwest, through the Sepulveda Pass (now the 405 freeway) and into the San Fernando Valley.

In 1771, two years after Portola's expedition, Mission San Gabriel Archangel was founded, at the northeast end of the San Fernando Valley, some twenty miles north of the later location of Burbank. Local Native Americans were encouraged, and sometimes coerced, to move to the mission area. The San Gabriel mission became the center of Gabrieliño culture during the earliest part of the historic period. Mission San Fernando Rey del España, twenty miles south of the project site, was not founded until 1797. Established much later, after the first mission had had its toll on the Gabrieliño, San Fernando drew heavily on the surrounding populations as well as on the remaining Gabrieliño. Its residents included a mixed population of Serrano, Luiseno, Cahuilla and other groups. It was standard practice during the Spanish and Mexican periods to name the local inhabitants after the local Catholic Mission (Johnston 1962; La Lone 1980). The Gabrieliño people of the San Fernando Valley became known as the Fernandeno, a subgroup of the Gabrieliño. The project site is located about midway between the two missions.

By 1832, the Spanish had baptized 7,825 Native Americans at the San Gabriel Mission. At that time, there was no remaining Native Americans living on the Los Angeles plain or the adjacent coast. By the 1850s, the Gabrieliño ethnic identity had been almost entirely suppressed by the rapidly expanding Los Angeles population, and by the end of the 1800s, there were few remaining Gabrieliño with direct knowledge of their language and culture (Dillon 1990:23).

1.7.2 Electrical Generation History of the Project Area

The proposed SGGs site is located on the northwest corner of the grounds of the existing SGGs in Fontana, California. The plant was developed as a part of the SCE's post World War II generating system in the industrial area of Fontana. For further information discussing the growth of electrical generation in California and of the SCE system leading to the Etiwanda plant, in context with the industrialization of

Fontana, the reader is referred to the *Historical Resources Inventory and Evaluation Report for the Proposed San Gabriel Generating Station Project* (JRP 2007), attached as Appendix D to this report.

1.8 CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM RECORDS SEARCH AND RESULTS

A California Historical Resources Information System (CHRIS) rapid response records search was conducted at the AIC, at the San Bernardino County Museum, by AIC staff on 09 March 2005 (#07-02-14-01). The purpose of this records search was to identify all previously conducted archaeological surveys and studies, as well as all previously recorded archaeological (including both prehistoric and historic) sites within the project study area. This records search encompassed the project APE and a one-mile search radius around the project APE; the results of the records search are attached as Appendix B to this document. In addition to the historical resources files, the following publications, manuscripts or correspondence were consulted:

- Directory of Historic Properties – Records entered into the OHP computer file of historic resources, received quarterly (2006)
- Determinations of Eligibility – Records entered into the OHP computer file, received quarterly (2006)
- *Five Views: An Ethnic Sites Survey for California* (1988)
- California Historical Landmarks
- California Points of Historical Interest
- *Survey of Surveys: A Summary of California's Historical and Architectural Resources Surveys* (1986)

Based on the information obtained in this records search, there have been no known cultural (prehistoric or historic) resources identified within the project APE. There are 12 known cultural resources (12 historic sites and no prehistoric) that have been identified within the search radius. The records search revealed 46 previously conducted surveys within the search radius, four of which fall within one of the project components (Figure 4).

1.8.1 Previously Conducted Studies or Surveys within One Mile of the Project APE

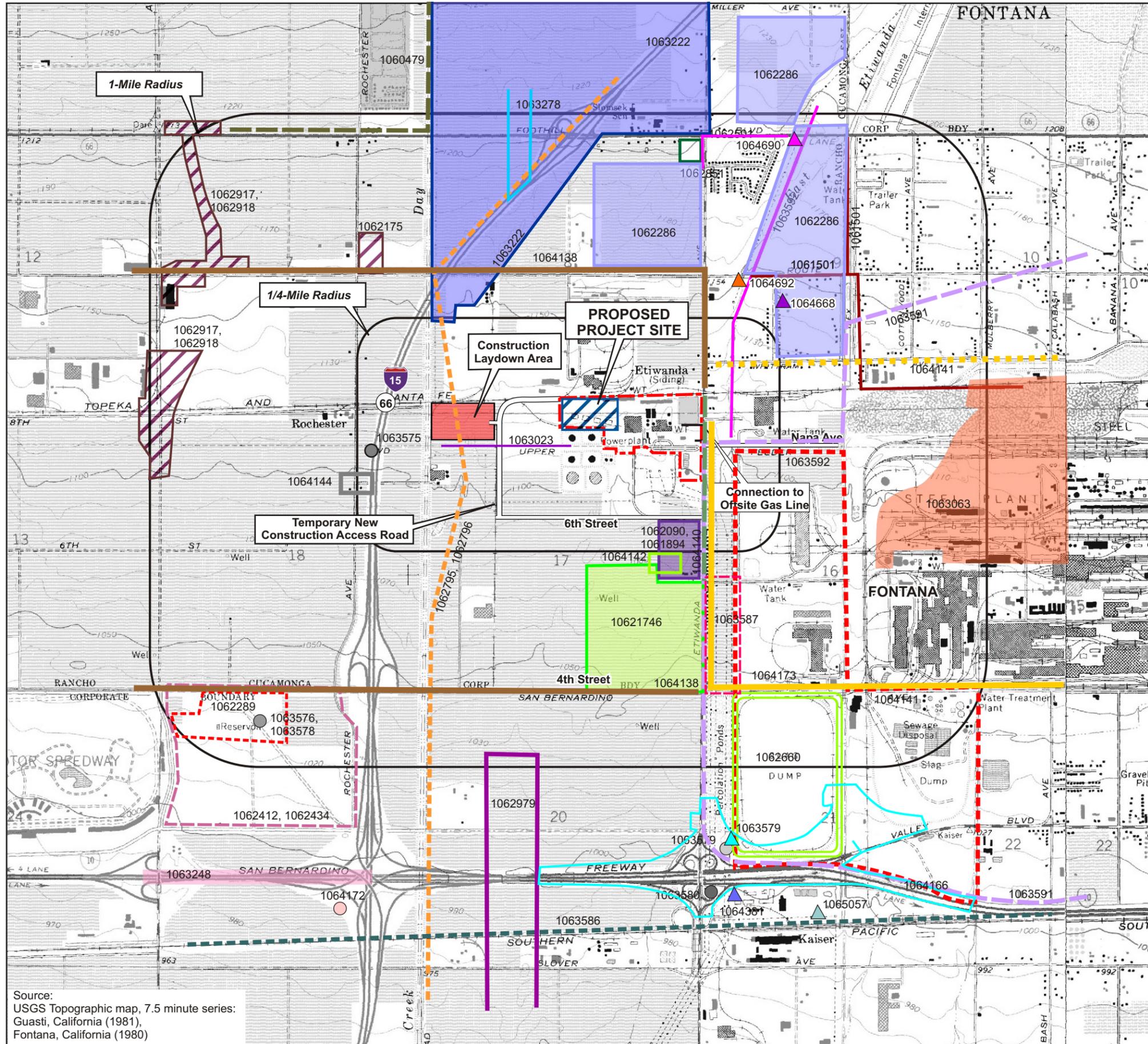
As mentioned above, the records search revealed 46 previously conducted surveys within the search radius, four of which fall within the study area. The surveys are depicted in Figure 4, “Previously Conducted Studies / Surveys within One Mile of the Project APE”. Table 1 summarizes these surveys.

1.8.1.1 San Gabriel Generating Station Project Site

No studies /surveys have been conducted within this portion of the SGGS.

1.8.1.2 Linear Components

No studies /surveys have been conducted within this portion of the SGGS.



Source:
USGS Topographic map, 7.5 minute series:
Guasti, California (1981),
Fontana, California (1980)

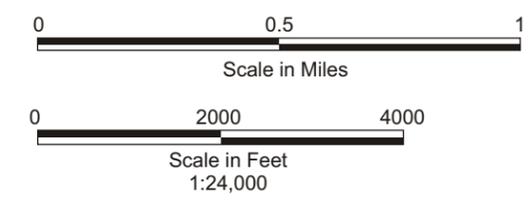
LEGEND

-  Project Site
-  Property Boundary

REPORTS

- | | | | | | |
|---|---------------------------------|--|---------|---|---------|
|  | 1061501 |  | 1062286 |  | 1064140 |
|  | 1062090,
1061894 |  | 1062501 |  | 1064141 |
|  | 1062851 |  | 1063591 |  | 1064668 |
|  | 1063592 |  | 1063063 |  | 1064690 |
|  | 1063222 |  | 1063587 |  | 1064692 |
|  | 1063278 |  | 1062660 |  | 1064173 |
|  | 1062795,
1062796 |  | 1062979 |  | 1064166 |
|  | 1063248 |  | 1063586 |  | 1064381 |
|  | 1060479 |  | 1064138 |  | 1065057 |
|  | 1063023 |  | 1064142 |  | 1064144 |
|  | 1063575 |  | 1064172 | | |
|  | 1062175,
1062917,
1062918 | | | | |
|  | 10621746 | | | | |
|  | 1062412,
1062434 | | | | |
|  | 1063576,
1063578 | | | | |
|  | 1063580 | | | | |
|  | 1062289 | | | | |
|  | 1063579 | | | | |

Note:
Survey information was obtained from the
"Historical Resources Record Search: Etiwanda
Power Plant Project" conducted by the Archaeological
Information Center on 14 February 2007.



**PREVIOUSLY CONDUCTED STUDIES/SURVEYS
WITHIN 1 MILE OF THE PROJECT APE**

April 2007	San Gabriel Generating Station
28067169	San Gabriel Power Generation, LLC
	Rancho Cucamonga, California



FIGURE 4

Table 1 – Previously Conducted Studies / Surveys within 1 Mile of the Project APE

Study Number	Author	Date	Title	Was all or part of the study / survey conducted in the project APE?	Was the study / survey positive for cultural resources?
1060479	Hearn	1977	Archaeological – Historical Resources Assessment of Lewis Homes Project in the Etiwanda Area	No	No
1061501	Mason	1985	Cultural Resource Survey Report for the Etiwanda Pipeline and Power Plant EIR	No	Yes, though they are not located within the project APE
1061746	Swanson	1987	Cultural Resources Survey of a Proposed 120-acre Adult Pre-trial Detention Facility, Rancho Cucamonga, San Bernardino County, California	Yes, it covers Construction Laydown Area Alternative A	No
1061894	Bouscaren and Swanson	1989	Cultural Resources Survey of the 27 Acre Proposed Chino Basin Municipal Water District (CBMWD) Regional Plan No.4, in the City of Cucamonga, California	No	No
1062090	Swanson	1990	Addendum to Cultural Resources Survey of the 27 Acre Proposed Chino Basin Municipal Water District (CBMWD) Regional Plan No.4, in the City of Cucamonga, California	No	Yes, though they are not located within the project APE
1062175	White	1988	Cultural Resources Inventory for the Proposed Rochester Substation, San Bernardino County, California	No	No
1062286	Clevenger	1988	Cultural Resource Survey of the Etiwanda Pipeline and Power Plant and Alternatives, Bernardino County, California	No	Yes, though they are not located within the project APE
1062289	Weisbord	1990	County of San Bernardino, Regional Medicial Center Relocation Project EIR	No	Yes, though they are not located within the project APE
1062412	Del Chario and Demack	1991	A Cultural Resource Assessment of the Ontario Mills Project Site, City of Ontario, San Bernardino County	No	No
1062434	Del Chario	1991	Addendum to a Cultural Resource Assessment of Ontario Mills Project Site, City of Ontario, San Bernardino County	No	No

Table 1 – Previously Conducted Studies / Surveys within 1 Mile of the Project APE

Study Number	Author	Date	Title	Was all or part of the study / survey conducted in the project APE?	Was the study / survey positive for cultural resources?
1062501	Hogan	1992	Archaeological Monitoring Report: Metropolitan Water District Etiwanda Pipeline, City of Rancho Cucamonga, San Bernardino County, California	No	Yes, though they are not located within the project APE
1062660	Swope	1992	Archaeological Investigations of Approximately 240 Acres, Mining and Reclamation, Kaiser Mill Site, Fontana, San Bernardino County, CUP W130-907	No	No
1062795	Hampson, Schmidt and Schmidt	1991	Cultural Resource Investigation: Cajon Pipeline Project	Yes, partially within Laydown Area B	Yes, though they are not located within the project APE
1062796	McKenna	1993	Cultural Resources Investigations, Site Inventory and Evaluations, The Cajon Pipeline Corridor, Los Angeles and San Bernardino Counties	Yes, partially within Laydown Area B	Yes, though they are not located within the project APE
1062851	Landis	1993	A Cultural Resources Survey for the Chino Basin Groundwater Storage Program, San Bernardino County, CA	No	Yes, though they are not located within the project APE
1062917	White	1994a	Historic Property Survey Report for the Proposed Metrolink Project in the City of Rancho Cucamonga, San Bernardino County, California	No	Yes, though they are not located within the project APE
1062918	White	1994b	Historic Architectural Survey Report for the Proposed Metrolink Project, City of Rancho Cucamonga, San Bernardino County	No	Yes, though they are not located within the project APE
1062979	Taylor	1993	Archaeological Reconnaissance Survey Report Middle Lugo-Mira Loma 500KV T/L Right-of-Way Between Concours and Jurupa Ave., Ontario, CA	No	Yes, though they are not located within the project APE
1063023	Owen	1995a	Class I Records Search & Field Survey for 3 Minor Cajon Pipeline Project Alterations: City of Adelanto Realignment, Baldy Mesa Realignment & Cajon/EPTC Pipeline Connection at Etiwanda Station, Rancho Cucamonga, CA	Yes, partially within the Temporary New Construction Access Road	No

Table 1 – Previously Conducted Studies / Surveys within 1 Mile of the Project APE

Study Number	Author	Date	Title	Was all or part of the study / survey conducted in the project APE?	Was the study / survey positive for cultural resources?
1063063	Sturm et al.	1995	Cultural Resources Survey and National Register Assessment of the Kaiser Steel Mill for the California Speedway Project, Fontana, CA	No	Yes, though they are not located within the project APE
1063222	Scientific Resource Survey, Inc.	1979	Archaeological / Paleontological / Historical Report on the William Lyon Co. Rancho Cucamonga Property, Located in the City of Rancho Cucamonga, CA	No	No
1063248	Smith and Wlodarski	1994	Historic Property Survey Report: Provide High Occupancy Vehicle Lanes on I-10 between the Los Angeles/San Bernardino County Line & I-15 in San Bernardino County, CA.	No	Yes, though they are not located within the project APE
1063278	McLean and Michaelsky	1997	Cultural Resources Assessment for General Plan Amendments 96-03B & 97-01, and Victoria Community Plan Amendments 96-01 & 97-01/Edison Company Project.	No	Yes, though they are not located within the project APE
1063575	Duke	2001	Cultural Resource Assessment: Cingular Wireless Facility, SB 138-01, San Bernardino County, CA	No	Yes, though they are not located within the project APE
1063576	Duke	2000a	Cultural Resource Assessment for AT&T Wireless Facility C870.1, County of San Bernardino, CA	No	No
1063578	Duke	2000b	Cultural Resources Assessment for PBW Facilities LA 980-01, LA 981-01 & LA 982-01, County of San Bernardino, CA	No	N/A – no survey was conducted
1063579	Duke	1999	Cultural Resources Inventory for PBMS Facility CM 359-04, County of San Bernardino, CA	No	Yes, though they are not located within the project APE
1063580	Duke	2000c	Cultural Resource Assessment from PBW Facility CM 359-07, County of San Bernardino, CA	No	No
1063586	Love	2000	Ontario to Colton Pipeline, San Bernardino County, CA	No	Yes, though they are not located within the project APE

Table 1 – Previously Conducted Studies / Surveys within 1 Mile of the Project APE

Study Number	Author	Date	Title	Was all or part of the study / survey conducted in the project APE?	Was the study / survey positive for cultural resources?
1063587	Love	1998	Historical / Archaeological Resources Report: Chino Basin Groundwater Recharge Project, Near the City of Rancho Cucamonga, San Bernardino County, CA	No	No
1063591	Owen	1995b	Cultural Resource Record Search and Management Plan for the San Sevaire Redevelopment Project Area, San Bernardino County, CA	No	N/A – study was only a records search
1063592	McLean and Monk	1997	Cultural Resource Assessment of the Kaiser West End Project, City of Fontana, San Bernardino County, CA	No	Yes, though they are not located within the project APE
1064138	Tang and Dahdul	2002a	Identification and Evaluation of Historic Properties, Fourth Street Recycled Water Pipeline, In and Near the Cities of Ontario and Rancho Cucamonga, San Bernardino County, California	No	Unknown, no additional information was provided by the AIC
1064139	Tang and Dahdul	2004	Addendum to Historical/Archaeological Survey, Fourth Street Recycled Water Pipeline, In and Near the Cities of Ontario and Rancho Cucamonga, San Bernardino County	No	Unknown, no additional information was provided by the AIC
1064140	Tang and Dahdul	2002b	Identification and Evaluation of Historic Properties, Etiwanda Avenue Extension Recycled Water Pipeline, In and Near the City of Rancho Cucamonga, San Bernardino County, California	Yes, partially within the Offsite Gas Line Corridor	Unknown, no additional information was provided by the AIC
1064141	Dahdul	2002	Identification and Evaluation of Historic Properties, Whittram Avenue Recycled Water Pipeline, In and Near the City of Rancho Cucamonga, San Bernardino County, California	No	Unknown, no additional information was provided by the AIC
1064142	Tang and Smallwood	2002	Identification and Evaluation of Historic Properties, Recycled Water Facilities Improvement Project, Regional Plants No. 1 and No. 4, Cities of Ontario and Rancho Cucamonga, San Bernardino County, California	No	Unknown, no additional information was provided by the AIC

Table 1 – Previously Conducted Studies / Surveys within 1 Mile of the Project APE

Study Number	Author	Date	Title	Was all or part of the study / survey conducted in the project APE?	Was the study / survey positive for cultural resources?
1064144	McKenna et al.	ND	An Evaluation of Two Historic Structures at the Intersection of Charles Smith (Rochester Ave.) and 6th Street, Rancho Cucamonga, San Bernardino County, California	No	Unknown, no additional information was provided by the AIC
1064166	McLean and Smith	1998	Negative ASR Report for District 8, San Bernardino County, Route 10, Kilometer Post 17.86/18.99, EA 08235-35450K	No	Unknown, no additional information was provided by the AIC
1064172	Holmes	2003	Proposed Cellular Project in San Bernardino County, California, Site Name/Number: CA-6687A/Ontario Mills	No	Unknown, no additional information was provided by the AIC
1064173	Fulton	2004	Cultural Resource Assessment Cingular Wireless Facility No. SB 303-02 Rancho Cucamonga, San Bernardino County, California	No	Unknown, no additional information was provided by the AIC
1064381	Earth Touch	2004	Proposed Cellular Tower Project in San Bernardino County, California Site Name/Number: CA-8505A/Oak Glen & CA-8520D/Jasmine	No	Unknown, no additional information was provided by the AIC
1064668	Michael Brandman Associates	2004	Records Search Results and Site Visit for Spring Telecommunications Facility Candidate SB60XC844A (Reeves Trucking) 8615 Pecan Avenue, Rancho Cucamonga, San Bernardino County, CA	No	Unknown, no additional information was provided by the AIC
1064690	Michael Brandman Associates	2006a	Cultural Resources Records Search Results and Site Visit for Cingular Telecommunications Facility Candidate LSANCA8023E (Baseline and Foothill Blvd.), Southeast corner of Foothill Boulevard and Cornwall, Rancho Cucamonga, San Bernardino County, California.	No	Unknown, no additional information was provided by the AIC

Table 1 – Previously Conducted Studies / Surveys within 1 Mile of the Project APE

Study Number	Author	Date	Title	Was all or part of the study / survey conducted in the project APE?	Was the study / survey positive for cultural resources?
1064692	Michael Brandman Associates	2006b	Cultural Resources Records Search Results and Site Visit for T-Mobile Telecommunications Facility Candidate IE0421C (SCE M23-T4), 13100 Block of Foothill Boulevard, Rancho Cucamonga, San Bernardino County, California	No	Unknown, no additional information was provided by the AIC
1065057	Statistical Research, Inc	2005	Deteriorated Pole Placement Project Archaeological Survey of One Pole Location on the Linde-Wimbledon 66kV and Etiwanda-Declez-Linde Transmission Lines, San Bernardino County, California	No	Unknown, no additional information was provided by the AIC

1.8.1.3 Retention Basin and Access Bridge

No studies /surveys have been conducted within this portion of the SGGS.

1.8.1.4 Offsite Construction Laydown Area

Two studies / surveys (#1062795, #1062796) have been conducted on this property. Both of the studies were negative for cultural resources within the project APE.

1.8.1.5 Onsite Construction Laydown Areas #1-9

No studies / surveys have been conducted within this portion of the SGGS.

1.8.1.6 Temporary Construction Access Road

One study / survey (#1063023) has been conducted. This study was negative for cultural resources within the project APE.

1.8.2 Previously Recorded Cultural Resources within One Mile of the Project APE

As mentioned above, there are no known cultural (prehistoric or historic) resources identified within the SGGS. There are 12 known historic cultural resources that have been identified within the search radius. There are no known prehistoric cultural resources identified within the search radius. All the historic cultural resources identified during the records search are shown on Figure 5. Table 2 summarizes the cultural resources identified during the records search.

1.8.2.1 San Gabriel Generating Station Project Site

There are no known cultural resources within this portion of the SGGS.

1.8.2.2 Linear Components

There are no known cultural resources within this portion of the SGGS.

1.8.2.3 Retention Basin and Access Bridge

There are no known cultural resources within this portion of the SGGS.

1.8.2.4 Offsite Construction Laydown Area

There are no known cultural resources within this property.

1.8.2.5 Onsite Construction Laydown Areas #1-9

There are no known cultural resources within this portion of the SGGS.

1.8.2.6 Temporary Construction Access Road

There are no known cultural resources on this land.

1.9 NATIVE AMERICAN CONSULTATION

1.9.1 Native American Heritage Commission

Prior to the beginning of fieldwork, Ms. Debbie Pilas-Treadway, of the California Native American Heritage Commission (NAHC) was contacted on January 29, 2007, to request a records search of the Sacred Lands File and a list of appropriate Native American contacts (individuals and / or organizations) that may have knowledge of cultural resources. Mr. Dave Singleton with the NAHC responded that same day. According to the NAHC, the search failed to indicate the presence of Native American cultural resources in the project APE.

Copies of the NAHC request letter, NAHC response letter, mailing list, and consultation letter, are appended to the cultural resources technical report, which is a confidential appendix (Appendix C) to this report.

1.9.2 Native American Correspondence

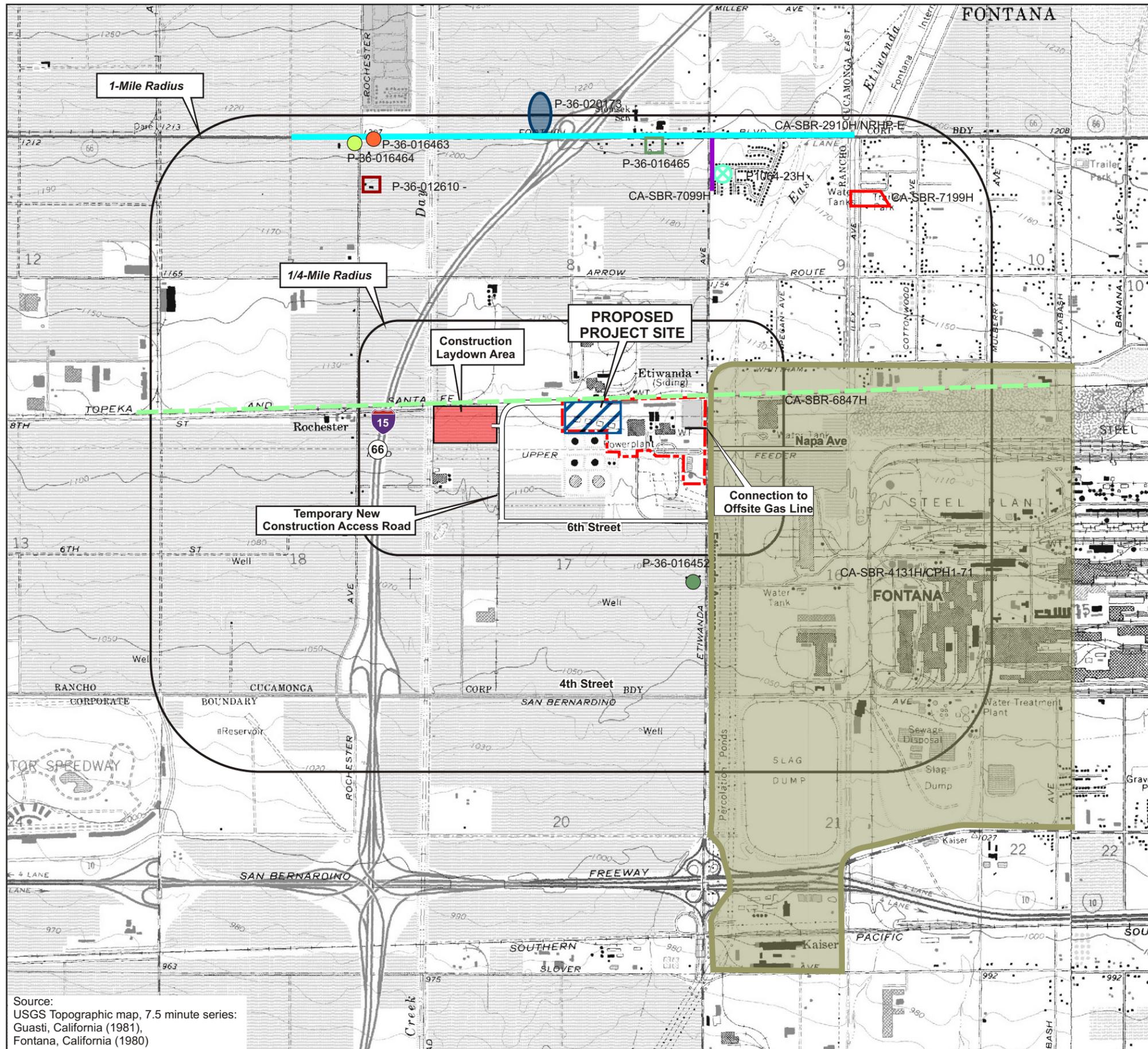
The NAHC provided a list of six individuals / organizations that may have knowledge of cultural resources in the project APE. Letters describing the project and a map depicting the proposed SGGs site, the offsite gas line corridor and the temporary new construction access road were sent to these individuals on January 31, 2007. The letter inquired whether the individuals / organizations had any concerns regarding the project, or wished to provide input regarding cultural resources in the project APE.

1.9.2.1 Responses

As of February 20, 2007, one response has been received. Mr. Britt Wilson with the Morongo Band of Mission Indians (the Band) called Ms. Christine K. Michalczuk on February 05, 2007 to state that the Band had no specific information regarding cultural resources in the project APE, but they did have comments / mitigation measures they would like URS to consider in its permitting process.

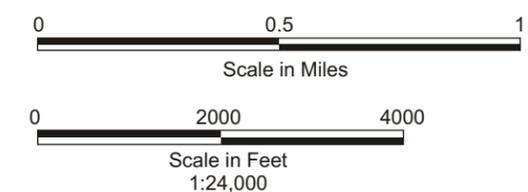
Follow-up phone calls were made Ms. Michalczuk on 27 February, 2007, to the six individuals / organizations to inquire whether they had any additional comments, questions or concerns. Phone messages were left at that time. To date, three responses have been received.

Mr. Anthony Morales returned Ms. Michalczuk's call on February 27, 2007 to inquire about the use of Native American monitors during the course of the project. He wanted to know if we were anticipating the need for monitors. Ms. Michalczuk informed him that at this stage, that decision had not been made. He had not additional comments or questions at this time.



LEGEND

-  Project Site
-  Property Boundary
- SITES**
-  CA-SBR-6847H - Railroad
-  CA-SBR-2910H/NRHP-E "National Old Trails"
-  CA-SBR-4131H/CPH1-71 - Kaiser Steel
-  CA-SBR-7199H - Residential
-  CA-SBR-7099H - Sewer System
-  P-36-016464 - Winery
-  P-36-016463 - Commercial Site
-  P-36-016452 - Winery
-  P-36-016465 - Winery
-  P 1064-23H - Residential Site
-  P-36-012610 - Winery
-  P-36-020173 Rock Alignment/Wall



**PREHISTORIC AND HISTORIC RESOURCES
WITHIN 1 MILE OF THE PROJECT APE**

San Gabriel Generating Station
 San Gabriel Power Generation, LLC
 Rancho Cucamonga, California



FIGURE 5

Source:
 USGS Topographic map, 7.5 minute series:
 Guasti, California (1981),
 Fontana, California (1980)

Table 2 – Previously Recorded Cultural Resources within 1 Mile of the Project APE

Trinomial / Primary Number	Site Type / Component	Site Description	Does it fall within a Project Component?
CA-SBR-2910H / P-36-002910	Historic	Known as the “National Old Trails Highway,” this resource is a segment of State Route 55 (formerly U.S. Highway 66). This segment dates to 1853, when Mormon settlers cut the road from San Bernardino to Los Angeles. This resource has been determined eligible for the NRHP.	No
CA-SBR-4131H / P-36-004131	Historic	This resource is described as “Kaiser Steel Mill,” and numerous buildings on the property were constructed ca. 1944. The resource was the largest mill of its type on the West Coast and was important to WW II steel production effort. This is a California Point of Historical Interest.	No
CA-SBR-6847H / P-36-006847	Historic	This resource is described as portion of the “Old Kite Route,” a popular 19th and early 20th century railroad excursion route. All that remains of this segment are several smaller bridge footings and a more robust cement and milled lumber bridge footing.	No
CA-SBR-7099H / P-36-007099	Historic	This resource is the “Metropolitan Water District Etiwanda Pipeline,” and it runs under Etiwanda Avenue, at the intersection with Foothill Boulevard.	No
CA-SBR-7199H	Historic	This site is described as a residential and possible commercial sites dating possibly from the early through the late 20th century.	No
P-36-012610	Historic	This property includes a residence, a barn, a garage, and a shed. It once was part of the Masi Brothers Winery, though the surrounding vineyards have been removed.	No
P-36-016452	Historic	Known as the “Etiwanda Grape Products Company,” this family-owned winery consists of five buildings surrounded by grape vineyards.	No
P-36-016463	Historic	The “Cowgirl Theatre / La Fourcades Store” is an one-story, irregularly shaped structure that originally served as a grocery store, though it’s currently used as a theater. It is the last remaining structure of a group of buildings built by J. LaFourcade in the 1920s.	No
P-36-016464	Historic	Known as the “Aggazzotti Winery,” this house was built 1938 as a residence. The resource was expanded to include a wine store as traffic increased along U.S. Highway 66.	No
P-36-016465	Historic	This resource is described as the “Guidera Winery” and is also known as the “Cucamonga Top Winery, Bonded Winery 4360.” This single-story structure was built in 1921.	No

Table 2 – Previously Recorded Cultural Resources within One Mile of the Project APE

Trinomial / Primary Number	Site Type / Component	Site Description	Does it fall within a Project Component?
P-36-020173	Historic	Described as the “Foothill Fieldstone Stockpile 1,” this resource consists of a fieldstone stockpile of cobbles/boulders cleared from an adjacent vineyard.	No
-	Historic	This is a residential site located along Etiwanda Avenue, near the intersection of Foothill Boulevard.	No

Mr. Goldie Walker returned Ms. Michalczuk’s call on February 27, 2007, to notify URS that she had received the letter, and that it was with her attorney at this time. She expressed concerns about being notified if any burials or artifacts are discovered during the course of the project. She would like to remain involved and would contact URS if she or her attorney had any additional questions.

Ms. Cindi Alvitre returned Ms. Michalczuk’s call on March 1, 2007, to inquire about both the cultural and biological resources that would be affected by this project. She voiced special concerns over native white sage that is found within the city boundaries and the impacts on collecting the plant for medicinal use. She requested to be kept informed and to be notified if any burials or human remains are discovered during the course of the project.

Any future responses received after the date of this report will be directly forwarded to the Applicant.

2.0 SURVEY METHODS AND RESULTS

2.1 SURVEY METHODS

Preparation of the cultural resources field survey consisted of an inventory and overview of all known cultural resources within the project APE and adjacent study areas. This study provided the basis for assessing current survey requirements and cultural resources likely to be present in the project APE. The bibliographic survey, coupled with the project field survey, facilitates an accurate assessment of the cultural resources possibly affected by project implementation. Review of the existing archaeological survey information indicated that a very small portion of the proposed SGGs had previously undergone archaeological survey, indicating the need for field inventory.

2.1.1 Archaeological Resources

An initial field survey / inventory for archaeological resources was conducted by Mark Hale, URS Senior Project Archaeologist, on September 7, 2005. On February 14, 2006, Dustin Kay, URS Archaeologist, conducted the second field inventory for archaeological resources. As required with the revised regulations, the proposed project components were surveyed on foot (intensive pedestrian survey) employing systematic, regularly spaced transects (10 meters apart). Where access permitted, an additional 200-foot-wide buffer radius around each laydown area was surveyed, as well as a 50-foot-wide buffer radius around the right-of-way (ROW) for each project linear. Access to portions of the two buffer radii was restricted by fencing, or by a developed environment (i.e. concrete and multi-lane paved roads).

2.1.2 Built Environment Resources

An onsite inventory of existing structures and other built environment resources within the adjacent parcels to the proposed SGGs, linear components, and laydown areas was conducted on March 3, 2005 by JRP. All structures were documented and photographed. The results of this inventory are detailed in Appendix D.

2.2 SURVEY RESULTS

No archaeological resources were identified within the portions of the project APE and associated components examined during the course of the current investigation. Figure 6 illustrates the project components and the areas surveyed for cultural resources, Table 3 gives the specific coverage details and field conditions encountered at each project component.

2.2.1 San Gabriel Generating Station Project Site

2.2.1.1 Existing Conditions

The SGGs is located on an approximate 17-acre site at the intersection of Etiwanda Avenue and 8th Street in the City of Rancho Cucamonga, California. The project occupies generally flat plain that slopes gently to the south. Various portions of the site were paved, with white and powdery exposed soils. Generally, ground visibility was good to excellent; however, portions of the site were heavily disturbed. Portions of the buffer radius were not surveyed due to access issues; the area was surrounded by fencing and there is a multi-lane road to the north and east of this project component.

2.2.1.2 Previous Work

A review of previously conducted cultural resources studies within one-mile of the project APE revealed that no studies had previously been conducted within the proposed SGGs site.

A review of previously recorded cultural resources within one-mile of the project APE did not reveal any recorded cultural resources within the proposed SGGS site.

2.2.1.3 Current Survey Results

The proposed SGGS site was subjected to intensive pedestrian survey for cultural resources, which included (for very limited portions of this project component) a 200-foot radius buffer zone. No cultural resources were detected within the area of the plant site. Ground visibility was good to excellent in the area; however, the area was heavily disturbed.

2.2.2 Linear Components

2.2.2.1 Existing Conditions

The linear components for this project are located within the boundaries of the EGS property, east of the proposed SGGS site. The water lines, the sewer discharge line, and the natural gas lines generally run from the west to the east, and will tie into existing lines and facilities. The EGS property was highly disturbed, as portions of the proposed site have been paved. In areas of ground visibility (60 to 80%), the soils consist of white, powdery sand with fine silts. The terrain is flat with minimal vegetation consisting of shrubs. Portions of the buffer radius were not surveyed due to access issues; the area was surrounded by fencing and there is a multi-lane road to the north and east of this project component.

2.2.2.2 Previous Work

A review of previously conducted cultural resources studies within one-mile of the project APE revealed that no studies had previously been conducted within the proposed project linear components.

A review of previously recorded cultural resources within one-mile of the project APE did not reveal any recorded cultural resources within the proposed project linear components.

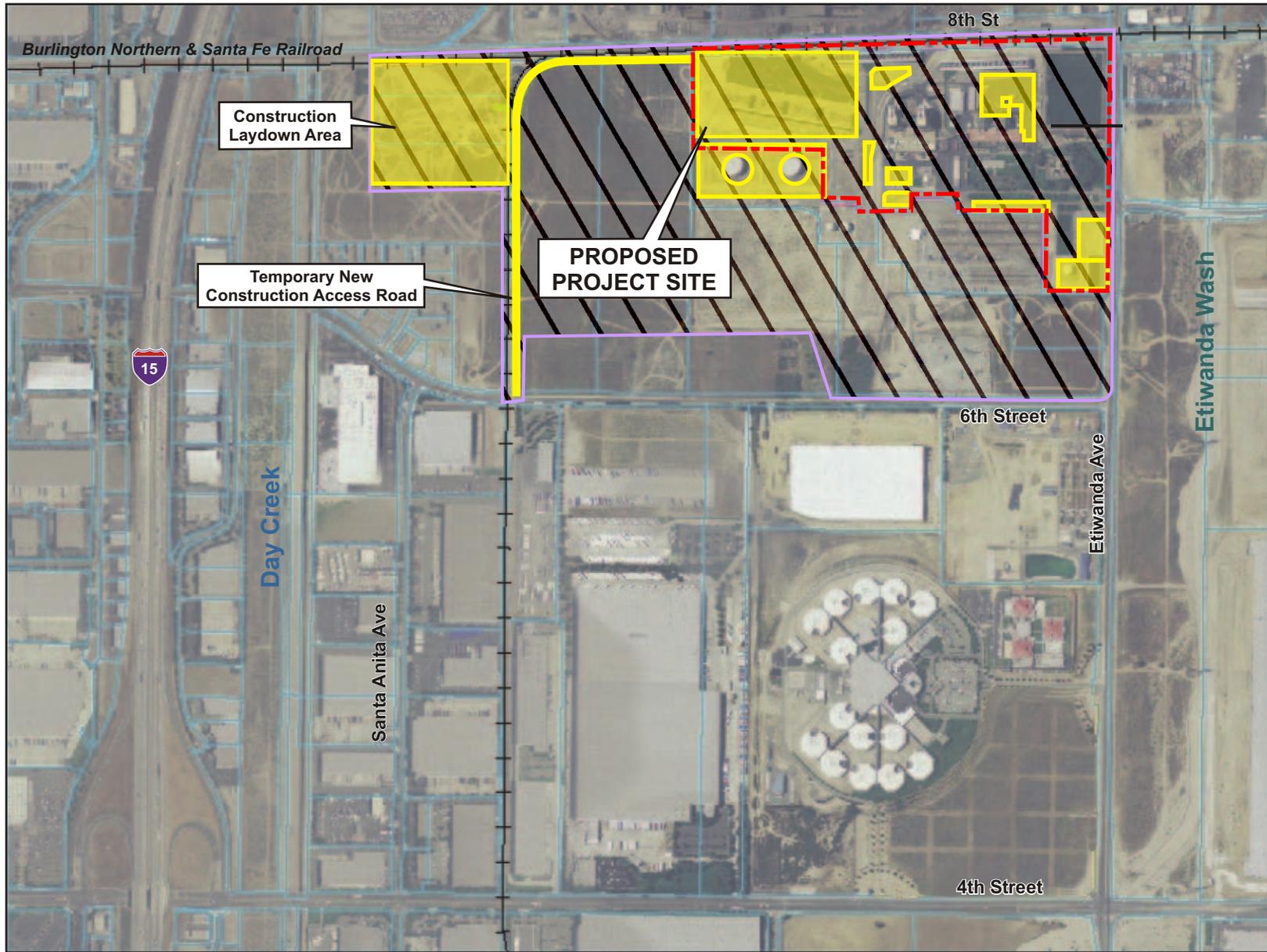
2.2.2.3 Current Survey Results

An intensive pedestrian survey of these project components (which included in certain portions, a 50-foot radius buffer zone) did not result in the discovery of any new resources. Ground visibility was good to excellent in the area; however, the area was heavily disturbed.

2.2.3 Detention Basin and Access Bridge

2.2.3.1 Existing Conditions

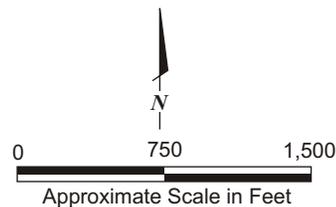
The proposed detention basin and the access bridge for this project are located within the boundaries of the EGS property, east of the proposed SGGS site. Both the basin and the bridge will be constructed on the southeastern corner of the SGGS site, adjacent to Chadwick Channel (which is an exiting drainage ditch). The EGS property was highly disturbed, as portions of the proposed site have been paved. In areas of ground visibility (60 to 80%), the soils consist of white, powdery sand with fine silts. The terrain is flat with minimal vegetation consisting of shrubs. Portions of the buffer radius were not surveyed due to access issues; this project component was surrounded by numerous buildings and structures.



Source: San Bernardino County image mosaic; USDA FSA Aerial Photography Field Office, 2005; City/County Boundaries, Parcels, Streets and Railroads, San Bernardino County, 2001-2006.

LEGEND

- +++ Railroad
- EGS Property Boundary
- Area of Potential Effect
- Areas Surveyed for Archaeological Resources



AREA SURVEYED FOR ARCHAEOLOGICAL RESOURCES

April 2007
28067169
San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California



FIGURE 6

Table 3 – Survey Coverage by Project Component and Field Conditions

Project Component	Field Conditions	Comments
<i>Proposed SGGs Site</i>	Surveyed by Mark Hale	
The SGGs site was highly disturbed; a railroad spur for train access into the plant has impacted the area, and portions of the proposed site have been paved. In areas of ground visibility (60 to 80%), the soils consist of white, powdery sand with fine silts. The terrain is flat with minimal vegetation consisting of shrubs. Overall, visibility was good due to the previous disturbance. Portions of the buffer radius along the northern and eastern boundaries were not surveyed; fencing and multi-lane paved roads prevented access.		Intensive pedestrian survey. No cultural resources were observed.
<i>Linear Components, Retention Basin and Access Bridge</i>	Surveyed by Mark Hale	
The EGS property was highly disturbed, as portions of the proposed site have been paved. In areas of ground visibility (60 to 80%), the soils consist of white, powdery sand with fine silts. The terrain is flat with minimal vegetation consisting of shrubs. Overall, visibility was good due to the previous disturbance. Portions of the buffer radius along the eastern boundary were not surveyed; fencing prevented access.		Intensive pedestrian survey. No cultural resources were observed.
<i>Offsite Construction Laydown Area</i>	Surveyed by Dustin Kay	
This site is on a relatively flat surface containing multiple undulating surfaces caused by mechanical grading of roads. The area has been heavily impacted. The proposed project APE is covered by dense grasses, shrubs, cactus and reeds allowing for fair to good visibility (50 to 70%) The areas of mechanical grading allowed for excellent surface visibility and subsurface visibility at embankment cuts. The proposed project APE was intensely surveyed in 10 meter (33 feet) linear transects. Site soil is composed of coarse-grained sand and underlying silts, containing small to medium sized sub-angular to sub-rounded gravels and cobbles. Overall visibility in the proposed project APE is good (approximately 65 to 70%) due to graded roads. The area littered with railroad ties and large areas of trash. Portions of the buffer radius along the northern and eastern boundaries were not surveyed; fencing, railroad tracks and multi-lane paved roads prevented access.		Intensive pedestrian survey. No cultural resources were observed.
<i>Onsite Construction Laydown Areas #1-9</i>	Surveyed by Mark Hale	
The EGS property was highly disturbed, as portions of the proposed site have been paved. In areas of ground visibility (60 to 80%), the soils consist of white, powdery sand with fine silts. The terrain is flat with minimal vegetation consisting of shrubs. Overall, visibility was good due to the previous disturbance. Portions of the buffer radius along the northern and eastern boundaries were not surveyed; fencing and multi-lane paved roads prevented access.		Intensive pedestrian survey. No cultural resources were observed.
<i>Temporary Construction Access Road</i>	Surveyed by Dustin Kay	
The construction access road is relatively flat and is covered with dense grasses and other vegetation. Ground visibility was fair to good (50 to 70%). The proposed project APE was intensely surveyed in 10-meter (33-foot) linear transects. Site soil is composed of coarse-grained sand and underlying silts, containing small to medium sized sub-angular to sub-rounded gravels and cobbles. Portions of the buffer radius along the northern and western boundaries were not surveyed; fencing and railroad tracks prevented access.		Intensive pedestrian survey. No cultural resources were observed.

2.2.3.2 Previous Work

A review of previously conducted cultural resources studies within one-mile of the project APE revealed that no studies had previously been conducted within the proposed detention basin and access bridge.

A review of previously recorded cultural resources within one-mile of the project APE did not reveal any recorded cultural resources within the proposed project components.

2.2.3.3 Current Survey Results

An intensive pedestrian survey of these project components (which included in certain portions, a 50-foot radius buffer zone) did not result in the discovery of any new resources. Ground visibility was good to excellent in the area; however, the area was heavily disturbed.

2.2.4 Offsite Construction Laydown Area

2.2.4.1 Existing Conditions

The Offsite Construction Laydown Area is on a relatively flat surface containing multiple undulating surfaces caused by mechanical grading of roads. The area has been heavily impacted. The proposed project APE is covered by dense grasses, shrubs, cactus, and reeds, allowing for fair to good visibility (50 to 70%) The areas of mechanical grading allowed for excellent surface visibility and subsurface visibility at embankment cuts. Site soil is composed of coarse-grained sand and underlying silts, containing small to medium sized sub-angular to sub-rounded gravels and cobbles. Portions of the buffer radius were not surveyed due to access issues; the area was surrounded by fencing, railroad tracks to the north and east and a multi-lane road to the north of this project component.

2.2.4.2 Previous Work

A review of previously conducted cultural resource studies within one-mile of the project APE revealed two studies within the offsite Construction Laydown Area.

- #1062795 (Hampson, Schmidt and Schmidt 1991) was a linear survey that extends both north and south away from the project APE, paralleling a creek and various roads. Cultural resources were discovered during this survey, though none are located within the project study area.
- #1062796 (McKenna 1993) was a linear survey that extends both north and south away from the project APE, paralleling a creek and various roads. Cultural resources were discovered during this survey, though none are located within the project study area.

2.2.4.3 Current Survey Results

An intensive pedestrian survey of the offsite Construction Laydown Area (which included in certain portions a 200-foot-radius buffer zone) did not result in the discovery of any new resources. Overall visibility in the proposed project APE is good (approximately 65 to 70%) due to graded roads. The area littered with railroad ties and large areas of trash.

2.2.5 Onsite Construction Laydown Areas #1-9

2.2.5.1 Existing Conditions

The onsite construction laydown areas fall within the EGS property (near the SGGS), which is located adjacent to the proposed SGGS site. The EGS property was highly disturbed, as portions of the proposed site have been paved. In areas of ground visibility (60 to 80%), the soils consist of white, powdery sand with fine silts. The terrain is flat with minimal vegetation consisting of shrubs. Overall, visibility was good due to the previous disturbance. Portions of the buffer radius were not surveyed due to access issues; the area was surrounded by fencing and there is a multi-lane road to the north and east of this project component.

2.2.5.2 Previous Work

A review of previously conducted cultural resources studies within one mile of this project component revealed no studies / surveys have been conducted within the proposed component.

A review of previously recorded cultural resources within one mile of the project APE did not reveal any recorded cultural resources within these proposed components.

2.2.5.3 Current Survey Results

An intensive pedestrian survey of Construction Onsite Laydown Area 1-9 (which included in certain portions a 50-foot radius buffer zone) did not result in the discovery of any new resources. Ground visibility was good to excellent in the area; however, the area was heavily disturbed.

2.2.6 Temporary Construction Access Road

2.2.6.1 Existing Conditions

This component is located in an undeveloped area that has been previously disturbed. It will extend west from the proposed SGGS site, along the Burlington Northern Santa Fe Railroad tracks, then south along a spur to 6th Street. Portions of the buffer radius were not surveyed due to access issues; the area was surrounded by fencing and railroad tracks parallel this project component to the north and the west.

2.2.6.2 Previous Work

A review of previously conducted cultural resources studies within one-mile of the project APE revealed one study / survey that had previously been conducted within the temporary construction access road.

- #1063023 (Owen 1995a) was a (west/east) linear survey that extends west from the EGS property, paralleling the Burlington Northern Santa Fe Railroad tracks. No cultural resources were discovered during this survey.

A review of previously recorded cultural resources within one-mile of the project APE did not reveal any recorded cultural resources within the proposed temporary construction access road.

2.2.6.3 Current Survey Results

An intensive pedestrian survey of temporary construction access road (this did not include a 50-foot-radius buffer zone) did not result in the discovery of any new resources. Ground visibility was good to excellent in the area; however, the area was heavily disturbed.

3.0 SIGNIFICANCE, IMPACTS, AND MITIGATION RECOMMENDATIONS

3.1 STATE, FEDERAL, LOCAL COMPLIANCE REQUIREMENTS

As this project will require State, Federal, and local compliance with LORS, a discussion of State, Federal, and local requirements is provided. This is followed by a discussion on assessing and determining significance, environmental consequences as a result of project development, and mitigation requirements.

3.1.1 State Mandates

Cultural resources include archaeological and historical objects, sites and districts, historic buildings and structures, and sites and resources of concern to local Native Americans and other ethnic groups. Cultural resources which meet the criteria of eligibility to the CRHR are termed “historic resources.” Archaeological resources which do not meet CRHR criteria may also be evaluated as “unique”; impacts to such resources could be considered significant as described below (CEQA Guideline revisions Oct. 26, 1998).

Before impacts or mitigation of impacts can be addressed, a site must first be determined to be a historic resource or a unique resource. For archaeological resources subsurface testing will be necessary to determine if a subsurface component is present, whether the areal extent of surface and/or subsurface materials will be affected by the proposed action, and whether the resource(s) in question have the potential to answer local and regional research questions. If a resource is determined to be a historic resource or unique resource, a program to mitigate anticipated impacts must be implemented through avoidance or data recovery for archaeological resources; or for built environment resources by following the Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings and Guidelines for Rehabilitating Historic Buildings. Sites determined historic resources or unique resources need not be addressed as to mitigation of impacts.

3.1.2 Federal Mandates

Federal laws, procedures, and policies affecting the treatment of cultural resources include the Antiquities Act of 1906, Public Law 59-209, Executive Order 11593, Section 106 of the National Historic Preservation Act of 1966 (Public Law 89-665), as amended, Public Law 93-291, the National Environmental Policy Act of 1969 (Public Law 91-190), the Federal Land Policy Management Act of 1969 (Public Law 94-94-579), and regulations 36 CFR 60 and 36 CFR 800. For management purposes, a cultural resource must be recommended as either eligible or not eligible to the National Register of Historic Places to determine effect and the need for mitigation of potential effects. If the property (cultural resource) is determined eligible, a determination of effect (36 CFR 800) must be provided. If the property is identified as not eligible, no determination of effect or mitigation measures are necessary. Recommendations are review and approved by the State Office of Historic Preservation and the Advisory Council on Historic Preservation. Specific criteria for significance / importance determinations are addressed in Section 3.2.

3.1.3 Local Mandates

On the local level, compliance with the San Bernardino County General Plan (SBGP) (1999) is also necessary. According to the SBGP, a goal of the San Bernardino County (the County) is to identify and preserve important archaeological and historic resources within the county. In order to achieve this goal, a number of policies, measures, and programs targeting the management of cultural resources have been

adopted by the County. In general, compliance with CEQA or Section 106 satisfies the County's concerns for cultural resources.

According to the City's General Plan (2001), they "shall take appropriate measure to investigate and preserve paleontological and archaeological resources as development occurs throughout our City" (City of Rancho Cucamonga 2001). Necessary measures to provide for the preservation of any significant resources will be implemented. Investigation and analysis as required under CEQA satisfies the City's requirements for compliance.

3.2 SPECIFIC CRITERIA FOR ASSESSING AND DETERMINING SIGNIFICANCE

In considering impact significance under the CEQA the significance of the resource itself must first be determined. Generally, under CEQA a historical resource (these include both built-environment and archaeological resources) is considered significant if it meets the criteria for listing on the CRHR. Criteria for inclusion on the CRHR are set forth in CEQA, Section 15064.5 and defined as follows:

- A. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- B. Is associated with lives of persons important in our past;
- C. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individuals, or possesses high artistic values; or
- D. Had yielded, or may be likely to yield, information important in prehistory or history.

Section 15064.5 of CEQA also assigns special importance to the remains of Native American and specifies procedures to be used when human remains are discovered. These procedures are spelled out under PRC 5097.98. Criteria for eligibility for the CRHR are very similar to those (detailed below) which qualify a property for the NRHP, under the NHPA. Note that a property that is eligible for the NRHP is also eligible for the CRHR.

Impacts to "unique archaeological resources" are also considered under CEQA, as described under PRC 21083.2. A unique archaeological resource means an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets one of the following criteria:

- Contains information needed to answer important scientific questions and there is demonstrable public interest in that information;
- Has a special and particular quality, such as being the oldest of its type or the best available example of its type;
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.
- A non-unique archaeological resource means an archaeological artifact, object, or site which does not meet the above criteria.

To determine site significance through application of National Register criteria, several levels of potential significance through application of National Register criteria, several levels of potential significance

which reflect different (although not necessarily mutually exclusive) values must be considered. As provided in 36 CFR 60.6 and 36 CFR 64: The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

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

3.3 ENVIRONMENTAL CONSEQUENCES

At the state level, CEQA, Appendix G states that a project potentially would have significant impacts if it would cause substantial adverse change in significance of an historical resource (i.e., a cultural resource eligible for the CRHR, or archaeological resource defined as unique). A non-unique archaeological resource need be given no further consideration, other than the simple recordation of its existence.

At the federal level, the implementing regulations of Section 106 of the National Historic Preservation Act (36 CFR 800), impacts to identified cultural resources need to be considered only if the resource is a “Historic Property”; that is, only if it meets the criteria of eligibility for the NRHP (36 CFR 60.4).

3.3.1 San Gabriel Generating Station Project Site

There are no previously recorded cultural resources located within or adjacent to the proposed SGGS site. The proposed SGGS site was surveyed utilizing intensive pedestrian survey. No cultural resources were detected within the plant site. It is unlikely that significant cultural resources will be encountered during ground-disturbing activities, due to the nature of the soils and the low propensity for subsurface cultural resources deposits. No adverse impacts are anticipated for the construction, operation, or maintenance of the SGGS site.

3.3.2 Linear Components

There are no previously recorded cultural resources located within or adjacent to the EGS property. The EGS property was surveyed utilizing intensive pedestrian survey. No cultural resources were detected within the property. It is unlikely that significant cultural resources will be encountered during ground-disturbing activities, due to the nature of the soils and the low propensity for subsurface cultural resources deposits. No adverse impacts to cultural resources are anticipated for the construction, operation, or maintenance of the proposed linear components.

3.3.3 Detention Basin and Access Bridge

There are no previously recorded cultural resources located within or adjacent to the EGS property. The EGS property was surveyed utilizing intensive pedestrian survey. No cultural resources were detected within the property. It is unlikely that significant cultural resources will be encountered during ground-disturbing activities, due to the nature of the soils and the low propensity for subsurface cultural resources

deposits. No adverse impacts to cultural resources are anticipated for the construction, operation, or maintenance of the proposed linear components.

3.3.4 Offsite Construction Laydown Area

There are no previously recorded cultural resources located within or adjacent to the proposed offsite Construction Laydown Area. The offsite Construction Laydown Area was surveyed utilizing intensive pedestrian survey. No cultural resources were detected within this area. It is unlikely that significant cultural resources will be encountered during ground-disturbing activities, due to the nature of the soils and the low propensity for subsurface cultural resources deposits. No adverse impacts are anticipated for the construction or maintenance of the offsite Construction Laydown Area.

3.3.5 Construction Onsite Laydown Areas #1-9

There are no previously recorded cultural resources located within or adjacent to the proposed Construction Onsite Laydown Areas #1-9. Construction Laydown Area Alternative A was surveyed utilizing intensive pedestrian survey. No cultural resources were detected within this area. It is unlikely that significant cultural resources will be encountered during ground-disturbing activities, due to the nature of the soils and the low propensity for subsurface cultural resources deposits. No adverse impacts are anticipated for the construction or maintenance of Construction Onsite Laydown Areas #1-9.

3.3.6 Temporary Construction Access Road

There are no previously recorded cultural resources located within or adjacent to the temporary construction access road. The temporary construction access road was surveyed utilizing intensive pedestrian survey. No cultural resources were detected within this area. It is unlikely that significant cultural resources will be encountered during ground-disturbing activities, due to the nature of the soils and the low propensity for subsurface cultural resources deposits. No adverse impacts are anticipated for the construction or maintenance of the temporary construction access road.

3.4 DIRECT IMPACTS

Mitigation under Section 15064.5 of CEQA must address impacts to the values for which the resource is considered significant or unique, (or under Section 106 of the NHPA must address effects to the values for which a resource is significant; that is, to mitigate adequately, one must first understand what makes the site eligible for the NRHP). For those sites for which no formal eligibility determinations have been made, it has not been determined under what criteria (if any) each site is eligible. However, the mitigation planning described below assumes that all the recorded sites that have not been formally evaluated for significance/importance are at a minimum a “historical resource” under Section 15064.5 of CEQA, or are potentially eligible for listing on the NRHP under 36 CFR 60.4 (d) (potential to yield data important to history or prehistory).

3.4.1 Direct Impacts

Direct impacts are typically associated with construction activity and have the potential to immediately alter, diminish, or destroy all or part of the character and quality of historic and archaeological resources. The construction, operation, and maintenance of the SGGS project are not expected to result in significant new direct impacts to the known cultural resource base. Previously undiscovered cultural resources could be impacted by construction-related activities.

3.4.2 Mitigation of Construction Related Impacts

Mitigation under Section 106 of the NHPA as promulgated by CEQA Sections 15064.5 and 15126.4 and NEPA, must address impacts to values for which a cultural resource is considered important. To mitigate adequately, it must therefore be determined what elements make a cultural resource eligible for the CRHR and/or NRHP.

The Applicant is committed to site avoidance where feasible; however, in the event that testing is required, the initial testing/evaluation program would be conducted in an expeditious manner. If avoidance of a site found to be significant is not possible, formal compliance with CEQA/CRHR and Section 106 of the NHPA would be conducted in consultation with the CEC and the State Historic Preservation Office (SHPO) in order to complete formal determinations of eligibility and effect, and to formalize mitigation agreements.

3.4.3 Impacts and Mitigation Measures

Measures to ensure avoidance of cultural resources within the areas of potential effect, and measures to avoid indirect impacts to nearby cultural resources are described below. The mitigation measures and procedures described would apply to any cultural resources in the project APEs, or cultural resources recommended as not significant and such recommendations are concurred with by the CEC and SHPO, regardless of facility component. With implementation of the Applicant-committed measure listed below, no significant unavoidable impacts to known cultural resources are expected to occur.

CUL-1. Avoidance. SGGs project facilities will be located at the greatest possible distance from any recorded cultural resources not previously found to be ineligible for inclusion on the CRHR. As needed, an archaeologist will accompany the project engineer to the field to demarcate cultural resource boundaries on the ground and to ensure that proposed facility placement will not impinge upon a cultural resource. Routes of any access roads of other temporary use areas that must be built or graded that are located outside of areas previously surveyed for cultural resources will be subjected to archaeological survey prior to construction. If a potentially significant cultural resource is discovered, the route/temporary use area will be modified to avoid that resource. If there are not feasible means to avoid the resource, the cultural resource will be tested; if it is found significant, the measures for mitigation described below will be implemented. These will be done in consultation with the CEC.

CUL-2. Physical Demarcation and Protection. In instances where a project facility must be placed within 100 feet of a known cultural resource not previously found to be ineligible for inclusion on the CRHR, the cultural resource will be temporarily fenced or otherwise demarcated on the ground, and the area will be designated environmentally sensitive. Construction equipment will be directed away from the cultural resource and construction personnel will be directed to avoid entering the area. Where cultural resource boundaries are unknown, the protected area will include a buffer zone with a 100-foot radius. In some cases, additional archaeological work may be required to demarcate the boundaries of the cultural resource in order to ascertain whether the cultural resource can be avoided.

CUL-3. Crew Education. Prior to beginning of construction near any sensitive cultural resource, the construction crew will be informed of the resource values involved and of the regulatory protections afforded those resources. The crew will also be informed of procedures relating to designated culturally sensitive areas, and cautioned not to drive into these areas or to park or operate construction equipment in these areas. The crew will be cautioned not to collect artifacts, and asked to inform a construction supervisor in the event that cultural remains are uncovered.

CUL-4. Archaeological Monitoring. All initial grading or excavation within 100 feet of any potentially significant resource that may have a subsurface component will be monitored by an archaeologist. If subsurface materials are uncovered, construction work in the immediate vicinity will be halted and the emergency discovery procedures described below will be implemented.

CUL-5. Native American Monitoring. In order to ensure participation by interested members of the Native American community, it is recommended that a Native American monitor be present during archaeological cultural resource testing and/or data recovery operations at archaeological cultural resources that appear to have a prehistoric or ethnographic component. The monitor will be retained either directly by the project Applicant, or through the subconsultant conducting the actual fieldwork.

CUL-6. Formal Compliance with CEQA Section 15064.5 and 15126.4 and Section 106 of the NHPA. In the event that a resource cannot be avoided during the placement of any project facility, further archaeological work will be undertaken as appropriate to assess the importance/significance of the resource prior to the project implementation.

CUL-7. Mitigation For Resource. If unanticipated resources are discovered during construction, they will be addressed under the procedures set forth at CEQA Section 15064.5. If possible, the resource will be avoided first through design modification, or second, through protective measures as described above. If the resource cannot be avoided, the project archaeologist will consult with the CEC and SHPO with regard to resource significance. If it is determined that the resource is significant, then measures to mitigate impacts will be devised in consultation with the CEC and SHPO and will be carried out by the Applicant.

3.4.4 Specific Mitigation Measures

Specific actions recommended at each project facility are described below. In devising specific mitigation measures to address impacts for any cultural resources that cannot be avoided during construction, it will therefore be considered that there is a potential for ongoing impacts to any resource that could not be avoided through project design. Any mitigative data recovery shall be adequately scoped, in conjunction with the regulatory agency(s), to address potential long-term on-going impacts. In addition, crews and vehicles engaged in operation and maintenance will as project policy confine activities to the greatest possible extent to existing roads, or will perform inspections by air or on foot.

3.4.4.1 Proposed San Gabriel Generating Station

No adverse effects to cultural resources are anticipated for the construction, operation, and maintenance of the proposed SGGS. No specific mitigation measures are required for this project component.

3.4.4.2 Linear Components

No adverse effects to cultural resources are anticipated for the construction, operation, and maintenance of the proposed linear components. No specific mitigation measures are required for this project component.

3.4.4.3 Detention Basin and Access Bridge

No adverse effects to cultural resources are anticipated for the construction, operation, and maintenance of the proposed linear components. No specific mitigation measures are required for this project component.

3.4.4.4 Offsite Construction Laydown Area

No adverse effects to cultural resources are anticipated for the construction, operation, and maintenance of the offsite Construction Laydown area. No specific mitigation measures are required for this project component.

3.4.4.5 Onsite Construction Laydown Areas #1-9

No adverse effects to cultural resources are anticipated for the construction, operation, and maintenance of Construction Onsite Laydown Areas #1-9. No specific mitigation measures are required for this project component.

3.4.4.6 Temporary Construction Access Road

No adverse effects to cultural resources are anticipated for the construction, operation, and maintenance of the temporary construction access road. No specific mitigation measures are required for this project component.

3.5 LORS COMPLIANCE

The archaeological survey described above served to identify all cultural resources which are present within the project APE. It is assumed that compliance with the more definitive standards of the NHPA will, thus, ensure compliance with cultural resource requirements under CEQA and assessments of effect under NEPA.

No sites have been identified within the project APE. The incorporation into the project design of measures to completely avoid cultural resources wherever possible ensures that effects to cultural resources will be minimized. If avoidance of any potentially eligible resource proves impossible, then formal compliance with the procedures for determination of eligibility and effect for formalizing mitigation agreements, as set forth at 36 CFR 800 and CEQA, PRC Division 13, Sections 21000-21178, will be completed to ensure full compliance with cultural resources LORS prior to construction.

4.0 REFERENCES CITED

Ascencion, Antonio de la

- 1615 Relacion de la Jornada que hizo el General Sebastian Viscayno al Descubrimiento de las Californias el año de 1602 por mandado del Señor Excelentísimo Conde de Monterrey, Virrey que era de la Nueva España. In *Monarchia Indiana*, Tomo 1 (Juan de Torquemada, ed.): 693-725 [first printed 1615, reprinted 1723, 1757, with English translation in 1929].

Bean, Lowell John, and Charles R. Smith

- 1978 Gabriellino. In *Handbook of North American Indians, Volume 8, California*, edited by R.F. Heizer, pp. 538-549. William C. Sturtevant, general editor. Smithsonian Institution, Washington DC.

Berger, R.

- 1975 Advances and results in radiocarbon dating: Early man in North America. *World Archaeology* 7: 174-184.

Blackburn, T.C.

- 1963 Ethnohistoric descriptions of Gabrieliño material culture. *UCLA Archaeological Survey, Annual Report* 5: 1-50.

Bolton, H.E.

- 1930 Diary of Sebastian Viscaino, 1602-1603. In *Spanish Explorations in the Southwest, 1542-1706 (H.E. Bolton translation)*. New York: Scribner's Sons [1967 reprint, New York: Barnes and Noble].

Bortugno, E. J. and T. E. Spittler

- 1986 *Geologic Map of the San Bernardino Quadrangle*. California Department of Mines and Geology, Regional Geologic Map Series, 1:250,000.

Boscana, G.

- 1983 *Chinigchinich*. [Reprint from the 1846 edition]. Fine Arts Press, Santa Ana, California.

Bouscaren, Stephen J. and Mark T. Swanson

- 1989 Cultural Resources of the 27 Acre Proposed Chino Basin Municipal Water District (CBMWD) Regional Plan No. 4 in the City of Cucamonga, California. Submitted to Higman Doehle, Inc. Study Number 1061894 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

California Energy Commission (CEC)

- 1992 Instructions to the California Energy Commission Staff for the Review of and Information Requirements for an Application for Certification. California Energy Commission, Energy Facilities Siting and Environmental Protection Division, Sacramento.

- 1997 Rules of Practice and Procedure & Proposed Plant Certification. California Energy Commission, Sacramento.
- 2006 Rules of Practice and Procedure & Power Plant Site Certification Regulations Revisions, 04-SIT-2, December 14, 2006.
- Campbell, Elizabeth W. Crozer, William H. Campbell, Ernst Antevs, Charles A. Amsden, Joseph A Barbieri, and Francis D. Bode
- 1937 The Archaeology of Pleistocene Lake Mohave: A Symposium. *Southwest Museum Papers* 11. Los Angeles.
- City of Rancho Cucamonga
- 2001 *General Plan for the City of Rancho Cucamonga, California*. Recommended for adoption by the Rancho Cucamonga Planning Commission by Resolution No. 01-93, dated September 26, 2001. Adopted by the Rancho Cucamonga City Council by Resolution No. 01-237, dated November 17, 2001.
- Clarke, Anthony Orr
- 1979 Quaternary Evolution of the San Bernardino Valley. *San Bernardino Museum Association Quarterly* 26(2&3):1-146.
- Clevenger, Joyce M.
- 1988 Cultural Resource Survey of the Etiwanda Pipeline and Power Plant and Alternatives, San Bernardino County, California. Submitted to Metropolitan Water District of So. California. Study Number 1062286 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.
- Dahdul, Mariam
- 2002 Identification and Evaluation of Historic Properties, Whittram Avenue Recycled Water Pipeline, In and Near the City of Rancho Cucamonga, San Bernardino County, California. Submitted to Tom Dodson and Associates. Study Number 1064140 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.
- Dakin, S.B.
- 1978 *A Scotch Paisano in Old Los Angeles: Hugo Reid's Life in California, 1832-1852, Derived from his Correspondence*. University of California Press, Berkeley. [Reprint, first edition 1939].
- Del Chario, Kathleen C.
- 1991 Addendum to a Cultural Resource Assessment of the Ontario Mills Project Site, City of Ontario, San Bernardino County. Submitted to Planning Network. Study Number 1062434 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Del Chario, Kathleen C. and Carol R. Demcak

- 1991 A Cultural Resource Assessment of the Ontario Mills Project Site, City of Ontario, San Bernardino County. Submitted to Planning Network. Study Number 1062412 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Dillon, B.

- 1990 *Archaeological Record Search and Impact Evaluation for the Los Angeles Wastewater Program Management (NOS-NCOS) Project, Los Angeles, California.* Prepared for Dr. Janet Fahey, James M. Montgomery, Consulting Engineers, 250 N. Madison Ave., P.O. Box 7009, Pasadena, CA 91109-7009.

Dixon, E.J.

- 1999 *Bones, Boats and Bison: Archeology and the First Colonization of Western America.* Albuquerque: University of New Mexico Press.

Duke, Curt

- 1999 Cultural Resources Inventory for PBMS Facility CM 359-04, County of San Bernardino, CA. Submitted to PBMS. Study Number 1063579 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.
- 2000a Cultural Resources Assessment for AT&T Wireless Facility C870.1, County of San Bernardino. Submitted to AT&T. Study Number 1063576 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.
- 2000b Cultural Resources Assessment for PBW Facilities LA 980-01, LA 981-01 and LA 982-01, County of San Bernardino, CA. Submitted to PBW. Study Number 1063578 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.
- 2000c Cultural Resource Assessment from PBW Facility CM 359-07, County of San Bernardino, CA. Submitted to PBW. Study Number 1063580 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.
- 2001 Cultural Resource Assessment: Cingular Wireless Facility SB 138-01, San Bernardino County, CA. Submitted to Cingular Wireless. Study Number 1063575 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Earth Touch

- 2004 Proposed Cellular Tower Project in San Bernardino County, California, Site Name/Number: CA-8505A/Oak Glen & CA-8520/Jasmine. Study Number 1064381 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Eberhart, H.

- 1961 The cogged stones of Southern California. *American Antiquity* 26(3): 361-370.

Fulton, Phil

- 2004 Cultural Resource Assessment, Cingular Wireless Facility No. SB 303-02, Rancho Cucamonga, San Bernardino County, California. Submitted to Cingular Wireless. Study Number 1064173 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Grant, C.

- 1965 *Rock Paintings of the Chumash*. Berkeley: University of California Press.
- 1978a Chumash: Introduction. In *Handbook of North American Indians, Volume 8 California*. R. F. Heizer (ed.): 505-508. Washington DC: Smithsonian Institute Press.
- 1978b Eastern Coastal Chumash. In *Handbook of North American Indians, Volume 8 California*. R. F. Heizer (ed.): 509-519. Washington DC: Smithsonian Institute Press.

Hampson, R. Paul, James J. Schmidt, and June A. Schmidt

- 1991 Cultural Resources Investigation: Cajon Pipeline Project. Submitted to EIP Associates. Study Number 1062795 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Harrington, J.P.

- 1978 *Tomol: Chumash Watercraft as Described in the Ethnographic Notes of John P. Harrington*. T. Hudson, J. Timbrook, and M. Rempe (eds.). Ballena Press Anthropological Papers, 9. Santa Barbara, CA.

Harrington, M.R.

- 1948 *An Ancient Site at Borax Lake, California*. Southwest Museum Papers, 16.

Hearn, Joseph E.

- 1977 Archaeological-Historical Resource Assessment of Lewis Homes Project in the Etiwanda Area. Submitted to Ronald Martin and Associates, Inc. Study Number 1060479 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Hogan, Michael

- 1992 Archaeological Monitoring Report: Metropolitan Water District Etiwanda Pipeline, City of Rancho Cucamonga, San Bernardino County, California. Submitted to Advanco Constructors. Study Number 1062501 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Holmes, Mason

- 2003 Proposed Cellular Tower Project in San Bernardino County, California, Site Name/Number: CA-6687A/Ontario Mills. Study Number 1064172 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Johnson, K.L.

- 1966 Site LAN-2: A late manifestation of the Topanga Complex in Southern California prehistory. *UC Berkeley Anthropological Records* 23: 1-36.

Johnston, B.E.

- 1962 *California's Gabrieliño Indians*. Frederick Webb Hodge Anniversary Publication Fund, vol. VII. Los Angeles: Southwest Museum.

JRP Historical Consulting, LLC (JRP)

- 2007 Historical Resources Inventory and Evaluation Report for the Proposed San Gabriel Generating Station Project. Prepared for URS Corporation. On file at URS Corporation, Oakland, California.

Kroeber, Alfred

- 1925 Handbook of the Indians of California. *Bureau of American Ethnology Bulletin* 78. Washington.
- 1959 Ethnographic Interpretations 7-11. *University of California Publications in American Archaeology and Ethnology* 47(3): 235-310. Berkeley.

La Lone, M.

- 1980 *Gabrieliño Indians of Southern California: An Annotated Ethnohistoric Bibliography*. Occasional Paper 6, University of California, Los Angeles, Institute of Archaeology.

Lambert, V.

- 1983 A surface collection from the Del Rey Hills, Los Angeles County, California. *Journal of New World Archaeology* 5 (3): 7-19.

Landberg, L.C.

- 1965 *The Chumash Indians of Southern California*. Southwest Museum Papers, 19. Highland Park, California.

Landis, Daniel G.

- 1993 A Cultural Resources Survey for the Chino Basin Groundwater Storage Program, San Bernardino County, CA. Submitted to MWD. Study Number 1062851 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Leonard, N.N. III.

- 1971 Natural and social environments of the Santa Monica Mountains. *University of California, Los Angeles, Archaeological Survey Annual Report 1970-1971*: 97-135.

Love, Bruce

- 1998 Historical/Archaeological Resource Report: Chino Basin Groundwater Recharge Project, Near the City of Rancho Cucamonga, San Bernardino County, CA. Submitted to Tom Dodson & Associates. Study Number 106586 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.
- 2000 Ontario to Colton Pipeline, San Bernardino County, CA. Submitted to Ogden Environmental. Study Number 1063587 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Mason, Roger D.

- 1985 Cultural Resource Survey Report for the Etiwanda Pipeline and Power Plant EIR. Scientific Resources Surveys, Inc. Submitted to the Metropolitan Water District. Study Number 1061501 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

McKenna, Jeanette A.

- 1993 Cultural Resources Investigations, Site Inventory and Evaluations, the Cajon Pipeline Corridor, Los Angeles and San Bernardino Counties. Submitted to EIP Associates. Study Number 1062796 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information Center, San Bernardino County Museum, Redlands, CA.
- N.D. An Evaluation of Two Historic Structures at the Intersection of Charles Smith (Rochester Ave.) and 6th Street, Rancho Cucamonga, San Bernardino County, California. Study Number 1064144 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

McLean, Deborah and Jay Michaelsky

- 1997 Cultural Resources Assessment for General Plan Amendments 96-03B and 97-01, and Victoria Community Plan Amendments 96-01 and 97-01/Edison Company Project. Submitted to City of Rancho Cucamonga. Study Number 1063278 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

McLean, Deborah and Jani Monk

- 1997 Cultural Resource Assessment of the Kaiser West End Project, City of Fontana, San Bernardino County, CA. Submitted to Kaiserventures, Inc. Study Number 1063592 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

McLean, Deborah and Brooks R. Smith

- 1998 Negative ASR Report for District 8, San Bernardino County, Route 10, Kilometer Post 17.86/18.99, EA 08235-35450K. Submitted to Caltrans District 8. Study Number 1064166 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Meighan, C.W.

- 1954 A late complex in Southern California prehistory. *Southwestern Journal of Anthropology* 10(2): 215-227.
- 1959 California cultures and the concept of an archaic stage. *American Antiquity* 24(3): 289-305.

Michael Brandman Associates

- 2004 Records Search Results and Site Visit for Sprint Telecommunications Facility Candidate SB60XC844A (Reeves Trucking) 8615 Pecan Avenue, Rancho Cucamonga, San Bernardino County, California. Study Number 1064668 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.
- 2006a Cultural Resource Records Search Results and Site Visit for Cingular Telecommunications Facility Candidate LSANCA8023E (Baseline and Foothill Blvd.), Southeast Corner of Foothill Boulevard and Cornwall, Rancho Cucamonga, San Bernardino County, California. Study Number 1064690 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.
- 2006b Cultural Resources Records Search Results and Site Visit for T-Mobile Telecommunications Facility Candidate IE04921C (SCE M23-T4), 13100 Block of Foothill Boulevard, Rancho Cucamonga, San Bernardino County, California. Study Number 1064692 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Moratto, Michael J.

- 1984 *California Archaeology*. New York: Academic Press.

Owen, Shelley Marie

- 1995a Class I Records Search and Field Survey for 3 Minor Cajon Pipeline Project Alterations: City of Adelanto Realignment, Baldy Mesa Realignment, and Cajon/EPTC Pipeline Connection at Etiwanda Station, Rancho Cucamonga, CA. Submitted to Cajon Pipeline Co., LTD. Study Number 1063023 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

- 1995b Cultural Resource Record Search and Management Plan for the San Sevaine Redevelopment Project Area, San Bernardino County, CA. Submitted to San Bernardino County Redevelopment Agency. Study Number 1063591 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Rogers, M.J.

- 1939 *Early Lithic Industries of the Lower Basin of the Colorado River and Adjacent Areas*. San Diego Museum of Man, 3.

Rogers, Thomas H.

- 1975 San Bernardino Sheet, *Geologic Map of California*, Olaf P. Jenkins editions, scale 1:250,000, Second Printing. California Division of Mines and Geology, Sacramento.

San Bernardino County

- 1999 *San Bernardino County General Plan*. Adopted July 1, 1989, by the County of San Bernardino, California. Revised August 26, 1999, by the County of San Bernardino, California.

Scientific Resource Survey, Inc.

- 1979 Archaeological/Paleontological/Historical Report on the William Lyon Co. Rancho Cucamonga Property, Located in the City of Rancho Cucamonga, CA. Submitted to Kenneth A. Reynolds. Study Number 1063222 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Smith, Francesca and Robert Wlodarski

- 1994 Historical Property Survey Report: Provide High Occupancy Vehicle Lanes on I-10 Between the Los Angeles/San Bernardino County Line and I-15 in San Bernardino County, CA. Submitted to Sanbag. Study Number 1063248 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Statistical Research, Inc.

- 2001 A Class I Cultural Resources Assessment for the FEMA Vegetation Management Project, City of San Bernardino, California. Technical Report 01-39. Prepared for URS Group, Inc., Oakland, California. On file at URS Corporation, Oakland, California.
- 2005 Deteriorated Pole Replacement Project, Archaeological Survey of One Pole Location on the Linde-Wimbledon 66kV and Etiwanda-Declez-Linde Transmission Lines, San Bernardino County, California. Submitted to Southern California Edison Company. Study Number 1065057 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Sturm, Bradley L., Jani Monk, and Ivan H. Strudwick

- 1995 Cultural Resources Survey and National Register Assessment of the Kaiser Steel Mill for the California Speedway Project, Fontana, CA. Submitted to Speedway Development Corporation. Study Number 1063063 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Swanson, Mark T.

- 1987 Cultural Resources Survey of a Proposed 120-Acre Adult Pre-Trial Detention Facility, Rancho Cucamonga, San Bernardino County, California. Submitted to Converse Environmental Consultants. Study Number 1061746 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.
- 1990 Addendum to Cultural Resources Survey of the 27 Acre Proposed Chino Basin Municipal Water District (CBMWD) Regional Plant No. 4, in the City of Cucamonga, California. Submitted to Chino Basin Municipal Water District. Study Number 1062090 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Swope, Karen K.

- 1992 Archaeological Investigations on Approximately 240 Acres, Mining and Reclamation, Kaiser Mill Site, Fontana, San Bernardino County, CUP W130-97, as shown on the Guasti 7.5' Quadrangle. Submitted to Fourth Street Rock Crusher. Study Number 1062660 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Tang, Bai and Mariam Dahdul

- 2002a Identification and Evaluation of Historic Properties, Fourth Street Recycled Water Pipeline, In and Near the Cities of Ontario and Rancho Cucamonga, San Bernardino County, California. Submitted to Tom Dodson and Associates. Study Number 1064138 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.
- 2002b Identification and Evaluation of Historic Properties Etiwanda Avenue Extension Recycled Water Pipeline, In and Near the City of Rancho Cucamonga, San Bernardino County, California. Submitted to Tom Dodson and Associates. Study Number 1064140 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.
- 2004 Addendum to Historical/Archaeological Resources Survey, Fourth Street Recycled Water Pipeline, In and Near the Cities of Ontario and Rancho Cucamonga, San Bernardino County. Submitted to Tom Dodson and Associates. Study Number 1064139 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Tang, Bai and Josh Smallwood

- 2002 Identification and Evaluation of Historic Properties, Recycled Water Facilities Improvement Project Regional Plants No. 1 and No. 4, Cities of Ontario and Rancho Cucamonga, San Bernardino County, California. Submitted Tom Dodson and Associates. Study Number 1064142 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Taylor, Thomas T.

- 1993 Archaeological Reconnaissance Survey Report Middle Lugo-Mira Loma 500KV T/L Right-of-Way Between Concours and Jurupa Ave., Ontario, CA. Submitted to SCE. Study Number 1062979 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Treganza, A.E. and A. Bierman.

- 1958 The Topanga Culture: final report on excavations, 1948. *University of California Anthropological Records* 20(2): 45-86.

United States Department of Agriculture (USDA), Soil Conservation Service

- 1980 Soil Survey of San Bernardino County, Southwestern Part, California.

United States Department of the Interior, National Park Service (USDI, NPS)

- 1983 *Federal Register*. Professional Qualification Standards as part of the larger Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation.

Wallace, W.J.

- 1955 A suggested chronology for Southern California coastal archaeology. *Southwestern Journal of Anthropology* 11 (3): 214-230.

Wallace, William J., Edith S. Taylor, Roger J. Desautels, H.R. Hammond, Heriberto Gonzales, James Bogart, and John P. Redwine.

- 1956 The Little Sycamore Shellmound, Ventura County. *Archaeological Research Associates Contributions to California Archaeology* 2. Los Angeles.

Wagner, H.R.

- 1929 Spanish Voyages to the Northwest Coast of America in the Sixteenth Century. California Historical Society Special Publications – 4. San Francisco: California Historical Society.

Warren, C.N.

- 1968 Cultural tradition and ecological adaptation the southern California coast. In (C. Irwin-Williams, ed.) Archaic prehistory in the western United States. Portales: *Eastern New Mexico University Contributions in Anthropology* 1(3): 1-14.

Weisbord, Jill

- 1990 County of San Bernardino, Regional Medical Center Relocation Project EIR. Submitted to Converse Environmental West. Study Number 1062289 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

White, David R.M.

- 1988 Cultural Resources Inventory for the Proposed Rochester Substation, San Bernardino County, California. Submitted to Southern California Edison. Study Number 1062175 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

White, Laura S.

- 1994a Historic Property Survey Report for the Proposed Metrolink Project in the City of Rancho Cucamonga, San Bernardino County, California. Submitted to Wildan Associates. Study Number 1062917 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.
- 1994b Historic Architectural Survey Report for the Proposed Metrolink Project, City of Rancho Cucamonga, San Bernardino County. Submitted to Wildan Associates. Study Number 1062918 on file at the San Bernardino Archaeological Information Center of the California Historical Resources Information System, San Bernardino County Museum, Redlands, CA.

Willey, G.R.

- 1966 *Introduction to North American Archaeology, Volume 1: North and Middle America.* New Jersey: Prentice-Hall, Inc.

Appendix A
Résumés of Key Personnel



Mark Hale

Archaeology/Cultural Resources

Overview

Mr. Hale is responsible for directing cultural resources projects throughout the western United States and Pacific Islands. His professional experience spans nearly 20 years and includes more than 100 surveying, testing, and data recovery projects conducted within various Pacific states and territories. Mr. Hale also has extensive experience conducting Section 106 and/or NEPA-related projects for private developments as well as for federal agencies, including the Federal Emergency Management Agency, National Park Service, Bureau of Land Management, Forest Service, U.S. Army Corps of Engineers, Department of Energy, Postal Service, and various branches of the Department of Defense.

Areas of Expertise

Archaeology
Cultural Resources

Education

M.A./Cultural Resources
Management/Sonoma State
University (Completed
coursework, exams, and research)
B.A./Anthropology/1983/University
of California, Berkeley

Registration/Certification

OSHA Hazardous Waste Operations
(40-Hour), Ecologics Training
Institute
OSHA Hazardous Waste Operations
Supervisor (8-Hour)
Introduction to Federal Projects and
Historic Preservation Law, the
Advisory Council on Historic
Preservation

Project-Specific Experience

Cultural Resources Task Leader, Elk Grove-Rancho Cordova-El Dorado Connector Phase I Environmental Study, Sacramento Area Council of Governments. Project entails planning, engineering, and environmental services for development of a connector that will link residential areas and employment centers and provide multi-modal options for travel within the corridor, including transit, bicycle, and pedestrian facilities. The connector will relieve congestion on the overcrowded existing two-lane roadway that currently serves the corridor. Responsibilities include preparation of the cultural resources section of the environmental document.

Project Archaeologist, Placer Parkway Corridor Preservation Tier 1 EIS/EIR, Placer County Transportation Planning Agency. Project entails preparation of environmental documentation for preservation of a new 17-mile-long parkway corridor linking Highway 65 in Placer County to SR 70/99 in Sutter County. Early phases of the project entail identification of alternatives to be studied in the EIS/EIR, compiling environmental surveys into a GIS database used to evaluate potential impacts, traffic engineering, and a robust public outreach program, including three advisory committees. Issues include coordination with various federal, state, and local regulatory agencies, planned Habitat Conservation Plans in both counties, and development pressures within the study area, which is notable for its vernal pool complexes and agricultural values. The project includes development of mitigation strategies for focused Tier 2 studies and a modified NEPA/404 process with the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers. Currently conducting record searches, Native American consultation, and fatal flaw analysis. Responsibilities include preparation of the archaeology section of the environmental document.

Project Archaeologist, Placer Ranch Specific Plan Processing and EIR, County of Placer. As a subcontractor, URS is assisting with the processing of a development application for a 2,200-acre mixed use



Mark Hale

Specific Plan. The project includes a Sacramento State University campus with a projected future enrollment of 25,000 students, as well as residential, commercial, and industrial components. Project responsibilities included a record search, Native American consultation, archaeology survey, and preparation of an Archaeology Survey Report.

Project Archaeologist, Bickford Ranch Specific Plan EIR, County of Placer. Project entailed the preparation of environmental documentation for a controversial residential and limited mixed-use development featuring 1,950 residential dwelling units and limited mixed-use development on 2,000 acres of relatively undisturbed property in the Sierra Foothills. As aspects of site development were considered, including community services such as schools and parks, on- and off-site roadway improvements; and off-site improvements needed for access to potable water, wastewater treatment, and electrical and gas providers. Key environmental issues included conversion of this rural area to a more suburban environment, significant loss of biological resources, groundwater quality, sewage, disposal, and visual quality in the affected area. Project responsibilities included preparation of the cultural resources section of the environmental document.

Project Archaeologist, Home Depot Dewitt Center EIR, County of Placer. Project entailed the preparation of environmental documentation for a very controversial Home Depot store on Placer county property next to the DeWitt Center Government Offices, and adjacent to the crowded SR 49 corridor. Issues included land use compatibility, use of government property for a “big box” development, traffic, health issues related to diesel trucks in proximity to sensitive receptors, and impacts on local businesses. Project responsibilities included a record search, Native American consultation, archaeological survey, and preparation of the archaeological section of the environmental document.

Project Archaeologist, Highland Reserve North Specific Plan EIR, City of Roseville. Project entailed the development of environmental documentation for an amendment to the North Central Roseville Specific Plan to provide project-level CEQA review of 615 acres that were designated as Urban Reserve in the Specific Plan, the only portion of the Plan that was not entitled. The actions included a General Plan Amendment; dwelling unit transfer; and rezone planned for residential, community, and regional commercial and public uses. Issues included air quality, noise during construction, biological resources, and the conversion of an urban reserve area to development. Project responsibilities included an assessment of archaeological resources in the project area and preparation of the cultural resources section of the environmental document.

Project Archaeologist, Atkinson Street Bridge Replacement Project PS&E and Environmental Assessment/Initial Study, City of Roseville. Project entailed the preparation of both the engineering plans and specifications and the environmental documents for replacement of the structurally deficient four-span, two-lane steel girder bridge over Dry



Mark Hale

Creek with a new five-lane bridge. The project also entailed widening and realignment of the 1.3-mile-long approach roadway. URS prepared an Environmental Assessment/Initial Study, in which three alternatives were analyzed, and technical studies including a Floodplain Encroachment Evaluation and Location Hydraulic Study, Water Quality Study, Natural Environment Study and Wetlands Study, Air Quality and Noise studies, an Archaeology Survey Report, an Historic Architectural Survey Report, and an Historic Properties Survey Report were prepared. The Historic Architectural Survey Report evaluated seven properties for eligibility in the National Register of Historic Places, one of which was determined to be eligible for listing. Responsibilities included a record search, an archaeological survey, and preparation of a technical report.

Archaeologist, Del Webb Specific Plan EIR, City of Roseville.

Project entailed the fast-track preparation of environmental documentation for a 1,200-acre mixed-use development. Issues included floodplains, wetlands, vernal pools, and resource preservation. The Del Webb project included 3,500 dwelling units, two community commercial centers, three golf courses, recreational centers, and public parks and a park preserve area in a previously undeveloped area in the City's Urban Reserve Area. The project required extension of City services, including water, wastewater and electricity, and new roadways. Project responsibilities included peer review of cultural resource reports prepared by the Applicant's consultant; impact assessment and preparation of mitigation plans; and preparation of the cultural resources section of the environmental document.

Project Archaeologist, Antonio Mountain Ranch Specific Plan EIR, County of Placer.

As a subconsultant, URS is assisting with the preparation of a specific plan that provides for the development of 800 acres within the 8,800-acre Sunset Industrial Area in southwestern Placer County. The Specific Plan calls for the development of 452 acres of land used for industrial purposes, including warehousing, distribution, manufacturing and processing, professional offices, and research and development. The Plan also calls for the preservation of 338 acres of open space. Because the proposed project area is located within the City of Lincoln's Sphere of Influence, and less than 1.5 miles from the cities of Roseville and Rocklin, significant land use compatibility issues had to be evaluated. In addition, as a consequence of the project area's location adjacent to productive agricultural areas and support of limited agricultural activities, the Williamson Act and the compatibility of the proposed industrial land uses were critical issues in development of the Plan. Project responsibilities included a record search, an archaeological survey, and preparation of the cultural resources section of the environmental document.



Brian W. Hatoff, R.P.A.

Senior Project Scientist

Areas of Expertise

Cultural Resource Management
Section 106, NHPA Compliance
Prehistoric Archaeology

Years of Experience

With URS: 15 Years
With Other Firms: 16 Years

Education

MA/Anthropology/1974/University of California, Davis
BA/Anthropology/1971/University of California, Davis

Registration/Certification

1999/Registered Professional
Archaeologist/California/2006

Overview

Mr. Hatoff has over 30 years of experience in the management of cultural resources with specialized expertise in the prehistoric archaeology and ecology of California and the Great Basin. He held primary responsibility for the management of cultural resources on 5.5 million acres of public lands in western Nevada and eastern California. In this role, he handled a wide array of undertakings including preparation of EIS/EA documentation, Section 106 compliance/evaluation/ review, Native American consultations pursuant to provisions of the American Indian Religious Freedom Act, cultural resource permitting, contract development and administration, preparation of cultural resource management plans for cultural and paleontological resources, and technical document preparation. As a Senior Project Archaeologist in URS' cultural resources group Mr. Hatoff routinely manages major cultural resource studies in support of NEPA and CEQA-driven projects including Applications for Certification for the California Energy Commission throughout California. Representative project experience includes the following:

Project Specific Experience

Power Plants and Energy

Cultural Resources Specialist, Trans Bay Cable Project, Trans Bay Cable, LLC, Contra Costa and San Francisco Counties CA, 2005-Present, \$5M+: Directed cultural resources component of CEQA analysis for 55 mile submarine cable in San Francisco bay and construction of converter stations in Pittsburg and San Francisco.

Cultural Resources Specialist, Sunrise II Power Project, Kern County, CA, Chevron-Texaco, 2001-Present, \$1M+: Directed cultural and paleontological resources components of California Energy Commission Application for Certification (AFC). Served as designated Cultural Resources Specialist for the compliance phase of the project. Conducted field surveys, testing program and provided oversight for preparation of the cultural resources technical reports and cultural resources and paleontology AFC sections.

Cultural Resources Specialist, Henrietta Peaker Project, Kings County, CA, GWF Power Systems, 2002-2003, \$650K: Directed cultural and paleontological resources components of California Energy Commission Application for Certification (AFC). Conducted field surveys and prepared cultural resources technical report and cultural resources and paleontology AFC sections. Directed construction compliance phase for cultural resources.

Cultural Resources Specialist, Pittsburg District Energy Facility Project, Pittsburg, CA, Confidential Client, 1998-2000, \$750K:



Brian W. Hatoff, R.P.A.

Directed cultural and paleontological resources components of California Energy Commission Application for Certification (AFC). Conducted field surveys and prepared cultural resources technical report and cultural resources and paleontology AFC sections.

Cultural Resources Specialist, La Paloma Generating Project, Buttonwillow, CA, La Paloma Generating Company, LLC, 1998-

2001, \$1.0M+: Directed cultural and paleontological resources components of California Energy Commission Application for Certification (AFC). Conducted field surveys and prepared cultural resources technical report and cultural resources and paleontology AFC sections.

Cultural Resources Specialist, Otay Mesa Generating Project, San Diego County, CA, Calpine Corporation, 1999 - Present, \$500K+:

Directed cultural and paleontological resources components of California Energy Commission Application for Certification (AFC). Prepared AFC sections and directed subcontractors on complex, multi-component project

Water Resources

Cultural Resources Task Manager, Napa Salt Pond Restoration Project, Napa County, CA, California Department of Fish and Game, 2005- Present, \$30K:

Cultural resources task manager for salt pond restoration project - directed archaeological survey program and technical report preparation.

Cultural Resources Program Manager, Lower Guadalupe Flood Control Project, Santa Clara County, CA, Santa Clara Valley Water District, 2001-Present, \$250K:

Cultural resources program manager for levee enhancement project; directed archaeological survey program and identified testing requirements for project.

Linear Facilities – Pipelines, Transmission Lines, Transportation Projects

Cultural Resources Task Manager, Jameson Canyon (Highway 12) Improvement Project, Caltrans District 4, 2003 – 2006, \$200K:

Directed cultural resources studies (ASR, HRER, HPSR) in support of a highway improvement project in Solana and Napa Counties.

Federal Agencies

Cultural Resources Task Leader, [Project], [City, State], Federal Emergency Management Agency, 1998 – Present, \$750K+:

Responsible for Section 106 compliance activities for hazard mitigation and technical assistance projects throughout California, Nevada and Pacific Basin including projects in Hawaii, American Samoa, Guam and the Federated States of Micronesia..



Dustin R. Kay, B.S.

Archaeology

Areas of Expertise

Archaeology
Cultural Resource Management

Years of Experience

16 total years
With URS: 2.5 years
With other Firms: 14 years

Education

B.S./ Anthropology/Oregon State
University 1992

Training

OSHA 40 Hour HAZWOPER

Overview

Mr. Kay is an Archaeologist with more than 16 years of experience, principally as an independent consultant. The last 13 years he has worked primarily in central and southern California regions, including Alameda, Contra Costa, Imperial, Inyo, Los Angeles, Merced, Monterey, Orange, Riverside, San Benito, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, and Ventura counties. Mr. Kay is a URS staff archaeologist, participating in cost proposals and scopes of work, field investigations, data analysis, and preparation of technical reports. Experience includes many phases of historic and prehistoric cultural resource projects, serving as crew chief, laboratory supervisor, and field archaeologist.

Archaeological experience includes conducting and supervising surveys, testing programs, and construction monitoring. Technical skills include artifact illustration, computer graphics, survey, mapping, site recording, excavation, laboratory analysis, construction monitoring, and preparation of research design and technical reports. Additional work experience includes projects in Oregon, Washington, and Texas.

Project-Specific Experience

Archaeological Research

Phase I Archaeological Assessment of I-15 Clinton Keith Road Widening Murrieta, Riverside County, California. Lead Agency – Riverside County Transportation Department. Served as project archaeologist. Project involved surveying the project area, researching local resources, and writing the final report.

Cultural Resources Survey for the Krystal Elementary School and Oxford 6th Grade Academy Project, San Bernardino County, Hesperia, California. Lead Agency – Hesperia Unified School District. Served as project archaeologist. Project involved surveying the project area, researching local resources, and writing the final report.

Cultural Resources Survey for the Verano Elementary School Project, San Bernardino County, Victorville, California. Lead Agency – Hesperia Unified School District. Served as project archaeologist. Project involved surveying the project area, researching local resources, and writing the final report.

Cultural Resources Survey for the Cedar Glen Academy Project, San Bernardino County, Hesperia, California. Lead Agency – Hesperia Unified School District. Served as project archaeologist. Project involved surveying the project area, researching local resources, and writing the final report.

Cultural Resource Assessment and Evaluation for Camp Karl Holton, Los Angeles County, San Fernando, California. Lead



Dustin R. Kay, B.S.

Agency – Los Angeles County Department of Public Works. Served as project archaeologist. Project involved surveying the project area, researching local resources, and writing the final report.

Groundwater Monitoring Wells Replacement, 2005 Storm Repairs, San Bernardino County, California. Lead Agency – FEMA/Mojave Water Agency. Served as project archaeologist. Project involved surveying the project area, researching local resources, and writing the final report.

Nursery Products LLC Composting Facility, San Bernardino County, California. Lead Agency – County of San Bernardino Land Use Services Department. Served as project archaeologist. Project involved surveying the project area, researching local resources.

CA-036 Wildwood Creek multi-purpose Detention/ Desilting Basin, Yucaipa, California. Lead Agency – FEMA. Served as project archaeologist. Project involved surveying the project area, researching local resources, and writing the final report.

Trunk ‘A’ Sewer – 2005 Storm Repairs Project, Las Virgenes Municipal Water District, Los Angeles County, California. Lead Agency – FEMA. Served as project archaeologist. Project involved surveying the project area, researching local resources, and writing the final report.

Borrow Road Repair Project, Casitas Municipal Water District, Ventura County, California. Lead Agency – FEMA. Served as project archaeologist. Project involved surveying the project area, researching local resources, and writing the final report.

Templin Highway at mile marker 3.80 Slope and Culvert Reconstruction Los Angeles County, California. Task Order Number EP05-033. Lead Agency – Los Angeles County Department of Public Works. Served as project archaeologist. Project involved surveying the project area, researching local resources, and writing the final EIR report.

Frank R. Bowerman Landfill Master Development Plant. Lead Agency – County of Orange Integrated Waste Management Department. Served as project archaeologist. Project involved surveying the project area, researching local resources, and writing the final EIR report.

Big Tujunga Dam Seismic Retrofit Project, Los Angeles County, California. Lead Agency – FEMA. Served as project archaeologist. Project involved surveying the project area, researching local resources, and writing the final report.

Archaeological Testing, Survey and Monitoring for (PGE) North Baja Natural Gas Pipeline. Blythe, CA. Served as lead cultural



Dustin R. Kay, B.S.

monitor for the 78 mile pipeline project from Ehrenberg, Arizona to the All American Canal at the Mexican border, which involved coordinating monitors, working directly with Environmental Coordinator, Lead Biologists and Construction Foremen. Oversaw site location, recording, monitoring and construction activities. Monitored construction activities and excavated units within newly discovered sites. Conducted information records search at the Eastern Information Center at the University of California, Riverside.

Archaeological Survey for the Niland to Blythe Power line Replacement Project. Imperial County, CA. Served as field archaeologist for an intensive cultural resources survey for a portion of the project. The project involved a literature search and field survey to identify the presence and location of archaeological sites within the project boundary. Participated in recording and locating some of the new sites found during the survey, which included many historic can scatters. Conducted records search at the Eastern Information Center at the University of California, Riverside

Archaeological Survey for U.S.-Mexico Border Power line/Light Project. San Diego County, CA. Participated in survey of U.S.-Mexico border for new lighting system. Recorded new sites and relocated previously recorded sites.

Professional History

URS Corporation, Staff Archaeologist / Field Director, San Diego, California, July 2003-Present

Chambers Group, Inc., Field Director, Redlands, California, 2004

Earth Tech, Field Archaeologist, Colton, California, March 2003-May 2003

MBA, Field Archaeologist, Irvine, California, September 2002-Present

EDAW, Inc., Lead Cultural Monitor / Field Archaeologist, San Diego, California, March-October, 2002

Contact Information

URS Corporation
10723 Bell Court
Rancho Cucamonga, CA 91730
909-980-4000 (office)
909-942-4119 (direct)
909-560-6553 (cell)
909-980-2643 (fax)
dustin_kay@urscorp.com



Christine K. Michalczuk, R.P.A.

Senior Archaeologist

Areas of Expertise

NEPA and CEQA Compliance
Archaeological Excavation and Field Survey
Field and Laboratory Director

Years of Experience

With URS: 5+ Years
With Other Firms: 1+ Year

Education

MA/Anthropology/2003/California State University, Fullerton
BA/Anthropology/2000/University of California, San Diego

Registration/Certification

Current/Register of Professional Archaeologists/CA/#15153

Overview

Ms. Michalczuk meets the Secretary of the Interior Standards (36 CFR 61) in archaeology, and is certified by the Register of Professional Archaeologists (RPA). Ms. Michalczuk has experience in various areas of cultural resource management (CRM), including cultural resource studies in support of National Environmental Protection Act (NEPA) and California Environmental Quality Act (CEQA) compliance projects, as well as drafting technical cultural resources documents, conducting California Historical Resources Information System (CHRIS) records searches and Native American Heritage Commission (NAHC) Sacred Lands File searches, writing context statements, and preparing California Department of Parks and Recreation (DPR) site record forms. She is currently on the City/County lists of Santa Barbara as a Qualified Archaeologist.

Archaeological field experience includes survey, mapping, recordation, photography, excavation, data recovery, and monitoring of ground disturbing construction. Laboratory experience includes analysis of prehistoric ceramics, lithics, and shell artifacts as well as historic glass, ceramic, metal artifacts; cataloguing, preservation, and curation; computer coding and data-entry.

Project Specific Experience

Senior Archaeologist, Reliant Energy, Inc., Etiwanda Power Plant Project, City of Rancho Cucamonga, CA, 2007, Managing the cultural resources subtask for this project; conducted CEQA required background research including CHRIS and NAHC records searches; directed the field survey. Will prepare the Application for Certification (AFC) Cultural Resources Technical Report and other documentation.

Senior Archaeologist, Competitive Power Ventures Ocotillo LLC, Ocotillo Power Plant Project, Riverside County, CA, 2007, Managing the cultural resources subtask for this project; conducted CEQA required background research including CHRIS and NAHC records searches; will conduct/direct the field survey. Will prepare the Application for Certification (AFC) Cultural Resources Technical Report and other documentation.

Senior Archaeologist, Panoche Energy Park Project, Fresno County, CA, 2006: Conducted the CEQA required background research including CHRIS and NAHC records searches and assisted with the initial field survey.

Archaeologist, Pastoria Power Expansion Project, Calpine LLC, Lebec, CA, 2004-2005: Prepared the Native American letters of notification. Drafted summary for project cultural resources component summary.



**Christine K. Michalczuk,
R.P.A.**

Archaeologist, Pastoria Power Project, Calpine LLC, Lebec, CA, 2004-2005: Participated in the field excavations for pipeline avoidance. Prepared site records for submittal to the CHRIS Information Center, and prepared artifacts/documents for curation. Assisted with the drafting and submittal of the Draft and Final Technical Cultural Resources Report to the CEC and Calpine.

Archaeologist, Mountain View Power Plant Project, San Bernardino, CA, 2004: Monitored construction activities as the approved CEC Environmental Compliance Monitor. Corresponded with the California Energy Commission (CEC) on artifacts recovered during the course of construction monitoring.

Archaeologist, Texaco/Edison-Mission Energy Sunrise II Power Project, Fellows, CA, 2001-2006: Conducted historic research and prepared context statements for technical documents submitted to U.S. Dept. of Interior, Bureau of Land Management (BLM), CEC, and U.S. Dept. of Energy, Naval Petroleum Reserves in CA (DOE-NPR). Prepared site records, and prepared artifacts/documents for curation. Conducted in-field resource demarcation. Monitored construction activities as a CEC-approved monitor. Assisted with the drafting and submittal of the Draft Technical Cultural Resources Report to the BLM, CEC and DOE-NPR.

Archaeologist, City of Burbank Magnolia Power Project, Burbank, CA, 2003-2005: Approved by the CEC as Lead Cultural Resources Monitor. Monitoring ground disturbing construction activities related to the project. Conducted CEQA required background research (CHRIS & NAHC) for off-site properties associated with the project. Assisted with writing the Draft Technical Cultural Resources Report that has been submitted to the CEC and the City of Burbank.

Archaeologist, Calpine, Pastoria Energy Facility, Phase I Environmental Site Assessment (ESA), Lebec, CA, 2005: Conducted the field survey for Study Area B, the Fuel Gas Supply Pipeline Corridor component. Drafted the survey results for the Phase I ESA section.

Archaeologist, Wellhead Electric, City of Vernon, CA, 2005: Conducted CEQA required background research including CHRIS and NAHC records searches, prior to a field survey for cultural resources. Prepared a Cultural Resources Technical Letter Report that will be submitted to Wellhead Electric and the City of Vernon.

Archaeologist, Wellhead Electric, City of Colton, CA, 2005: Conducted CEQA required background research including CHRIS and NAHC records searches, prior to a field survey for cultural resources. Prepared a Cultural Resources Technical Letter Report that was submitted to Wellhead Electric and the City of Colton.

Academic Experience

Principal Investigator, Graduate Research, Northeastern San Juan County, New Mexico, 2001-2002: Supervised archaeological research conducted on a multiple component Native American site. Work in field



**Christine K. Michalczuk,
R.P.A.**

consisted of an intensive pedestrian survey, site mapping, drafted site/feature maps, selected surface collection, and other site recordation - digital data (GPS) and photography. Conducted pre/ post-field research and analysis of data collected from the field. Defended findings for California State University, Fullerton Anthropology Master's degree requirements.

Professional Societies/Affiliates

Lambda Alpha – Anthropology Honors
Society for American Archaeology (SAA)
Society for California Archaeology (SCA)

Chronology

2001 - Present: URS Corporation, Archaeologist, Oakland, CA
2001 - 2002: Statistical Research, Inc., Archaeological Technician, Redlands, CA
2001 - LSA Associates, Archaeological Technician, Irvine, CA
2000 - California Department of Parks and Recreation, Seasonal Archaeological Specialist, San Diego, CA

Contact Information

URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612-1924
Tel: 510.893.3600
Direct: 510.874.3204
Fax: 510.874.3268
christine_michalczuk@urscorp.com

Appendix B
Archaeological Information Center Records Search
[Submitted Separately Under Rules of Confidentiality]

Appendix C
Native American Consultation / Correspondence



1333 Broadway, Suite 800
Oakland, CA 94612
PH: (510) 874-3204
FAX: (510) 874-3268

FACSIMILE TRANSMITTAL

Transmitted By:

Name: Christine Michalczuk (formerly Hacking) Date: 29 January 2007
Number of Pages (including cover sheet): 2

Please Deliver To:

Name: Ms. Debbie Pilas-Treadway
Company: California Native American Heritage Commission
Fax No.: (916) 657-5390 Office No.: (916) 653-4040
Subject: Data request for a project in San Bernardino Project No.: 2806719.20300
County

Remarks: "Etiwanda Expansion Project" – San Bernardino County, CA

Dear Ms. Pilas-Treadway,

I am writing to request a records search of the Sacred Lands File and a list of appropriate Native American contacts for a proposed power plant project, known as the "Etiwanda Expansion Project", located in the city of Fontana, California. The site falls within the following USGS 7.5 minute quadrangle:

- Guasti

The project area for the power plant project is located along Etiwanda Avenue, just north of the intersection of 6th Street and Etiwanda Avenue, in Fontana, California. One of the proposed laydown areas is located just east of the project site, while the second proposed laydown area is located on the adjacent parcel to the east of the project site.

T 1 S, R 6 W, Sections 17 & 16 (see map)

I am requesting the following information:

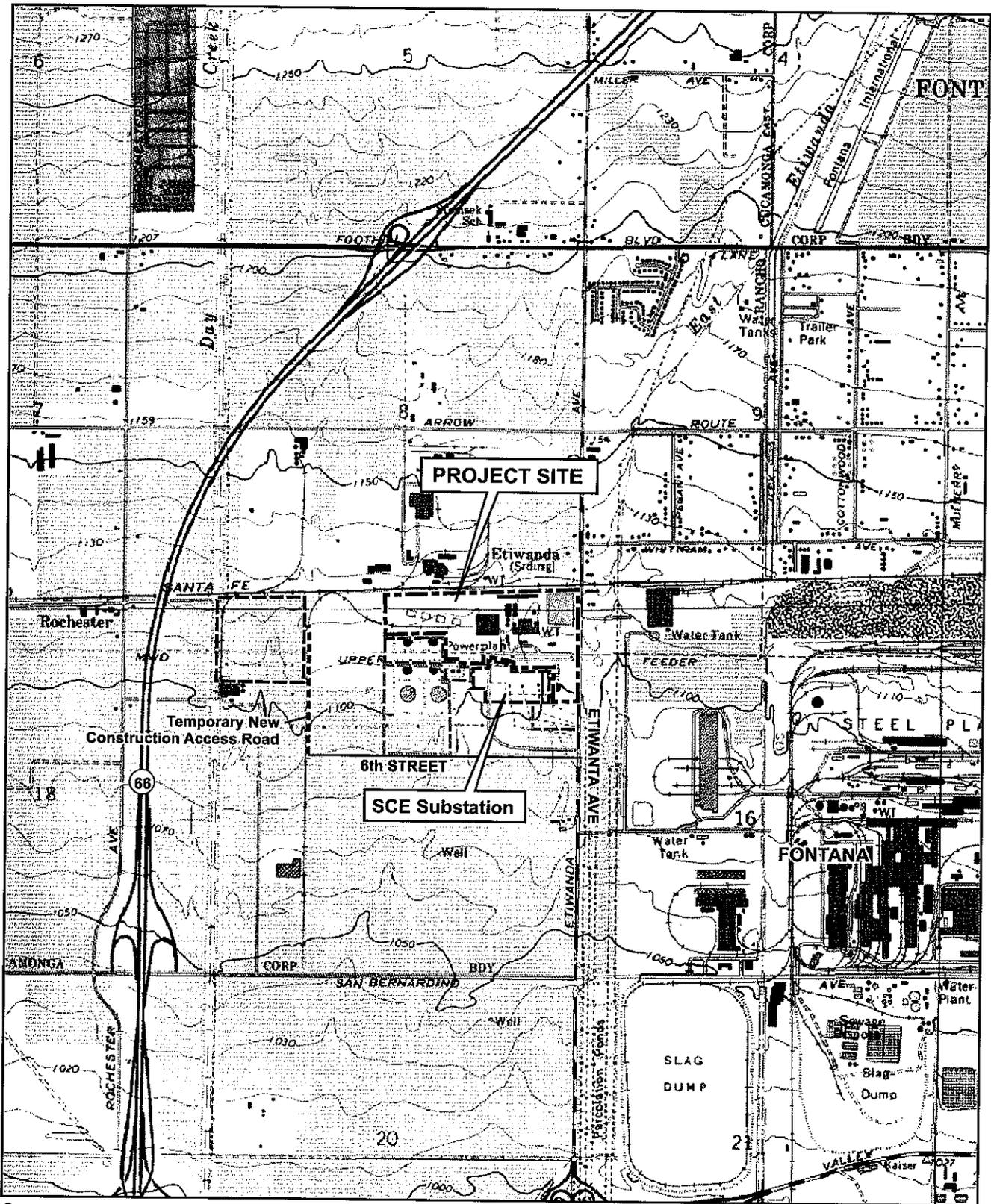
- Groups or individuals the listed by the NAHC as contacts for San Bernardino County.
- Identification by the NAHC of any sacred lands in the area that are listed within the Sacred Lands File.

Thank you for your attention to this request. I appreciate your continued assistance.

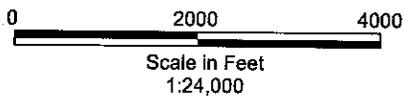
Sincerely,

Christine Michalczuk
Senior Archaeologist

We are transmitting from Fax. No. (510) 874-3268.
If you do not receive all pages or if the transmission is not legible,
please contact the sender at your earliest convenience.



Source:
 USGS 7 Topographic map, 7.5 minute series
 Guasti, California quadrangle (1981)



PROJECT VICINITY MAP

280667169
 December 2006
 Etiwanda Expansion Project
 Reliant Energy
 San Bernardino County, California



FIGURE 1

STATE OF CALIFORNIA

Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6261
Fax (916) 657-5390
Web Site www.nahc.ca.gov
e-mail: da_nahc@pacbell.net



January 29, 2007

Ms. Christine Michalczuk, Senior Archaeologist

URS CORPORATION

13333 Broadway, Suite 800
Oakland, CA 94612

Sent by FAX to: 510-874-3268
Number of pages: 3

Re: Cultural Resource Identification Study/Sacred Lands File Search for Proposed Etiwanda Expansion Project, a Power Plant Project; Fontana Location: San Bernardino County; California

Dear Ms. Michalczuk:

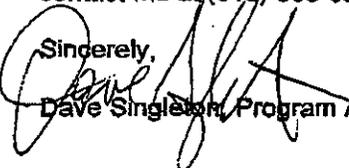
The Native American Heritage Commission was able to perform a record search of its Sacred Lands File (SLF) for the affected project area. The SLF failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the Sacred Lands File does not guarantee the absence of cultural resources in any 'area of potential effect (APE).'

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Enclosed are the nearest tribes that may have knowledge of cultural resources in the project area. A List of Native American contacts are attached to assist you. The Commission makes no recommendation of a single individual or group over another. It is advisable to contact the person listed; if they cannot supply you with specific information about the impact on cultural resources, they may be able to refer you to another tribe or person knowledgeable of the cultural resources in or near the affected project area (APE).

Lack of surface evidence of archeological resources does not preclude the existence of archeological resources. Lead agencies should consider avoidance, as defined in Section 15370 of the California Environmental Quality Act (CEQA) when significant cultural resources could be affected by a project. Also, Public Resources Code Section 5097.98 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery. Discussion of these should be included in your environmental documents, as appropriate.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,


Dave Singleton, Program Analyst

Attachment: Native American Contact List

**Native American Contacts
San Bernardino County
January 29, 2007**

San Manuel Band of Mission Indians
Henry Duro, Chairperson
26569 Community Center Dr. Serrano
Highland, CA 92346
jmarquez@sanmanu
(909) 864-8933

(909) 864-3370 Fax

Ti'At Society
Cindi Alvitre
6602 Zelzah Avenue Gabriellino
Reseda, CA 91335
pimugirl@aol.com
(714) 504-2468 Cell

Gabrieleno/Tongva Tribal Council
Anthony Morales, Chairperson
PO Box 693
San Gabriel, CA 91778

(626) 286-1632
(626) 286-1758 - Home
(626) 286-1262 Fax

Morongo Band of Mission Indians
Britt W. Wilson, Cultural Resources Coordinator
Gabrielino Tongva 245 N. Murray Street, Suite C Cahuilla
Banning, CA 92220 Serrano
britt_wilson@morongo.org
(951) 849-8807
(951) 755-5206
(951) 922-8146 Fax

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

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

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Etiwanda Expansion Project, a Power Plant Project; City of Fontana; San Bernardino County, California for which a Sacred Lands File search was requested.

**Native American Contacts
San Bernardino County
January 29, 2007**

San Manuel Band of Mission Indians

Bernadette Brierty, GIS Coordinator/Cultural Resource

26569 Community Center Dr. Serrano

Highland, CA 92346

bbrierty@sanmanuel-

(909) 864-8933 EXT
2203

(909) 862-5152 Fax

Serrano Band of Indians

Goldie Walker

6588 Valeria Drive Serrano

Highland, CA 92346

(909) 862-9883

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

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

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Etiwanda Expansion Project, a Power Plant Project; City of Fontana; San Bernardino County, California for which a Sacred Lands File search was requested.



January 31, 2007

Mr. Henry Duro, Chairperson
San Manuel Band of Mission Indians
26569 Community Center Drive
Highland, CA 92346

Re: **Etiwanda Expansion Project, Application for Certification (AFC) – Cultural Resources
Technical Report and Section, San Bernardino County, California**

Dear Mr. Duro:

The purpose of this letter is to apprise you of a proposed project in San Bernardino County. The project intends to expand an existing power plant located in the City of Rancho Cucamonga, California, in an effort to augment the State's power supply. The properties within the City of Rancho Cucamonga (the City) include heavy industrial facilities, commercial facilities, agricultural lands, and residences. The proposed project is located in the southeast portion of the City, in an area established by the City for heavy industrial (HI) uses. The general vicinity surrounding the proposed project site consists of industrial facilities, undeveloped land or transmission line corridors.

URS Corporation contacted the California Native American Heritage Commission (NAHC) for a review of its Sacred Lands Files for the entire project area. A response was received on January 29, 2007, indicating that the records search of the NAHC Sacred Lands File failed to indicate the presence of Native American cultural resources within the immediate project area. The NAHC also provided a list of groups or individuals that may have specific knowledge of cultural resources or have other concerns in the specific project area. Your name was among those provided by the NAHC. Should you have any knowledge of cultural resources in the specific project area, know of other contacts that may have such specific knowledge, or have other concerns in the specific project areas, please contact me at (510) 874-3204, or write to the address in the letterhead.

Thank you for your help and consideration with this request.

Sincerely,

URS Corporation

Christine K. Michalczuk

Christine K. Michalczuk, M.A., R.P.A.
Senior Archaeologist

Enclosure: Map

URS Group, Inc.
1333 Broadway, Suite 800
Oakland, CA 94612-1924
Tel: 510.893.3600
Fax: 510.874.3268

U.S. Postal Service™ Delivery Confirmation™ Receipt

Postage and Delivery Confirmation fees must be paid before mailing.

Article Sent To: (to be completed by mailer)

Henry Duro
26569 Community Center Drive
Highland, CA 92346

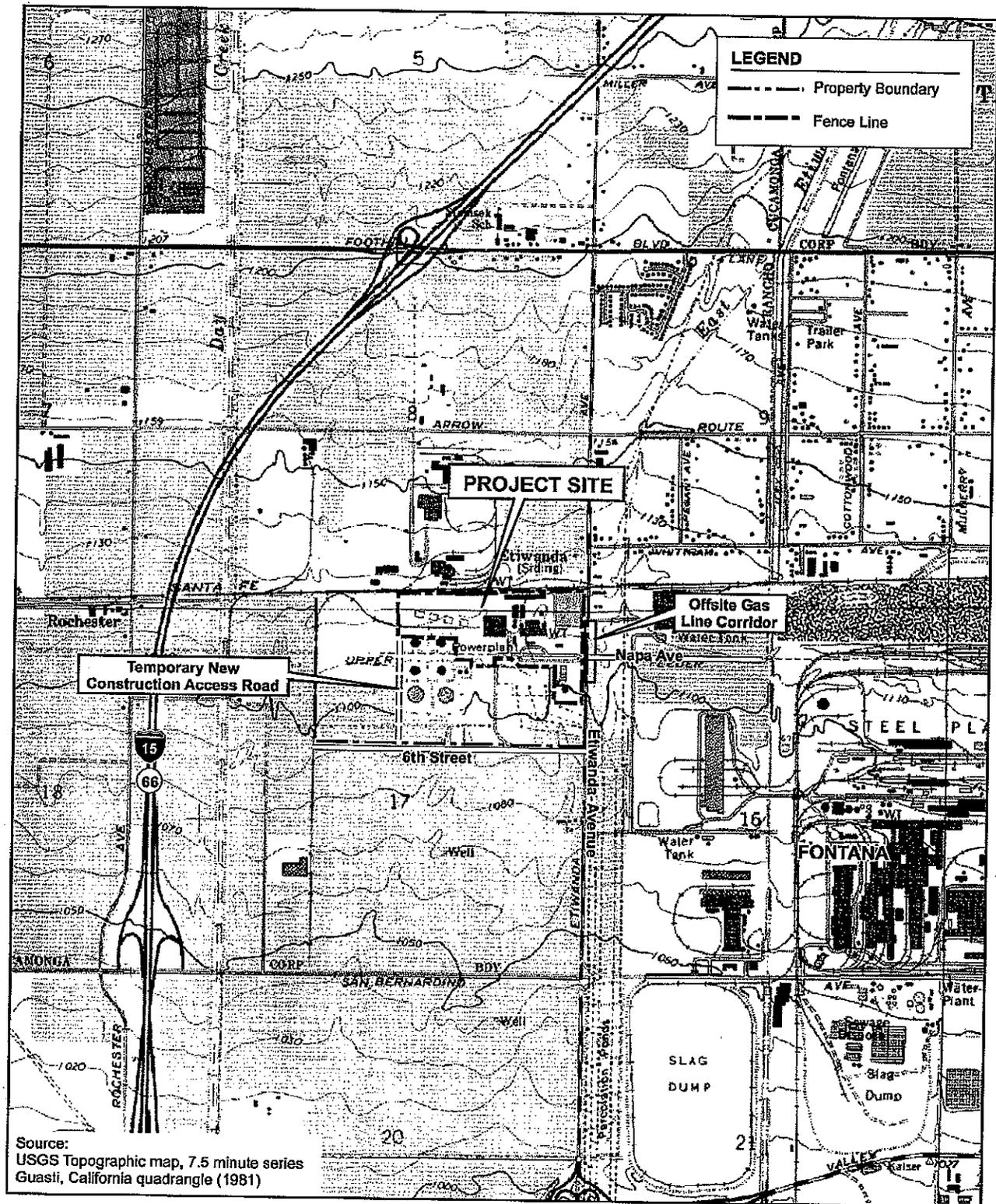
DELIVERY CONFIRMATION NUMBER: 0306 1070 0002 3932 3402

Postmark Here

POSTAL CUSTOMER:
Keep this receipt. For Inquiries:
Access internet web site at www.usps.com[®]
or call 1-800-222-1811

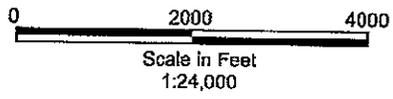
CHECK ONE (POSTAL USE ONLY)

Priority Mail™ Service
 First-Class Mail® parcel
 Package Services parcel



Source:
USGS Topographic map, 7.5 minute series
Guasti, California quadrangle (1981)

Note:
Construction Laydown Area TBD



PROJECT LOCATION MAP

January 2007
280667169

Etiwanda Expansion Project
Reliant Energy
San Bernardino County, California



FIGURE 3.2-1

TELEPHONE CONVERSATION RECORD (TelCon)

URS Corporation

1333 Broadway, Suite 800, Oakland, CA 94612

(Environmental Planning and Permitting Group)

COPIES TO:

File:

URS Corporation, Oakland, CA

DATE 27 February 2007 TIME 10:28
VIA Phone WITH Henry Duro; N/A – left message
COMPANY San Manuel Band of Mission Indians
ADDRESS 26569 Community Center Drive PHONE NO. (909) 864-8933
Highland, CA 92346
PROJ NAME Etiwanda Power Plant Project PROJ/TASK NO. 28067169.20300

Ms. Christine Michalczuk, URS Senior Archaeologist, left a message for Mr. Henry Duro, Chairperson with the San Manuel Band of Mission Indians, regarding the notification letter that was mailed on 31 January 2007. The message was left with Mr. Duro's secretary Ms. Carolyn Tobbins. The message asked if he had any comments, questions, or concerns that he'd like to address, and to please call Ms. Michalczuk at (510)874-3204 at his convenience.

Any further communication will be documented and forwarded to the Applicant.

TELEPHONE CONVERSATION RECORD (TelCon)

URS Corporation

1333 Broadway, Suite 800, Oakland, CA 94612

(Environmental Planning and Permitting Group)

COPIES TO:

File:

URS Corporation, Oakland, CA

DATE 27 February 2007 TIME 10:31
VIA Phone WITH Cindi Alvitre; N/A – left message
COMPANY Ti'At Society
ADDRESS 6602 Zelzah Avenue PHONE NO. (714) 504-2468
Reseda, CA 91335
PROJ NAME Etiwanda Power Plant Project PROJ/TASK NO. 28067169.20300

Ms. Christine Michalczuk, URS Senior Archaeologist, left a message for Ms. Cindi Alvitre with the Ti'At Society, regarding the notification letter that was mailed on 31 January 2007. The message asked if she had any comments, questions, or concerns that she'd like to address, and to please call Ms. Michalczuk at (510)874-3204 at her convenience.

Any further communication will be documented and forwarded to the Applicant.

TELEPHONE CONVERSATION RECORD (TelCon)

URS Corporation

1333 Broadway, Suite 800, Oakland, CA 94612

(Environmental Planning and Permitting Group)

COPIES TO:

File:

URS Corporation, Oakland, CA

DATE 01 March 2007 TIME 1:30 pm
VIA Phone WITH Cindi Alvitre
COMPANY Ti'At Society
ADDRESS 6602 Zelzah Avenue PHONE NO. (714) 504-2468
Reseda, CA 91335
PROJ NAME Etiwanda Power Plant Project PROJ/TASK NO. 28067169.20300

Ms. Christine Michalczuk, URS Senior Archaeologist, received a phone call from Ms. Cindi Alvitre with the Ti'At Society, regarding the notification letter that was mailed on 31 January 2007. She wanted to inquire about both the cultural and biological resources that would be affected by this project. She voiced special concerns over native white sage that is found within the city boundaries and the impacts on collecting the plant for medicinal use. She requested to be kept informed and to be notified if any burials or human remains are discovered during the course of the project.

Any further communication will be documented and forwarded to the Applicant.



January 31, 2007

Mr. Anthony Morales, Chairperson
Gabrieleno / Tongva Tribal Council
P.O. Box 693
San Gabriel, CA 91778

Re: **Etiwanda Expansion Project, Application for Certification (AFC) – Cultural Resources
Technical Report and Section, San Bernardino County, California**

Dear Mr. Morales:

The purpose of this letter is to apprise you of a proposed project in San Bernardino County. The project intends to expand an existing power plant located in the City of Rancho Cucamonga, California, in an effort to augment the State's power supply. The properties within the City of Rancho Cucamonga (the City) include heavy industrial facilities, commercial facilities, agricultural lands, and residences. The proposed project is located in the southeast portion of the City, in an area established by the City for heavy industrial (HI) uses. The general vicinity surrounding the proposed project site consists of industrial facilities, undeveloped land or transmission line corridors.

URS Corporation contacted the California Native American Heritage Commission (NAHC) for a review of its Sacred Lands Files for the entire project area. A response was received on January 29, 2007, indicating that the records search of the NAHC Sacred Lands File failed to indicate the presence of Native American cultural resources within the immediate project area. The NAHC also provided a list of groups or individuals that may have specific knowledge of cultural resources or have other concerns in the specific project area. Your name was among those provided by the NAHC. Should you have any knowledge of cultural resources in the specific project area, know of other contacts that may have such specific knowledge, or have other concerns in the specific project areas, please contact me at (510) 874-3204, or write to the address in the letterhead.

Thank you for your help and consideration with this request.

Sincerely,

URS Corporation

Christine K. Michalczuk, M.A., R.P.A.
Senior Archaeologist

Enclosure: Map

URS Group, Inc.
1333 Broadway, Suite 800
Oakland, CA 94612-1924
Tel: 510.893.3600
Fax: 510.874.3268

U.S. Postal Service™ Delivery Confirmation™ Receipt

Postage and Delivery Confirmation fees must be paid before mailing.

Article Sent To: (to be completed by mailer)

Anthony Morales
P.O. Box 693
San Gabriel CA 91778

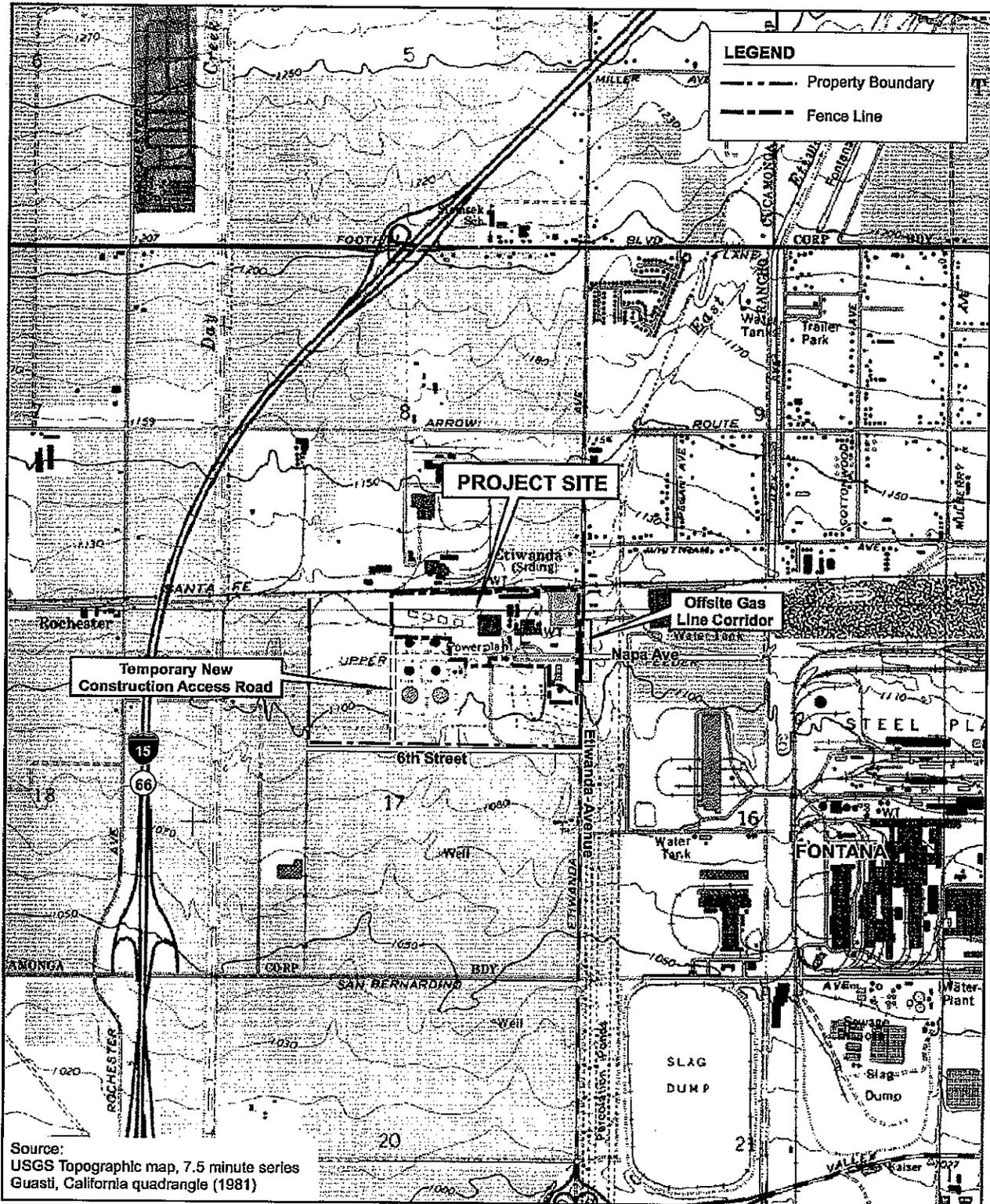
DELIVERY CONFIRMATION NUMBER: 9000 0107 2000 0000 0000 0000

Postmark
Here

POSTAL CUSTOMER:
Keep this receipt. For Inquiries:
Access internet web site at
www.usps.com®
or call 1-800-222-1811

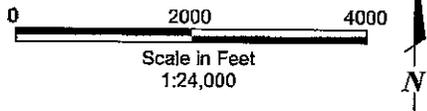
CHECK ONE (POSTAL USE ONLY)

- Priority Mail™ Service
- First-Class Mail® parcel
- Package Services parcel



Source:
USGS Topographic map, 7.5 minute series
Guasti, California quadrangle (1981)

Note:
Construction Laydown Area TBD



PROJECT LOCATION MAP

January 2007
280667169
Etiwanda Expansion Project
Reliant Energy
San Bernardino County, California



FIGURE 3.2-1

TELEPHONE CONVERSATION RECORD (TelCon)

URS Corporation

1333 Broadway, Suite 800, Oakland, CA 94612

(Environmental Planning and Permitting Group)

COPIES TO:

File:

URS Corporation, Oakland, CA

DATE 27 February 2007 TIME 10:33
VIA Phone WITH Anthony Morales; N/A – left message
COMPANY Gabrieleno/Tongva Tribal Council
ADDRESS P.O. Box 693 PHONE NO. (626) 286-1632
San Gabriel, CA 91778
PROJ NAME Etiwanda Power Plant Project PROJ/TASK NO. 28067169.20300

Ms. Christine Michalczuk, URS Senior Archaeologist, left a message for Mr. Anthony Morales, Chairperson with the Gabrieleno/Tongva Tribal Council, regarding the notification letter that was mailed on 31 January 2007. The message asked if he had any comments, questions, or concerns that he'd like to address, and to please call Ms. Michalczuk at (510)874-3204 at his convenience.

Any further communication will be documented and forwarded to the Applicant.

TELEPHONE CONVERSATION RECORD (TelCon)

URS Corporation

1333 Broadway, Suite 800, Oakland, CA 94612

(Environmental Planning and Permitting Group)

COPIES TO:

File:

URS Corporation, Oakland, CA

DATE 27 February 2007

TIME 10:58 am

VIA Phone

WITH Anthony Morales

COMPANY Gabrieleno/Tongva Tribal Council

ADDRESS P.O. Box 693

PHONE NO. (626) 286-1632

San Gabriel, CA 91778

PROJ NAME Etiwanda Power Plant Project

PROJ/TASK NO. 28067169.20300

Ms. Christine Michalczuk, URS Senior Archaeologist, received a phone call from Mr. Anthony Morales, Chairperson with the Gabrieleno/Tongva Tribal Council, regarding the notification letter that was mailed on 31 January 2007. He inquired about the use of Native American monitors during the course of the project. He wanted to know if we were anticipating the need for monitors. Ms. Michalczuk informed him that at this stage, that decision had not been made. He had no additional comments or questions at this time.

Any further communication will be documented and forwarded to the Applicant.



January 31, 2007

Britt W. Wilson
Cultural Resources Coordinator
Morongo Band of Mission Indians
245 N. Murray Street, Suite C
Banning, CA 92220

Re: **Etiwanda Expansion Project, Application for Certification (AFC) – Cultural Resources Technical Report and Section, San Bernardino County, California**

Dear Britt W. Wilson:

The purpose of this letter is to apprise you of a proposed project in San Bernardino County. The project intends to expand an existing power plant located in the City of Rancho Cucamonga, California, in an effort to augment the State's power supply. The properties within the City of Rancho Cucamonga (the City) include heavy industrial facilities, commercial facilities, agricultural lands, and residences. The proposed project is located in the southeast portion of the City, in an area established by the City for heavy industrial (HI) uses. The general vicinity surrounding the proposed project site consists of industrial facilities, undeveloped land or transmission line corridors.

URS Corporation contacted the California Native American Heritage Commission (NAHC) for a review of its Sacred Lands Files for the entire project area. A response was received on January 29, 2007, indicating that the records search of the NAHC Sacred Lands File failed to indicate the presence of Native American cultural resources within the immediate project area. The NAHC also provided a list of groups or individuals that may have specific knowledge of cultural resources or have other concerns in the specific project area. Your name was among those provided by the NAHC. Should you have any knowledge of cultural resources in the specific project area, know of other contacts that may have such specific knowledge, or have other concerns in the specific project areas, please contact me at (510) 874-3204, or write to the address in the letterhead.

Thank you for your help and consideration with this request.

Sincerely,

URS Corporation

Christine K. Michalczuk, M.A., R.P.A.
Senior Archaeologist

Enclosure: Map

URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612-1924
Tel: 510.893.3600
Fax: 510.874.3268

U.S. Postal Service™ Delivery Confirmation™ Receipt

Postage and Delivery Confirmation fees must be paid before mailing.

Article Sent To: (to be completed by mailer)

Britt W. Wilson
245 N. Murray Street, Ste. C
Banning CA 92220

DELIVERY CONFIRMATION NUMBER: 0306 1070 0002 3933 3372

Postmark Here

POSTAL CUSTOMER:
Keep this receipt. For inquiries:
Access internet web site at www.usps.com®
or call 1-800-222-1811

CHECK ONE (POSTAL USE ONLY)

Priority Mail™ Service

First-Class Mail® parcel

Package Services parcel

TELEPHONE CONVERSATION RECORD (TelCon)

URS Corporation

1333 Broadway, Suite 800, Oakland, CA 94612

(Environmental Planning and Permitting Group)

COPIES TO:

File:

URS Corporation, Oakland, CA

DATE 05 February 2007 TIME 11:09
VIA Phone WITH Britt Wilson
COMPANY Morongo Band of Mission Indians
ADDRESS 245 N. Murray Street, Suite C PHONE NO. (951) 755-5200
Banning, CA 92220
PROJ NAME Etiwanda Power Plant Project PROJ/TASK NO. 28067169.20300

Ms. Christine Michalczuk, URS Senior Archaeologist, received a phone call from Mr. Britt Wilson, Cultural Resources Coordinator with the Morongo Band of Mission Indians (the Band), regarding the notification letter that was mailed on 31 January 2007. He stated that the Band had no specific information regarding cultural resources in the project area, but they did have comments/mitigation measures they would like ~~URS~~ to consider.
URS

Mr. Wilson requested that he email Ms. Michalczuk more detailed information; an email was received on 05 February 2007 with the information. No further action is needed at this time.



"Britt Wilson"
<britt_wilson@morongo.org>
02/05/2007 11:10 AM

To <christine_hacking@urscorp.com>
cc "Britt Wilson" <britt_wilson@morongo.org>
bcc
Subject Etiwanda Expansion Project

Thank you for contacting the Morongo Band of Mission Indians concerning cultural resource information relative to the above referenced project(s). Due to the high number of information requests the Tribe has been receiving, we are only able to respond via email.

The project(s) is outside of the Tribe's current reservation boundaries but within an area that may be considered a traditional use area or one in which the Tribe has cultural ties (e.g. Cahuilla/Serrano territory). The Tribe, however, has no specific information regarding cultural resources in the project/area but would like to offer the following comments/recommended mitigation measures:

- If Native American cultural resources (other than isolates) are found on the project site, or the site is in a medium to high-probability area for those resources, the Tribe recommends a cultural resources survey and archaeological site monitoring –preferably utilizing Native American monitors;
- In accordance with state law, the County coroner should be contacted if any human remains are found during earthmoving activities;
- If Native American cultural resources are uncovered during earthmoving activities, work in the immediate vicinity of the find shall cease and an archaeologist meeting Secretary of Interior standards shall be retained to assess the find. Any treatment plan or action by an archaeologist should include consultations with the Morongo Band of Mission Indians.

[SPECIAL NOTE (for projects other than cell towers): *If* this project is associated with a city or county specific plan or general plan action it is subject to the provisions of SB18-Traditional Tribal Cultural Places (law became effective January 1, 2005) and will require the city or county to participate in **formal, government-to-government** consultation with the Tribe. If the city or county are your client, you may wish to make them aware of this requirement. By law, they are required to contact the Tribe. This email does **not** constitute consultation under SB18.]

Thank you for the opportunity to comment on the project.

Sincerely,

Britt W. Wilson

Project Manager/Cultural Resources Coordinator

Morongo Band of Mission Indians

245 N. Murray Street, Suite C

Banning, CA 92220

Phone (951) 755-5200

Direct (951) 755-5206

Mobile (951) 323-0822

Fax (951) 922-8146

Wayta' Yawa' (Always Believe)



January 31, 2007

Ms. Bernadette Brierty
GIS Coordinator / Cultural Resources
San Manuel Band of Mission Indians
26569 Community Center Drive
Highland, CA 92346

Re: **Etiwanda Expansion Project, Application for Certification (AFC) – Cultural Resources
Technical Report and Section, San Bernardino County, California**

Dear Ms. Brierty:

The purpose of this letter is to apprise you of a proposed project in San Bernardino County. The project intends to expand an existing power plant located in the City of Rancho Cucamonga, California, in an effort to augment the State's power supply. The properties within the City of Rancho Cucamonga (the City) include heavy industrial facilities, commercial facilities, agricultural lands, and residences. The proposed project is located in the southeast portion of the City, in an area established by the City for heavy industrial (HI) uses. The general vicinity surrounding the proposed project site consists of industrial facilities, undeveloped land or transmission line corridors.

URS Corporation contacted the California Native American Heritage Commission (NAHC) for a review of its Sacred Lands Files for the entire project area. A response was received on January 29, 2007, indicating that the records search of the NAHC Sacred Lands File failed to indicate the presence of Native American cultural resources within the immediate project area. The NAHC also provided a list of groups or individuals that may have specific knowledge of cultural resources or have other concerns in the specific project area. Your name was among those provided by the NAHC. Should you have any knowledge of cultural resources in the specific project area, know of other contacts that may have such specific knowledge, or have other concerns in the specific project areas, please contact me at (510) 874-3204, or write to the address in the letterhead.

Thank you for your help and consideration with this request.

Sincerely,

URS Corporation

Christine K. Michalczuk

Christine K. Michalczuk, M.A., R.P.A.
Senior Archaeologist

Enclosure: Map

URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612-1924
Tel: 510.893.3600
Fax: 510.874.3268

U.S. Postal Service™ Delivery Confirmation™ Receipt

Postage and Delivery Confirmation fees must be paid before mailing.

Article Sent To: (to be completed by mailer)

Bernadette Brierty
26569 Community Center Drive
Highland CA 92346

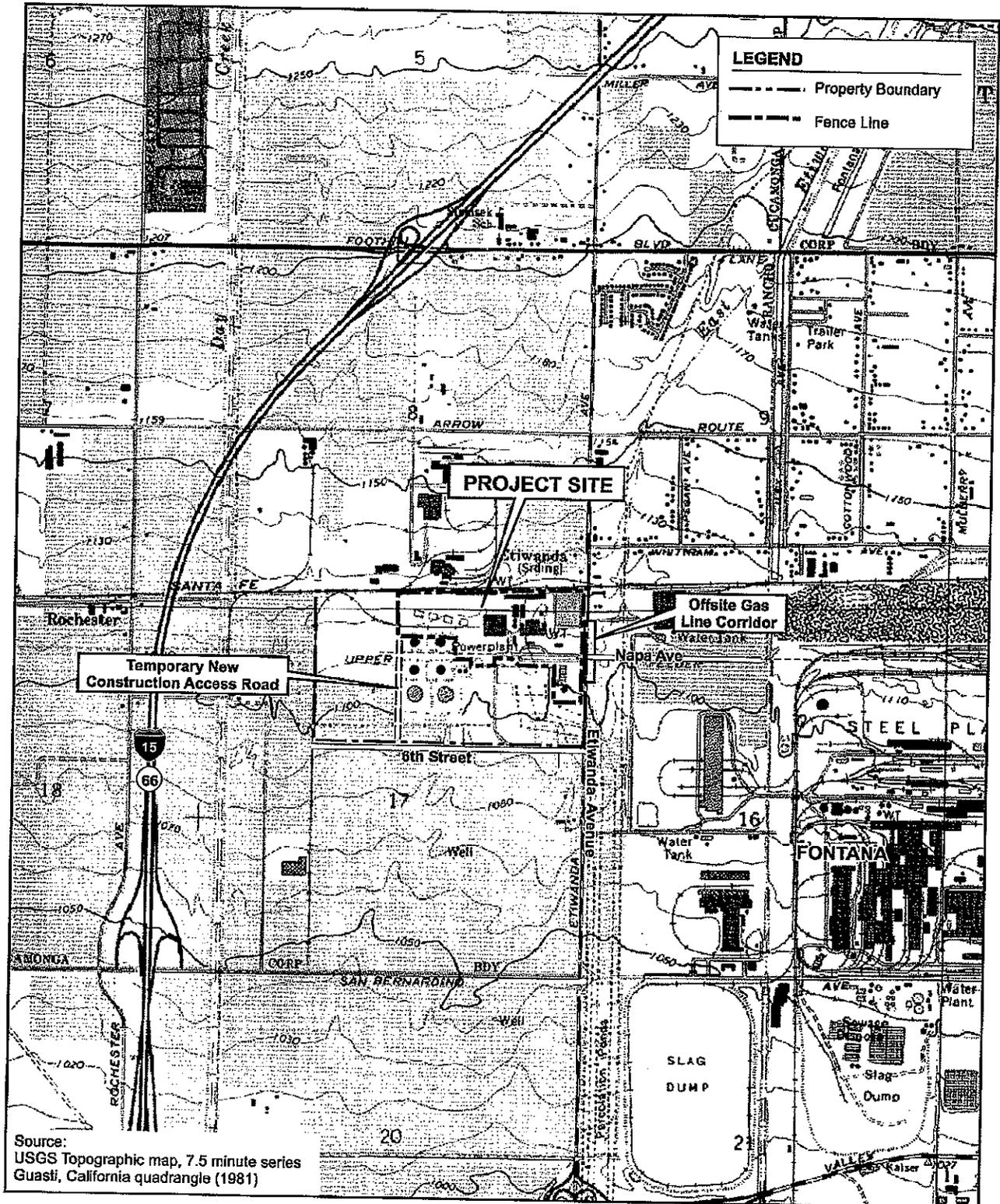
DELIVERY CONFIRMATION NUMBER: 57EE EEEB 2000 02DT 90ED

Postmark
Here

POSTAL CUSTOMER:
Keep this receipt. For Inquiries:
Access internet web site at
www.usps.com®
or call 1-800-222-1811

CHECK ONE (POSTAL USE ONLY)

- Priority Mail™ Service
- First-Class Mail® parcel
- Package Services parcel



Source:
USGS Topographic map, 7.5 minute series
Guasti, California quadrangle (1981)

Note:
Construction Laydown Area TBD

LEGEND
 - - - - - Property Boundary
 - · - · - - Fence Line

PROJECT LOCATION MAP

Etowanda Expansion Project
 Reliant Energy
 San Bernardino County, California



FIGURE 3.2-1

TELEPHONE CONVERSATION RECORD (TelCon)

URS Corporation

1333 Broadway, Suite 800, Oakland, CA 94612

(Environmental Planning and Permitting Group)

COPIES TO:

File:

URS Corporation, Oakland, CA

DATE 27 February 2007 TIME 10:33
VIA Phone WITH Bernadette Brierty; N/A - left message
COMPANY San Manuel Band of Mission Indians
ADDRESS 26569 Community Center Drive PHONE NO. (909) 863-5899
Highland, CA 92346 x4321
PROJ NAME Etiwanda Power Plant Project PROJ/TASK NO. 28067169.20300

Ms. Christine Michalczuk, URS Senior Archaeologist, left a message for Ms. Bernadette Brierty, GIS Coordinator / Cultural Resource with the San Manuel Band of Mission Indians, regarding the notification letter that was mailed on 31 January 2007. The message asked if she had any comments, questions, or concerns that she'd like to address, and to please call Ms. Michalczuk at (510)874-3204 at her convenience.

Any further communication will be documented and forwarded to the Applicant.



January 31, 2007

Ms. Goldie Walker
Serrano Band of Mission Indians
6588 Valeria Drive
Highland, CA 92346

Re: **Etiwanda Expansion Project, Application for Certification (AFC) – Cultural Resources
Technical Report and Section, San Bernardino County, California**

Dear Ms. Walker:

The purpose of this letter is to apprise you of a proposed project in San Bernardino County. The project intends to expand an existing power plant located in the City of Rancho Cucamonga, California, in an effort to augment the State's power supply. The properties within the City of Rancho Cucamonga (the City) include heavy industrial facilities, commercial facilities, agricultural lands, and residences. The proposed project is located in the southeast portion of the City, in an area established by the City for heavy industrial (HI) uses. The general vicinity surrounding the proposed project site consists of industrial facilities, undeveloped land or transmission line corridors.

URS Corporation contacted the California Native American Heritage Commission (NAHC) for a review of its Sacred Lands Files for the entire project area. A response was received on January 29, 2007, indicating that the records search of the NAHC Sacred Lands File failed to indicate the presence of Native American cultural resources within the immediate project area. The NAHC also provided a list of groups or individuals that may have specific knowledge of cultural resources or have other concerns in the specific project area. Your name was among those provided by the NAHC. Should you have any knowledge of cultural resources in the specific project area, know of other contacts that may have such specific knowledge, or have other concerns in the specific project areas, please contact me at (510) 874-3204, or write to the address in the letterhead.

Thank you for your help and consideration with this request.

Sincerely,

URS Corporation

Christine K. Michalczuk, M.A., R.P.A.
Senior Archaeologist

Enclosure: Map

URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612-1924
Tel: 510.893.3600
Fax: 510.874.3268

U.S. Postal Service™ Delivery Confirmation™ Receipt

Postage and Delivery Confirmation fees must be paid before mailing.

Article Sent To: (to be completed by mailer)

Goldie Walker
6588 Valeria Drive
Highland CA 92346

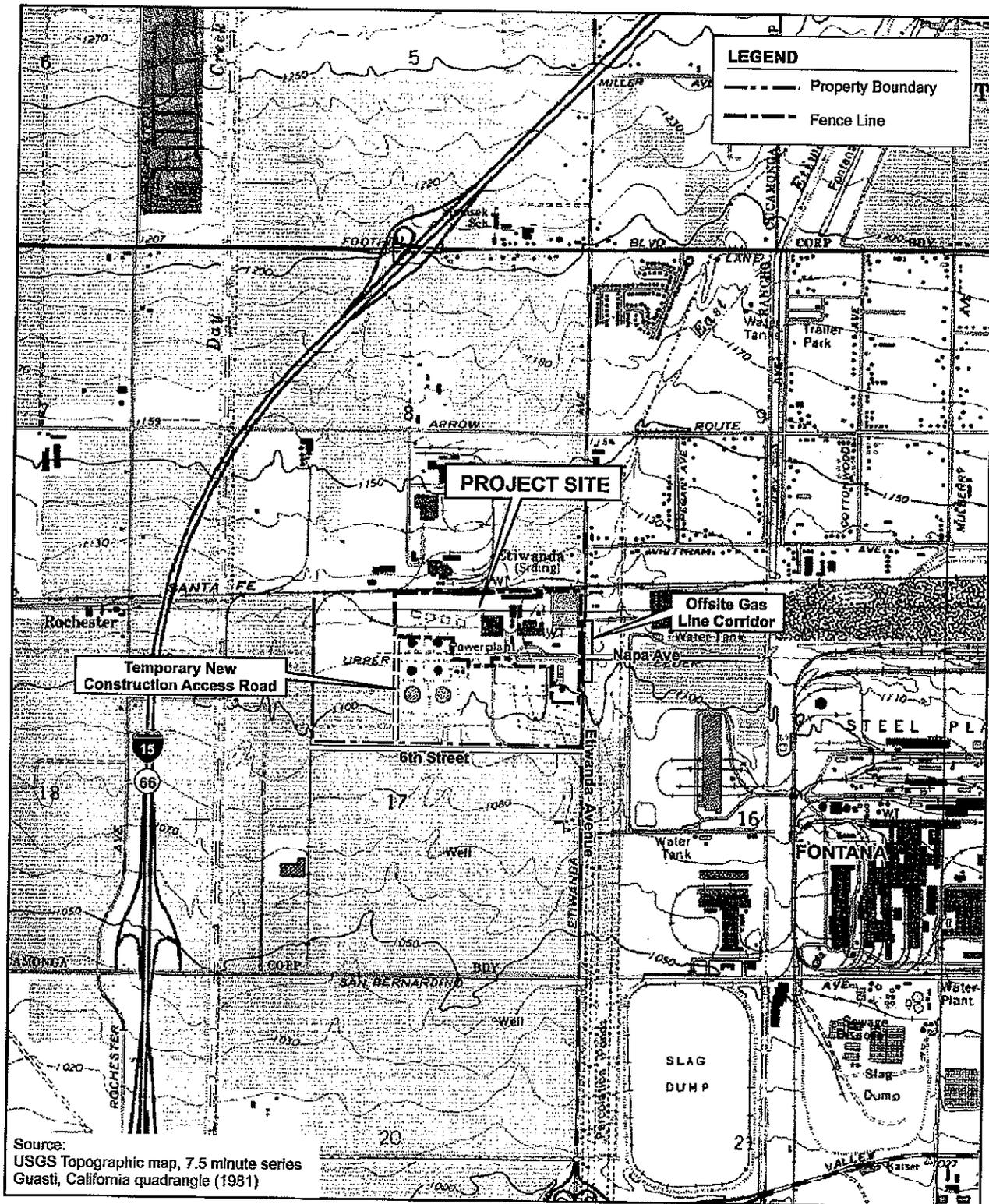
DELIVERY CONFIRMATION NUMBER:
9030 0207 0000 2000 4333 3300

Postmark
Here

POSTAL CUSTOMER:
Keep this receipt. For inquiries:
Access internet web site at
www.usps.com[®]
or call 1-800-222-1811

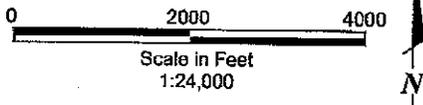
CHECK ONE (POSTAL USE ONLY)

- Priority Mail™ Service
- First-Class Mail® parcel
- Package Services parcel



Source:
USGS Topographic map, 7.5 minute series
Guasti, California quadrangle (1981)

Note:
Construction Laydown Area TBD



PROJECT LOCATION MAP

January 2007
280667169
Etiwanda Expansion Project
Reliant Energy
San Bernardino County, California



FIGURE 3.2-1

TELEPHONE CONVERSATION RECORD (TelCon)

URS Corporation

1333 Broadway, Suite 800, Oakland, CA 94612

(Environmental Planning and Permitting Group)

COPIES TO:

File:

URS Corporation, Oakland, CA

DATE 27 February 2007 TIME 10:38
VIA Phone WITH Goldie Walker; N/A - left message
COMPANY Serrano Band of Indians
ADDRESS 6588 Valeria Drive PHONE NO. (909) 862-9883
Highland, CA 92346
PROJ NAME Etiwanda Power Plant Project PROJ/TASK NO. 28067169.20300

Ms. Christine Michalczuk, URS Senior Archaeologist, left a message for Ms. Goldie Walker with the Serrano Band of Indians, regarding the notification letter that was mailed on 31 January 2007. The message asked if she had any comments, questions, or concerns that she'd like to address, and to please call Ms. Michalczuk at (510)874-3204 at her convenience.

Any further communication will be documented and forwarded to the Applicant.

TELEPHONE CONVERSATION RECORD (TelCon)

URS Corporation

1333 Broadway, Suite 800, Oakland, CA 94612

(Environmental Planning and Permitting Group)

COPIES TO:

File:

URS Corporation, Oakland, CA

DATE 27 February 2007 TIME 1:30 pm
VIA Phone WITH Goldie Walker
COMPANY Serrano Band of Indians
ADDRESS 6588 Valeria Drive PHONE NO. (909) 862-9883
Highland, CA 92346
PROJ NAME Etiwanda Power Plant Project PROJ/TASK NO. 28067169.20300

Ms. Christine Michalczuk, URS Senior Archaeologist, received a phone call from Ms. Goldie Walker with the Serrano Band of Indians, regarding the notification letter that was mailed on 31 January 2007. She wanted to notify URS that she received the letter and that it was with her attorney at this time. She expressed concerns about being notified if any burials or artifacts are discovered during the course of the project. She would like to remain involved and would contact URS if she or her attorney had any additional questions.

Any further communication will be documented and forwarded to the Applicant.

Appendix D
Historical Resources Inventory and Evaluation Report for the Proposed San
Gabriel Generating Station Project

Historical Resources Inventory and Evaluation Report

for the proposed

San Gabriel Generating Station Project



Prepared for:

URS Corporation
221 Main Street Suite 600
San Francisco, California 94105

Prepared by:

JRP Historical Consulting, LLC
1490 Drew Avenue, Suite 110
Davis, California 95618

2007

SUMMARY OF FINDINGS

URS contracted with JRP Historical Consulting LLC (JRP) to prepare a Historical Resources Inventory and Evaluation Report for historic buildings, structures, and objects located within the architectural study area for this project. The architectural study area contains portions of the Etiwanda Power Plant, the Etiwanda substation and a segment of the Burlington-Northern Santa Fe Railroad (BNSF).

The purpose of this document is to comply with the California Environmental Quality Act (CEQA) as it pertains to historical resources, and to assess whether the architectural resources located within the project study area should be considered historical resources for the purposes of CEQA; that is, whether they are listed in, determined eligible for, or appear eligible for listing in the California Register of Historic Resources (CRHR). This study was conducted in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines using the criteria outlined in Section 5024.1 of the California Public Resources Code.

The Etiwanda Power Plant dates to 1953. The construction of the Etiwanda Power Plant corresponded with the increased need for electricity caused by the growth of population and electrical demand following World War II. Power companies throughout southern California built steam generation plants in the 1950s and 1960s to meet this demand. Because the companies employed similar technology and had similar needs, the power plants tend to be similar. The proposed San Gabriel Generating Station (SGGS) Project would only affect portions of Units 1 and 2. Units 3 and 4 were built in 1963 and do not require evaluation. Attached to the plant is the Etiwanda substation, built to connect the power plant with the transmission lines. North of the plant is the BNSF. Modern industrial properties surround the project area. This report concludes that the properties situated near the proposed SGGS do not appear to meet the criteria for listing in the CRHR and thus do not qualify as historical resources for the purposes of CEQA.

Appendix A includes two maps showing the project vicinity and location (**Map 1**), and site layout (**Maps 3 and 4**). Map 2 includes map reference numbers for the individual resources located within the study area. DPR 523 forms for the evaluated properties are in **Appendix B**.

TABLE OF CONTENTS

SUMMARY OF FINDINGS	i
1. PROJECT DESCRIPTION.....	1
2. RESEARCH AND FIELD METHODS	3
3. HISTORICAL OVERVIEW	5
3.1. Early California Electrical Generation.....	5
3.2. Southern California Edison (SCE).....	7
3.3. Etiwanda Power Plant	9
3.4. Fontana.....	11
4. DESCRIPTION OF RESOURCES	14
4.1. Etiwanda Power Plant.....	15
5. FINDINGS AND CONCLUSIONS	23
5.1. Evaluation Criteria.....	23
5.2. Evaluation	25
6. PREPARERS' QUALIFICATIONS	27
7. BIBLIOGRAPHY.....	28

ATTACHMENTS

Appendix A: Maps

Appendix B: DPR 523 Forms

1. PROJECT DESCRIPTION

The proposed project will be constructed at the Etiwanda Generating Station (EGS), an existing power plant owned and operated by Reliant. The EGS site (the existing plant location, which will include the proposed project) is bordered by Etiwanda Avenue to the east, an existing SCE switchyard and vacant SCE-owned land to the south, undeveloped SCE-owned land to the west, a parcel to the southwest owned by IEUA containing two water tanks, and Burlington Northern Santa Fe Railroad (BNSF) tracks to the north. The existing plant is approximately 60 acres in size.

The proposed combined cycle plant will use approximately 15 acres in the northwest portion of the EGS site, generally within the footprint of the area previously occupied by the Units 1 and 2 cooling towers to the west of Units 3 and 4, which will remain unchanged. The location of the proposed generating station, associated linear facilities, and offsite worker parking and equipment staging areas are shown in Figure 1.1-1. The EGS site permanent access will remain on Etiwanda Avenue. Figure 1.4-1 provides a photographic reproduction of the site prior to construction activities. A visual simulation of the site after construction is shown on Figure 1.4-2.

The proposed project will be constructed on the same parcel as the existing EGS facility. EGS generating units are located on Assessor's Parcel Number (APN) 022-928-379. The EGS site is located on Sections 8 and 17, Township 15, Range 6W on the Fontana U.S. Geological Survey (USGS) Quadrangle Map TCA 0820.

The SGGS will be a nominal 615-MW combined cycle power plant to be constructed almost entirely within the existing Reliant EGS property in Rancho Cucamonga, San Bernardino County, California. The SGGS will be a 2 × 1 configuration that consists of two combustion turbine generators (CTG), two supplementally fired HRSGs, one steam turbine generator (STG), and ancillary equipment.

Major elements of the SGGS are summarized below:

- Addition of two 180-MW (nominal) natural gas-fired Siemens 5000F CTGs equipped with dry low NO_x (DLN) combustors and evaporative inlet air cooling;
- Addition of two 644 million British thermal unit per hour (mmBtu/hr) natural gas-fired HRSGs equipped with aqueous ammonia-type selective catalytic reduction (SCR) and oxidation catalyst systems for oxides of nitrogen (NO_x) and carbon monoxide (CO) control, respectively;
- Addition of one (1) 330-MW (nominal) STG;
- Addition of an air-cooled condenser (ACC), commonly referred to as "dry-cooling," for heat rejection;

- Addition of natural gas compressors;
- Addition of one 15,000-gallon aqueous ammonia storage tank, associated ammonia unloading station, in-plant distribution piping, and ammonia vaporizer(s);
- Addition of two 150.5-foot-tall stacks equipped with continuous emissions monitoring systems (CEMS), each discharging the exhaust from one CTG/HRSG train;
- Addition of a water treatment system building and associated demineralization and evaporative cooler water tanks;
- Addition of a new control building for housing the SGGS plant distributed control system (DCS) and electrical equipment and warehouse for storage of equipment;
- Modification and extension (approximately 80 feet) of an existing 16-inch-diameter natural gas supply line and addition of an approximately 850-foot-long section of 24-inch-diameter natural gas supply pipeline to accommodate the SGGS;
- Addition of a single circuit 525-kilovolt (kV) transmission line from the new generators to SCE's Rancho Vista substation/ switchyard on SCE-owned property adjacent to and west of the EGS property; and
- The underground fire loop will be fed from the existing EGS fire loop.

Approximately 15 acres of offsite construction laydown and construction contractor parking will be located on property west of the EGS and SCE property and just east of Interstate 15 (I-15). Primary access to the project site during construction will be from the south via 6th Street. An approximately 2,000-foot-long temporary site access road from 6th Street to the SGGS site will be constructed. After construction is completed, the route along the temporary access road will be restored or resurfaced as necessary and appropriate.

The proposed project's related linear facilities include potable and reclaimed water lines, a new fire loop connected to the existing fire loop system, a sanitary sewer discharge line, and natural gas lines. Except for the connection to the existing offsite gas line, all of the pipeline construction associated with the proposed project will be within the 60-acre EGS property.

Sanitary wastes and plant process wastewater will be discharged to the Los Angeles County Sanitation District (LACSD) through the IEUA's nonreclaimable industrial waste lines under the plant's existing Industrial User's permit. Storm water runoff will be directed to a new detention pond and then will be discharged to the IEUA system under the plant's existing Industrial User's permit.

2. RESEARCH AND FIELD METHODS

JRP examined standard sources of information that list and identify known and potential historical resources to determine whether any buildings, structures, objects, districts, or sites had been previously recorded or evaluated in or near the project study area. JRP reviewed the National Register of Historic Places (NRHP), CRHR, California Historical Landmarks, and California Points of Historical Interest.¹ Five sites were recorded in the vicinity.

- SBR-6847H—Originally a portion of the Old Kite Route, a late 19th and early 20th century railroad excursion route, this site runs along the north end of the Etiwanda Power Plant, and through the top north section of the Kaiser Steel plant. Only a raised earthen railroad bed, a few railroad spikes, and other debris associated with a railroad track remains. This site does not retain enough integrity to be considered historically significant. See attached DPR update.
- SBR-4131H –Kaiser Steel is a Point of Historical Interest and is immediately adjacent to the eastern side of the Etiwanda Power Plant. There is nothing architecturally significant about the buildings located on the Kaiser Steel property, but the site is considered important because of its association with World War II defense industry and because it became one of the largest steel producers west of the Mississippi. The complex has been reduced and is outside the project area.
- 36-016453—Located approximately one-quarter mile south of the Etiwanda Power Plant was a small winery known as the Etiwanda Grape Products Company. Originally a small, family owned operation, buildings on the property have been demolished.
- P1084-23H—Only the remains of the Campanella residence, such as the concrete foundations of the house and garage, and other debris, exist today. Located approximately one mile north of the Etiwanda Power Plant, there is no historical significance to the property at this time, and it lacks integrity.
- SBR-2910H—Currently known as Foothill Blvd., this road is a section of the old US Highway 66 (Route 66). It has historical significance and is eligible for listing in the National Register of Historic Places. However, it is located approximately one and one-

¹ National Park Service, National Register Information System, online database: <<http://www.nr.nps.gov/>> (accessed January 2006); Office of Historic Preservation, *California Historical Landmarks*, (Sacramento: California State Parks, 1996); and Office of Historic Preservation, *California Points of Historical Interest*, (Sacramento: California State Parks, May 1992).

quarter miles north of the Etiwanda Power Plant, is not in the project area, and has no potential to be impacted by it.

The Etiwanda Power Plant and Substation have not been identified as a potential historic resources, nor do they appear to have been previously evaluated for listing in the NRHP or CRHR.

JRP conducted fieldwork at the proposed SGGs project site on March 3, 2005 and February 23, 2007, and recorded the property on a DPR 523 form (Appendix B). JRP conducted research at a variety of libraries and repositories including: California State Library, Sacramento; Shields Library, University of California, Davis; and California Room, Norman F. Feldheim Central Library, San Bernardino.

JRP then prepared a historic context to address pertinent themes of Southern California Edison (SCE), electric generation, and Etiwanda Power Plant history and evaluated the properties under CRHR criteria on the DPR 523 form. The historic themes are discussed in Section 3. The description and historical evaluation of the property is summarized in Sections 4 and 5. Refer to Section 6 for JRP staff professional qualifications, and to the references listed in Section 7 for a complete listing of materials consulted.

3. HISTORICAL OVERVIEW

The site of the proposed SGGs project is located on the northwest corner of the grounds of the existing Etiwanda Power Plant in Fontana, California. The plant was developed as a part of the Southern California Edison's (SCE's) post World War II generating system in the industrial area of Fontana. The growth of electrical generation in California and of the SCE system leading to the Etiwanda plant is discussed in the following context along with the industrialization of Fontana.

3.1. Early California Electrical Generation

Introducing electricity to California faced two major problems, securing inexpensive motive force for the generators and transmitting the power to often distant users. California's first electric light glowed in September 1879, when the California Electric Light Company of San Francisco installed a Brush arc light system powered by a steam engine for street lighting. It was costly to run because fuel for its steam engine was expensive. Another source of motive force, hydropower, was available in the Sierra Nevada and had been developed by miners. In fact in 1879, the same year the California Electric Light Company of San Francisco began operations, the Excelsior Water and Mining Company installed its own Brush lighting system. The water driven wheels were inexpensive to operate, but the plant was located far from population centers, and a method for transmitting electric power over long distances had not yet been developed. As a result, the company only produced electricity for its own use.

Even with the twin problems of motive force and transmission, southern California soon began experimenting with electric lighting. George Chaffey was the first to generate electricity in southern California in December of 1882. He purchased a small direct current generator and installed an arc light outside the Garcia ranch, where he and his brother had organized the Etiwanda Colony.² The canal did not provide much power, and he could not transmit the power very far. At about the same time, commercial generation began in Southern California. The Los Angeles Electric Company installed Brush street lamps in Los Angeles. Using steam power they could light the city, but again it was expensive because coal and hardwood for the boilers had to be transported long distances to the plant.

Several smaller communities followed after and faced the same problems. Visalia and Santa Barbara installed steam powered systems, but were also expensive. Visalia's first plant was forced to close when customers objected to the high prices and unsuitable light. The little plant

² Donald L. Clucas, *Light Over the Mountain: A History of the Rancho Cucamonga Area* (Upland, California: California Family House Publishers, 1979) 214.

at Highgrove, on the other hand, was located close enough to provide street lighting to Riverside. It used a low head hydropower site that was able to power 15 arc lamps. Hydropower plants located near users were rare.

The transmission problem was a result of the nature of direct current. Resistance in the wires diminished the amount of electricity received at the user's end, and reducing the distance electricity could be transmitted. Higher voltages reduced the resistance, but were not useful to customers. Alternating current systems, developed by Nicola Tesla and William Stanley and sold by Westinghouse, simultaneously solved the transmission and generation problems. Alternating current systems could be "stepped up" to higher voltages for transmission and back down to useable voltages for distribution by transformers making it possible to transmit electricity further. With longer transmission distances, companies could begin to build hydropower plants regardless of where they were located.

At first, companies simply used alternating current to enlarge the area they could serve and to provide new services. In the 1890s four early systems, Santa Barbara, Highgrove, Visalia and Pasadena, changed from direct current to alternating current without changing their generation sources. The first model for future generation was the San Antonio Light and Power Company. In 1891 Dr. Cyrus Grandison Baldwin had located an excellent hydropower site 14 miles from Pomona at the San Antonio Canyon. Baldwin hired Almarian William Decker engineer the hydroelectric plant and formed San Antonio Light and Power Company to develop the site. Decker successfully designed the single-phase alternating current system that began operations in 1892. It was able to provide 120 kW of power, compared to Highgrove's 75 kW.³ Decker immediately began work on another power plant at Mill Creek which introduced the three phase alternating current to California. This plant produced even more power, 250 kW.⁴

These hydroelectric projects proved that power could be transmitted longer distances and increased available power. They also proved to be the most economical means of generation at the time. Later changes in the economy and resources forced companies to change their generation models again. Through the early twentieth century, however, companies began to reduce their dependence on steam power as they built larger hydroelectric plants. As they did so, they consolidated and expanded their service areas to create a market for the electricity they generated. Southern California Edison (SCE) used this economy of scale to become the largest electric company in southern California.

³ William A. Meyers, *Iron Men and Copper Wires: A Centennial History of the Southern California Edison Company* (Glendale, California: Trans-Anglo Books, 1983) 25.

⁴ Meyers, *Iron Men and Copper Wires*, 27.

3.2. Southern California Edison (SCE)

Southern California Edison (SCE) began in 1896 as the West Side Lighting Company in Los Angeles, California. The company was one of several attempting to enter the Los Angeles market. It could not freely run wires without a city franchise, so the company built its steam plant outside the city limits and ran its lines into the city using poles on private property. Walter S. Wright, one of the founders, located and purchased a franchise, but the terms required the company to light city hall by April 5, 1896. The company rushed to meet the terms, and won the franchise to begin freely supplying electricity in the city.

City ordinances provided another challenge to the company. All the new technology, telephones, electric railroads, fire call boxes and more, had created a tangle of wires along the street. All new wires were required to be placed underground. West Side Lighting determined that the Edison three-wire system would provide the best underground system. Unfortunately, the Los Angeles Edison Electric Company held the rights to use the system in Los Angeles but had not developed any facilities. In 1897 West Side Lighting purchased the Los Angeles Edison Electric and became Edison Electric Company of Los Angeles. Using the new three-wire system to install underground conduit downtown, the company gained new customers. In 1898 the company built a second steam-powered plant in Los Angeles to keep up with demand.

The firm grew throughout the early twentieth century, purchasing small companies in the surrounding area. The purchases had two purposes: gain control of hydroelectric plants with surplus power; and expand its customer base. Small, isolated plants were consolidated into larger steam plants or were replaced with hydroelectric power that a small, localized company could not have accessed. The economy of scale allowed the company to reduce rates and attract more customers. In 1909 the company changed its name to Southern California Edison (SCE) to reflect the area it served.

In 1905 the company's customer base was threatened as Los Angeles began its plan to bring water to the city from the Owens Valley. As the project progressed it became clear that the city planned to use the water to generate electricity as well. While the city and SCE fought over who would generate and supply electricity to citizens, SCE took steps to avoid serious economic losses. It purchased Pacific Light and Power. Pacific Light and Power operated extensive electric rail systems in southern California and provided power to expanding areas east of Los Angeles. In 1917 Southern California Edison sold its Los Angeles distribution system to the city of Los Angeles, but the growing population outside of Los Angeles in the new territory from the purchase of Pacific Light and Power offset the losses.

The settlement of the disagreement over Los Angeles municipal service also marked the end of rapid territorial expansion. The Public Utilities Act of 1911 regulated the electrical industry;

thereafter the Railroad Commission (today the Public Utilities Commission) determined “spheres of influence” for electrical companies as a part of its new regulatory duties.

SCE continued to gain new customers as people moved into southern California and therefore continued to expand its generating capacity. When it purchased Pacific Light and Power, SCE obtained the Big Creek power system, a complex array of dams, flumes and powerhouses that used what became known as “the hardest working water in the world.” SCE continued to expand its Big Creek system through 1929. It became the largest producer for the company, making SCE highly dependent on hydroelectric power by the 1920s. It was SCE’s cheapest source and allowed the company to continuously reduce rates.

However, events in the 1920s also demonstrated the limits of hydroelectricity. Abnormally low snowfall in the mountains in 1920-1924 dramatically reduced the amount of water available to produce electricity. SCE encouraged customers to conserve, reduced electric rail routes, and brought back into service old steam powered generators all in an attempt to maintain electrical service. The most successful effort was interconnecting several of the utilities. This allowed companies with surplus power to sell it to neighboring companies. After this water shortage, SCE and other companies that relied heavily on hydropower altered their strategy. While they continued to rely on cheap hydroelectric power, they insured they had sufficient back up sources of power to meet growing demand.

SCE had grown continuously since its inception and continued, although much slower, though the Great Depression. The company allowed its workforce to shrink through attrition and kept its workers employed by changing to a five-day workweek. SCE kept its employees busy improving efficiency at existing plants and installing improved equipment. The company also took the opportunity to streamline its finances, using lower interest rates to reduce outstanding bonds from its long period of growth and expansion. Customers continued to obtain rate reductions. The reductions were a result of reduced energy use and new plants that began operation just before the Depression began. SCE encouraged increased electrical use. Company demonstrators toured SCE’s service area showing new appliances. The reduced electrical rates made these attractive to consumers even in middle of the Depression. Increased consumer demand for appliances led to higher demand by manufacturers for energy to produce these products. When SCE received electricity from Hoover Dam in 1939 it had a ready market to buy the power.

World War II increased the demand for electricity as manufacturers moved to the area and increased production to meet war needs. Since manpower and materials were being directed to the war, SCE and other companies could not build power plants to meet this demand. The Power Branch of the War Production Board suggested that electrical companies pool their production

like they did during the 1920s drought. Interconnecting the companies and municipal utilities provided enough electricity to meet the increasing demands.

Southern California experienced a population boom. At one point approximately 1,000 people were moving into SEC territory each week. According to William Myers, "Since 1945, it [SCE] has added more customers than any other utility in the country."⁵ The company also resumed its marketing program to encourage customers to purchase new appliances. By this time most of the economically practical hydroelectric sites had been developed by one company or another. As a result, much of the expansion in energy production was in steam generation. SCE built and expanded six plants between 1945 and 1970. During this rapid increase in the number of plants, their designs and technologies became fairly standardized.

Increased concern for the environment and oil shortages stalled new plant development in the 1970s. SCE began experiments with solar and wind technologies as well as developing new hydroelectric sites. Increased demand was also addressed through increasing interconnections. Power sharing with the Colombia River plants in Oregon has been made possible through the Pacific Intertie direct current line that runs the length of California.

Deregulation in the 1980s has changed how power is generated and distributed. Deregulation often led to separation of the two processes. SCE's strategy was to sell off portions of its generating system. In 1996 it sold off five of its steam plants in the inland empire.⁶ Today, it operates as a power distributor, covering most of southern California from San Onofre north to Santa Barbara on the Pacific coast, widening to include territory from Blythe in the Mojave Desert to past Bishop on the eastern site of the Sierra Nevada.

3.3. Etiwanda Power Plant

The Etiwanda power plant was built as a part of SCE's growth following World War II. Construction on the Etiwanda Steam Station Units 1 and 2 began in March 1951 and SCE had the plant under full operation by November 1953. Designed by Stone & Webster of Boston in conjunction with engineers from SCE, it cost \$41,200,000 to build. Etiwanda Units 1 and 2 have two boilers built by Combustion Engineering, Inc., which is now a U.S. subsidiary of ABB.⁷ The Etiwanda plant was constructed without any enclosures over the equipment, creating a more cost-effective plant in terms of maintenance, cleaning, and ventilation, but did not require special

⁵ William A. Myers, *Iron Men and Copper Wires*, 200.

⁶ Michael Diamond, "Edison to Sell Three Inland Empire Power Plants," *San Bernardino Daily Sun* (November 23, 1996).

⁷ Southern California Edison Company, 6 & 8; [www.abb.com], March 9, 2005.

engineering features. SCE was able to build the plant in this fashion because of the usually mild temperatures and dry weather conditions in Southern California. SCE built the Etiwanda station near a Metropolitan Water District aqueduct in order to obtain feed water for the boilers and turbines, and to provide for cooling in the large condenser units. The Etiwanda Power Plant was capable of generating more electricity than Hoover Dam, enough to supply the needs of about a half-million people.⁸ The plant was SCE's first inland steam plant and provided three dedicated 66 kV lines to Kaiser Steel, one of its largest customers.⁹

The first two units produced 265,00 kilowatts of power. The original plans included plans for expansion that would double the capacity. The two additional units were built in 1963. Units 3 and 4 were much larger than the earlier units or what had been called for in the expected expansion. Each could produce 320,000 kilowatts.

Etiwanda Power Plant boilers were designed to use either natural gas or oil as fuel; in fact, the boiler mechanisms allowed the fuel supply to be changed without a pause in operation. The fuel lines are controlled through valves located under the operating deck, which could shut off the use of oil in order to change to gas, and vice versa. Oil was used mainly until the 1970s, and a forty-one mile pipeline from Santa Fe Springs to the Etiwanda plant was constructed in order to ensure a steady supply of oil. During the 1970s the plant started using fifty percent gas and fifty percent oil until the 1980s, when gas became the dominant fuel used and has remained so since that time.¹⁰

In 1969 a 126,000 kilowatt peaker unit was added to assist meeting loads during periods of high demand. The peaker unit consisted of eight Pratt and Whitney aircraft engines modified for electrical generation.

As a part of the state's energy deregulation plan SCE was required to sell one half of its oil and gas powered generating facilities. Instead, in 1996, it chose to sell all of its gas and oil-fueled plants. Those included Etiwanda, and these plants only provided 20% of the power SCE delivered. Most of its generating capacity came from its hydroelectric plants and the San Onofre nuclear plant. SCE continued to operate the plant for two years after the sale to meet its obligations to employees.¹¹ Reliant Energy, who purchased the plant, has kept Units 3 and 4 in operation. Units 1 and 2 have been shut down.

⁸ Southern California Edison Company, *Etiwanda Steam Station*, (1954), 2-3, 5 & 14.

⁹ Personal communication with Richard Darnell, Plant Operations Manager, March 3, 2005.

¹⁰ Southern California Edison Company, *Etiwanda Steam Station*, 12-13.

¹¹ Michael Diamond, "Edison to Sell Three Inland Empire Power Plants," *San Bernardino Daily Sun* (November 23, 1996) Myers, 8; Carrie Peyton, "Old Generators to Drive Rates," *Sacramento Bee*, (16 July 2001), [<http://www.sacbee.com/static/archive/news/special/power/071601gen.html>], 23 February 2005.

3.4. Fontana

This portion of San Bernardino County is located between the towns of Ontario, Etiwanda and Fontana. The Chaffey family was key to the original development of the area. They had moved to Riverside, California from Canada in 1878, and the two brothers developed Etiwanda and Ontario, the first large scale settlements in the area west of San Bernardino. George and William Chaffey initially purchased 1,000 acres which they later expanded to 7,600 acres over the next several years. With their first colony, Etiwanda, they developed an innovative irrigation system where each acre of land came with water rights; water was delivered by concrete pipes. Because of this their Etiwanda Colony became a model. They followed that colony with Ontario Colony to the southwest of Etiwanda in 1882. George Chaffey experimented with electricity and the colonies quickly had electricity, telephone and many other civic improvements.¹²

William Chaffey had been an agriculturist and had chosen sites well. Most of the original land around Etiwanda was planted with grape vines producing both raisin and wine varieties. By 1890, other fruits were being planted.¹³ Etiwanda produced citrus, apricots, peaches, pears and raisin grapes.¹⁴ Ontario produced mainly citrus fruits, but crops also included peaches apricots, pears and olives.¹⁵

While the Chaffeyes were establishing Etiwanda and Ontario, a group of Los Angeles bankers formed the Semi-Tropic Land and Water Company in 1887.¹⁶ They planned three settlements, but none were successful until the 20th century. A.B. Miller took over the site of Fontana, formerly owned by the Semi-Tropic Land and Water Company, in 1905. At first grain was grown and then citrus trees became common. Fontana was agriculturally diverse with a large poultry and rabbit industry. Hogs were raised on the garbage hauled from Los Angeles. The Wade Hog Ranch became the largest in the world with 50,000 pigs.¹⁷ Kaiser Steel to the east of the site was built on a portion of the hog ranch.

¹² Kevin Starr, *Material Dreams: Southern California Through the 1920s*. (New York: Oxford University Press, 1990) 15-16. Donald C. Clucas, *Light Over the Mountain: A History of the Rancho Cucamonga Area* (Upland, California: California Family House, 1979) 208-210. *Etiwanda: The First 100 Years*, 5.

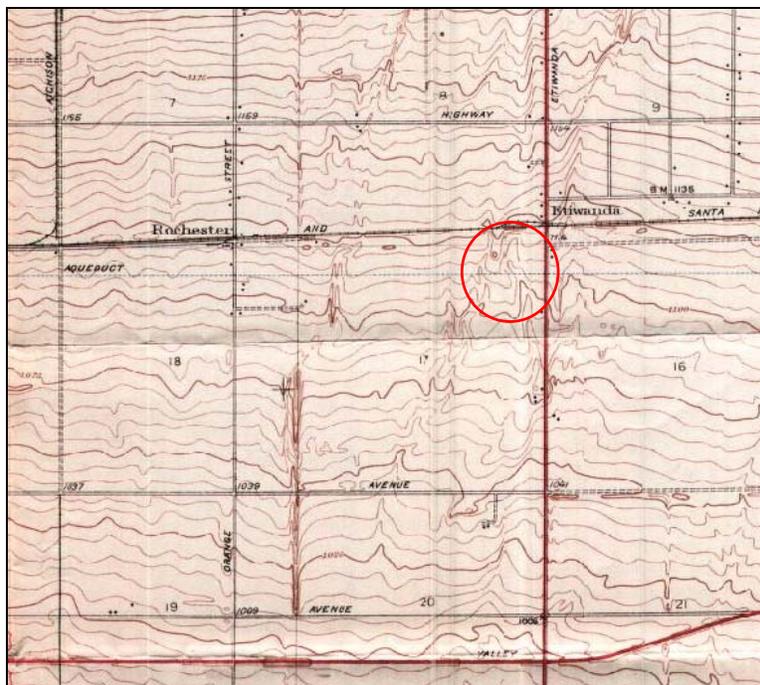
¹³ *Illustrated History of Southern California* (Chicago: The Lewis Publishing Company, 1890) 471-472.

¹⁴ Clucas, *Light Over the Mountain*, 211.

¹⁵ Walter C. Schuiling, *San Bernardino County: Land of Contrasts*. (Windsor Publications, 1984) 83. John Steven McGroarty, *A History of Southern California*. (Fresno, California: California History Books, 1914, 1975 reprint) 178.

¹⁶ Schuiling, *San Bernardino County: Land of Contrasts*, 88.

¹⁷ Schuiling, *San Bernardino County: Land of Contrasts*, 102; McGroarty, *A History of Southern California*, 188.



Map 1. 1941 Guasti Quadrangle showing rural nature of the area before World War II. Project area is circled.

World War II radically altered the area. The United States needed steel for ships, and because of security concerns all new plants were located inland. Industrialist Henry J. Kaiser received a loan from the Reconstruction Finance Corporation to build a steel mill at Fontana on the former hog ranch. The steel plant was constructed in 1942. Following the war Kaiser paid off the loan by selling company shares in 1950.¹⁸ The increased industrial activities began to affect the local orange groves and led to even more industry. Fontana became the center of heavy industry in San Bernardino County, and incorporated in 1952.¹⁹ Among the industries that followed Kaiser Steel was the Etiwanda Power Plant. During the 1960s the steel plant expanded and became one of the largest employers in the county until it closed in 1983.²⁰

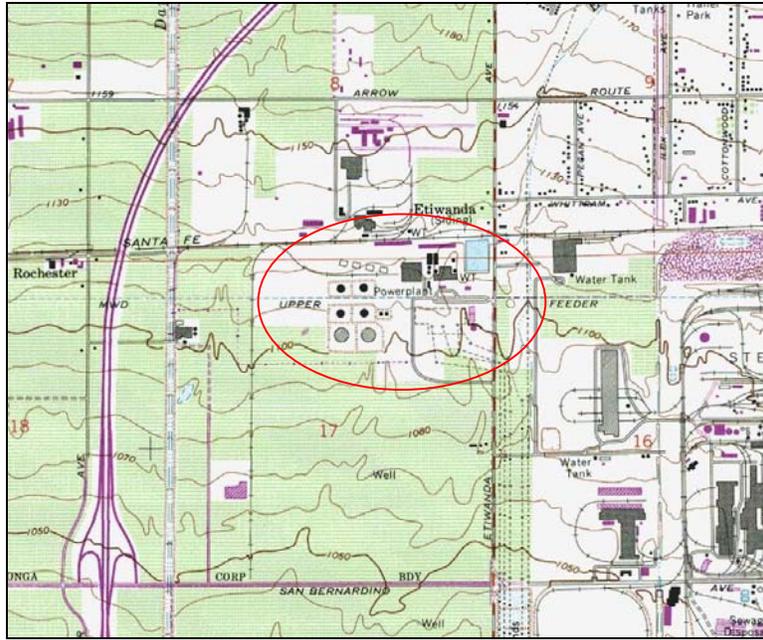
The area around Kaiser Steel and the Etiwanda Power Plant has remained industrial and been built up dramatically since 1981. Development between 1981 and 2004 has included junk yards, shipping terminals, a prison and a major racetrack.²¹

¹⁸ W.W. Robinson, *Southern California Local History*. (Los Angeles: Historical Society of Southern California, 1993) 419-420. Walter C. Schuiling, *San Bernardino County: Land of Contrasts*. 106,142-143.

¹⁹ Walter C. Schuiling, *San Bernardino County: Land of Contrasts*. 110.

²⁰ Walter C. Schuiling, *San Bernardino County: Land of Contrasts*. 143.

²¹ US Geological Service, *Guasti*, 1981; <http://terraserver-usa.com>, Fontana, CA, 3/29/2004.



Map 2. 1981 Guasti Quadrangle showing power plant and increasing development. Power plant is circled.

4. DESCRIPTION OF RESOURCES

The Etiwanda Power Plant is located on the edge of the City of Rancho Cucamonga in an industrial area of San Bernardino County between Rancho Cucamonga and Fontana. Located northwest of the intersection of Highway 15 and Interstate 10, the area has rapidly transformed from orchards to industry. The plant sits south of the BNSF tracks and west of Etiwanda Avenue. Most of the surrounding development has occurred after 1978.²²

Kaiser Steel has dominated the area east of the power plant. The plant was built in 1942 and expanded over the years. A strip between the power plant and the steel mill remained undeveloped except for a series of transmission lines. The steel mill closed in 1983 and the northern portion of the steel mill has been developed as a major automobile race track. The transmission line strip is mainly undeveloped except for a recycling yard at the corner and a small bail bonds building constructed between 1981 and 2002. (Photographs 1 and 2)



Photograph 1. Etiwanda Ave., camera facing north from east of Etiwanda Plant entrance. Recycling yard visible in background.



Photograph 2. Etiwanda Ave., camera facing south from Etiwanda plant entrance. Bail bond office visible on left.

South of the power plant remained undeveloped until the mid 1980s. Between 1981 and 2002 the area south of the power plant was built up, with the most prominent buildings being the West Valley Detention Center for the County of San Bernardino. (Photograph 3)

²² USGS, *Guasti Quadrangle*. 1966, photorevised 1981 from 1978 aerial photographs.



Photograph 3. Alternate laydown A, camera facing northwest. Prison visible in background.

West of the power plant are new light industry buildings and undeveloped land. North of the power plant runs the BNSF track. North of the track is a metals recycling plant. The plant was established between 1953 and 1966. This property is separated from the project by the railroad track and will not be directly or indirectly impacted by the proposed project, and therefore is not within the study area. (Photograph 4)



Photograph 4. Metals recycling north of the plant, camera facing northwest.

Northeast of the power plant was once residential, but is now dominated by scrap yards. A few residences and retail establishments remain. This area also will not be affected by the project and received no further study.

4.1. Etiwanda Power Plant

Etiwanda Power Plant is reached from Etiwanda Avenue. A security booth is located at the gate, a small square building covered in stucco with a brick band across the bottom front. The gently

sloping shed roof has deep eaves. The building has small metal frame sliding windows on the side and a large front window. (Photograph 5)



Photograph 5. Security shack at gate c. 1980, camera facing northeast.



Photograph 6. Landscaping toward gate, camera facing east.

The drive continuing west into the plant is heavily landscaped with olive trees in the median, and palm trees and hedges along the sides of the road and around buildings. Decorative lampposts with elongated globes illuminate the drive to the administration building. (Photograph 6) A parking shelter is located west of the administration building. The long open shelter runs north to south with a low gable roof of corrugated metal supported by metal poles in concrete footings. (Photograph 7) The administration building is a single story rectangle with flat roof. The stucco facing has a decorative triangle detail along the roofline and vertical strips that divide the façade. A streamlined cantilevered roof with metal edge protects the front entrance. Large sliding replacement windows are covered with metal awnings. (Photograph 8)



Photograph 7. Parking shelter, camera facing northeast.



Photograph 8. Administration building, camera facing northeast.

Units 1 and 2 are north of the administration building. The turbines are below the generator deck and the boilers are located to the north of the generators. A control room is located between the

two boilers. The generators are encased in metal housings and sit on a poured concrete deck. Each generator is rated at 153,125 kva.²³ A 60-ton crane runs on rails on either side of the generators. A metal superstructure surrounds the boilers leaving the ductwork and pipes exposed. The boiler flues are 110 feet tall. (Photographs 9 and 10)



Photograph 9. Etiwanda Power Plant Units 1 and 2, camera facing southwest.



Photograph 10. Unit 1 generator, camera facing east southeast.

The generators are connected to a row of transformers between the administration building and the generator deck which increase the voltage from 15,500 volts to 220,000 volts. The transformers are on concrete footings and metal racks above them support the transmission lines up over the administration building to the substation to the south. Unit 1 has 4 transformers and Unit 2 has 3. (Photographs 11 and 12)



Photograph 11. Side of Unit 1 Turbine Deck, camera facing west.



Photograph 12. Transformers, camera facing west.

²³ SCE, *Etiwanda*, 1954. 14.

The cooling towers for Units 1 and 2 are on the northwest corner of the parcel. Four cooling towers divided into eight cells each serve Units 1 and 2. They are constructed of redwood and have concrete foundations at grade rather than a basin. The cooled water flows out of the tower into the concrete lined canal along the south side of towers. At the east end of the canal a pump returns the cooled water to the plant. (Photographs 13 and 14)



Photograph 13. Cooling Unit, camera facing northeast.



Photograph 14. Cooling Units and canal, camera facing east.

The plant draws water from the municipal aqueduct which runs below the main drive. Re-circulating water is held in reservoirs. The largest reservoir is on the northeast corner of the property. It is a concrete lined rectangle with pumping equipment in the southwest corner. (Photograph 15) Two smaller reservoirs are located south of the central drive. These smaller reservoirs are also concrete lined.



Photograph 15. Reservoir 4, camera facing south.

Numerous small buildings support operations. A chemical storage building is northeast of Unit 1. The one story square building has a flat roof with no overhang. The building is clad in corrugated siding. The east side has a raised truck dock with double doors; each of the doors has

six lights. The personnel door is on the north side. A three light window and vent are on the west side. (Photograph 16)



Photograph 16. Chemical storage, camera facing west.

The machine shop is a long rectangular building with a flat roof. It is sided in grooved metal. The west side has three overhead doors. A fourth overhead door is located on the north side. The east side has a concrete block buttress and a shed roof extension along the southern end of the building. (Photograph 17 and 18)



Photograph 17. Machine Shop, camera facing southeast.



Photograph 18. East side of Machine Shop, camera facing south.

The Welding shop is located east of the machine shop. It is a single story, front gabled building of concrete block. A fan vent is located in the north gable. (Photograph 19)



Photograph 19. Weld Shop, camera facing southeast.



Photograph 20. Original warehouse, camera facing west.

The warehouse is west of the machine shop and it a corrugated metal building with flat roof. Cantilevered flat roofs protect the loading dock and doors on the west side. The loading dock has a concrete platform and ramp. (Photograph 20)

North of the warehouse is a storage shed. The shed has a metal frame supporting corrugated siding. The low gambrel roof has the same construction. The east end is open with a metal chain link fence. (Photograph 21)



Photograph 21. Shed, now for storage, but was used for turbine maintenance, camera facing west.



Photograph 22. Enclosure c. 1980.

A modern enclosure was built along the east side of Unit 1 in the 1980s. It has a shed roof and is clad in vertical grooved metal siding. The entrance is on the north side along with an overhead door. (Photograph 22)

A fire hose reel shelter is east of the parking lot. It is a small shed with corrugated siding, a shed roof and double doors made of siding. (Photograph 23)



Photograph 23. Fire hose reel shelter, camera facing east.



Photograph 24. Modern Peaker Unit, camera facing south.

The plant has a peaker facility built in 1969. The unit houses eight Pratt and Whitney jet engines. The building has an irregular shape. It is clad in stucco with large vent units on top of the flat roof. The building also has smaller side vents. Access is through metal doors and exterior metal staircase. (Photograph 24)



Photograph 25. Boiler and stack Unit 3, camera facing south.



Photograph 26. Control room and deaerator between Units 3 and 4, camera facing south.

Units 3 and 4 were constructed in 1963 and are between Units 1 and 2 and the cooling towers for Units 1 and 2. These newer units have a similar layout to Units 1 and 2, but are three times larger. (Photographs 25 and 26)



Photograph 27. Unit 3 Generator, camera facing northwest.



Photograph 28. Unit 3 transformer, camera facing northwest.

The generator deck is south of the boiler and stack. The deck is serviced by a crane which travels along tracks at the edge of the deck. (Photograph 27) The transformers are located on the ground south of the deck. The transmission lines travel from the transformers to the substation to the southeast. (Photograph 28)



Photograph 29. Unit 4 cooling tower, camera facing northwest.

Units 3 and 4 have one cooling tower each. Cooling tower 4 is just north of Units 3 and 4. Cooling tower 3 is east of cooling tower 4 which places it behind Units 1 and 2. (Photograph 29)

5. FINDINGS AND CONCLUSIONS

5.1. Evaluation Criteria

JRP used the criteria of the California Register of Historical Resources (CRHR) and the National Register of Historic Places (NRHP) to evaluate the historic significance of the properties within the study area.

The State of California references cultural resources in the California Environmental Quality Act (CEQA—Public Resources Code (PRC) Division 13, Sections 21000-21178); archaeological and historical resources are specifically treated under Sections 21083.2 and 21084.1, respectively. California PRC 5020.1 through 5024.6 (effective 1992) creates the California Register of Historical Resources (CRHR) and sets forth requirements for protection of historic cultural resources. The criteria for listing properties in the CRHR are in Section 15064.5(a)(2)-(4) of the CEQA Guidelines, which provide the criteria from Section 5024.1 of the California Public Resources Code. The CRHR is in the California Code of Regulations Title 14, Chapter 11.5. The CRHR criteria closely parallel those of the NRHP. The eligibility criteria for listing properties in the NHRP are codified in Code of Federal Regulations 36 Part 60 and explained in guidelines published by the Keeper of the National Register.

Eligibility for listing in either the NHRP or CRHR rests on twin factors of significance and integrity. A property must have both significance and integrity to be considered eligible. Loss of integrity, if sufficiently great, will overwhelm historical significance a property may possess and render it ineligible. Likewise, a property can have complete integrity, but if it lacks significance, it must also be considered ineligible.

Historic significance is judged by applying the NRHP and CRHR criteria. The NRHP criteria are identified as Criteria A through D, the CRHR as Criteria 1 through 4. The NRHP guidelines explain that a historic resource's "quality of significance in American history, architecture, archeology, engineering, and culture" is determined by meeting at least one of the four main criteria. Properties may be significant at the local, state, or national level:

- NRHP Criterion A (CRHR Criterion 1): association with events or trends significant in the broad patterns of our history;
- NRHP Criterion B (CRHR Criterion 2): association with the lives of significant individuals;

- NRHP Criterion C (CRHR Criterion 3): a property that embodies the distinctive characteristics of a type, period, or method of construction, represents the work of a master, or that possesses high artistic values;
- NRHP Criterion D (CRHR Criterion 4): has yielded, or is likely to yield information important to history or prehistory.

In general, NRHP Criterion D (CRHR Criterion 4) is used to evaluate historic sites and archaeological resources. Although buildings and structures can occasionally be recognized for the important information they might yield regarding historic construction or technologies, the properties within the study area for this project are building types that are well documented. Thus, these properties are not principal sources of important information in this regard.

Certain property types are usually excluded from consideration for listing in the NRHP, but can be considered if they meet special requirements in addition to meeting the regular criteria. The following are the seven Criteria Considerations that address properties usually excluded from listing in the National Register:²⁴

- Consideration A: Religious Properties
- Consideration B: Moved Properties
- Consideration C: Birthplaces and Graves
- Consideration D: Cemeteries
- Consideration E: Reconstructed Properties
- Consideration F: Commemorative Properties
- Consideration G: Properties that have Achieved Significance within the Past Fifty Years

Integrity is determined under NRHP guidelines through applying seven factors to the historic resource. Those factors are location, design, setting, workmanship, materials, feeling, and association. These seven can be roughly grouped into three types of integrity considerations. Location and setting relate to the relationship between the property and its environment. Design, materials, and workmanship, as they apply to historic buildings, relate to construction methods and architectural details. Feeling and association are the least objective of the seven criteria, pertaining to the overall ability of the property to convey a sense of the historical time and place in which it was constructed.

²⁴ USDI, National Park Service, "How to Apply the National Register Criteria for Evaluation," *National Register Bulletin 15, 25*, 41-43; USDI, National Park Service, "Guidelines for Evaluating and Nominating Properties that have Achieved Significance within the Last Fifty Years," *National Register Bulletin No. 22* (Washington, D.C.: Government Printing Officer, 1979, revised 1990 and 1996).

The CRHR definition of integrity and its special considerations for certain properties are slightly different than those for the NRHP. Integrity is defined as “the authenticity of an historical resource’s physical identity evidenced by the survival of characteristics that existed during the resource’s period of significance.” The CRHR further states that eligible resources must “retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance” and it lists the same seven aspects of integrity used for evaluating properties under the NRHP criteria. The CRHR’s special considerations for certain properties types are limited to: 1) moved buildings, structures, or objects; 2) historical resources achieving significance within the past fifty years; and 3) reconstructed buildings.

Under CEQA Guidelines, Section 15064.5 (a), a “historical resource” includes:

- A resource listed in or eligible for the California Register of Historical Resources;
- A resource listed in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of section 5024.1(g) of the Public Resources Code;
- Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines historically significant, provided the determination is supported by substantial evidence in light of the whole record;
- A resource so determined by a lead agency as defined in Public Resources Code sections 50203.1(j) or 5024.1.
- Historical resources listed in, or determined eligible for, the NRHP are automatically listed in the CRHR, Section 5024 (d)(1)(2) of the Public Resources Code.

5.2. Evaluation

None of the buildings or structures in the study area of the SGGS project appear to meet the criteria for listing in the National Register of Historic Places. All buildings or structures in the study area over 50 years old received evaluation. The power plant and substation do not appear to be significant and the railroad lacks integrity. None of the more recently constructed buildings appear to meet the exacting standards of exceptional significance. Therefore, none of the buildings in the project area appear to be significant historic properties under Section 106, nor do they appear to be historical resources for the purposes of CEQA.

Units 1 and 2 and their associated buildings of the Etiwanda power plant and substation are not significant to the development of electrical generation, steam power plants, or SCE. (Criterion 1) Etiwanda was one of several power plants built to supply the growing post World War II demand for electricity. Companies through out California including PG&E, California Electric and San

Diego Gas and Electric were all building plants at this time to meet the need. At this time California electrical companies decided to build steam power plants because of the lack of economical hydroelectric sites and the increased availability of oil and gas. These plants were built within a short period of time and with standardized plans. It is neither the first nor the last of the plants built by SCE, which included Redondo Beach (1952), El Segundo (1955), Alamito (1956), Huntington Beach (1958) and Mandalay (1958). Together these plants and associated substations supplied the power needed by SCE, and no single plant can be logically singled out as significant within the system. Each was important to the community it served, providing power for the increasing demands of new technology and development. In the context of the time and other community services, however, Etiwanda does not suggest any unique significance.

These buildings are also not significant for their design or construction (Criterion 3). As mentioned above, Etiwanda was constructed during a period of rapid growth of steam power plants. While the construction of Etiwanda was covered in trade publications, the coverage does not indicate that Etiwanda was designed any differently than other plants and substations of the era. The plant is of the “outdoor” variety which became common in southern California in this time period. The lack of cladding allowed the plants to be built faster and more economically, but did not affect their operations. Large companies that produced this equipment for plants across the country provided the boiler, turbines and generators. No new equipment was introduced to the design. The substation is constructed of standard equipment and on a typical plan.

Etiwanda does not appear to be associated with the life of a historically significant person (Criterion B and 2), nor is it significant under Criterion D and 4, as a potential source of data on human history. This property is well-documented through company records and construction documents and does not appear to be a principal source of important information. The plant has had minor alterations, yet as a whole it retains integrity of location, design, setting, materials, workmanship, feeling and association.

This property has been evaluated in accordance with Section 15064.5(a) (2)-(3) of the CEQA Guidelines, using the criteria outlines in Section 5024.1 of the California Public Resources Code, and does not appear to be a historical resource for the purposes of CEQA.

A full evaluation of this property is located in Appendix B.

6. PREPARERS' QUALIFICATIONS

JRP Principal Rand F. Herbert (MAT in History, University of California Davis, 1977), provided project direction and management for the preparation of the report, directed the field work, and edited the report and forms. Mr. Herbert has more than 25 years professional experience working as a consulting historian and architectural historian on a wide variety of historical research and cultural resource management projects as a researcher, writer, and project manager. Architectural historian Cheryl Brookshear (MS Historic Preservation, University of Pennsylvania, 2000) performed the portions of the research and prepared portions of the contextual statement, DPR 523 forms, and evaluations for this report. Mr. Herbert edited the report and evaluations. Research Assistant Jarma Jones (MA History, New Mexico State University, 2005) assisted with fieldwork.

Mr. Herbert qualifies as a historian/architectural historian under United States Secretary of Interior's Professional Standards (as defined in 36 CFR Part 61). Ms. Brookshear has a Master of Science degree in historic preservation from the University of Pennsylvania and qualifies as a historian/architectural historian under United States Secretary of Interior's Professional Standards (as defined in 36 CFR Part 61).

7. BIBLIOGRAPHY

Published Sources

- Beck, Douglas Stephen and David Gordon Wilson. *Gas Turbine Regenerators*. New York: Chapman & Hall, 1996.
- Black, Esther Boulton. *Rancho Cucamonga and Dona Merced*. Redlands, California: San Bernardino County Museum Association, 1975.
- Clucas, Donald L. *Light Over the Mountain*. Upland, California: California Family House Publishers, 1979.
- McGroarty, John Steven. *A History of Southern California*. Fresno, California: California History Books, 1914, 1975 reprint.
- Meyers, William A. *Iron Men and Copper Wires: A Centennial History of the Southern California Edison Company*. Glendale, California: Trans-Anglo Books, 1983.
- Robertson, Donald B. *Encyclopedia of Western Railroad History Volume IV California*. Caldwell, Idaho: Caldwell Printers, Ltd., 1998.
- Schuiling Walter C. *San Bernardino County: Land of Contrasts*. Windsor Publications, 1984.
- Southern California Edison Company. *Etiwanda Steam Station*. 1954.
- Kevin Starr, *Material Dreams: Southern California Through the 1920s*. New York: Oxford University Press, 1990.
- Termuehlen, Heinz. *100 Years of Power Plant Development: Focus on Steam and Gas Turbines as Prime Movers*. New York: ASME Press, 2001.
- Williams, James C. *Energy and the Making of Modern California*. Akron, Ohio: University of Akron Press, 1997.

Maps/Aerial Photographs

- USGS. *Guasti Quadrangle*. USGS: Washington, 1941. 1953, 1966, 1966 (photorevised 1973, from 1973 aerial photography), 1966 (photorevised 1981, from 1978 aerial photography).

Periodicals

- “1928 Steam Plants Account for 45 Percent of New Generating Capacity.” *Electrical West*, February 2, 1929.

- Belden, Burr L. "Etiwanda Pioneered in Water, Electricity." *San Bernardino Sun-Telegram*, February 24, 1963.
- Diamond, Michael. "Edison to Sell Three Inland Empire Power Plants." *San Bernardino Daily Sun*, November 23, 1996.
- Dickey, Walter L. "The Design of Two Steam Electric Plants." *ASCE Transactions*, 1953.
- "Edison Steam Plant Will Boost Southern California Power Supply." *Southwest Builder and Contractor*, November 9, 1951.
- Garbarini, Edgar J. "Desgin Saves Construction Dollars on Contra Costa Power Plant." *Civil Engineering*, May 1953.
- "Haynes Steam Plant Will Grow With Demand." *Southwest Builder and Contractor*, October 12, 1962.
- Peyton, Carrie. "Old Generators to Drive Rates." *Sacramento Bee*, July 16, 2001.
- Spencer, R.W. "Cooling Water for Steam Electric Stations in Tidewater." *Transactions of the American Society of Civil Engineer*, 126:1961.
- Steele, I.C. "Steam Power Gains on Hydro in California." *Civil Engineering*, May 1953.

Unpublished Sources

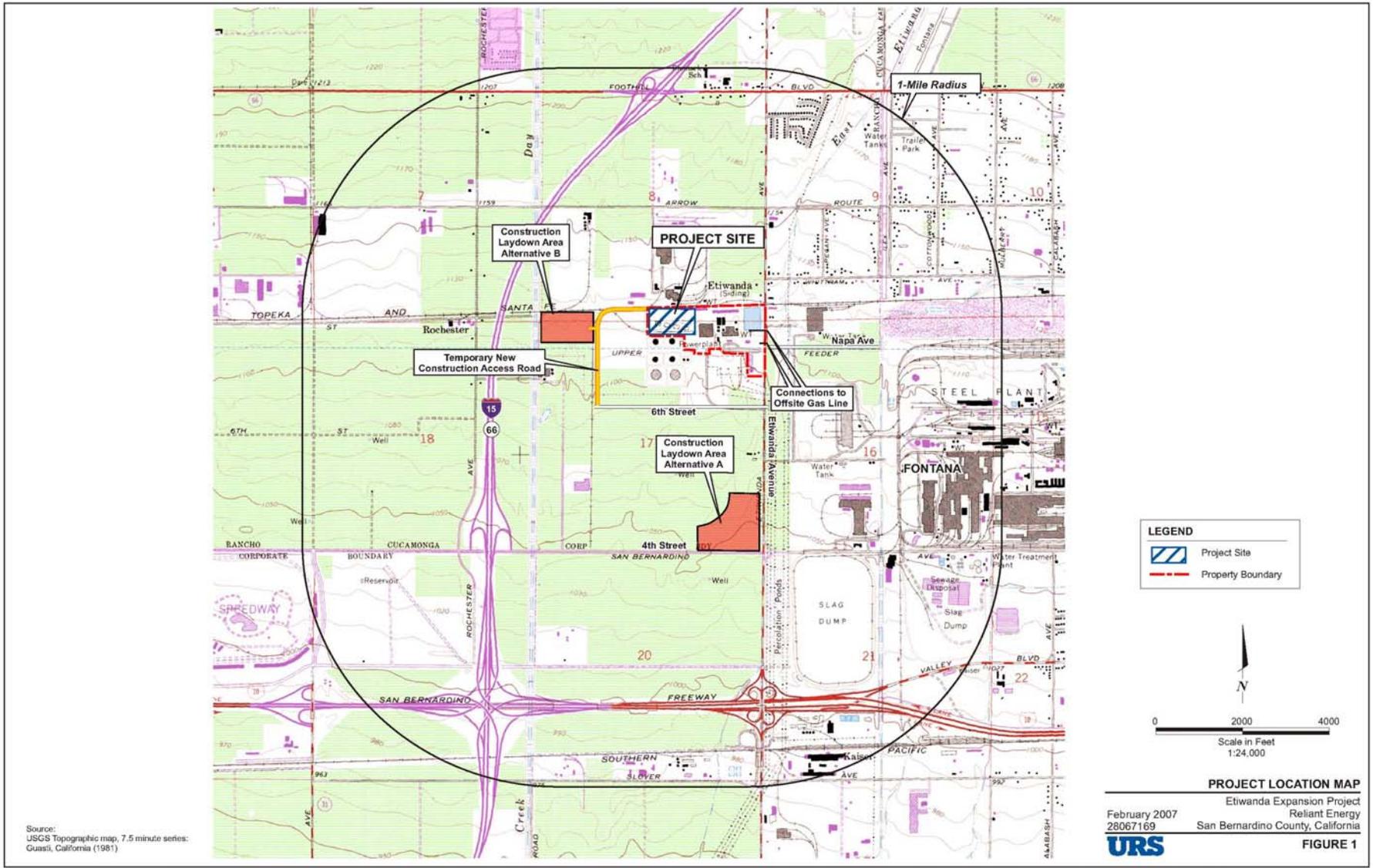
- Department of Parks and Recreation. *California Inventory of Historic Resources*. March 1976.
- Meyers, William A. *Affairs of Power: Restructuring Clifornia's Electric Utility Industry 1969-1998*. (University of California Riverside, Disseration) 1997.
- Office of Historic Preservation. *California Historical Landmarks*. Sacramento: California State Parks, 1996.
- Office of Historic Preservation. *California Points of Historical Interest*. Sacramento: California State Parks, May 1992.

Online Sources

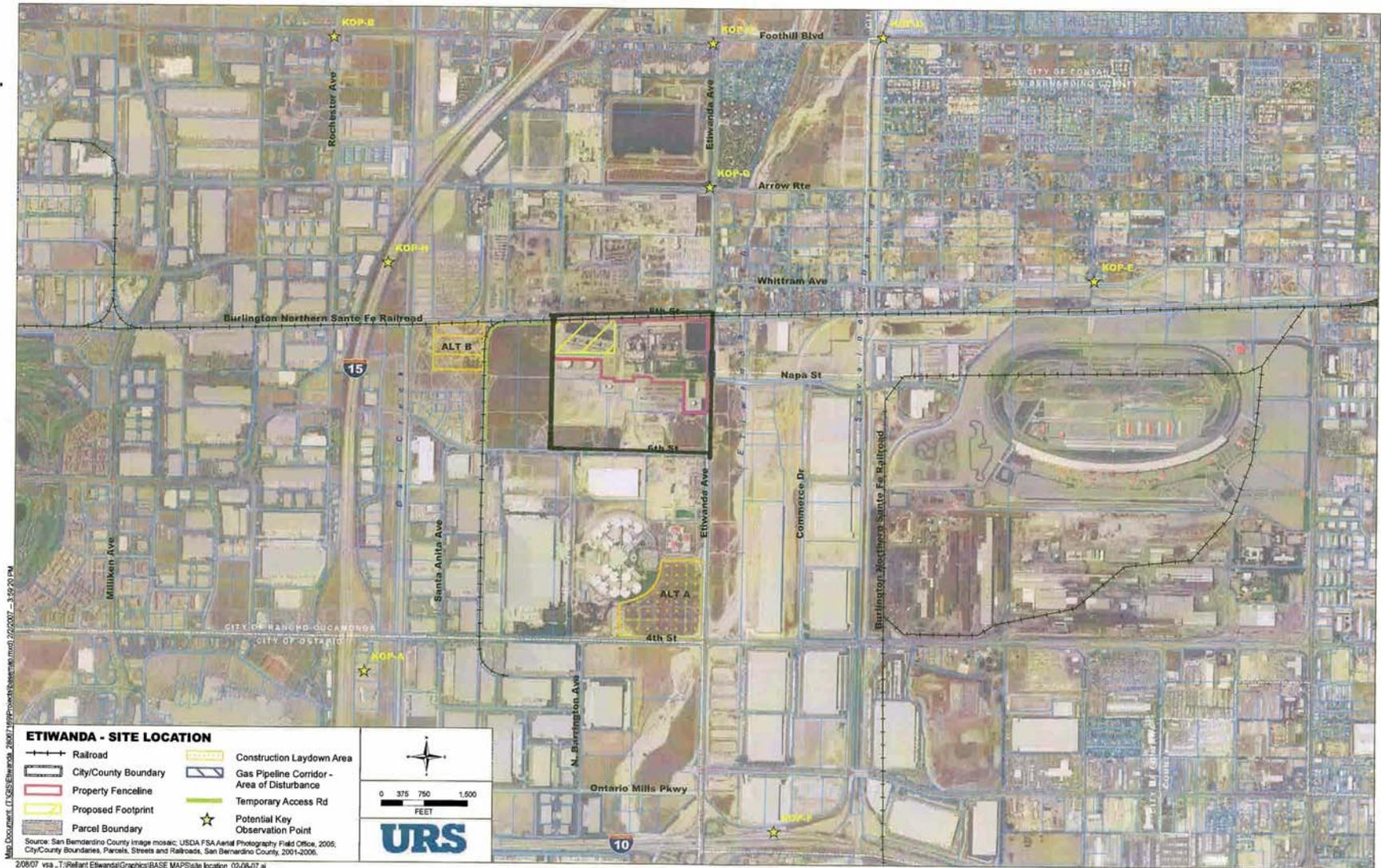
- Aerial Photography. Available at <http://terraserver-usa.com>
- FARES (Residential real estate information), accessed March 2005.
- Office of the General Counsel Market Oversight & Enforcement and Office of Markets, Tariffs and Rates Division of Energy Markets. Report on Plant Outages in the State of California. February 1, 2001. ferc.gov/industries/electric/Indus-act/wem/2002/01-31-01-2.pdf.

APPENDIX A:

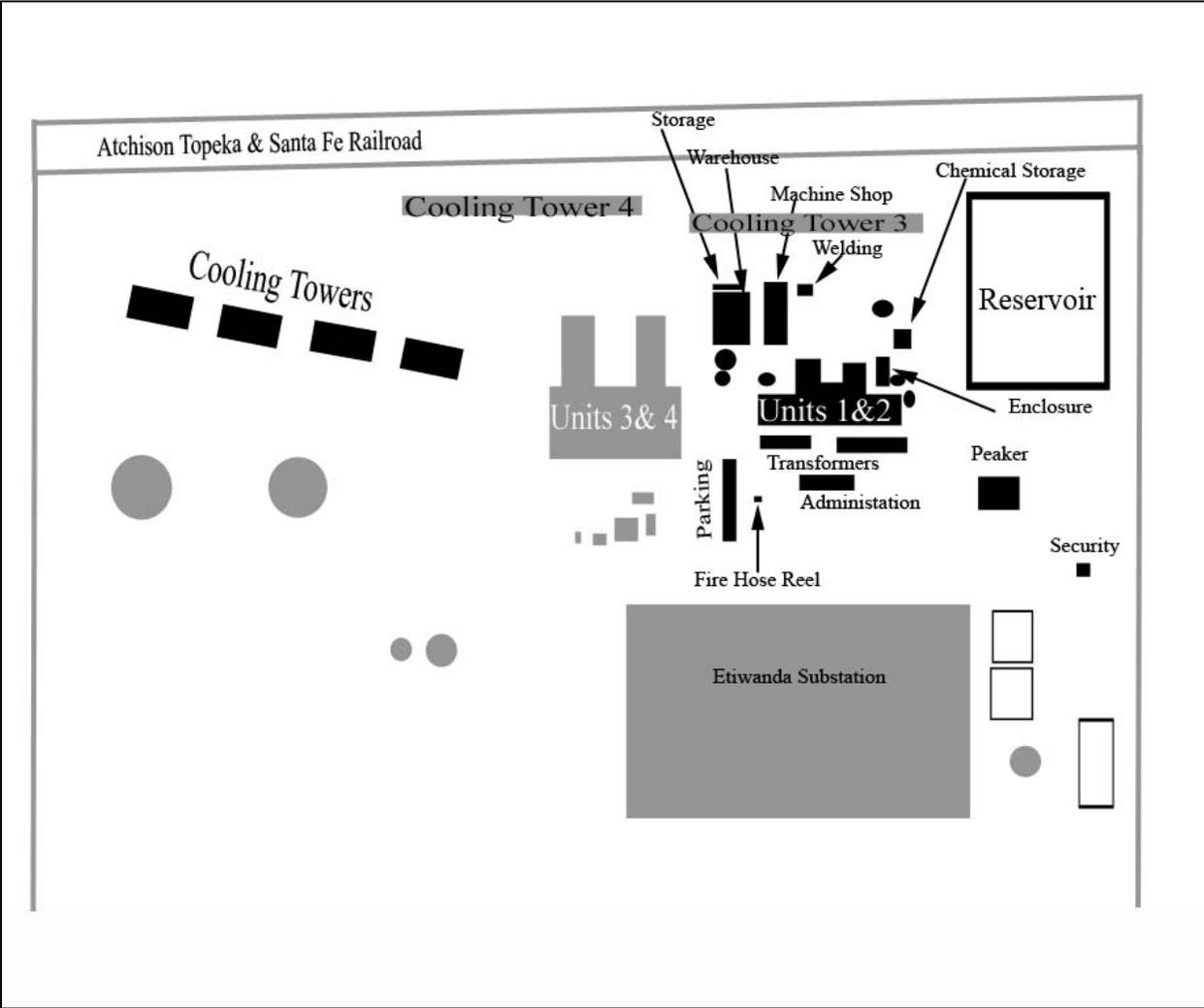
Figures



Map 1. Location Map.



Map 2. Parcel Map, study area outlined in black.



Map 3. Site Resources

APPENDIX B:
DPR 523 Forms

P1. Other Identifier: Etiwanda Power Plant

*P2. Location: Not for Publication Unrestricted
and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*a. County San Bernardino

*b. USGS 7.5' Quad Guasti Date 1953 T15S; R 6W; NE $\frac{1}{4}$ of Sec 17; _____ B.M.

c. Address 8996 Etiwanda Avenue City Rancho Cucamonga Zip 91739

d. UTM: (give more than one for large and/or linear resources) Zone _____; _____ mE/ _____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Etiwanda Power Plant is reached from Etiwanda Avenue. A security booth is located at the gate. It is a small square building covered in stucco with a brick band across the bottom front. The gently sloping shed roof has deep eaves. The building has small metal frame sliding windows on the side and a large front window (**Photograph 2**)

(See Continuation Sheet)

Resource Attributes: (List attributes and codes) (HP9) Public Utility Building

*P4. Resources Present: Building Structure Object Site District Element of District Other (Isolates, etc.)

P5b. Description of Photo: (View, date, accession #) Photograph 1. Etiwanda Power Plant Units 1 and 2, camera facing southwest, March 3, 2005

*P6. Date Constructed/Age and Sources:

Historic Prehistoric Both
1951-53 / SCE

*P7. Owner and Address:

Reliant Energy
1111 Louisiana Street
Houston, TX 77002-5200

*P8. Recorded by: (Name, affiliation, address)

Rand F. Herbert
JRP Historical Consulting LLC
1490 Drew Ave, Suite 110
Davis, CA 95618

*P9. Date Recorded: March 3, 2005

*P10. Survey Type: (Describe)

Intensive



*P11. Report Citation: (Cite survey report and other sources, or enter "none.") JRP Historical Consulting, "Historic Resources Inventory and Evaluation Report for the proposed San Gabriel Generating Station." 2007.

*Attachments: None Location Map Sketch Map Continuation Sheet Building, Structure, and Object Record Archaeological Record
 District Record Linear Feature Record Milling Station Record Rock Art Record Artifact Record Photograph Record
 Other (list) _____

B1. Historic Name: Etiwanda Steam Station

B2. Common Name: Etiwanda Power Plant

B3. Original Use: Power Plant B4. Present Use: Power Plant

*B5. Architectural Style: Industrial

*B6. Construction History: (Construction date, alteration, and date of alterations) 1951-53 Units 1&2, 1963 Units 3 & 4, 1969 Unit 5(peaker unit)

*B7. Moved? No Yes Unknown Date: _____ Original Location: _____

*B8. Related Features: Administrative and Maintenance Buildings

B9. Architect: Stone and Webster b. Builder: Stone and Webster; Combustion Engineering (boilers); General Electric (turbines and transformers)

*B10. Significance: Theme n/a Area n/a

Period of Significance n/a Property Type n/a Applicable Criteria n/a

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Etiwanda Power Plant Units 1 and 2, and their associated service buildings, structures, and landscape elements, do not appear to meet the criteria for listing in the California Register of Historical Resources (CRHR). The power plant does not appear to be significant for association with the development of electrical generation, Southern California Edison or steam power generation at a local, state or national level (Criteria 1). Nor is it associated with a historically significant individual.(Criteria 2) The plant does not embody characteristics of period, type or method of construction.(Criteria 3) Nor is the plant a source of important information about the construction methods or technologies.(Criteria 4) This property has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code, and does not appear to be a historical resource for the purposes of CEQA. (See Continuation Sheet)

B11. Additional Resource Attributes: (List attributes and codes)

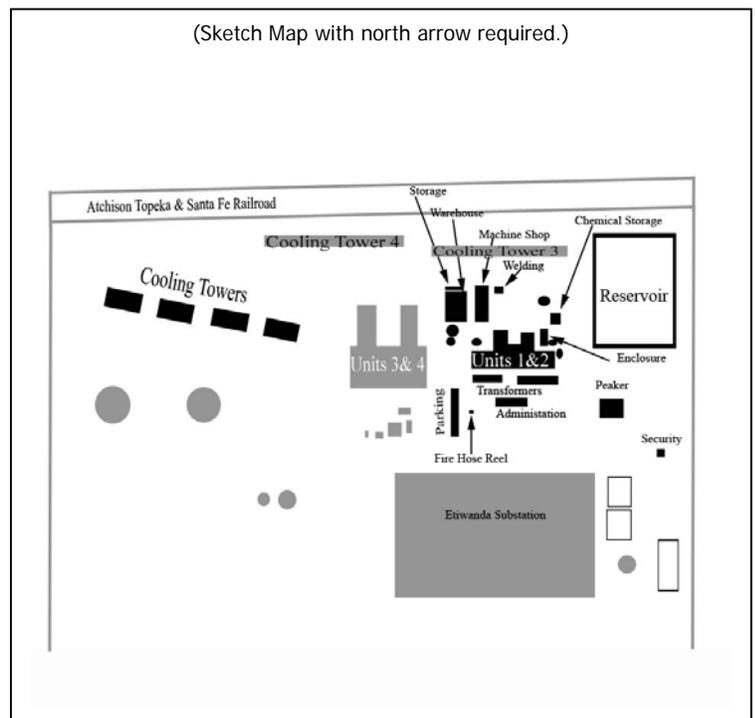
*B12. References: See Footnotes in Text

B13. Remarks:

*B14. Evaluator: Rand F. Herbert

*Date of Evaluation: March 23, 2005

(This space reserved for official comments.)



P3a. Description (continued):



Photograph 2. Security shack at gate c. 1980, camera facing northeast.



Photograph 3. Landscaping toward gate, camera facing east.

The drive continuing west into the plant is heavily landscaped with olive trees in the median and palm trees and hedges along the sides of the road and around buildings. Decorative lampposts with elongated globes illuminate the drive to the administration building. **(Photograph 3)** A parking shelter is located west of the administration building. The long open shelter runs north to south with a low gable roof of corrugated metal supported by metal poles in concrete footings. **(Photograph 4)** The administration building is a single story rectangle with flat roof. The stucco facing has a decorative triangle detail along the roofline and vertical strips that divide the façade. A streamlined cantilevered roof with metal edge protects the front entrance. Large sliding replacement windows are covered with metal awnings.

(Photograph 5)



Photograph 4. Parking shelter, camera facing northeast.



Photograph 5. Administration building, camera facing northeast.

Units 1 and 2 are north of the administration building. The turbines are below the generator deck and the boilers are located to the north of the generators. The boilers have deaerating heaters, forced draft fans and induced draft fans. A control room

*Recorded by Rand F. Herbert *Date March 3, 2005 Continuation Update

is located between the two boilers. **(Photograph 1)** The generators are encased in metal housings and sit on a poured concrete deck 350 feet long and 52.5 feet wide. Each General Electric generator is rated at 153,125 kva.¹ **(Photograph 6)** A 60-ton crane runs on rails on either side of the generators. **(Photograph 7)** A metal superstructure surrounds the boilers leaving the ductwork and pipes exposed. The boiler flues are 110 feet tall. Northeast of Units 1 and 2 is a cylindrical distilled feedwater tank 13.5 feet tall.



Photograph 6. Unit 1 generator, camera facing east southeast.



Photograph 7. Crane by Unit 2, camera facing southwest.

The generators are connected to a row of transformers between the administration building and the generator deck. They increase the voltage from 15,500 volts to 220,000 volts. The transformers are on concrete footings and metal racks above them support the transmission lines up over the administration building to the switchyard to the south. Unit 1 has four transformers and Unit 2 has three. **(Photograph 8 and 9)**



Photograph 8. Side of Unit 1 Turbine Deck, camera facing west.



Photograph 9. Transformers, camera facing west.

¹ SCE, *Etiwanda*, 1954. 14.



Photograph 10. Cooling Unit, camera facing northeast.



Photograph 11. Cooling Units and canal, camera facing east.

The cooling towers for Units 1 and 2 are on the northwest corner of the parcel. Four cooling towers, divided into eight cells each, serve Units 1 and 2. They are constructed of redwood and have concrete foundations at grade rather than a basin. **(Photograph 10)** The cooled water flows out of the tower into the concrete lined canal along the south side of towers. **(Photograph 11)** At the east end of the canal a pump returns the cooled water to the plant.



Photograph 12. Reservoir 4, camera facing south.



Photograph 13. Reservoir 1, camera facing northeast.

The plant draws water from the municipal aqueduct which runs below the main drive. Re-circulating water is held in reservoirs. The largest reservoir is on the northeast corner of the property. It is a concrete lined rectangle with pumping equipment in the southwest corner. Two smaller reservoirs are located south of the central drive. These smaller reservoirs are also concrete lined. **(Photograph 12 and 13)**

Numerous small buildings support operations. A chemical storage building is northeast of Unit 1. **(Photograph 14)** The one story square building has a flat roof with no overhang. The building has corrugated siding. The east side has a raised truck dock with double doors; each of the doors has six lights. The personnel door is on the north side. A three light window and vent are on the west side.



Photograph 14. Chemical storage, camera facing west.

The machine shop is a long rectangular building with a flat roof. It is sided in grooved metal. The west side has three overhead doors. A fourth overhead door is located on the north side. **(Photograph 15)** The east side has a concrete block buttress and a shed roof extension along the southern end of the building. **(Photograph 16)**



Photograph 15. Machine Shop, camera facing southeast.



Photograph 16. East side of Machine Shop, camera facing south.

The Welding shop is located east of the machine shop. It is a single story, front gabled building of concrete block. A fan vent is located in the north gable. **(Photograph 17)**



Photograph 17. Weld Shop, camera facing southeast.



Photograph 18. Original warehouse, camera facing west.

The warehouse is west of the machine shop and it a corrugated metal building with flat roof. Cantilevered flat roofs protect the loading dock and doors on the west side. The loading dock has a concrete platform and ramp. **(Photograph 18)**

North of the warehouse is a storage shed. The shed has a metal frame supporting corrugated siding. The low gambrel roof has the same construction. The east end is open with a metal chain link fence. **(Photograph 19)**



Photograph 19. Shed, now for storage, but was used for turbine maintenance, camera facing west.



Photograph 20. Enclosure c. 1980.

A modern enclosure was built along the east side of Unit 1 in the 1980s. It has a shed roof and is clad in vertical grooved metal siding. The entrance is on the north side along with an overhead door. **(Photograph 20)**

A fire hose reel shelter is east of the parking lot. It is a small shed with corrugated siding, a shed roof and double doors made of siding. **(Photograph 21)**



Photograph 21. Fire hose reel shelter, camera facing east



Photograph 22. Modern Peaker Unit, camera facing south

The plant has a peaker facility built in 1969. The unit houses eight Pratt and Whitney jet engines. The building has an irregular shape. It is clad in stucco with large vent units on top of the flat roof. The building also has smaller side vents. Access is through metal doors and exterior metal staircase. **(Photograph 22)**



Photograph 23. Boiler and stack Unit 3, camera facing south.



Photograph 24. Control room and deaerator between Units 3 and 4, camera facing south.

Units 3 and 4 were constructed in 1963 and are between Units 1 and 2 and the cooling towers for Units 1 and 2. These newer units have a similar layout to Units 1 and 2, but are three times larger. **(Photographs 23 and 24)**



Photograph 25. Unit 3 Generator, camera facing northwest.



Photograph 26. Unit 3 transformer, camera facing northwest.

The generator deck is south of the boiler and stack. The deck is serviced by a crane which travels along tracks at the edge of the deck. **(Photograph 25)** The transformers are located on the ground south of the deck. The transmission lines travel from the transformers to the substation to the southeast. **(Photograph 26)**



Photograph 27. Unit 4 cooling tower, camera facing northwest.

Units 3 and 4 have one cooling tower each. Cooling tower 4 is just north of Units 3 and 4. Cooling tower 3 is east of cooling tower 4 which places it behind Units 1 and 2. **(Photograph 27)**

B10. Significance (continued)

General History of Steam Plants in California

Steam plants comprised the first generation of electric generating facilities in California. British designer Sir Charles Parsons built the first steam turbine-generator in 1884, and almost immediately others began making improvements upon his original concept. The earliest steam generating plants were little more than steam engines converted to drive a generator rather than a locomotive. By the beginning of the twentieth century, power plants with steam turbines began to replace the original steam engine power plants. Aegidius Elling of Norway is credited with creating the first applied method of injecting steam into the combustion chambers of a gas turbine engine in 1903-04. Within a relatively short time, the technology of engines capable of supplying power and electricity improved greatly. New and better methods and designs helped to spread electricity to a wide range of commercial buildings and residences.²

In the beginning stages of development of steam turbine power plants, the materials needed to withstand the high temperatures of modern turbines were not yet available. Technology and improvements for steam turbine engines continued to advance throughout the 1920s and 1930s, leading to a generation of more efficient turbine power plants in the 1950s. By this time, utilities retired or replaced many of the older steam-electric plant generating units following the construction of more modern units. While the technology of turbine power plants peaked in the 1950s, it appears to have remained relatively unchanged until the 1980s, despite the availability of newer technology that would allow an increase of pressure and heat for the systems.³

Steam power generation has been an important part of California's power production throughout the twentieth century, although the over-all importance of steam diminished considerably during the 1920-1940 era, when a large number of hydroelectric generating facilities came on line throughout the state. In 1920, hydroelectric power accounted for 69% of all electrical power generated in California. By 1930 that figure had risen to 76%; it rose again to 89% in 1940. Rapid construction of new thermal or steam-electric generating units, however, accounted for most of the new power capacity in the state after 1941. By 1950, hydroelectricity accounted for only 59% of the total, falling to 27% in 1960. Some new hydroelectric plants were built during the 1960s, chiefly associated with federal and state water projects, but by 1970, hydroelectric plants accounted for only 31% of all electricity generated in California.⁴

These statistics, however, mask the effort of both Pacific Gas & Electric Company (PG&E) and Southern California Edison (SCE), California's largest electrical utility providers, to build large-scale steam generation plants as early as the 1920s. James Williams, a historian of energy policies and practices in California, noted that the decision by PG&E and SCE to build steam plants may be attributed to several converging trends in the mid- to late-1920s. First, a persistent drought in California caused the major utilities to begin to question the reliability of systems relying so heavily upon hydroelectricity. This drought began in 1924 and continued, on and off, for a decade. At about the same time, new power plants on the East Coast (where steam had always played a more important role than in California) achieved far greater efficiencies than had previously been possible. Between 1900 and 1930, for example, the fuel efficiency of steam plants, measured in kilowatts per barrel of oil, increased more than nine-fold. In addition, new natural gas lines were completed which could bring new supplies to both northern and southern California in the late 1920s, tapping large reserves in the San Joaquin Valley. Natural gas has always played an important role in steam electric power generation in California.⁵

² Heinz Termuehlen, *100 Years of Power Plant Development: Focus on Steam and Gas Turbines as Prime Movers*, (New York: ASME Press, 2001), 11; Douglas Stephen Beck and David Gordon Wilson, *Gas Turbine Regenerators*, (New York: Chapman & Hall, 1996), 30; William A. Myers, *Iron Men and Copper Wires: A Centennial History of the Southern California Edison Company*, (Glendale, CA: Trans-Anglo Books, 1984), 8.

³ Termuehlen, *100 Years of Power Plant Development*, 21-28.

⁴ James C. Williams, *Energy and the Making of Modern California* (Akron, Ohio: University of Akron Press, 1997), 374.

⁵ Williams, *Energy and the Making of Modern California*, 278.

Steam generation plants also fit the “build and grow” philosophy based on Samuel Insull’s example. In the “build and grow” plan, electric companies encouraged electrical use to establish a market, and thus justify the need to build new generating plants. The new plants used new more efficient technologies and had a smaller operating margin than the old plants. The company passed some of the savings along to customers, thereby encouraging more electrical use. California companies were able to keep the “build and grow” cycle active through the 1960s.⁶

The confluence of these various factors – a drought, new steam generator technologies, new supplies of natural gas, and the “build and grow” philosophy – induced PG&E, SCE, and other utilities to begin construction of large steam plants during the late 1920s and early 1930s. In 1929, the Great Western Power Company (which was absorbed by PG&E in 1930) built a large steam plant on San Francisco Bay, near the Hunters Point shipyard, fitted with two 55 MW generators.⁷ PG&E built a steam plant in Oakland in 1928, called Station C. SCE had an even longer history of steam generation, having operated its large facility at Long Beach on Terminal Island throughout most of the 20th century. By World War II, the Long Beach plant was huge, with eleven units on line that had been constructed in stages beginning in 1911. In Southern California, the Los Angeles Department of Water and Power constructed a steam station at Seal Beach consisting of two units installed in 1925 and 1928. These steam plants proved to be both profitable and reliable for the various utilities. In 1930, the PG&E vice-president for engineering wrote, “under the circumstances which now prevail, it is natural to question the future of hydro in California.”⁸

The post-World War II era was a time of rapid growth in Southern California. Population and housing swelled along with business and industrial development. Fueled by wartime defense industries, southern California grew rapidly, spreading out into agricultural areas and creating suburbs outside the original city limits of the communities around Los Angeles and San Diego. The need to generate power was imperative, and SCE, Los Angeles Department of Water and Power (LADWP), and San Diego Gas & Electric Company (SDG&E) expanded their systems along with PG&E and the rest of California’s energy industry. Since most of the more favorable hydroelectric sites in California had already been developed, and the cost of steam generating facilities had been reduced by technological developments in design and abundant natural gas resources, steam plants became the more favorable option. Steam turbine power plants were cheaper and quicker to build than hydroelectric plants, so utilities companies moved away from hydroelectricity, establishing steam turbine power as the generator of choice. Such plants conserved water and kept costs down for the business and the consumer. The “momentum for steam had been established by war, by drought, and,” wrote Williams, “by a positive history of increased thermal power plant development.”⁹

Dozens of new steam generation plants were built throughout California, chiefly by PG&E and SCE, although LADWP, California Electric Power Company (see below), and SDG&E built a few as well. The plants relied upon proven technologies but were assembled quickly and inexpensively, relative to earlier plants. In a detailed article in 1950 in *Civil Engineering*, I. C. Steele, Chief Engineer for PG&E, summarized the design criteria that went into construction of four major steam plants the company had under construction at that time, at Moss Landing, Contra Costa, Kern, and Hunters Point in San Francisco. These plants had much in common with each other, he argued, and with other steam plants under construction in the state. The design criteria were the same in all cases: build the facility close to load centers to reduce transmission costs; be close to fuel supplies; be near a water supply; and be on a site where land was cheap and could support a good foundation. In another article in *Transactions of the ASCE*, Walter Dickey, an engineer from Bechtel,

⁶ William Allan Myers, *Affairs of Power: Restructuring California’s Electric Utility Industry 1968-1998* (University of California Riverside, Dissertation 1997) 58.

⁷ This plant still exists, although it was fitted with new units in the early 1950s, at the same time that the Kern Power Plant was being constructed. Coleman, 298.

⁸ “1928 Steam Plants Account for 45 Percent of New Generating Capacity,” *Electrical West*, February 2, 1929, 80-81; R.W. Spencer, “Cooling Water For Steam Electric Stations in Tidewater,” *Transactions of the American Society of Civil Engineers* 126 (1961): 294, 300; Williams, *Energy and the Making of Modern California*, 279.

⁹ Myers, *Iron Men and Copper Wires*, 200; James C. Williams, *Energy and the Making of Modern California*, 277-78, 282-83.

*Recorded by Rand F. Herbert *Date March 3, 2005 Continuation Update

detailed the reasons for the boom in steam plant building postponements due to World War II, lack of economical hydroelectric sites and needed support of peak load periods. He compared steam generation plant with hydroelectric plants and found steam favorable. Virtually all of the plants in the 1950s and 1960s were designed to be expanded if market conditions warranted; most of them were.¹⁰

The decades between 1950 and 1970 were the peak expansion of steam generating capacity for both the SCE and the PG&E, as well as for smaller utility companies. During this period, SCE built a series of very similar steam plants in the Los Angeles Basin and in San Bernardino County. In 1952, the company began work on Redondo No. 2, which was adjacent to an earlier plant at Redondo Beach. In 1953, the Etiwanda plant went online, followed in 1955 by El Segundo, Alamitos in 1956, and Huntington Beach and Mandalay in 1958. By 1960, all SCE plants either had multiple units or had additional units in the planning stages. In 1950 PG&E operated 15 steam electric plants in California, and during the following decade added several new plants and expanded older ones. Chief among these were the Kern plant (1948-50), Contra Costa (1951-53), Moss Landing (1950-52), Morro Bay (1955), Hunters Point (addition 1958), Humboldt Bay (1956-58), and Pittsburg (1959-60). The Pittsburg plant was at the time of its construction the largest steam station in the west, with a capacity of over 1,300,000 kW in 1960. The LADWP system was much smaller than those of SCE and PG&E, consisting of five steam plants by 1962. In addition to its Seal Beach Plant (1925-28), and Harbor Plant on Los Angeles Harbor (1943) these included the Valley Plant (San Fernando Valley, 1954), Scattergood (1958), and Haynes (1961). SDG&E had three steam-electric power plants, Silver Gate (1943), Encina (1954), and South Bay (1960). By the late 1970s, there were more than 20 fossil fuel thermal plants in California, clustered around San Francisco Bay, Santa Monica Bay, and in San Diego County, along with a few interior plants in San Bernardino County and Riverside and Imperial Counties, as well as a few plants on the Central Coast.¹¹

Most of the oil- or gas-fired steam plants currently in use in California were installed in the period from about 1950 through 1970. After 1970, the major utilities began to look for alternative energy sources, ranging from nuclear power to wind, geothermal, and other “green” energy sources, other than hydroelectric. Despite these efforts, however, fossil fuel steam generation remains the backbone of electrical generating capacity in California. Information from the California Energy Commission (CEC) states that there are currently 34 steam turbine power plants in California of a variety of ages and locations.¹²

Southern California Edison (SCE)

Southern California Edison began in 1896 as the West Side Lighting Company in Los Angeles, California. The company was one of several attempting to enter the Los Angeles market. It could not freely run wires without a city franchise, so the company built its steam plant outside the city limits and ran its lines into the city using poles on private property. Walter S. Wright, one of the founders, located and purchased a franchise, but the terms required the company to light city hall by April 5, 1896. The company barely met the terms, but won the franchise and began freely supplying electricity to the city.

¹⁰ I. C. Steele, “Steam Power Gains on Hydro in California,” *Civil Engineering* (January 1950): 17-21; Edgar J. Garbarini, “Design Saves Construction Dollars on Contra Costa Power Plant,” *Civil Engineering* (May 1953): 31-33; Walter L. Dickey, “The Design of Two Steam Electric Plants,” *ASCE Transactions* (1956): 253-273.

¹¹ Annual Reports of the Southern California Edison Company, various years. R.W. Spencer, “Cooling Water For Steam Electric Stations in Tidewater,” *Transactions of the American Society of Civil Engineers* 126 (1961): 280-302; I. C. Steele, “Steam Power Gains on Hydro in California,” 17-19; Dickey, “The Design of Two Steam Electric Plants,” 253-255; *Southwest Builder and Contractor*, “Haynes Steam Plant Will Grow With Demand,” *Southwest Builder and Contractor* (October 12, 1962): 24-27; Williams, *Energy and the Making of Modern California*, 257.

¹² The California Energy Commission retains figures on the fuel type for all electricity used in the state, even if the power is generated out of state. In 1999, natural gas-fired generators were responsible for 31% of all electricity used in the state, compared with 20% for hydroelectricity. Coal-fired steam plants, all of them out of state, accounted for 20% of the total. “Green” sources accounted for 12%. The percentage of in-state natural gas-fired steam electricity is much larger than 31%, since all of the coal and much of the hydroelectric power is generated out of state. See www.energy.ca.gov/electricity/system_power.

*Recorded by Rand F. Herbert *Date March 3, 2005 Continuation Update

City ordinances provided another challenge to the company. All the new technology, telephones, electric railroads, fire call boxes and more, had created a tangle of wires along the street. All new wires were required to be placed underground. West Side Lighting determined that the Edison three-wire system would provide the best underground system. Unfortunately, the rights were held by the Los Angeles Edison Electric Company who had not developed any facilities. In 1897 West Side Lighting purchased the Los Angeles Edison Electric and became Edison Electric Company of Los Angeles. Using the new three-wire system to install underground conduit downtown, the company gained new customers.

The firm grew throughout the early twentieth century, purchasing small companies in the surrounding area. The purchases had two purposes: gain control of hydroelectric plants with surplus power; and expand its customer base. Small, isolated plants were consolidated into larger steam plants or were replaced with hydroelectric power that the small company could not have accessed. The economy of scale allowed the company to reduce rates and attract more new customers. In 1909 the company changed its name to Southern California Edison to reflect the area it served.

In 1905 the company's customer base was threatened as Los Angeles began its plan to bring water to the city from the Owens Valley. Several years later it became clear that the city planned to use the water to generate electricity as well. While the city and SCE fought over who would generate and supply electricity to citizens, SCE took steps to avoid serious losses. It purchased Pacific Light and Power. Pacific Light and Power operated extensive electric rail systems in southern California and provided power to expanding areas east of Los Angeles. In 1917 Southern California Edison sold its Los Angeles distribution system to the city of Los Angeles, but the growing population outside of Los Angeles and its new territory from the purchase of Pacific Light and Power offset the losses.

The settlement of the disagreement over Los Angeles municipal service also marked the end of rapid territorial expansion. The Public Utilities Act of 1911 regulated the electrical industry; thereafter the Railroad Commission (today the Public Utilities Commission) determined "spheres of influence" for electrical companies as a part of its new regulatory duties.

SCE continued to gain new customers as people moved into southern California and therefore continued to expand its generating capacity. When it purchased Pacific Light and Power, SCE obtained the Big Creek power system, a complex array of dams, flumes and powerhouses that used what became known as "the hardest working water in the world." SCE continued to expand its Big Creek system through 1929. It became the largest producer for the company, making SCE highly dependent on hydroelectric power by the 1920s. It was SCE's cheapest source and allowed the company to continuously reduce rates.

However, events in the 1920s also demonstrated the limits of hydroelectricity. Abnormally low snowfall in the mountains in 1920-1924 dramatically reduced the amount of water available to produce electricity. SCE encouraged customers to conserve, reduced electric rail routes, and brought back into service old steam powered generators all in an attempt to maintain electrical service. The most successful effort was interconnecting several of the utilities. This allowed companies with surplus power to sell it to neighboring companies. After this water shortage, SCE and other companies that relied heavily on hydropower altered their strategy. While they continued to rely on cheap hydroelectric power, they insured they had sufficient back up sources of power to meet growing demand.

SCE grew continuously since its inception and continued, although much slower, through the Great Depression. The company allowed its workforce to shrink through attrition and kept its workers employed by changing to a five-day workweek. SCE kept its employees busy improving efficiency at existing plants and installing improved equipment. The company also took the opportunity to streamline its finances, using lower interest rates to reduce outstanding bonds from its long period of growth and expansion. Customers continued to obtain rate reductions. The reductions were a result of reduced energy use and new plants that began operation just before the Depression began. SCE encouraged increased electrical use. Company demonstrators toured SCE's service area showing new appliances. The reduced electrical rates made these attractive to consumers even in middle of the Depression. Increased consumer demand for appliances led to

higher demand by manufacturers for energy to produce these products. When SCE received electricity from Hoover Dam in 1939 it had a ready market to buy the power.

World War II increased the demand for electricity as manufacturers moved to the area and increased production to meet war needs. Since manpower and materials were being directed to the war, SCE and other companies could not build power plants to meet this demand. The Power Branch of the War Production Board suggested that electrical companies pool their production like they did during the 1920s drought. Interconnecting the companies and municipal utilities provided enough electricity to meet the increasing demands.

Southern California experienced a population boom. At one point approximately 1,000 people were moving into SEC territory each week. According to William Myers, "Since 1945, it [SCE] has added more customers than any other utility in the country."¹³ The company also resumed its marketing program to encourage customers to purchase new appliances. As discussed above this growth led to the construction of a series of steam power plants.

Increased concern for the environment and oil shortages stalled new plant development in the 1970s. SCE began experiments with solar and wind technologies as well as developing new hydroelectric sites. Increased demand was also addressed through increasing interconnections. Power sharing with the Columbia River plants in Oregon has been made possible through the Pacific Intertie direct current line that runs the length of California.

Deregulation in the 1980s has changed how power is generated and distributed. Deregulation often led to separation of the two processes. SCE's strategy was to sell off portions of its generating system. In 1996 it sold off five of its steam plants in the inland empire.¹⁴ Today, it operates as a power distributor, covering most of southern California from San Onofre north to Santa Barbara along the Pacific coast, widening to include territory from Blythe in the Mojave Desert to past Bishop on the eastern side of the Sierra Nevada.

Etiwanda Power Plant

The area of Los Angeles grew more rapidly than most, spreading out into suburbs and into areas outside the city limits. The need to generate power was imperative and SCE expanded along with the rest of California's electric companies.

Construction for the Etiwanda Steam Station began in March, 1951 and SCE had the plant under full operation by November, 1953. It cost \$41,200,000 to build. The Etiwanda plant was constructed without any enclosures over the equipment, creating a more cost-effective plant in terms of maintenance, cleaning, and ventilation but did not require special engineering features. SCE was able to build the plant in this fashion because of the usually mild temperatures and dry weather conditions in Southern California. SCE built the Etiwanda station near a Metropolitan Water District aqueduct in order to obtain water for feeding the boilers and turbines, and provide for cooling in the large condenser units. The Etiwanda Power Plant was capable of generating more electricity than Hoover Dam, enough to supply the needs of about a half-million people.¹⁵

The Etiwanda Units 1 and 2 have two boilers built by Combustion Engineering, Inc., which is now a U.S. subsidiary of ABB.¹⁶ The boilers were designed to use either natural gas or oil as fuel; in fact, the boiler mechanisms allowed the fuel supply to be changed without a pause in operation. The fuel lines are controlled through valves located under the operating deck, which could shut off the use of oil in order to change to gas, and vice versa. Oil was used mainly until the 1970s, and a forty-one mile pipeline from Santa Fe Springs to the Etiwanda plant was constructed in order to ensure a steady supply of

¹³ William A. Myers, *Iron Men and Copper Wires: A Centennial History of the Southern California Edison Company*. (Glendale, California: Tans-Anglo Books, 1983) 200.

¹⁴ Michael Diamond, "Edison to Sell Three Inland Empire Power Plants," *San Bernardino Daily Sun* (November 23, 1996)

¹⁵ Southern California Edison Company, *Etiwanda Steam Station*, (1954), 2-3, 5 & 14.

¹⁶ Southern California Edison Company, *Etiwanda Steam Station*, 6 & 8; [www.abb.com], 09 March 2005.

*Recorded by Rand F. Herbert *Date March 3, 2005 Continuation Update

oil. During the 1970s the plant started using fifty percent gas and fifty percent oil until the 1980s, when gas became the dominant fuel used and has remained so since that time.¹⁷

The first two units produced 265,000 kilowatts of power. The original plans included plant for expansion that would double the capacity. The two additional units were built in 1963. Units 3 and 4 were much larger than the earlier units or what had been called for in the expected expansion. Each could produce 320,000 kilowatts.

In 1969 a 126,000 kilowatt peaker unit was added to assist meeting loads during periods of high demand. The peaker unit consisted of eight Pratt and Whitney aircraft engines modified for electrical generation.

SCE has utility stations and plants all over southern and central California and supply services to over nine million people across the state. In 1998, Reliant Energy, based in Texas, bought five of SCE's power plants, which includes the Etiwanda facility.¹⁸

Evaluation

The Etiwanda power plant does not appear to be a historic resource under CEQA. It is not significant to the development of electrical generation, steam power plants, or Southern California Edison. (Criterion 1) Etiwanda was one of several power plants built to supply the growing post World War II demand for electricity. Companies through out California including PG&E, California Electric and San Diego Gas and Electric were all building plants at this time to meet the need. At this time California electrical companies decided to build steam power plants because of the lack of economical hydroelectric sites and the increased availability of oil and gas. These plants were built within a short period of time and with standardized plans. It is neither the first nor the last of the plants built by Southern California Edison which included Redondo Beach (1952), El Segundo (1955), Alamito (1956), Huntington Beach (1958) and Mandalay (1958). Together these plants supplied the power needed by SCE and no single plant can be singled out as significant within the system. Each was important to the community it served, providing power for the increasing demands of new technology and development. In the context of the time and other community services, however, Etiwanda does not suggest any unique significance.

These buildings are also not significant for their design or construction (Criterion 3). As mentioned above, Etiwanda was constructed during a period of rapid growth of steam power plants. While the construction of Etiwanda was covered in trade publications, the coverage does not indicate that Etiwanda was designed any differently than other plants of the era. The plant is of the "outdoor" variety which became common in southern California in this time period. The lack of cladding allowed the plants to be built faster and more economically, but did not affect their operations. Large companies that produced this type of equipment for plants across the country provided the boiler, turbines and generators. No new equipment was introduced to the design.

Etiwanda does not appear to be associated with the life of a historically significant person (Criterion B and 2), nor is it significant under Criterion D and 4, as a potential source of data on human history. This property is well-documented through company records and construction documents and does not appear to be a principal source of important information. The plant has had minor alterations, yet as a whole it retains integrity of location, design, setting, materials, workmanship, feeling and association.

¹⁷ Southern California Edison Company, *Etiwanda Steam Station*, 12-13.

¹⁸ Myers, 8; Carrie Peyton, "Old Generators to Drive Rates," *Sacramento Bee*, (16 July 2001), [http://www.sacbee.com/static/archive/news/special/power/071601gen.html], 23 February 2005.

P1. Other Identifier: Etiwanda Substation

*P2. Location: Not for Publication Unrestricted
and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*a. County San Bernadino

*b. USGS 7.5' Quad Guasti Date 1953 T ____; R ____; ____ ¼ of Sec ____; _____ B.M.

c. Address 8996 Etiwanda Avenue City Rancho Cucamonga Zip 91739-9625

d. UTM: (give more than one for large and/or linear resources) Zone _____; _____ mE/ _____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

APN: 0229-283-82-0000

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The Etiwanda Substation is located south of the generating station. The substation distributes power generated at the station. The substation has two yards. The north yard operates at 22,000V and the south yard operates at 66,000V. The yards are covered in gravel. Steel structures support the lines through the substation. The structures and equipment are set on concrete pads. A concrete control building is located on the west end of the station. It is rectangular with a flat roof.

*P3b. Resource Attributes: (List attributes and codes) HP9 Public Utility

*P4. Resources Present: Building Structure Object Site District Element of District Other (Isolates, etc.)

P5a. Photo of Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #) Camera facing , February 23, 2007

*P6. Date Constructed/Age and Sources:
 Historic Prehistoric Both
1953

*P7. Owner and Address:
Southern California Edison

*P8. Recorded by: (Name, affiliation, address)
Cheryl Brookshear
JRP Historical Consulting, LLC
1490 Drew Ave, Suite 110,
Davis, CA 95618

*P9. Date Recorded: February 23, 2007

*P10. Survey Type: (Describe)
Intensive

*P11. Report Citation: (Cite survey report and other sources, or enter "none.") JRP Historical Consulting, LLC "Historical Resources Inventory and Evaluation Report for the proposed San Gabriel Generating Station," March 2007.

*Attachments: None Location Map Sketch Map Continuation Sheet Building, Structure, and Object Record Archaeological Record
 District Record Linear Feature Record Milling Station Record Rock Art Record Artifact Record Photograph Record
 Other (list) _____

B1. Historic Name: _____

B2. Common Name: Etiwanda Substation

B3. Original Use: Substation B4. Present Use: Substation

*B5. Architectural Style: Industrial

*B6. Construction History: (Construction date, alteration, and date of alterations) Constructed 1951-53, updated 1963.

*B7. Moved? No Yes Unknown Date: _____ Original Location: _____

*B8. Related Features: _____

B9. Architect: unknown b. Builder: unknown

*B10. Significance: Theme n/a Area n/a
Period of Significance n/a Property Type n/a Applicable Criteria n/a

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The Etiwanda substation does not appear to meet the criteria for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR) because it does not appear to have historical significance. The substation does not appear to be significant for its association with the development of electrical transmission and distribution at local, state or national levels (Criteria A or 1), nor does the substation appear to be associated with any historically significant people (Criteria B or 2). The substation does not embody distinctive architectural characteristics of a period, type, or method of construction (Criteria C or 3), nor does it appear to be the work of a master. In rare instances, structures themselves can serve as sources of important information about historic construction materials or technologies (Criteria D or 4); however, the substation does not appear to be a principal source of important information in this regard. This property has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code, and does not appear to be a historical resource for the purposes of CEQA. (See Continuation Sheet.)

B11. Additional Resource Attributes: (List attributes and codes) _____

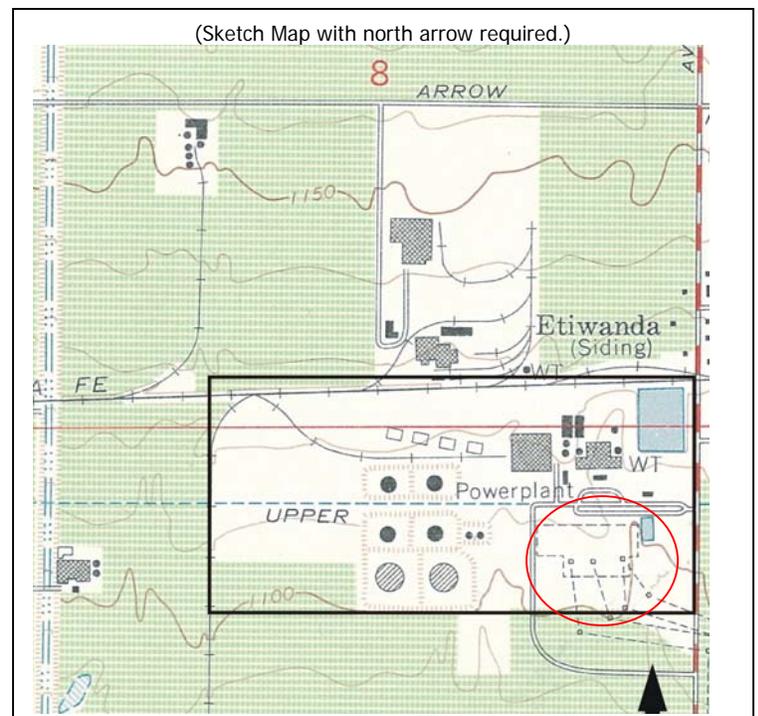
*B12. References: See Footnotes.

B13. Remarks:

*B14. Evaluator: Cheryl Brookshear

*Date of Evaluation: February 2007

(This space reserved for official comments.)



B10. Significance (continued):

Historic Context

General History of Electrical Transmission in California

California's rugged terrain and often scattered settlement made the transmission of power an important factor in development. Mining settlements and cities quickly used up all the available combustibles for steam power. Bringing in more from other sources was expensive and difficult. Mining communities discovered that nearby water sources could produce electricity that was easily transmitted to rugged isolated sites.¹ The problem was that first electrical systems popularized by Edison were direct current (DC) and had a limited transmission distance. Most mining communities could find a hydroelectric site within transmission distance, but cities and agricultural settlements often could not.

The nature of this problem and its solution led to the great electrical battle between Westinghouse, building systems around high voltage alternating current (AC), and Edison, building systems around DC electricity. Westinghouse acquired patents for transformers from other inventors and a very important patent for poly-phase alternating current generators and motors from Tesla. The system his engineers devised used transformers to increase or "step up" the voltage. At this higher voltage electricity could be transmitted longer distances with less loss. At the receiving end, another transformer would decrease or "step down" the voltage to a level suitable for use. Edison countered that the high voltages were unsafe and took the battle to the public with demonstrations of electrocutions. The two firms battled it out in public and academic press and contract bids for the Columbia Exposition in Chicago and engineering and equipment bids for the proposed plant at Niagara Falls. While in the east the battle raged over safety, in the west there was no question of suitability.

California was introduced to AC by former Brush Electric Company engineer Almerian Decker. Decker came to California in 1891 for his health and became involved in a southern California electrical project. Decker and his partners, Cyrus G. Baldwin and Henry Harbison Sinclair, opened the San Antonio Light and Power Company in 1892 using Westinghouse technology to transmit power over 14 miles to Ponoima. Decker then went on to design Mill Creek, the first commercial American three phase power plant. In 1895 the Folsom power plant, designed by James Lighthipe of General Electric, supplied power to Sacramento 22 miles away. These projects were all completed before the eastern states recognized the value of long distance transmission demonstrated by the Niagara project.²

California electrical companies, especially Eugene J. de Sabla and John Martin's companies, continued to increase transmission voltages and distances. Bay Counties Power Company, owned by de Sabla and Martin, broke records in 1901 when they transmitted power generated in the Sierra-Nevada to San Francisco. Throughout the early 20th century California companies developed the hydropower resources of the mountains and transmitted the power across the state.

The shortage of oil and increasing demands for electricity during World War I challenged electrical companies to make more energy available without building more plants. The California State Railroad Commission and the Committee on Petroleum of the State Council on Defense suggested in 1917 that the companies integrate their transmission lines. These integrated lines would allow unused power from one source to be used elsewhere where the generating capacity was not as large. This idea of interconnected generating pools was adapted in the northeast and neighboring states following the California model.³

¹ James C. Williams, *Energy and the Making of Modern California* (Akron, Ohio: University of Akron Press, 1997) p.173.

² James C. Williams, *Energy and the Making of Modern California*, 175, 176-177.

³ James C. Williams, *Energy and the Making of Modern California*, 245.

Page 4 of 6

*Resource Name or # (Assigned by recorder) Etiwanda Substation

*Recorded by Cheryl Brookshear *Date February 2007 Continuation Update

The post-World War II era was a time of rapid growth in Southern California. Housing and populations swelled along with the business and industrial concerns. Fueled by wartime defense industries, southern California grew rapidly, spreading out into suburbs and into areas outside the original city limits of the communities around Los Angeles and San Diego. Steam turbine power plants were cheaper and quicker to build than hydroelectric plants and utilities companies moved away from hydroelectricity, establishing steam turbine power as the generator of choice. Such plants conserved water and kept costs down for the business and the consumer.⁴ The design criteria were the same in all cases: to build the facility close to load centers to reduce transmission costs; to be close to fuel supplies; to be near a water supply; and to be on a site where land was cheap and could support a good foundation. Despite being closer to population centers, steam plants still needed transmission facilities.⁵

Southern California Edison (SCE)

Southern California Edison began in 1896 as the West Side Lighting Company in Los Angeles, California. The company was one of several attempting to enter the Los Angeles market. It could not freely run wires without a city franchise, so the company built its steam plant outside the city limits and ran its lines into the city using poles on private property. Walter S. Wright, one of the founders, located and purchased a franchise, but the terms required the company to light city hall by April 5, 1896. The company barely met the terms, but won the franchise and began freely supplying electricity to the city.

City ordinances provided another challenge to the company. All the new technology, telephones, electric railroads, fire call boxes and more, had created a tangle of wires along the street. All new wires were required to be placed underground. West Side Lighting determined that the Edison three-wire system would provide the best underground system. Unfortunately, the rights were held by the Los Angeles Edison Electric Company who had not developed any facilities. In 1897 West Side Lighting purchased the Los Angeles Edison Electric and became Edison Electric Company of Los Angeles. Using the new three-wire system to install underground conduit downtown, the company gained new customers.

The firm grew throughout the early twentieth century, purchasing small companies in the surrounding area. The purchases had two purposes: gain control of hydroelectric plants with surplus power; and expand its customer base. Small, isolated plants were consolidated into larger steam plants or were replaced with hydroelectric power that the small company could not have accessed. The economy of scale allowed the company to reduce rates and attract more new customers. In 1909 the company changed its name to Southern California Edison to reflect the area it served.

In 1905 the company's customer base was threatened as Los Angeles began its plan to bring water to the city from the Owens Valley. Several years later it became clear that the city planned to use the water to generate electricity as well. While the city and SCE fought over who would generate and supply electricity to citizens, SCE took steps to avoid serious losses. It purchased Pacific Light and Power. Pacific Light and Power operated extensive electric rail systems in southern California and provided power to expanding areas east of Los Angeles. In 1917 Southern California Edison sold its Los Angeles distribution system to the city of Los Angeles, but the growing population outside of Los Angeles and its new territory from the purchase of Pacific Light and Power offset the losses.

The settlement of the disagreement over Los Angeles municipal service also marked the end of rapid territorial expansion. The Public Utilities Act of 1911 regulated the electrical industry; thereafter the Railroad Commission (today the Public Utilities Commission) determined "spheres of influence" for electrical companies as a part of its new regulatory duties.

SCE continued to gain new customers as people moved into southern California and therefore continued to expand its generating capacity. When it purchased Pacific Light and Power, SCE obtained the Big Creek power system, a complex array of dams, flumes and powerhouses that used what became known as "the hardest working water in the world." SCE

⁴ Myers, *Iron Men and Copper Wires*, 200; James C. Williams, *Energy and the Making of Modern California*, 277-78, 282-83.

⁵ James C. Williams, *Energy and the Making of Modern California*, 284, 374.

Page 5 of 6

*Resource Name or # (Assigned by recorder) Etiwanda Substation

*Recorded by Cheryl Brookshear *Date February 2007 Continuation Update

continued to expand its Big Creek system through 1929. It became the largest producer for the company, making SCE highly dependent on hydroelectric power by the 1920s. It was SECs cheapest source and allowed the company to continuously reduce rates.

However, events in the 1920s also demonstrated the limits of hydroelectricity. Abnormally low snowfall in the mountains in 1920-1924 dramatically reduced the amount of water available to produce electricity. SCE encouraged customers to conserve, reduced electric rail routes, and brought back into service old steam powered generators all in an attempt to maintain electrical service. The most successful effort was interconnecting several of the utilities. This allowed companies with surplus power to sell it to neighboring companies. After this water shortage, SCE and other companies that relied heavily on hydropower altered their strategy. While they continued to rely on cheap hydroelectric power, they insured they had sufficient back up sources of power to meet growing demand.

SCE grew continuously since its inception and continued, although much slower, though the Great Depression. The company allowed its workforce to shrink through attrition and kept its workers employed by changing to a five-day workweek. SCE kept its employees busy improving efficiency at existing plants and installing improved equipment. The company also took the opportunity to streamline its finances, using lower interest rates to reduce outstanding bonds from its long period of growth and expansion. Customers continued to obtain rate reductions. The reductions were a result of reduced energy use and new plants that began operation just before the Depression began. SCE encouraged increased electrical use. Company demonstrators toured SCE's service area showing new appliances. The reduced electrical rates made these attractive to consumers even in middle of the Depression. Increased consumer demand for appliances led to higher demand by manufacturers for energy to produce these products. When SCE received electricity from Hoover Dam in 1939 it had a ready market to buy the power.

World War II increased the demand for electricity as manufacturers moved to the area and increased production to meet war needs. Since manpower and materials were being directed to the war, SCE and other companies could not build power plants to meet this demand. The Power Branch of the War Production Board suggested that electrical companies pool their production like they did during the 1920s drought. Interconnecting the companies and municipal utilities provided enough electricity to meet the increasing demands.

Southern California experienced a population boom. At one point approximately 1,000 people were moving into SEC territory each week. According to William Myers, "Since 1945, it [SCE] has added more customers than any other utility in the country."⁶ The company also resumed its marketing program to encourage customers to purchase new appliances. As discussed above this growth lead to the construction of a series of steam power plants.

Increased concern for the environment and oil shortages stalled new plant development in the 1970s. SCE began experiments with solar and wind technologies as well as developing new hydroelectric sites. Increased demand was also addressed through increasing interconnections. Power sharing with the Columbia River plants in Oregon has been made possible through the Pacific Intertie direct current line that runs the length of California.

Deregulation in the 1980s has changed how power is generated and distributed. Deregulation often led to separation of the two processes. SCEs strategy was to sell off portions of its generating system. In 1996 it sold off five of its steam plants in the inland empire.⁷ Today, it operates as a power distributor, covering most of southern California from San Onofre north to Santa Barbara along the Pacific coast, widening to include territory from Blythe in the Mojave Desert to past Bishop on the eastern side of the Sierra Nevada.

⁶ William A. Myers, *Iron Men and Copper Wires: A Centennial History of the Southern California Edison Company*. (Glendale, California: Tans-Anglo Books, 1983) 200.

⁷ Michael Diamond, "Edison to Sell Three Inland Empire Power Plants," *San Bernardino Daily Sun* (November 23, 1996)

Page 6 of 6

*Resource Name or # (Assigned by recorder) Etiwanda Substation

*Recorded by Cheryl Brookshear *Date February 2007 Continuation Update

Etiwanda Substation

Etiwanda Substation was constructed as part of the Etiwanda power plant. The substation is south of the generators, and was necessary to 'step up' the voltage before the power was distributed through the transmission lines. Construction of Etiwanda began in March, 1951 and SCE had Units 1 and 2 under full operation by November, 1953. Together these units could generate 265,000 kilowatts. The station was built as part of a post war building boom. SCE constructed a series of generating plants through the 1950s and early 1960s. Each plant was used standard equipment and distribution substations in order to speed design and construction. Many of these plants were built with future expansion plans. Etiwanda was expanded with the construction of Units 3 and 4 in 1963. These units boosted generation by 640,000 kilowatts.⁸ In 1969 a peaker unit, sometimes called Unit 5, was added to the plant. With each expansion the substation was altered to accommodate the new generating capacity.

The substation has two yards the south yard handles transmission lines at 66,000V and the north yard handles 22,000V lines. The 22,000V lines travel west to the Los Angeles area and east to Devers Substation in the Coachella Valley. The circuit breakers with the 22,000V yard have been modernized and additional circuits and lines have been added to the 66,000 v yard to accommodate growth.

SCE has utility plants and substations all over southern and central California and supplies services to over nine million people across the state. In 1998, Reliant Energy, based in Texas, bought five of SCE's power plants, which includes the Etiwanda facility.⁹ Units 1 and 2 have ceased operations, but Units 3 and 4 are in operation with the Etiwanda Substation as the link to the distribution network.

Evaluation

Under Criteria A or 1, the Etiwanda Substation does not appear to be significant for its association with electrical transmission and distribution development. The substation is one of several built to serve the new steam generation plants filling the increased need for electrical power after World War II. Under Criteria B or 2, the substation does not appear to be associated with any historically significant people. Infrastructure like substations are rarely associated with people, when they are it is usually their designer or engineer and the structure appears eligible under Criteria C or 3. Etiwanda Substation does not possess any distinctive characteristics or innovative engineering that would render it eligible under Criteria C or 3. Rather it is a standard substation of the 1950s using stock parts and plans.

⁸ Southern California Edison Company, *Etiwanda Steam Station*, 12-13.

⁹ Myers, 8; Carrie Peyton, "Old Generators to Drive Rates," *Sacramento Bee*, (16 July 2001), [http://www.sacbee.com/static/archive/news/special/power/071601gen.html], 23 February 2005.

P1. Other Identifier: Atchison-Topeka & Santa Fe Rail Road

*P2. Location: Not for Publication Unrestricted
and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*a. County San Bernardino

*b. USGS 7.5' Quad Guasti Date 1953 T ____; R ____; ____ ¼ of Sec ____; ____ B.M.

c. Address _____ City Etiwanda Zip 91739-9611

d. UTM: (give more than one for large and/or linear resources) Zone ____; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Segment from Etiwanda Avenue west for approximately 4,000 feet. APN: 0229-131-20-0000, 0229-131-22-0000, 0229-121-54-0000, 029-121-17-0000

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This form records an approximately one-mile segment of the San Bernardino-Los Angeles line of the Atchison, Topeka & Santa Fe (AT&SF) Railroad. The line ran from the La Grande depot in Los Angeles northwest to Pasadena then slightly southwest to Azusa and straight west to San Bernardino. The tracks run east to west approximately two miles north of I-10. The line is still in use by the Burlington Northern Santa Fe. All fieldwork for this form was undertaken from locations on the public right of way. The tracks consist of steel rails on wood ties and rock ballast. The crossing has modern warning lights and gates.

*P3b. Resource Attributes: (List attributes and codes) HP9—Public Utility – Railroad track

*P4. Resources Present: Building Structure Object Site District Element of District Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #) Camera facing east, February 23, 2007.

*P6. Date Constructed/Age and Sources:
 Historic Prehistoric Both
1887, Keith L. Bryant, Jr., History of the Atchison, Topeka & Santa Fe Railway

*P7. Owner and Address:
Burlington Northern Santa Fe Railroad

*P8. Recorded by: (Name, affiliation, address)
Cheryl Brookshear/ Jarma Jones
JRP Historical Consulting, LLC
1490 Drew Ave, Suite 110,
Davis, CA 95618

*P9. Date Recorded: February 23, 2007

*P10. Survey Type: (Describe)
Intensive

*P11. Report Citation: (Cite survey report and other sources, or enter "none.") JRP Historical Consulting, LLC "Historical Resources Inventory and Evaluation Report for the proposed San Gabriel Generating Station," March 2007.

*Attachments: None Location Map Sketch Map Continuation Sheet Building, Structure, and Object Record Archaeological Record
 District Record Linear Feature Record Milling Station Record Rock Art Record Artifact Record Photograph Record
 Other (list) _____

BUILDING, STRUCTURE, AND OBJECT RECORD

Page 2 of 14

*NRHP Status Code 6

*Resource Name or # (Assigned by recorder) Atchison-Topeka & Santa Fe RR

B1. Historic Name: Kite-Shaped Track/Belt Line or Old Kite Route/The Redlands Loop

B2. Common Name: Burlington Northern Santa Fe Railroad

B3. Original Use: Railroad Track B4. Present Use: Railroad track

*B5. Architectural Style: _____

*B6. Construction History: (Construction date, alteration, and date of alterations) 1887 construction date, continuous updates and maintenance.

*B7. Moved? No Yes Unknown Date: Original Location:

*B8. Related Features:

B9. Architect: unknown b. Builder: unknown

*B10. Significance: Theme n/a Area n/a

Period of Significance n/a Property Type n/a Applicable Criteria n/a

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The railroad tracks do not appear to meet the criteria for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR) primarily because it lacks integrity of design setting, materials, workmanship, feeling and association for the potential period of significance of 1887 when the line was completed to 1893 when the real estate boom slowed. The completion of the Los Angeles – San Bernardino line assured the independence of Atchison Topeka & Santa Fe (AT&SF) along this route. The resulting rate war with Southern Pacific (SP) resulted in the climax of a real estate boom in southern California. This may be considered significant under Criteria A or 1. However, the continued operation of the line and the growth inspired by its operation have greatly altered the integrity of the line. At this time little remains of the original except the location. This property has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code, and does not appear to be a historical resource for the purposes of CEQA. (See Continuation Sheet.)

B11. Additional Resource Attributes: (List attributes and codes) _____

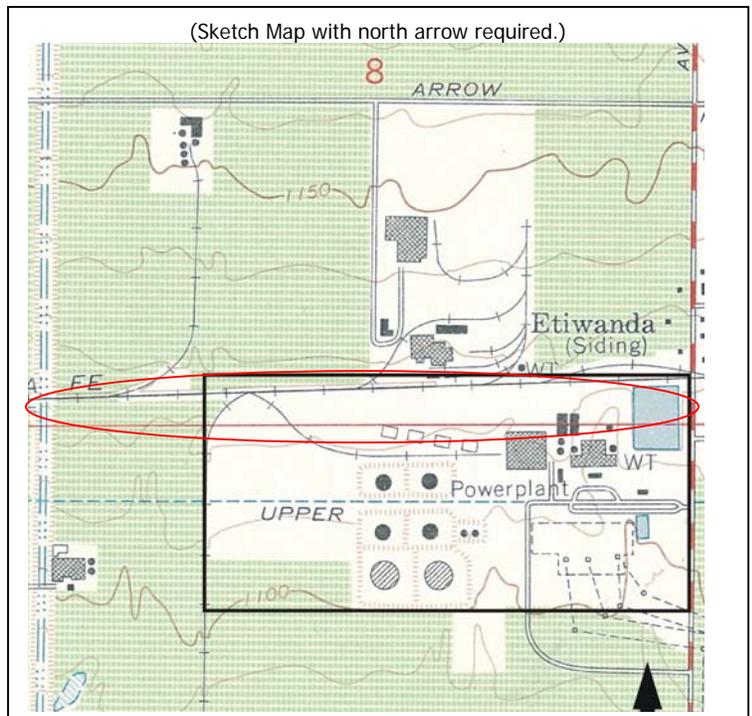
*B12. References: See Footnotes.

B13. Remarks:

*B14. Evaluator: Cheryl Brookshear

*Date of Evaluation: February 2007

(This space reserved for official comments.)



L1. Historic and/or Common Name: Kite-Shaped Track/Belt Line or Old Kite Route/The Redlands Loop /Burlington Northern Santa Fe Railroad

L2a. Portion Described: Entire Resource Segment Point Observation Designation: Etiwanda Avenue Crossing

*b. Location of point or segment: (Provide UTM coordinates, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map.)

Intersection with Etiwanda Avenue, City of Rancho Cucamonga

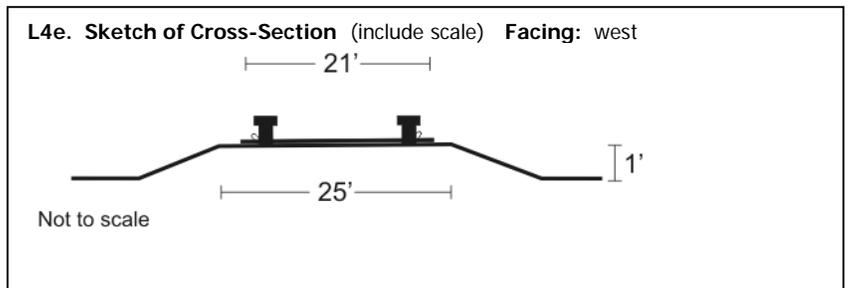
L3. Description: (Describe construction details, materials, and artifacts found at this segment/point. Provide plans/sections as appropriate.)

The point consists of a single track of steel rails on wood ties and rock ballast. A spur begins east of Etiwanda Avenue and turns north west of Etiwanda Avenue into a scrap yard. At the crossing the space between the rails has been filled with concrete. Modern crossing gates and lights protect the intersection. An island has been added to the road at the crossing allowing gates and signals to be placed on each side and in the median. The main line rails near the intersection have been welded together and have stamps that read: RMSM 2002.

L4. Dimensions: (in feet for historic features and meters for prehistoric features)

- a. Top Width 21 feet.
- b. Bottom Width 25 feet
- c. Height or Depth 1 foot
- d. Length of Segment Approximately 1 mile

L5. Associated Resources:



L6. Setting: (Describe natural features, landscape characteristics, slope, etc., as appropriate.)

The tracks are located in an industrial area containing warehouses, scrap yards and industry.

L7. Integrity Considerations: The tracks are in use and have been continuously updated and maintained. This has altered the original design, materials and workmanship.

L8a. Photograph, Map, or Drawing.



L8b. Description of Photo, Map, or Drawing: Tracks looking west from Etiwanda Avenue, February 23, 3007.

L9. Remarks:

L10. Form prepared by: (Name, affiliation, address)

Cheryl Brookshear JRP
Historical Consulting Services, LLC
1490 Drew Ave, Suite 110,
Davis, CA 95618

L11. Date:

February 23, 2007

B10. Significance (continued):

Historic Context

This segment has previously been identified as a portion of the Kite-Shaped Track/ Belt Line or Old Kite Route/ The Redlands Loop on the linear Feature Record prepared by Applied EarthWorks Inc. March 1998. Please see the attached record for context on this excursion route.

The line from San Bernardino to Los Angeles was an important commercial route for the Atchison, Topeka & Santa Fe Railroad (AT&SF). The railroad began construction in southern California as the California Southern Railroad in 1880. The California Southern Railroad was separate but had many of the same directors. The railroad was to build a line between San Diego and San Bernardino, which would later connect to the Atlantic and Pacific, another AT&SF controlled line, at Needles. After a battle to cross the Southern Pacific's tracks at Colton, the San Diego line was complete in 1882. It was heavily damaged in the spring of 1884. Resulting negotiations had the AT&SF investors buy out the California Southern Railroad. The infusion of cash also secured a route from Needles to Barstow for the railroad. Construction of the link from San Bernardino to Barstow was complete by the end of 1885. AT&SF leased track from SP for a connection from Colton to Los Angeles. This began a real estate boom in the area as the two railroads began to compete for business. Following a disagreement over the division of California rail traffic in 1886, AT&SF determined to have their own line to Los Angeles. In 1887 AT&SF purchased the Los Angeles & San Gabriel Valley railroad which had tracks from Los Angeles to Duarte. AT&SF quickly finished the link between San Bernardino and Duarte, which contains the segment in question. The resulting competition between Southern Pacific and AT&SF led to reduced rates and brought the real estate boom to a climax in southern California, especially around Los Angeles.¹

The Los Angeles to San Bernardino line was one of several feeders to San Bernardino which was the largest AT&SF hub on the west coast. Shipments of fruit and produce were pooled at San Bernardino from throughout southern California and rapidly transported to Chicago. By 1929 AT&SF shipped about 43% of the citrus from the area.² During World War II the tracks carried as much cargo as was possible becoming an important link to the growing industry in California.³ The AT&SF also ran passenger service from Chicago to Los Angeles beginning with the California Limited in 1892. The De Luxe began weekly trips between Chicago and Los Angeles in 1911. The California Limited was replaced by the Chief in 1926. Passenger service declined in the 1960s with most passenger service ended in 1967. In 1971 Amtrak took over all passenger service.⁴ In 1996 AT&SF merged with Burlington Northern.

Evaluation

The Los Angeles-San Bernardino line of the AT&SF railroad does not appear to be eligible for National the purposes of this project primarily because of the loss of integrity of design, setting, materials, workmanship, feeling and association. If the line were determined to have integrity it would be potentially eligible under Criterion A, for its association with the development of the Los Angeles area in the late nineteenth and early twentieth centuries, including its urban and social development and the rise of commercial agriculture such as citrus crops. The period of significance would be from 1887 to 1893 the period of the real estate boom based on competing rates between AT&SF and SP. The competition between

¹ Keith L. Bryant, Jr., *History of the Atchison, Topeka & Santa Fe Railway* (Lincoln, Nebraska: University of Nebraska Press, 1974) 97-105. Donald B. Robertson, *Encyclopedia of Western Railroad History Volume IV California*. (Caldwell, Idaho: Caldwell Printers, Ltd., 1998) 237-238

² Keith L. Bryant, Jr., *History of the Atchison, Topeka & Santa Fe Railway* 283.

³ Keith L. Bryant, Jr., *History of the Atchison, Topeka & Santa Fe Railway* , 272

⁴ Blaszak, Michael W. *ATSF History, Santa Fe: A Chronology*.

Page 5 of 14

*Resource Name or # (Assigned by recorder) Atchison-Topeka & Santa Fe RR

*Recorded by Cheryl Brookshear *Date February 23, 2007 Continuation Update

AT&SF and Southern Pacific encouraged growth in the area, but the AT&SF was the second railroad to enter the area and does not have the same significance as the first.

Field survey indicates that this segment lacks integrity. The alignment remains the same as the 1887 line, however the need to maintain the line and keep up with technological improvements has altered the design, materials and workmanship of the line. Ties, ballast, and rails have been replaced and additional crossings and safety features have been added. The development of the San Bernardino valley in part due to the rail line has altered the setting, feeling and association. The original line traversed a sparsely settled valley connecting colonies that had been bypassed by the SP. Urban expansion and industrial development have filled the valley removing the citrus groves and small colonies. The lack of six of the seven aspects of integrity prevents the railroad from conveying its significance and restrains its eligibility for the National Register of Historic Places or the California Register.

As an excursion route in the late 19th and early 20th century the route does not appear to have had a significant impact at a local or state level and therefore is not apparently eligible under local or state significance under Criteria A.

Infrastructure such as railroads are rarely eligible under Criteria B or 2, the association with historically significant people, unless it is a significant engineering feature which is more appropriately covered under Criteria C or 3. The Los Angeles-San Bernardino line does not have any significant engineering or design characteristics that would render it eligible under these criteria, and as a result is not associated with a historically significant person.

Applied EarthWorks, Inc.
PRIMARY RECORD

Page 2 of 8

P36-006847
Primary #
HRI #
Trinomial CA-SBR-6847H
SUPPLEMENT
Date: 3/17/98

P8. Recorded by (Name, affiliation, address): M. Horne and C. Inoway, Applied EarthWorks, Inc. 3292 E. Florida Ave., Suite A, Hemet, CA 92544.

P9. Date Recorded: February 19, 1998.

P10. Type of Survey: Intensive Reconnaissance Other
Describe:

P11. Report Citation (Provide full citation or enter "none"): Background research is provided in:

Tang, B. Tom
1997 *Cultural Setting, CA-SBR-6847H*. Unpublished manuscript on file at Greenwood and Associates, Inc., Pacific Palisades, CA.

Applied EarthWorks, Inc.
ARCHAEOLOGICAL SITE RECORD

P36-006847
Primary #
Trinomial CA-SBR-6847H

Page 3 of 8

Temporary Number/Resource Name: R-FEH/L#1

A1. **Dimensions:** a. Length Unknown (NW/SE) x b. Width 20 feet (NE/SW)

Method of Measurement: Paced Taped Visual estimate Other:

Method of Determination (Check any that apply): Artifacts Features Soil Vegetation
 Topography Cut bank Animal burrow Excavation Property boundary Other (explain):

Reliability of Determination: High Medium Low Explain:

North of IFP Station 932, the railroad bed veers to the northwest outside of the ADI; south of Station 941, the railroad bed continues south for an unknown distance.

Limitations (Check any that apply): Restricted access Paved/built over Disturbances
 Site limits incompletely defined Other (Explain): Access is restricted to the ADI; site limits to the northwest/southeast are unknown. Additionally, south of the Santa Ana River, the railroad bed has been graded and is now used as a dirt access road.

A2. **Depth:** Unknown None Unknown Method of Determination:

A3. **Human Remains:** Present Absent Possible Unknown (Explain):

A4. **Features** (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map): See Linear Feature Record, attached.

A5. **Cultural Constituents** (Describe and quantify artifacts, ecofacts, cultural residues, etc., not associated with features): See Linear Feature Record attached, Item L3.

A6. **Were Specimens Collected?** No Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated.)

A7. **Site Condition:** Good Fair Poor (Describe disturbances): See Linear Feature Record attached, Item L7.

A8. **Nearest Water** (Type, distance, and direction): The Santa Ana River, on site.

A9. **Elevation:** 1,575 to 1,560 ft amsl.

A10. **Environmental Setting** (Describe vegetation, fauna, soils, geology, landform, slope, aspect, exposure, etc., as appropriate): This portion of the Old Kite Route or Redlands Loop Railroad is located in the relatively flat, cobble and boulder-strewn, alluvial wash of the Santa Ana River.

A11. **Historical Information** (Note sources and provide full citations in Field A15 below): See Linear Feature Record attached, Item IL3. Also see attached historic context report by B. Tom Tang (1997)

Applied EarthWorks, Inc.
ARCHAEOLOGICAL SITE RECORD

Primary #
HRI #/
Trinomial CA-SBR-6847H

P36-006847

Page 4 of 8

Temporary Number/Resource Name: R-FEH/L#1

A12. Age: Prehistoric Pre-Colonial (1500–1769) Spanish/Mexican (1769–1848) Early American (1848–1880) Turn of century (1880–1914) Early 20th century (1914–1945)
 Post WWII (1945+) Undetermined Factual or estimated dates of occupation (explain):

A13. **Interpretations** (Discuss scientific, interpretive, ethnic, and other values of site, if known):
Additional archival research may yield important information pertinent to the historical development of the railroad industry in southern California, and early railroad excursion routes.

A14. **Remarks:** None.

A15. **References** (Give full citations including the names and address of any persons interviewed, if possible):
background research is provided in: Cultural Setting, CA-SBR-6847H (B. Tom Tang 1997), attached.

A16. **Photographs** (List subjects, direction of view, and accession numbers or attach a Photograph Record):
SARC-1, frames 1-13, on file at Applied EarthWorks, 3292 east Florida Ave., Suite A, Hemet, CA 92544.

A17. **Form Prepared by:** M. Home **Date:** 2/19/98

Affiliation and Address: Applied EarthWorks, Inc., 3292 E. Florida Ave., Suite A, Hemet, CA 92544

P36-006847

Applied EarthWorks, Inc.
LINEAR FEATURE RECORD

Primary #
HRI #
Trinomial CA-SBR-6847H

Page 5 of 8

Resource Name or #: (Assigned by recorder)

L1. **Historic and/or Common Name:** Kite-Shaped Track/Belt Line or Old Kite Route / The Redlands Loop

L2a. **Portion Described:** Entire Resource Segment Point Observation **Designation:** Santa Ana River Crossing

b. **Location of point or segment:** (Provide UTM coordinates, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map).
For locational information, see Items P2a through P2e on the attached Primary Record Form.

L3. **Description:** (Describe construction details, materials, and artifacts found at this segment/point. Provide plans/sections as appropriate.)
CA-SBR-6847H, originally recorded by Greenwood and Associates in 1990 at the City Creek Crossing further to the west and north as part of the Metropolitan Water District Inland Feeder Project, is described as a portion of the Old Kite Route or Redlands Loop, a popular late 19th and early 20th century railroad excursion route.

A small portion of the Kite-Shaped Track, between Highland Junction and Highgrove in Riverside County, was on the California Southern's Railway Company's (a subsidiary of the AT&SF) main line constructed between 1880 and 1885. The bulk of the trackage along the route became a part of the Santa Fe system as branch or feeder lines to the California Southern during subsequent years. The Redlands Loop was also constructed in segments by various Santa Fe subsidiaries over a period of several years. The southern portion of the Redlands Loop, from San Bernardino to Mentone via Redlands, was built in 1887-1888. The northern portion of the Redlands Loop, from Highland Junction to Mentone by way of Highland, was completed in 1892.

The decline of the Kite-Shaped Track began in the mid-1910s. Shortly after World War I, it was no longer offered as an organized excursion trip. By 1928, traffic on the Redlands Loop was cut down to one local train per day. Then in 1938, following a destructive flood in the Santa Ana River, all passenger trains were discontinued on the Redlands Loop; however, the railway was still used for freight transportation. In 1956, the AT&SF abandoned four miles of trackage between Highland Junction and Del Rosa to make way for the construction of a freeway overpass on the I-215. In 1967, two more miles of the Loop, between Del Rosa and Patton, were abandoned by AT&SF. In 1980, the AT&SF further reduced the Loop to Mentone. Finally, in 1986 Redlands became the end of the line for the Loop.

In the areas along the Redlands Loop to be impacted by the Inland Feeder Project, all features of railroad operations, including rails and ties, have been removed since 1980, leaving little more than the roadbed and scattered artifacts to remind today's visitors of the Kite-Shaped Track's past glory. Today, CA-SBR-6847H within the IFP SARC ADI/APE consists of the remains of several smaller bridge footings adjacent to small tributaries north of the Santa Ana River, and a larger more robust cement and milled lumber bridge footing and vertical milled lumber pilings that supported the main bridge over the Santa Ana River. The railroad rails have been removed; all that remains is the raised earthen railroad bed, a few railroad spikes, milled lumber footings and supports, and rusted metal nuts, bolts, and washers. The main cement footing at the northern crossing of the Santa Ana River has a date of 1938 printed into the cement. As depicted on the Redlands USGS topographic map, the site continues to the north and south outside the SARC ADI/APE. (See attached background research for CA-SBR-6847H conducted by Greenwood and Associates in 1997.)

L4. **Dimensions:** (In feet for historic features and meters for prehistoric features)

a. **Top Width:** 20 feet

b. **Bottom width:** 20 feet

c. **Height or Depth**

d. **Length of Segment:** Within ADI/APE, approximately 700 feet

e. **Sketch of Cross-Section:** Not applicable.

L5. **Associated Resources:** Locus 4 of site CA-SBR-6063H, containing railroad ties and other wood fragments is likely related to CA-SBR-6847H.

L6. **Setting:** (Describe natural features, landscape characteristics, slope, etc., as appropriate.) This portion of the Old Kite Route or the Redlands Loop is located in the relatively flat, cobble and boulder-strewn, alluvial wash of the Santa Ana River.

Applied EarthWorks, Inc.
LINEAR FEATURE RECORD

Page 6 of 8

Primary #
HRI #
Trinomial CA-SBR-6847H
Resource Name or #: (Assigned by recorder)

P36-006847

L7. Integrity Considerations:

The portion of CA-SBR-6847H that is located within the IFP SARC ADI/APE has been totally dismantled, all that remains is the raised earthen railroad bed, a few railroad spikes, milled lumber footings and supports, and rusted metal nuts, bolts, and washers. Therefore, this portion of CA-SBR-6847H is not considered to retain sufficient integrity to be significant.

L8b. Description of Photo, Map or Drawing (View, scale, etc.) N/A

L9. Remarks: See attached History of the Kite-Shaped Track (B. Tom Tang (1997)).

L10. Form Prepared by: Name, affiliation, and address.)

Melinda C. Horne
Applied EarthWorks, Inc.
3292 East Florida Ave.
Suite A
Hemet, CA 92544

L11. Date: 2/19/98

P36-006847

Applied EarthWorks, Inc.
SITE MAP SHEET

Primary #
HRI #/Trinomial CA-SBR-6847H

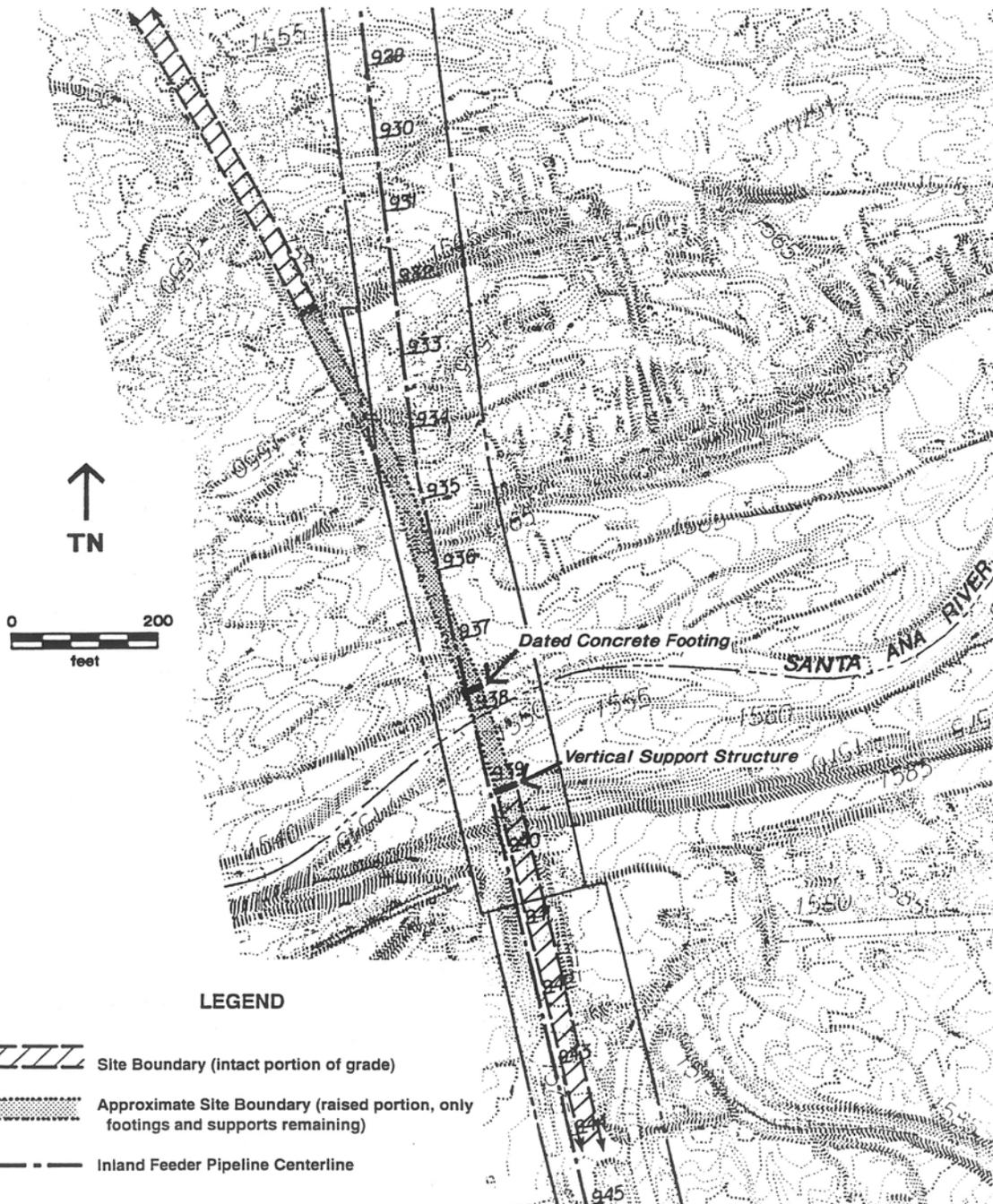
Page 7 of 8

Temporary Number/Resource Name: R-FEH/L #1

Map Name CA-SBR-6847H Site Map

Scale:

Date: 3/17/98



Applied EarthWorks, Inc.
LOCATION MAP SHEET

Primary # P36-006847
 HRI #/Trinomial CA-SBR-6847H

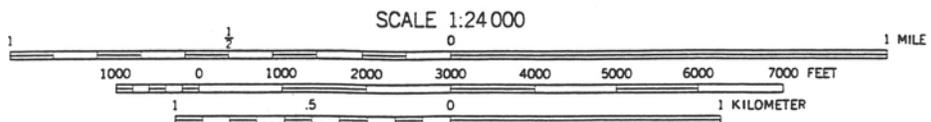
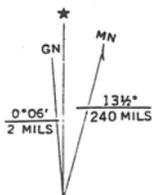
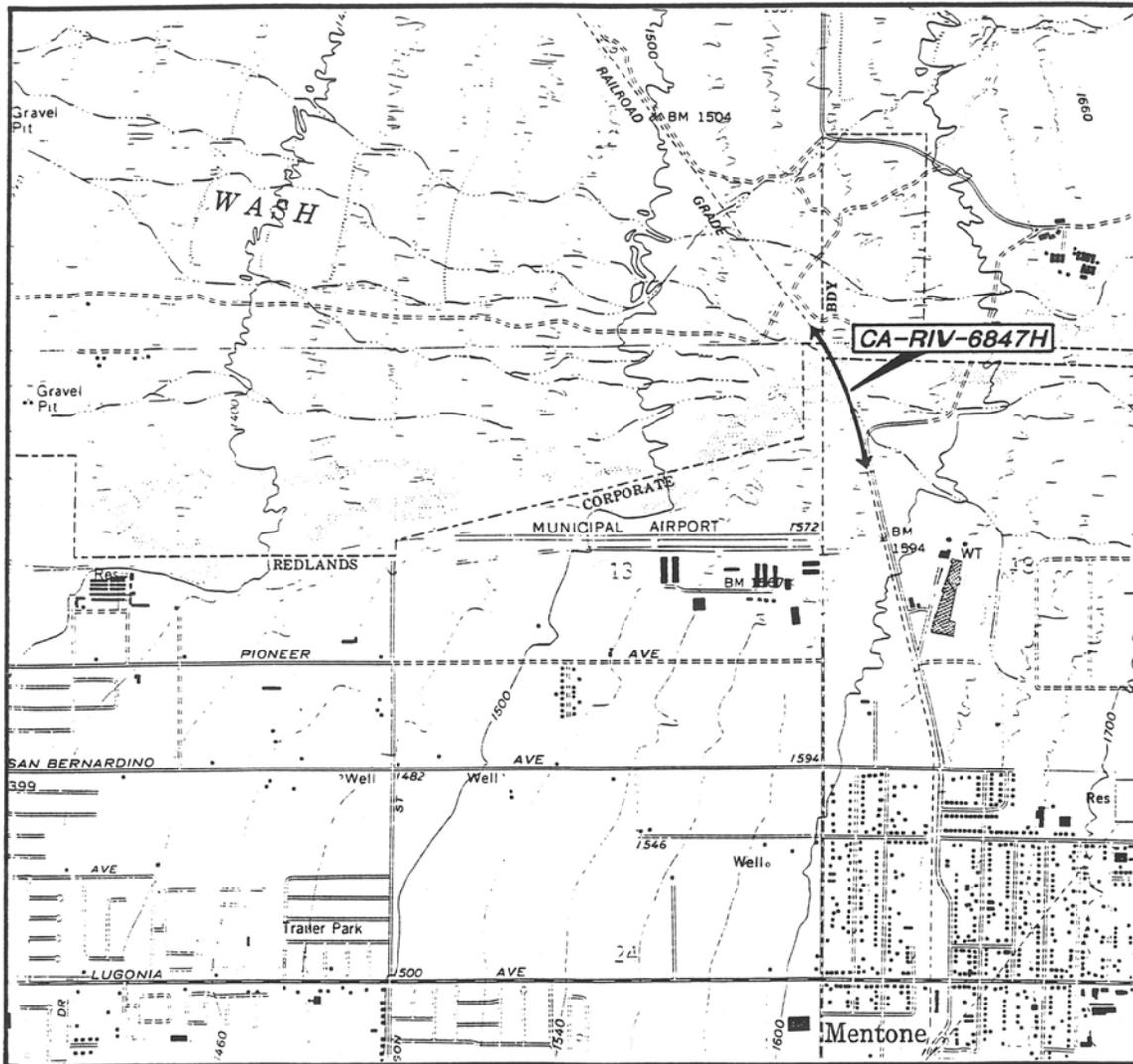
Page 8 of 8

Temporary Number/Resource Name: R-FEH/L #1

Map Name CA-SBR-6847H Location Map

Scale:

Date: 3/17/98



Redlands, CA 7.5' USGS Quad 1967 (1988)

