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APPENDIX E

CULTURAL RESOURCES

APPENDIX E-1

ARCHAEOLOGICAL RESOURCES TECHNICAL REPORT
(SUBMITTED SEPARATELY
UNDER THE RULES OF CONFIDENTIALITY)

APPENDIX E-2

HISTORIC ARCHITECTURAL RESOURCES TECHNICAL REPORT

HISTORIC ARCHITECTURAL RESOURCES TECHNICAL REPORT FOR THE PUENTE POWER PROJECT

VENTURA COUNTY, CALIFORNIA

Prepared for:
NRG Energy Center Oxnard LLC

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AECOM Project Number 28068537

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AECOM	AECOM Technical Services, Inc.
AFC	Application for Certification
CCR	Code of California Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CLUP	Coastal Land Use Plan
CRHR	California Register of Historical Resources
DPR	Department of Parks and Recreation
kg	kilograms
kW	Kilowatt
LADWP	Los Angeles Department of Water and Power
LORS	Laws, Ordinances, Regulations, and Standards
MW	Megawatts
MGS	Mandalay Generating Station
NAHC	Native American Heritage Commission
NAS	Naval Air Station
NPS	National Park Service
NRHP	National Register of Historic Places
OHP	California Office of Historic Preservation
P3	Puente Power Project
PAA	Project Area of Analysis
PG&E	Pacific Gas and Electric Company
project	Puente Power Project
SCE	Southern California Edison
SCCIC	South Central Coastal Information Center
SHPO	State Historic Preservation Officer
SONGS	San Onofre Nuclear Generating Station
UCCE	University of California Cooperative Extension
U.S.	United States
USGS	United States Geological Survey
WWII	World War II

SUMMARY OF FINDINGS

AECOM Technical Services, Inc. (AECOM) has been retained by NRG Energy, Inc., to perform a historic architectural resources survey and evaluation for the Puente Power Project (P3 or project). The project will replace two aging gas-fired steam-generating units (Units 1 and 2) at the existing Mandalay Generating Station (MGS) with a new state-of-the-art General Electric (GE) Frame 7HA.01 single-fuel combustion turbine generator and associated auxiliaries. P3 will be developed on approximately 3 acres of previously disturbed vacant brownfield land in the northwestern portion of the existing boundaries of MGS. No new offsite gas, water, sewer, or transmission linears are required. The new generating unit will tie into the existing switchyard, owned by Southern California Edison (SCE), using one of the breaker positions that will be vacated when MGS Units 1 and 2 are removed from service. The stack height will be approximately 188 feet. Excavation depths for the project are expected to be less than 10 feet, except that piles will be driven to support the foundation for the turbine block to a depth of 70 feet below ground surface. The existing MGS Units 1 and 2 will be decommissioned, and the existing MGS Unit 3 will remain in service (Appendix A contains figures depicting the project, and Appendix B depicts the current conditions of the project area).

This Historic Architectural Resources Technical Report was prepared to document identification, recordation, and evaluation efforts for previously recorded and unrecorded historic architectural resources, such as buildings, structures, objects, districts, and sites (such as landscapes) in or near the project site, in an area called the architectural history Project Area of Analysis (PPA), defined as extending one-half mile past the limits of project improvements. This assessment was also conducted in compliance with the California Energy Commission's (CEC) "Instructions to the California Energy Commission Staff for the Review of and Information Requirements for an Application for Certification" (CEC, 1992), "Rules of Practice and Procedure and Power Plant Site Regulations" (CEC, 1997), and "Rules of Practice and Procedure and Power Plant Site Certification Regulations Revisions, 04-SIT-2" (CEC, 2006).

On January 12, 2015, and between February 11, 2015 and February 12, 2015, a historic architecture survey of the architectural history PAA was conducted by personnel qualified under the *Secretary of Interior's Professional Qualification Standards* (36 Code of Federal Regulations Part 61) in the disciplines of Architectural History and History. Investigators also conducted general and site-specific research on each of the historic architectural resources with and/or at the South Central Coastal Information Center (SCCIC), National Park Service, state and local repositories, and various online sources (e.g., United State Geological Society Historical Topographic Maps, NETR Online) in January and February of 2015.

As a result of this analysis, six historic architectural resources were identified in the PAA. The six historic architectural resources include: a portion of the Edison Canal, MGS; a portion of the Mandalay-Santa Clara Transmission Line (P-56-153002); SCE Switchyard; SCE Substation; and Jeep Trail Tank Farm. After applying the procedures and criteria for the California Register of Historical Resources (CRHR) eligibility, as well as other means by which properties can be considered historical resources as

defined in the California Environmental Quality Act (CEQA), it was determined that none of the six historic architectural resources appear to be eligible for listing in the CRHR, or are considered historical resources for purposes of CEQA, either as individual resources or as contributors to a larger significant linear or complex resource. Therefore, the project is not anticipated to impact significant historical resources in the PAA.

SECTION 1
INTRODUCTION

1.1 PROJECT DESCRIPTION

The Puente Power Project (P3 or project) is proposed to replace two aging gas-fired steam-generating units (Units 1 and 2) at the existing Mandalay Generating Station (MGS), which was originally constructed between 1957 and 1959 (per information provided by Southern California Edison [SCE]), with a new state-of-the-art General Electric (GE) Frame 7HA.01 single-fuel combustion turbine generator and associated auxiliaries. P3 will be developed on approximately 3 acres of previously disturbed vacant brownfield land in the existing boundaries of MGS. All construction laydown and parking areas will also be in the existing MGS site. To minimize environmental impacts, existing ancillary systems will be upgraded and repurposed to serve P3 to the extent feasible. If P3 is approved and developed, MGS Units 1 and 2 would be decommissioned.

The project would involve the following:

- Construction and operation of P3 would include one GE 7HA.01 unit, operating a simple-cycle mode ("peaker"). No new offsite gas, water, sewer, or transmission linears would be required.
- The new generating unit would tie into the existing switchyard owned by SCE, using one of the breaker positions that would be vacated when MGS Units 1 and 2 are removed from service.
- The existing MGS Units 1 and 2 would be decommissioned.
- The existing MGS Unit 3 would remain in service.

The proposed project is located in Ventura County at 393 North Harbor Boulevard, Oxnard, California. The existing facilities at MGS include Units 1 through 3, aboveground storage tanks, settling basins, pipelines, transmission facilities, office and maintenance/storage buildings, and other appurtenant features. Other improvements include asphalt- and concrete-paved driveways, parking lots, storage areas, and minor landscaped areas. Maps depicting the project site are provided in Appendix A; and photographs depicting the project site and surrounding area are provided in Appendix B.

1.2 PROJECT LOCATION AND SETTING

The proposed project site is in a low-density suburban and rural southern portion of the County of Ventura coastline, approximately 4 miles west of the City of Oxnard's city center, 2 miles south from the mouth of the Santa Clara River, and 3.8 miles north of the entrance to the Channel Islands Harbor. The site is near McGrath Lake and marshy areas to the north; North Harbor Boulevard, agricultural areas, and small power/industrial uses to the east; Mandalay County Park and vacant land to the south; SCE's McGrath Peaker Plant and Venoco, Inc., uses to the southeast; and the Pacific Ocean to the west (Appendix A). The closest residential area is the Oxnard Shores Mobile Home Park at the intersection of South Harbor Boulevard and West Fifth Street, approximately 0.75 mile south of the proposed project improvements. Imagery available on Google Maps, and field observations reveal grading and

construction is in progress at the North Shore at Mandalay Bay development, which is approximately 0.47 mile southeast of the proposed project's stack; vertical construction at this site is scheduled to commence in 2016. The Naval Construction Battalion Center, City of Port Hueneme, Naval Base Ventura County, and Naval Air Station (NAS) Point Mugu are between 5 and 10 miles southeast of the project site, and the former Oxnard Air Force Base (present-day Camarillo Airport) is approximately 8 miles east of the project site.

Located within the limits of the City of Oxnard, as well as the Planning Area addressed in the City's 2020 General Plan (1990), the project site is situated on the western edge of the gently sloping Oxnard Coastal Zone within a large agricultural region. Established by the 1976 Coastal Act, the boundary of the Oxnard Coastal Zone generally extends 1,000 yards inland from the sea. In Oxnard, the "sea" is defined to include the Channel Islands Harbor, the Edison Canal, and channels associated with the inland waterway development. Land uses in the Oxnard Coastal Zone are governed by a separate Coastal Land Use Plan (CLUP) and zoning regulations adopted pursuant to the California Coastal Act, and certified by the California Coastal Commission (City of Oxnard, 1982; 1990).

The proposed project site is positioned on the Oxnard Plain, which is generally flat, with a gentle slope trending toward the Pacific Ocean. Elevations on the Oxnard Plain range from approximately 90 feet above sea level to sea level. Major topographic features that help define the Oxnard Plain include the Santa Monica Mountains to the east, the Santa Susana Mountains to the north, and the Pacific Ocean to the south and west. The deep alluvial soils of the Oxnard Plain are especially suitable for farming, consisting of deep and poorly drained loamy sands to silty clay loams (Impact Sciences, Inc., 1998). The project site is also in the Santa Clara River watershed, fed by the Santa Clara River, which includes portions of the San Rafael, Santa Ynez, San Gabriel, and Santa Susana mountains on the southern edge of the Transverse Range Province, and spans Ventura and Los Angeles counties. The Santa Clara River flows through the alluvial valley, which has been extensively developed for agriculture and oil extraction, and is currently experiencing heavy urbanization pressures (McGrath State Beach Natural Resources Management Plan Final, 2003; Newland, 2012).

1.3 LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS)

Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, or scientific importance. Numerous laws, regulations, and statutes on both the federal and state levels seek to protect and target the management of cultural resources. The following LORS apply to the protection of cultural resources in California and in the project site. Projects licensed by the CEC are reviewed to ensure compliance with these LORS; therefore, NRG Energy, Inc., will comply with all applicable LORS throughout the permitting, construction, and operation phases. The applicable LORS are summarized below. Those agency representatives responsible for ensuring LORS compliance for this project are included in Table 1.

1.3.1 Federal LORS

The project does not have a federal nexus; therefore, there are no federal LORS applicable to the project.

1.3.2 State LORS

The following paragraphs discuss the state LORS applicable to the project.

1.3.2.1 California Environmental Quality Act of 1970, as Amended

The California Environmental Quality Act (CEQA) requires state and local agencies to identify and reduce, if feasible, the significant, negative environmental impacts of land use decisions.

1.3.2.2 CEQA Guidelines: Title 14 California Code of Regulations (CCR) Section 1427

This section of CEQA recognizes that California's archaeological resources are endangered by urban development; the Legislature finds that these resources need preserving; it is a misdemeanor to alter any archaeological evidence found in any cave, or to remove any such materials from a cave.

1.3.2.3 CEQA Guidelines: Title 14 CCR Section 15064.4 Subsection (B)

This section of CEQA defines "historical resource," addresses reburial options for Native American remains, and presents the preferred mitigation of historical resources.

1.3.2.4 CEQA Guidelines: Title 14 CCR Section 15064.5

This section of CEQA identifies which resources are considered cultural resources, as stated below:

- Resource(s) listed or eligible for listing on the California Register of Historical Resources (CRHR) (Title 14 CCR Section 15064.5(a)(1).
- Resource(s) either listed in the National Register of Historic Places (NRHP) or in a "local register of historical resources" unless "the preponderance of evidence demonstrates that it is not historically or culturally significant," (Title 14 CCR Section 15064.5[a][2]).
- Resources identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code (PRC) (Title 14 CCR Section 15065.5[a][2]).

In addition, Subdivision (g) provides that a resource identified as significant in a historical survey may be listed in the CRHR if the survey meets all of the following criteria:

- The survey has been or will be included in the State Historic Resources Inventory.
- The survey and the survey documents were prepared in accordance with procedures and requirements of the California Office of Historic Preservation (OHP).
- The resource is evaluated and determined by the OHP to have a significance rating of Category 1 to 5 on the Department of Parks and Recreation (DPR) Historic Resources Inventory Form.

- If the survey is 5 years or older at the time of its nomination for inclusion in the California Register, the survey is updated to identify historic resources that have become eligible or ineligible due to changed circumstances or further documentation and those which have been demolished or altered in a manner that substantially diminished the significance of the resource.

- Resources identified during such surveys are presumed to be historically or culturally significant unless the preponderance of evidence demonstrates otherwise.

A final category of "historical resources" may be determined at the discretion of the lead agency when:

- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, education, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record (Title 14 CCR Section 15064.5[a][3]).

- When an Initial Study identifies the existence of, or the probable likelihood of, Native American human remains within a project, the lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission (NAHC). An applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the NAHC (Title 14 CCR Section 15064.5[d]).

Section 15124(b) addresses mitigation, and states that the preferred mitigation for historical resources is treatment in a manner consistent with Secretary's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings.* The preferred mitigation for archaeological sites is preservation in place.

1.3.2.5 CEQA Guidelines: Title 14 CCR Section 15064.7 "Thresholds of Significance"

This section encourages agencies to develop thresholds of significance to be used in determining potential impacts, and defines the term "cumulatively significant."

1.3.2.6 CEQA Guidelines: Title 14 CCR Section 15126.4 "Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects," Subsection (b) "Mitigation Measures Related to Impacts on Historical Resources"

Subsection (b) discusses:

- Impacts of maintenance, repair, stabilization, restoration, conservation, or reconstruction of a historical resource.

- Documentation as a mitigation measure.

- Mitigation through avoidance of damaging effects on any historical resource of an archaeological nature, preferably by preservation in place, or by data recovery through excavation if avoidance

or preservation in place is not feasible; data recovery must be conducted in accordance with an adopted data recovery plan.

1.3.2.7 CEQA Appendix G Section V

This appendix is a checklist that identifies potential impacts to historical, cultural, or paleontological resources. The checklist includes the following questions, which are used to determine if a potential project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5,
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5,
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, disturb any human remains, including those interred outside of formal cemeteries.

Questions on the checklist are answered to assess whether impacts associated with a project would be potentially significant, less than significant with mitigation, less than significant, or have no impact. The final determination of project-related impacts is made by the lead agency on the project.

1.3.2.8 PRC Section 5020.1

This section defines several terms, including those provided below.

- "Historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript that is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.
- "Substantial adverse change" means demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired.

1.3.2.9 PRC Section 5024.1

This section establishes the CRHR. A resource may be listed as a historical resource in the CRHR if it meets NRHP criteria or the following state criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. Is associated with lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

1.3.2.10 PRC Section 21083.2

This section states that under CEQA, the lead agency is responsible for determining whether a project may have a significant effect on historical and archaeological resources. Section 21083.2 states that if the lead agency determines that the project may have a significant effect on "unique" archaeological resources, an Environmental Impact Report shall be prepared to address these resources. A unique archaeological resource is an 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 the resource meets one of the following criteria:

1. contains information needed to answer important research questions and that a demonstrable public interest exists in that information,
2. has a special and particular quality, such as being the oldest or best available example of its type, and/or
3. is directly associated with a scientifically recognized important prehistoric or historic event or person.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require that reasonable efforts be taken to preserve these resources in place, or provide mitigation measures. CEC licensing is a CEQA-equivalent process.

1.3.2.11 PRC Section 21084.1

This section sets forth that a project that may cause a significant adverse change in a significant historical resource is a project that may be considered to have adverse effects on the environment. Historical resources not listed on the CRHR or other local lists may still be considered historical resources at the discretion of the lead agency on the project.

1.3.2.12 The Warren-Alquist Act 1974, as amended

This act requires cultural, historic, and aesthetic resources to be taken into account in consideration of an Application for Certification (AFC). The act also requires that a portion of any such resources located on public land be set aside for public access.

1.3.2.13 California Penal Code Section 622.5

This code states that anyone who willfully damages an object or thing of archaeological or historic interest can be found guilty of a misdemeanor.

1.3.3 Local LORS

The following paragraphs discuss the local LORS applicable to the project.

1.3.3.1 County of Ventura General Plan Goals, Policies, and Progress (2011)

This portion of the General Plan recognizes the importance of cultural resources on lands over which the County of Ventura has jurisdiction, and outlines goals, policies, and procedures for managing these resources. The County has developed specific requirements for the protection of cultural resources and mitigation of potential impacts to such resources.

1.3.3.2 City of Oxnard Code Chapter 37, Section 37-3.6.0, Cultural Resources and Development (2004)

The purpose of this section is to provide standards designed to avoid or minimize the impact of new development upon a cultural resource in the coastal zone in a manner consistent with the standards contained in this section, and other general and specific coastal development; and resources standards contained in this chapter, as well as all applicable provisions and policies of the Oxnard CLUP (Ord. No. 2034, pt. 1, 2-12-85).

1.3.3.3 City of Oxnard 2030 General Plan Goals and Policies (2011)

The City of Oxnard's General Plan contains several goals and objectives pertinent to the preservation of cultural resources. This portion of the General Plan outlines guidelines for the designation and preservation of historic resources in the City of Oxnard. The section contains a listing of historic resources that are suitable candidates for preservation; criteria for evaluation of historical significance; and programs to minimize the alteration and prevent the destruction of significant historic resources.

1.4 CULTURAL RESOURCES PERSONNEL

The following are the key cultural resource personnel who performed an assessment of the potential for historic architectural resources to be impacted by the proposed project:

- Jeremy Hollins, M.A., Architectural Historian
- Sarah Champion, M.A., Architectural Historian
- Lauren Bridges, M.A., RPA, Historic Archaeologist

All work was overseen and led by individuals who meet the professional standards of the Secretary of the Interior in Architectural History, History, and Archaeology, per 36 Code of Federal Regulations (CFR) Part 61. Resumes for key personnel are provided in Appendix G.

SECTION 2
HISTORIC CONTEXT

The following section provides background on the historic setting of the project area. In terms of historic-period resources, regional history begins with Spanish explorations beginning in 1542. These explorations resulted in the establishment of Spanish mission and land-granted properties throughout the region. In the late 1800s, the Spanish land grants were parceled out to Ranchos for agriculture and cattle. A combination of railroads, oil, and natural agricultural soils (ideal for sugar beets) attracted more settlers, and the City of Oxnard was established as a planned community around the Oxnard brothers' American Beet Sugar Company factory. The City of Oxnard was further developed after the population boom following World War II (WWII) and the establishment of local military installations, including Naval Base Ventura County, NAS Point Mugu, and Oxnard Air Force Base, and sustained by the Southern California power boom during the mid- to late-twentieth century.

2.1 SPANISH AND MEXICAN PERIOD

Juan Rodríguez Cabrillo sailed north from Mexico along the California coast in 1542. Accounts of the voyage state the expedition sailed past Wene'mu or Quelqueme (Hueneme), and anchored near the large village at Muwu (Point Mugu). A second Spanish expedition led by Sebastian Vizcaíno explored the Oxnard area in 1602 (Golla, 2011; Sturtevant, 1978).

By the 1760s, the Spanish government established a series of presidios (military garrisons), towns, and missions throughout California to counter English and Russian encroachment. An expedition left the colony at San Diego in the summer of 1769 under the command of Gaspar de Portola, the governor of Baja California. The objective was to locate an overland route to Monterey Bay and identify prospective presidio locations along the route. Portola's expedition passed through the Oxnard area on its return to San Diego (Golla, 2011; Sturtevant, 1978).

2.1.1 Mission San Buenaventura

Following Portola's expedition, Spanish visits and activity increased. An expedition led by Juan Bautista de Anza passed through the Oxnard area in spring of 1776. Father Junipero Serra founded Mission San Buenaventura in Ventura in 1782 (Figure 1). The mission was constructed a few hundred yards north of the Chumash village of Shisholop, near the Pacific Ocean and east of the entrance of the Ventura River. The Spanish taught the Chumash the trades that enabled them to build and maintain the mission establishment. By the early 1800s, the majority of the Chumash were incorporated into the Spanish mission system, except for a small number who migrated to the interior or escaped the mission system. The Chumash eventually constructed a 7-mile-long aqueduct between 1805 and 1815 to provide the mission with water. The mission's self-sustaining and income-producing activities included small-scale agriculture and raising cattle and sheep (Beebe and Senkewicz, 2001; NPS, 2014; Sturtevant, 1978; Triem, 1985).

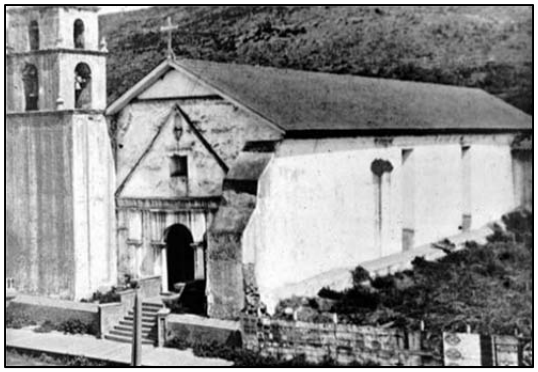

Figure 1: Mission San Buenaventura 1885 (UCCE, 2015)

2.1.2 Land Grants

Spanish rule in Alta California came to an end in 1821 with Mexican Independence. The missions were secularized in 1832, and the Mexican government of Alta California began granting large pieces of land to Mexican citizens. During Mexican rule, missions declined in influence and large cattle ranches, called Ranchos, came into dominance in the County of Ventura. By 1846, the County of Ventura was divided into 19 Ranchos, seven of which were on the Oxnard Plain and the Santa Clara Valley. These Ranchos included Rancho Santa Paula y Saticoy, Rancho Santa Clara del Norte, Rancho El Rio de Santa Clara o La Colonia, Rancho Calleguas, Rancho Guadalasca, Rancho Las Posas and Rancho San Francisco (Camulos). Land from one of these Ranchos, El Rio de Santa Clara o La Colonia, is found in the project site (Impact Sciences, Inc., 1998).

The 44,833-acre Rancho El Rio de Santa Clara o La Colonia encompassed much of the Oxnard Plain, reaching to the Pacific Ocean on the west, and bordered by Ranchos San Miguel and Santa Clara del Norte to the north and Rancho Guadalasca to the east. Governor Alvarado awarded the land in 1837 to eight Mexican soldiers from the Santa Barbara Company: Valentin Cota, Vicente Pico, Rafael Valdez, Jose Maria Valenzuela, Salvador Valenzuela, Vicente Feliz, Leandro Gonzales, and Rafael Gonzales. Although some of the soldiers grazed cattle on the Rancho, it is believed that Rafael Gonzales was the only individual to reside on the property. His adobe home was located between present-day Gonzales Road and the Santa Clara River, approximately 2 miles northeast of the project site (Beller et al., 2001; Triem, 1985).

2.2 AMERICAN PERIOD

The United States (U.S.)-Mexican war began in 1846 and ended in 1848, following the formulization of the Treaty of Guadalupe Hidalgo. Under the terms of the treaty, Mexico ceded what are now the states of California, Nevada, Utah, New Mexico, Arizona, and parts of Wyoming and Colorado. A provision of the Treaty of Guadalupe Hidalgo was the protection of property and civil rights of Mexican nationals living within the new boundaries of the U.S. (Impact Sciences, Inc., 1998; San Buenaventura Research Associates, 2014).

The discovery of gold in northern California the same year, 1848, attracted greater numbers to California from all over the world. California's population grew so rapidly that just 2 years after the U.S. had acquired the land from Mexico, it became a state. At this time, the rancheros held most of the valuable agricultural land, leaving little room for incoming land seekers and homesteaders. During this period, between 1860 and 1900, farming and oil production joined cattle ranching as a major industry in the Ventura area (Impact Sciences, Inc., 1998).

As the gold rush waned, cattle ranching also declined. To improve this, the Homestead Act of 1862 brought settlers to California and the County of Ventura in search of farmland. Public land was scarce, but as many Ranchos had not been patented at this time, hearings were still being held over the ownership of these lands. Thomas Scott, the Vice President of the Pennsylvania Railroad, Acting Secretary of War, and oil industrialist, acquired vast amounts of land in the Rancho El Rio de Santa Clara o La Colonia with the assistance of his attorneys and his land agent, Thomas W. Bard. The Rancho lands were sold off to various owners, with Bard becoming the largest landholder in the area (Impact Sciences, Inc., 1998; San Buenaventura Research Associates, 2014).

2.2.1 European-American Settlement of Ranchos

This period is marked by the breaking down of the vast Rancho holdings into parcels manageable as family farms, leading to the widespread settlement of the Oxnard Plain by European-Americans. During this period, the cattle herds that had characterized the landscape during the Rancho era were decimated by drought, and new crops were introduced that proved productive in the area soils. Although irrigation for crops was still not widespread, it was actively pursued. The first small communities began to appear on the Oxnard Plain, but it lacked a single dominant population center, and transportation remained a significant challenge for settlers. Severe droughts in 1863, 1864, and 1877 decimated the cattle stock and the income-producing potential of the rancheros. Many of them took out loans with unfavorable interest rates and were forced to sell off their Rancho lands as the debt burden became too heavy and loan holders chose to foreclose on the notes (Hutchinson, 1965; Ventura County Genealogical Society, 2014; Triem, 1985).

In September 1867, U.S. Deputy Surveyor G.H. Thompson surveyed the Rancho El Rio de Santa Clara o La Colonia area as comprising 48,883.30 acres. Joaquin Ormart, a native of Spain and resident of Santa Barbara, acquired half of the Rancho, while Bard controlled the remaining portions. Ormart signed his land holdings over to Scott, as well as other settlers and investors. Christian Borchard, a naturalized German, has been credited with being Rancho El Rio de Santa Clara o La Colonia's first farmer. He traveled from the Midwest to northern California during the Gold Rush and then moved south to the Rancho.

The advertising of available land drew farmers such as Borchard. The 1,000 acres he purchased in October of 1867 were in the area that today is bounded by Saviers, Gonzalez, and Ventura roads and the Santa Clara River (approximately 2 to 4 miles from the project site). His son J.E. Borchard, nephew Caspar Borchard, and Gottfried Maulhardt arrived the following month. Borchard used Rafael Gonzalez's old adobe as his dwelling and planted winter wheat and barley. The exact location of the Gonzalez adobe is unknown; several potential sites have been proposed, but it is likely that more than one adobe building was located on the property. The following spring, James Leonard moved to the area

from northern California and also purchased 1,000 acres west of Borchard's claim from Jose Lobero. Leonard brought lumber down the coast from Ventura on rafts and may have built the first wood-framed dwelling on Rancho El Rio de Santa Clara o La Colonia (Hutchinson, 1965; Ventura County Genealogical Society, 2014; Triem, 1985).

By 1867, Bard observed a steadily growing demand for land, and saw the success of grain production in California. He shared with Scott a plan to market and sell the area's land to new farmers. The intent was to recoup Scott's expenditures in land acquisition and oil exploration. By late 1868, Bard was promoting Scott's land holdings for sale in northern California. The first sale of Bard's land was a 160-acre parcel purchased by Michael Kauffman in November 1868. This parcel was located at the corner of Gonzales and Saviers roads.

The following year, Bard conducted an internal survey of the Rancho, and further divided his land into tiers of lots north and south of a base line running west to east between Point Hueneme to Round Mountain. By 1877, property owners on Rancho El Rio de Santa Clara o La Colonia included Thomas Bard, Michael Kaufman, James Leonard, Christian Borchard, Dominick McGrath, J.D. Pinnard, W.C. Wood, Aranetta Hill, J. Maulhardt, John Scarlett, William Rice, Thomas A. Rice, Richard D. Barclay, Peter Donlon, Henry P. Flint, G. Arnold, Patterson, and Gries and Saviers, among others. Many of these individuals were immigrants of German and Irish descent. Each owned at least 160 acres, and primarily raised grains and grazed stock.

One of the largest land purchases was for a 5,000-acre parcel by John D. Patterson (Patterson Ranch), a wealthy New York farmer with large landholdings in Alameda County. The project site is on the former site of the Patterson Ranch holding (Hutchinson, 1965; Ventura County Genealogical Society, 2014; Triem, 1985).

2.2.2 The City of Oxnard

The City of Oxnard was named in 1898 after the Oxnard brothers, who were earlier settlers and led the region's sugar beet industry in Chino, California. That year, the Colonia Improvement Company was formed to lay out the townsite, selling land and constructing facilities such as the Hotel Oxnard and a water system. The town site was laid out to the west of the factory on farmland that had been previously owned by John and Aranetta Hill. The town was laid out on the grid system with a central square. Houses, churches, and schools were soon built, although some buildings were also moved in from Hueneme and Saticoy to accommodate the town's rapid growth. The new City of Oxnard drew people from nearby communities such as Hueneme and New Jerusalem.

By the time the City of Oxnard incorporated in 1903, the subdivided lands of the former Rancho El Rio de Santa Clara o La Colonia were widely settled. Figure 2 depicts the area a few years following incorporation. Local leader J.R. Gabbert reported in 1912 that the City of Oxnard's freight business was larger than all the other cities between San Luis Obispo and Los Angeles combined.

During WWII, the City of Oxnard experienced its greatest growth, with the population more than doubling from 8,519 in 1940 to 21,567 in 1950. Oxnard became the largest city in the County in 1950, and remains so to the present day. Aerial photography shows that although the eastern Oxnard Plain has remained largely agricultural from mid-century to the present, pockets of development have occurred,

transforming the community's rural past to a more suburban setting (Impact Sciences, Inc., 1998; San Buenaventura Research Associates, 2014).

Figure 2: Downtown City of Oxnard, 1907 (UCCE, 2015)

2.2.3 Agriculture to Suburban Transition

2.2.3.1 Agricultural Production

Early crops on the Oxnard Plain included barley, flax, wheat, rye, mustard (which often grew wild and was harvested and sold), corn, wine grapes, beans, and sugar beets. By 1891, the County was renowned for its lima bean production, and local farmers formed an organization in 1896 known as the Lima Bean Association of California, based in Montalvo. The crop's popularity continued through the second half of the twentieth century (Pacific Rural Press, 1916; Oxnard Courier, 1909; San Buenaventura Research Associates, 2005). Although the crop was successful, members agreed that an alternative crop was needed to supplement the lima bean. The sugar beet then became the next large cash crop on the plain.

To promote the industry, Claus Spreckels, a well-known sugar baron and industrialist, who was also the builder of an 1888 sugar beet factory in Watsonville, offered to send experimental seeds and a chemist to analyze the soil to entice farmers on the Oxnard Plain to plant sugar beets. In 1889, the Hueneme Herald advertised a $1,000 prize offered by Spreckels to the planter who produced the most tonnage of sugar beets from 100 acres of land, and a $250 prize to the planter who produced the largest tonnage of sugar beets from 10 acres.

In 1896, Oxnard Plain settlers Albert C. Maulhardt and Johannes Borchard visited the Oxnard brothers' American Beet Sugar Company refinery in Chino to learn about the industry. Henry Oxnard, with the assistance of his brothers Robert, James, and Benjamin, operated sugar beet factories in Nebraska and California. The Oxnard brothers were following in their parents' footsteps. Their father, Thomas Oxnard, was a cane sugar refiner in Louisiana, Boston, and New York; and their mother, Louise Adeline Brown, was the daughter of a Louisiana sugar planter (Barajas, 2012; Oxnard Daily Courier, 1913).

Albert Maulhardt obtained seeds from the Chino refinery, and planted them on land owned by Thomas Bard. The crop was successfully grown, encouraging other local farmers to plant sugar beets. Henry Oxnard and Claus Spreckels separately sent teams to analyze the soil on the Oxnard Plain and discovered

that sugar beets grown on the plain exceeded the sugar content of sugar beets grown in other parts of the state. The Oxnard brothers were persuaded to locate a new factory on the Oxnard Plain, receiving pledges from local farmers who would dedicate cropland to the production of sugar beets. The Southern Pacific Railroad concurrently constructed a spur line to the factory from Montalvo to improve commerce. While the factory and spur line were being completed, farmers hauled their harvest on wagons to the Montalvo railway station to be transported to the Chino sugar beet factory. The Oxnard factory (Figure 3) was completed in 1898, although refining did not commence until 1899, due to a drought that inhibited the 1898 harvest (Barajas, 2012; Maulhardt, 1999, 2009; Oxnard Daily Courier, 1913).

Oxnard's sugar beet company purchased approximately 3,000 acres on the eastern plain, which was then referred to as Pleasant Valley, securing additional land for the cultivation of sugar beets. The factory itself was built on land previously owned by Aranetta and John G. Hill. The enterprise led to a boom in population, housing, businesses, and services, and the founding of the town of Oxnard. To run these new farms, the American Beet Sugar Company sent recruiters to places such as Piedras Negras in the state of Coahuila, Mexico to encourage immigration to the U.S. to work in the sugar beet fields. The factory contracted with the railroads to transport workers from the border at El Paso, Texas, at the rate of $9.50 per adult. The large Oxnard factory also attracted workers from existing surrounding communities. Businesses such as general stores, laundries, saloons, and restaurants quickly developed. Beet dumps were built at strategic points across the Plain. After the beets were harvested, they were transported to one of the dumps, from which they were transferred to railroad cars for the trip to the factory. Although the beet dumps are no longer extant, some of the former sidings are named after early farmers, like Patterson, Arnold, Nauman, Round Mountain, Leesdale, Debo, Sucrosa, Simi, and Hayne (Barajas, 2012; Maulhardt, 1999, 2009; Oxnard Daily Courier, 1913).

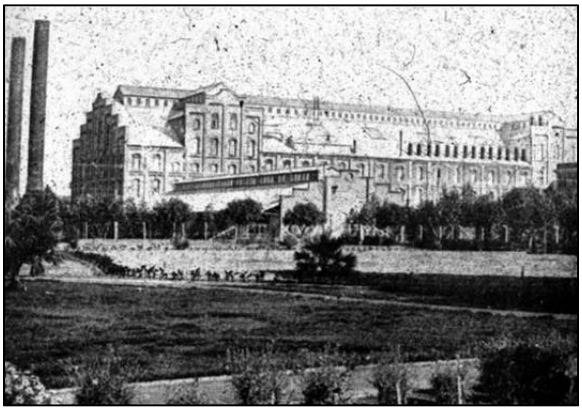

Figure 3: The American Beet Sugar Company, constructed in 1897 (UCCE, 2015)

The local sugar beet industry declined in the early-nineteenth century, and the Oxnard factory was demolished in 1959. Over the following decades, citrus, vegetables, and strawberries took the place of sugar beets and lima beans as significant crops on the Oxnard Plain (San Buenaventura Research Associates, 2014).

2.2.3.2 Ranches

In the late-nineteenth century, large horse ranches were also established on the Oxnard Plain. J.D. Patterson, for example, had 500 (mostly) French draft horses on his ranch. The Patterson Ranch covered much of the Port Hueneme, Point Mugu, and south Oxnard area (Figure 4 depicts a portion of the ranch). Portions of the Oxnard Plain, including the Patterson Ranch, had less than ideal growing conditions, with marshy land. However, in the late-nineteenth century, some farmers drained the marshy land using a technique referred to as "tiling," or installed tiled drains at a depth of 3 to 4 feet. Water was pumped from the drains, thereby removing excess water and salts from the soil, enabling crop production. During the same time period, J.G. Hill owned a 630-acre property on Rancho El Rio de Santa Clara o La Colonia, where he maintained a nearly-square-mile ranch that was fenced and cross-fenced into different fields for tillage, grain, or grazing. Hill raised carriage and trotting horses and had a 0.75-mile-long track on his property. The main ranch house was completed in 1879 off of Gonzales Road, approximately 2 miles from the project site (McGrath Family Farm, 2015).

Figure 4: Old Patterson Ranch, During the Beet Harvest 1913 (UCCE, 2015)

2.2.3.3 Landscaping

Many farmers on the Oxnard Plain, including Thomas Bard, Henry Old, and Jacob Maulhardt, planted eucalyptus (gum) or pepper trees as wind breaks. The latter was said to have planted more than 11 miles of eucalyptus trees on his ranches to help protect crops from wind damage. The non-native eucalyptus tree is believed to have been introduced to the region by Ellwood Cooper of Santa Barbara. Cooper also supplied Bard with his plantings. In the County of Ventura, E.P. Foster encouraged local residents to plant the trees (Hutchinson, 1965; Mason, 1961; Maulhardt, 1999; Storke, 1891).

2.2.3.4 Suburbanization and Transportation

This period is characterized by the explosive growth of the cities of the Oxnard Plain, and the steady impingement of suburban growth on agriculture. The family farming system that had defined the Oxnard Plain from the 1860s through the middle of the twentieth century began to be absorbed into larger acreages managed by agribusiness corporations, as new growing methods and crops emerged. With the construction of freeways, the County of Ventura became fully integrated into the Southern California

transportation network and participated in the regional growth of the post-war period. The establishment of the Naval Missile Test Center and NAS at Point Mugu, along with related Cold War industries, influenced both the rural and urban character of the Oxnard Plain.

Although oil did not become an economically important industry on the Oxnard Plain until later in the twentieth century, its influence played a key role in the development of the region. It was because of the oil exploration activities of East Coast businessman Thomas Scott, vice president of the Pennsylvania Railroad, that much of the land in the County of Ventura was acquired from the first Rancho owners, subdivided, sold, and settled. In early 1864, Scott sent Yale professor Benjamin Silliman to California to investigate the state's oil potential. Many landowners on the Oxnard Plain would go on to lease portions of their property to oil companies. Oftentimes, properties supported both agriculture and oil production as sources of income. In 1947, Standard Oil made a major oil find on land owned by the McGrath family (Moir, 1953).

The early modes of transportation across the Oxnard Plain influenced where people chose to settle, where communities developed, and dictated the transportation of agricultural goods. The Southern Pacific Railroad was completed through the Santa Clara Valley in 1887, but was not available to farmers south of the Santa Clara River until 1898, when the Montalvo branch coast line was built across the Santa Clara River to the newly named City of Oxnard and the sugar beet factory. From there, the railroad went east along Fifth Street, eventually reaching Camarillo in 1899, Somis in 1899, Moorpark in 1900, and Santa Susanna in 1901, where a tunnel was built through the mountains, bringing the railroad south to Los Angeles.

After this route was completed in 1904, it became the primary route of the Southern Pacific. The following year, a new line connected the City of Oxnard to the City of Hueneme. The first train entered the City of Hueneme on July 4, 1905, powered by a steam locomotive. The rail line was acquired by the American Beet Sugar Company in 1911, and extensions were built. It was soon after renamed the Ventura County Railway.

The railroad line was extended in 1939 to serve traffic at Port Hueneme, and subsequently to ship material to the port during WWII. When the sugar beet refinery in Oxnard closed in 1959, the Ventura County Railway was purchased by Martin V. Smith and Associates. From WWII through at least 1961, the railroad lines remained as they were originally constructed. They consisted of 14 miles of track: a mainline from Oxnard south to the beach and then west to Port Hueneme, and a branch line running west on Wooley Road to Patterson Road, then south to the Naval Construction Battalion Center. By 2003, the Oxnard Harbor District acquired the Ventura County Railway Company. Its lines are currently used to transport goods to and from the harbor facilities and to the mainline railway in downtown Oxnard Oxnard Press-Courier, 1961; The Port of Hueneme, 2014; Oxnard Courier, 1911).

The roadway network on the eastern Oxnard Plain was nearly fully established by 1900, but prior to the widespread introduction of motor vehicles, was improved to only the primitive requirements of horse and wagon. These two-lane dirt roads generally marked the boundaries of land-holdings, serving local farmers and as connections between the tiny agricultural communities. These roads retained their configurations even as they were paved and otherwise improved in later decades. The State Highways Act of 1909 led to the creation of a state highways system. The State Highways Act of 1915 provided additional bond funds to construct the system. A state highway bisecting the Oxnard Plain, the Roosevelt

Highway, passed through the southern portion of the City of Oxnard along the coast. Also designated State Route 101-Alternate, the roadway was constructed from 1925 to 1929 as part of a plan to complete a continuous highway along the entire California coastline. This highway was re-designated as State Route 1 in 1964, and is also known today as the Pacific Coast Highway. A portion of the highway passes through the City of Oxnard on what was Saviers Road, but is now Oxnard Boulevard (Cortelyou, 1937; Maulhardt, 2001; Triem, 1985). Between 1951 and 1967, Harbor Boulevard, which is just east of MGS, was paved and is first present on a 1967 United States Geological Survey (USGS) topographic map.

SCE constructed generating stations along the City of Oxnard coastline in the second half of the twentieth century to supply power to the growing community. Beginning in the 1920s, much of the land south of MGS to Hueneme was subdivided for residential development. From 1926 through 1962, the suburban community of Hollywood-by-the-Sea (today part of the City of Hueneme community) was developed atop sand dunes lining the ocean by prominent real estate investors M.M. Kauffman, E.G. Carter, B.O. Miller, and Margaret Harris, on the historic Rancho del Rio Santa Clara o Colonia and Bard Estate (Figure 5). This resort community was spurred by tourism following Rudolph Valentino's role in the movie "The Sheik," which was partly filmed on the Hollywood-by-the-Sea beach. Movie stars Clark Gable and Carol Lombard once had a beach house in this community (Masters, 2014). A 1960 City of Oxnard planning document shows the Patterson Ranch subdivision occupying Lot 147, south of McGrath Beach State Park and west of Harbor Boulevard, in the area currently developed with MGS, as well as the Channel Islands Marina (McGrath Family Farm, 2015). As the population continued to increase, further residential subdivisions were developed. By June 1968, a 56-acre Channel Islands Harbor waterside home project was under way by R.A. Watt Construction Company (Ventura Star-Free Press, 1968).

Figure 5: Hollywood-by-the-Sea Beach 1926 (USC Libraries, 2015)

To counter the increasingly suburban development occurring in the latter half of the twentieth century, local governments and interest groups took action to protect the City of Oxnard's coastal environmental resources, while promoting tourism of the area's natural resources. Dominick McGrath's descendants sold 295 acres to the State of California in 1961. The land was originally classified as a state park, but was reclassified as a state beach in 1963. McGrath State Beach, founded in 1961, is a protected beach park on the south bank of the mouth of Santa Clara River and is one of the best bird-watching areas in

California, with the lush riverbanks of the Santa Clara River and sand dunes along the shore. Camping sites are available, and 2 miles of beach provide surfing and fishing opportunities. Just south of McGrath State Beach is the undeveloped Mandalay State Beach, also known as Mandalay County Park. The park overlies the productive West Montalvo Oil Field, and oil wells are in an enclosure just behind the beach that are operated by Venoco, Inc., and slant-drill into the offshore part of the field. The 94-acre County Park serves as a preserve for fragile dunes, wetlands, wildlife, and plants. The park landscape is purposely kept natural. Managed by Ventura County for the California DPR, there are no support facilities in the park. Mandalay County Park was established as a California state park in 1985 to preserve public access to the beach while providing for continued protection of the adjacent natural area (California Department of Parks and Recreation, 2015; Newland, 2012).

2.2.4 Military Influence on Community Growth

The U.S. entry to WWII in 1942 led to the establishment of the Naval Advance Base Depot at Port Hueneme, which later became the Naval Construction Battalion Center. The facility served as a training center for the Seabees, who were charged with the construction of bases around the world for most of the service. In late 1945, the base at Port Hueneme was re-designated as a U.S. Naval Station (Greenland, 1994; The California State Military Museum, 2014; The Port of Hueneme, 2014).

That same year, the Navy chose Point Mugu to establish a missile test center called the Naval Air Facility (later, NAS Point Mugu) despite protests by some ranchers who were concerned about the threat to the community's safety and the loss of farmland. The U.S. Naval Air Missile Test Center was commissioned in 1946. The military and related industries brought an influx of professionals and their families, resulting in a serious housing shortage. Housing was hastily constructed in the area. The presence of the military installations also brought Cold War industries to the area, including plants for Raytheon, Sperry, and Bendix Aviation. Camarillo Airport (historically known as Oxnard Air Force Base) was created in 1942 to serve as an auxiliary landing field during wartime (San Buenaventura Research Associates, 2008).

After WWII, the U.S. Navy leased a dock at Port Hueneme, and later sold it to the Oxnard Harbor District. The port expanded over the years, and continues to handle cargo such as imported vehicles and produce. It also serves as a primary support facility for the offshore oil industry (Greenland, 1994; The California State Military Museum, 2014).

2.2.5 Southern California Edison History and Mandalay Generating Station

In the early-twentieth century, hydro-generated power was preferred over steam as companies constructed larger hydroelectric plants on many suitable sites throughout the State of California. By 1920, hydroelectric power accounted for 69 percent of all electrical power generated in the state. In 1930, that figure had risen to 76 percent, and to 89 percent in 1940 (Williams, 1997). However, companies such as Pacific Gas & Electric (PG&E) and SCE began seeking to construct steam plants based on several converging trends in the mid- to late-1920s. For example, a drought in California caused the major utilities to question the reliability of systems depending so heavily on hydroelectricity. This drought began in 1924 and continued for roughly a decade. Around this same time, new power plants on the East Coast (where steam had always played a more important role) were achieving greater efficiencies than

had previously been possible. Between 1900 and 1930, the fuel efficiency of steam plants, measured in kilowatts (kW) per barrel of oil, was increasing drastically (JRP, 2014; Williams, 1997). Additionally, in 1924, the State Water and Power Act was passed in the general election as Proposition 16. This act was a constitutional amendment that allowed the State of California to enter into the water and power business. This act, along with the systematic development of irrigation distribution in Oxnard that resulted in unprecedented agricultural gains in 1925, provided a great need for the construction and operation of a plant in the area in which present-day MGS is located.

These factors encouraged 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 would be acquired by PG&E in 1930) built a large steam plant on San Francisco Bay, complete with two 55-megawatt (MW) generators. PG&E built a steam plant in Oakland in 1928. SCE had been operating its large facility at Long Beach on Terminal Island throughout most of the twentieth century, and by WWII, the Long Beach plant was massive, with eleven units that were constructed in various stages beginning in 1911. In Southern California, the Los Angeles Department of Water and Power (LADWP) constructed a steam station at Seal Beach comprising two units installed in 1925 and 1928. These steam plants proved to be both profitable and reliable for the various utilities. In 1930, a PG&E executive wrote: "Under the circumstances which now prevail, it is natural to question the future of hydro in California" (Electrical West, 1929; JRP, 2014; Spencer, 1961; Williams, 1997). By 1941, steam-generating plants accounted for most of the new power capacity in the state. Technology and improvements for steam-turbine power plants continued to advance, leading power companies to retire or replace many of the older steam-electric plant generating units with more efficient units in the 1950s and 1960s (JRP, 2014; Termuehlen, 2001; Williams, 1997).

Coinciding with the advancements in power-generating technology was an increase in demand for electricity in Southern California. After WWII, the population grew and the defense industry expanded throughout the region, contributing to an increased demand from residential and commercial customers. The need to generate power was imperative, and companies such as PG&E, SCE, LADWP, and San Diego Gas & Electric (SDG&E) expanded their systems. Because 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 advancements in design and abundant natural gas resources, steam plants became the preferred option. Steam-turbine power plants were more cost efficient and faster to build than hydroelectric plants, and utility companies began to move away from hydroelectricity, establishing steam turbines as the generator of choice. The efficiency of steam plants also kept costs down for the consumer. California energy historian James Williams observed, "the momentum for steam had been established by war, by drought, and by a positive history of increased thermal power plant development" (JRP, 2014; Meyers, 1983; Williams, 1997).

Dozens of new steam-generating plants were constructed throughout California, primarily by PG&E and SCE, although LADWP and SDG&E built a few, as well. The plants relied upon the new technologies and were assembled quickly and inexpensively, compared to earlier electric plants. In 1950, an article in Civil Engineering written by PG&E Chief Engineer I.C. Steele 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 criteria were

the same in all cases: to build the facility close to load centers to reduce transmission expenses; 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. In another article in Transactions of the ASCE, Walter Dickey, an engineer from Bechtel, detailed the economics of steam plant design from this era. Virtually all of these plants were designed to be expanded if market conditions warranted, and most of them ultimately were. These plants, he argued, could be built economically by minimizing the structural material, including not enclosing the turbo-generator units in a building (as seen on the MGS). Many plants in Southern California are of this "outdoor" variety; but some, such as the Encina Power Plant, were enclosed in curtain walls (Dickey, 1956; Garbarini, 1953; JRP, 2014; Steele, 1950).

The decades between 1950 and 1970 were the years of peak expansion of steam-generating capacity for both SCE and 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 then Huntington Beach in 1958. Due to the population and subsequent building boom in Oxnard and Ventura County in the early 1950s, SCE announced plans to construct "a multimillion-dollar steam-electric generating plant near Mandalay Beach, west of Oxnard." The MGS station, designed to meet the growing electrical needs of Ventura and Santa Barbara counties, was to be situated in unincorporated Ventura County. MGS was constructed by Bechtel Corporation from 1956 through 1959 as part of SCE's 10-year work program to double its power output to keep up with the growing power needs of the rapidly expanding community. The site for MGS was situated on the location of the old Patterson Ranch subdivision. The first unit of the new generating station, to be built at a cost of $35,000,000, was estimated to have a generating capacity of 200,000 kW, and was the largest single generating unit in the Edison system. By 1960, all SCE plants either had multiple units, or had additional units in the planning stages. Many other utility companies began expanding during this period, as well.

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 (Spencer, 1961; Steele, 1950; Dickey, 1956; Williams, 1997; JRP, 2014). Most of the oil- or gas-fired steam plants currently in use in California were built in the period from about 1950 through 1970, and all of these used virtually the same technology and design. 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 (Termuehlen, 2001; JRP, 2014).

2.2.5.1 Southern California Edison

SCE is the largest electrical utility in California, and one of the nation's largest investor-owned electrical utilities, serving more than 13 million people in 15 counties of central, coastal, and southern California. Based in Rosemead, California, the utility has been providing electrical service in the region for more than 120 years. SCE is a subsidiary of Edison International, which also is headquartered in Rosemead. The SCE service territory includes approximately 430 cities and communities, with a total customer base of approximately 4.8 million residential and business accounts. SCE is regulated by the California Public

Utilities Commission and the Federal Energy Regulatory Commission (History Associates Incorporated, 2009).

SCE's earliest predecessor was Holt and Knupps, which installed street lights in Visalia, California in 1886. In 1896, a group of businessmen established the West Side Lighting Company to provide electricity to Los Angeles. In 1897, West Side Lighting Company merged with Los Angeles Edison Electric, which owned the rights to the Edison name and patents in the region, and George Baker became the president of the new combined company. During this time, Edison Electric installed the first DC-power underground conduits in the Southwest (Baker Library, 2012). In 1899, the Edison Electric Company's Santa Ana River No. 1 hydroelectric plant began operation, transmitting power to Los Angeles over the world's longest power line (83 miles) (History Associates Incorporated, 2009).

John Barnes Miller began his 31-year service as company president in 1901, the same year that the Edison Electric Company of Los Angeles recapitalized as a $10 million corporation. In 1909, after another recapitalization, the corporate name was changed to the present Southern California Edison Company. The company acquired many neighboring utilities and built several power plants in the subsequent years. In 1907, the company's Kern River-Los Angeles Transmission Line began operation. At 118 miles and 75 kV, it was the world's longest and highest voltage power line, and the first line in the nation to be entirely supported by steel towers. The company changed its name to Southern California Edison in 1909 (Baker Library, 2012).

In 1917, SCE doubled its assets through a merger with Henry E. Huntington's Pacific Light and Power Corporation, making it the fifth-largest central-station power company in the U.S. It then served more than 100 communities with a total population of 1.25 million. In 1917, SCE also acquired control of the Ventura County Power Company and the Mount Whitney Power & Electric Company (Baker Library, 2012; History Associates Incorporated, 2009).

From 1917 through the 1920s, SCE created and expanded the Big Creek Project, which was the first large-scale progressive hydroelectric development in the country. This massive construction effort employed 2,000 workers and produced numerous technical innovations. By 1929, Big Creek's eight powerhouses generated a total of 360,000 kW, half of SCE's total capacity (Baker Library, 2012).

At the same time, SCE increased its generation and transmission assets through the merger with Pacific Light and Power Corporation; it also was losing a major customer in the city of Los Angeles. Beginning in 1912, the city of Los Angeles began developing its own city-owned power department, and conflict with SCE ensued. In 1917, SCE and the City of Los Angeles reached a settlement under which SCE sold its combined distribution system within Los Angeles to the city for $12 million. SCE continued to operate the system under lease until 1922, because the city of Los Angeles required that time to develop the generating capacity to serve its new system (History Associates Incorporated, 2009).

SCE expanded its steam plants in Long Beach during the 1930s to include 11 new generators and a total of 419,000 kW by the end of the decade. In August 1939, SCE swapped the remainder of its Los Angeles distribution system for facilities outside the city limits. These facilities were formerly owned by Los Angeles Gas and Electric, and had been acquired by the Los Angeles City Council in 1937 (Baker Library, 2012).

During WWII, Japanese submarines shelled the Ellwood oil fields near Santa Barbara, damaging SCE transformers. In May 1942, SCE joined with all other investor and government-owned utilities in California, southern Nevada, and Arizona to form the Pacific Southwest Power Pool. The organization provided service to areas suffering power shortages or outages for the duration of the war. In the post-WWII period, SCE grew substantially as many industrial and military personnel returned to the Southern California region, at a rate of 1,000 per week. SCE installed its one millionth meter in 1951 (Baker Library, 2012).

During the middle years of the twentieth century, SCE faced a number of natural and economic challenges. A 1925 earthquake and the 1928 collapse of the St. Francis Dam severely damaged SCE's facilities. The Great Depression and WWII had a significant effect on SCE's continued growth and access to economic and natural resources. Human resources also proved to be an issue in these years as WWII constricted SCE's access to workers; and in 1953, SCE faced a major employee strike (History Associates Incorporated, 2009).

In July 1957, at the Santa Susana Experimental Station, SCE became the first investor-owned utility to generate non-military nuclear power. Later that same year in November, Moorpark, Ventura, became the first town in the world to receive its entire energy supply from a nuclear power plant, launching California's "Age of Atomic Energy" (Baker Library, 2012).

SCE survived these difficult decades, and in 1964, consolidated its eastern service area by merging with the California Electric Power Company (also known as Calectric). Through this merger, SCE gained access to Calectric's 450,000 customers and 41,500-square-mile territory. A second significant mid-1960s event for SCE was the 1963 initiation of construction of the San Onofre Nuclear Generating Station (SONGS). SONGS Unit 1 began operation in 1968, as a joint project between SCE (80 percent) and SDG&E (20 percent). In 1971, SCE reported a net income of $127 million from revenues of $802 million (Baker Library, 2012). In addition to nuclear energy, SCE has also supported the development of renewable and alternative energy resources such as wind, solar, and geothermal (History Associates Incorporated, 2009).

2.2.5.2 Mandalay Generating Station

Due to the population and subsequent building boom in Oxnard and Ventura County in the early 1950s, SCE announced plans to construct "a $35,000,000 steam-electric generating plant estimated to have a generating capacity of 200,000 kW near Mandalay Beach, west of Oxnard." The station, designed to meet the growing electrical needs of Ventura and Santa Barbara counties, was situated in unincorporated Ventura County. SCE filed an application with California Public Utilities authority for construction of a steam-electric generating facility at Mandalay Bay in December 1956 on a 100-acre site on the Patterson Ranch subdivision. The station was to consist of three units and have a combined rated capacity of 577 MW. Two of the facility's units (Unit 1 and Unit 2) would use cooling water from the Pacific Ocean, via the Channel Island Harbor and the Edison Canal, in excess of 50 million gallons per day (ENSR Corporation, 2006).

In April 1957, Union Construction Company of Ventura began general excavation for the generating station. Auxiliary construction included a substation, a 10-mile transmission line, and a temporary transformer. Bechtel Corporation, builders of the new MGS, contracted Saticoy Rock as the concrete

contractor for the project. In 1957, the "Explorer," a 100-ton Shellmaker, Inc., dredge began an approximately 6-month excavation to clear the 4-mile Edison Canal that would supply the generating station with cooling seawater. In September 1958, welders connected a 4,900-foot oil pipeline that was designed to carry oil from ocean tankers to MGS storage tanks. Construction of MGS was 50 percent complete with the installation of the pipeline. The company built the generating station in stages with the first 215-MW unit coming on line in May 1959. Similar to other plants built at this time in California, it used a combination gas/oil-powered generator and seawater to cool the condensers. Steam was supplied to the two steam-electric units by two oil- or gas-fired boilers, each rated at 707,600 kilograms (kg) of steam/hour. In December 1958, SCE was awarded a contract for pilot plant equipment that would convert seawater to freshwater at MGS. In April 1959, Cuyama gas line, owned and operated by Richfield Oil Corporation, was installed from Cuyama Valley to the SCE MGS. In July of that same year, test runs began on the second 215-MW unit. In addition to the two steam-electric units, other major elements of the complex included one gas turbine unit (Unit 3) rated at 130 MW, constructed in the early 1970s. In January 1960, MGS 26-stage sea-water conversion plant was fully operational. In 1998, SCE sold the power plant to Houston Industries, subsequently known as Reliant Energy, then GenOn, and currently as NRG (MBC Applied Environmental Services, 2001).

2.3 PROJECT AREA SPECIFIC HISTORY

The following is a brief summary of the development of the project site and environs, based on a review of historic maps and images.

The project site is situated in the western central portion of the Rancho El Rio De Santa Clara o La Colonia land grant (Triem, 1985). On the 1904 and 1910 USGS Hueneme Quadrangle Maps (Scale 1:62,500), the project site is not discernible and the area is largely undeveloped. The City of Oxnard and the Southern Pacific Railroad line 4 miles east of the project site are visible, as are the City of Hueneme and Hueneme Point to the south of the project site (EDR, 2015).

By 1947, as depicted on the USGS Hueneme Quadrangle Maps (Scale 1:50000), the project site is newly labeled as Mandalay Beach, with Hollywood Beach and the Hollywood-by-the-Sea housing development south of the project site visible. A sparse grid of roads is seen stretching from the City of Oxnard west to the Pacific Ocean. Structures are located southeast of the project site near a north-south running road (Jeep Road). On the historic topographic maps, Lake McGrath is labeled directly north of the project site. The area to the northeast of the project site is scattered with orchards, running east-west along Gonzales Road (EDR, 2015). Furthermore, in 1951, as depicted on the USGS Oxnard Quadrangle Map (Scale 1:24000), Ventura County Airport is depicted east of the project site. The north-south–running Mandalay Beach Road and McGrath Road (South Harbor Boulevard), as well as the east-west–running West Fifth Street, are newly visible.

A 1962 SCE survey map shows the urban and suburban development in the cities of Oxnard and Port Hueneme. The "Naval Base" is first labeled north of the Port of Hueneme. The suburban development south of the project site, between Mandalay Beach Road and McGrath Road (South Harbor Boulevard), is newly visible on the map. The MGS area is labeled as "Mandalay Steam Station" (SCE, 1962). MGS is seen on the 1967 USGS Oxnard Quadrangle Map (Scale 1:24000) with five buildings and structures visible on the map. The undeveloped area to the northeast of the project site, directly south of Gonzales

Road, is labeled "Oil Field;" while the area south of the project site bound to the north by West Fifth Street, to the east by McGrath Road (South Harbor Boulevard), and to the west by the Pacific Ocean, is continuing its suburban development with increasing residential housing.

Historic aerial imagery, such as the 1947 and 1953 historic aerial photographs, show the project site as undeveloped beach areas consisting mostly of sand dunes. McGrath Lake is visible north of the project site, as well as a few dirt roads and trails east of the site. A fully operational MGS is first depicted on 1959 and 1967 historic aerial photographs, including the Edison Canal, SCE Substation, SCE Switchyard, and Jeep Trail Tank Farm (refer to Section 4.2). A 1964 city directory search listed the project site as "Mandalay Steam Stn.," while a 1970 city directory identified the project site use as "Bechtel Corp" (EDR, 2015). The continued development of MGS is documented on a 1977 historic aerial photograph. There is a newly visible additional structure in the area of Units 1 and 2, in the southwestern corner of the project site, and three additional structures west of the two existing fuel oil tanks. The Jeep Trail Tank Farm is first seen divided into two groupings of tanks east of the project site. Historic aerial photographs from 1984, 1994, 2005, 2009, and 2010 show the changes to the Jeep Trail Tank Farm to the northeast of MGS (EDR, 2015). A 2012 historic aerial photograph shows further development of the southern half of MGS with access roads and other appurtenant features (EDR, 2015).

2.3.1.1 MGS Construction Timeline

- **December 1956** SCE files application with California Public Utilities Authority for construction of a steam-electric generating facility at Mandalay Bay (Ventura County Star-Free Press December 21, 1956)

- **April 1957** Union Construction Company of Ventura undertakes general excavation for the MGS. Auxiliary construction includes a substation, a 10-mile transmission line, and a temporary transformer. Saticoy Rock is the concrete contractor for the Bechtel Corporation, builders of the new MGS (Ventura County Star-Free Press, 1957a and 1957c)

- **May 1957** The "Explorer," a 100-ton Shellmaker, Inc., dredge takes approximately 6 months to clear the 4-mile Edison Canal (Ventura County Star-Free Press, 1957c)

- **September 1958** Welders connect a 4,900-foot oil pipeline that will carry oil from ocean tankers to storage tanks. Construction of MGS is 50 percent complete (Ventura County Star-Free Press, 1958b)

- **December 1958** SCE awarded contract for pilot plant equipment that will convert seawater to freshwater at MGS

- **February 1959** MGS Unit 1 starts test runs (Ventura County Star-Free Press 1959a)

- **April 1959** Cuyama gas line, owned and operated by Richfield Oil Corporation, from Cuyama Valley to the SCE MGS is being installed (Ventura County Star-Free Press April 30, 1959)

- **May 1959** MGS is operational (Triem, 1985; Ventura County Star-Free Press 1959c)

- **July 1959** MGS Unit 2 starts test runs (Ventura County Star-Free Press 1959d)
- **January 1960** MGS 26-stage seawater conversion plant operational (Ventura County Star-Free Press 1960)
- **Early 1970s** MGS Unit 3 constructed and commissioned.

SECTION 3
RESEARCH METHODS

To determine the potential effects of the project on historic architectural resources in the Project Area of Analysis (PAA), a number of tasks were completed, including archival research, a historic architecture field survey, and contact with local agencies.

3.1 PROJECT AREA OF ANALYSIS

As depicted in Appendix A, the PAA as defined for historic architectural resources consists of the project site, and includes the CEC-mandated buffer for projects in rural settings of no less than 0.5 mile from the proposed plant site, and not less than 0.25 mile on each side of aboveground linear facilities (CEC, 2008:398). The larger historic architectural PAA follows the guidelines established by the CEC for rural projects to address potential indirect effects, as well as direct effects, to the built environment. There are no offsite project components; the entire project would be confined to a portion of the existing MGS. In some instances, the PAA and the identification efforts for historic architecture were limited to the area that is reasonably subject to visual or direct impacts, and generally does not consider properties set far back from the edge/boundary of a large parcel (e.g., where there is a sliver impact), or entire complexes or rows of structures on a large parcel. In areas where private or utility property access was not feasible, investigators recorded and evaluated resources in the PAA from a public vantage point and augmented their studies with available data.

3.2 ARCHIVAL RESEARCH

At the request of AECOM, a California Historical Resources Information System records search was conducted by the staff of the South Central Coastal Information Center (SCCIC) on January 5, 2015 (Records Search #14648) (Appendix C). The purpose of the records search was to identify all previously conducted cultural resource surveys and studies, as well as all previously recorded cultural resources in the PAA as defined for both archaeological and historic architectural resources, as well as within the CEC-mandated 1-mile search radius (CEC, 2008:398).

The records search included ethnographic and historic literature and maps; federal, state, and local inventories of historic properties; archaeological base maps and site records; and survey reports on file at the SCCIC. The record search included a review of all previously conducted cultural resources investigations and recorded cultural resources within the project area and search radius. The records search and subsequent archival research also included a review of information available at and/or with:

- California Points of Historical Interest
- California Historical Landmarks
- OHP Directory of Historic Properties — Records entered into the OHP computer file of historic resources, received quarterly
- OHP Archaeological Determinations of Eligibility — Records entered into the OHP computer file, received quarterly
- California State Library

- California Historical Society
- California Register of Historical Resources
- CEC/Seabee Historical Foundation
- City of Oxnard Planning Division
- City of Oxnard Building and Engineering Services
- County of Ventura Building and Safety Department
- County of Ventura Assessor's Office
- Department of the Navy, Naval Base Ventura County
- Five Views: An Ethnic Sites Survey for California (1988)
- Heritage Square Oxnard
- Historical Society of Southern California
- Huntington Library, SCE Records
- Museum of Heritage Foundation
- National Register of Historic Places
- Oxnard Historic District
- Oxnard College Learning Library Resource Center
- Port Hueneme Historical Society Museum
- Port Hueneme and the Friends of the Bard Mansion
- SCE Archives
- Ventura County Library

Additional site-specific primary and secondary research was conducted at numerous online resources (e.g., Calisphere – A World of Digital Resources, California Historic Topographic Map Collection, Digital State Archives, and Online Archive of California). The Digital Sanborn Maps 1867-1970 were consulted, but the project site was not visible on the Oxnard maps (LAPL, 2015). In addition, supplemental research was conducted in person with local agencies and groups, including the California State University Channel Islands, John Spoor Broome Library, Museum of Ventura County Research Library, Oxnard Historic Farm Park Museum, Oxnard Public Library Local History Collection, City of Oxnard Planning Division, City of Oxnard Building and Engineering Services, County of Ventura Building and Safety Department, County of Ventura Assessor's Office, and Port Hueneme Historical Society Museum.

Lastly, in addition to the aforementioned sources, a review of historic maps and aerial photographs was also conducted (Appendix D).

The records search revealed that there are no previously identified cultural resources in the P3 site or the larger MGS facility. The records search further revealed a total of 20 previously conducted cultural resources investigations and five previously identified cultural resources in the records search area. Of the 20 previously conducted cultural resources investigations, all included an archaeological component, and seven specifically discussed historic architectural resources. Portions of the archaeological and historic architectural PAAs, and the entire project site, have been previously subject to cultural resources investigations. In addition to site forms obtained from the SCCIC, maps depicting the location of previous surveys and previously identified resources based on these record search results are provided in Appendix C. Below is a discussion of the records search associated with the historic architectural studies,

and resources identified in the records search area. Please refer to the separate archaeological technical report for a discussion of the archaeological records search results.

3.2.1 Record Search Results

PREVIOUSLY CONDUCTED CULTURAL RESOURCES INVESTIGATIONS

The SCCIC search identified 20 previously conducted cultural resources investigations, consisting of both archaeological and architectural history investigations, within a 1-mile search radius from the project site (Appendix C). Of the 20 previously conducted cultural resources investigations, 15 of the investigations were located in the historic architectural PAA. Of the 15 previously conducted cultural resources investigations in the historic architectural PAA, only seven of the investigations included historic architectural investigations. Table 2 includes information regarding the previously conducted cultural resources investigations. Of note, further review of the records search results revealed that studies VN-001509 and VN-1733 are in fact the same report. Lastly, it should be noted that as plotted by the SCCIC, VN 002978 encompasses the entire historic architectural PAA as defined for P3. Further review of the survey report, however, reveals that the project's Area of Potential Effects and corresponding survey area is, in fact, approximately 2 miles to the east of the PAA. As none of the historic architectural inventory efforts completed for VN 002978 included areas in the historic architectural PAA, this report is not discussed below.

The following provides more information on the previously conducted investigations in the historic architectural PAA that contain historic architecture surveys and/or findings. It should be noted that although some of the investigations overlap at least portions of the PAA, some of the features identified in the investigations are outside the PAA for historic architectural resources as defined for P3.

VN-00236

VN-00236, prepared by cultural resources consultant Stephen Horne, documents a cultural resources survey conducted for the onshore portion of the Union Oil Company Platform Gina and Platform Gilda Project in 1980. Horne identified five landmark sites of local historic importance. These local historic landmarks consisted of the Naumann Giant Gum Tree and Eucalyptus Grove (Ventura County Landmark No. 15), Japanese Cemetery (Ventura County Landmark No. 18), Bard Memorial (Ventura County Landmark No. 20), Hueneme Slough Site (Ventura County Landmark No. 37), and Ventura Road Eucalyptus Grove. None of these historic architectural resources are in the current PAA as defined for historic architectural resources.

VN-01475

VN-01475 was completed as part of a cultural resources survey of McGrath State Beach by Philip Hines in 1986. Investigators surveyed a parcel south of the existing state beach campground. The remains of an oil test shaft (Mobil Oil Corp., McGrath No. 1) were recorded. The oil shaft was drilled as part of the West Montalvo Oil and Gas Field, and was composed of a square concrete slab that measured approximately 20 feet per side. Information on the well can be found in file API No. 111-00746,

California Department of Conservation, Division of Oil and Gas, Ojai, California. The oil shaft was not formally evaluated for eligibility to a registry, and is not in the historic architectural PAA.

VN-01509/VN-01733

VN-01509/VN-01733 was prepared by Bradley Sturn as a memorandum for record concerning the Ventura Marina Dredging Project in 1985. On July 18, 1985, Bradley Sturn completed a pedestrian survey of the breakwater, the proposed dredging pipeline route, and disposal site. An enigmatic pier foundation was observed, and Sturn suggested that this foundation may have been a base for a super structure such as an oil derrick, but provided no evidence to support this hypothesis.

VN-02474

VN-02474 was prepared in compliance with Section 106 of the National Historic Preservation Act as part of an undertaking under the review of the Federal Communication Commission. The project focused on an existing transmission tower adjacent to Harbor Boulevard, north of Fifth Street. This report was authored by Sean Thai of EarthTouch Inc. in 2005. The report lists "no historic properties affected" as the outcome of the collocation of a cellular telephone antennae on an existing 125-foot steel lattice transmission tower. Although the transmission tower was not recorded as part of this investigation; as discussed below, it was recorded during a subsequent investigation (VN-02901).

VN-02901

VN-02901 was completed as part of a historic architecture assessment for a cellular tower site, known as Clearwire candidate CA-VTA0119A, by Wayne Bonner, Sarah Williams, and Kathleen Crawford of Michael Brandman Associates in 2010. The survey determined that the transmission tower (P-56-153002), at 400 N. Harbor Boulevard, is not in a cohesive neighborhood and is not otherwise associated with any important historical or cultural events or individuals; therefore, it was recommended as not eligible for listing to a registry. This resource is in the historic architectural PAA.

3.2.1.1 Previously Recorded Historic Architectural Resources

3.2.1.1.1 SCCIC

The SCCIC records search identified five previously recorded cultural resources within the CEC-mandated 1-mile search radius (Table 3, Appendix C). Two of these five are historic architectural resources; however, only 1 is in the historic architectural PAA defined for P3. Previously Identified Historic Architectural Resources in the PAA

The records search revealed that one historic architectural resource, P-56-153002, has been previously identified in the historic architectural PAA.

P-56-153002

P-56-153002 is 0.1 mile east of the project site but within the Historic Architectural PAA defined for the project, and was recorded in 2010 by K.A. Crawford of Michael Brandman Associates. Historically

known as SCE Mandalay-Santa Clara 1 and 2 Transmission Tower, P-56-153002, consists of a steel lattice tower located in the larger parcel boundaries of an SCE-owned substation (approximately 150 feet past the fence-line of the substation). The tower, built in 1958, stands 150 feet tall, and is at the northwestern corner of the larger substation parcel in an area that is primarily undeveloped land. The area is mainly used for industrial power sources, and is primarily sand dune in composition. The tower appears to be in good condition, and no major alterations were noted. The resource was assigned Status Code 6Y, which means determined ineligible for listing in the NRHP through a consensus determination of a federal agency and the State Historic Preservation Officer (SHPO). The resource was not evaluated for CRHR eligibility or local City of Oxnard register eligibility.

3.2.1.1.2 Previously Identified Historic Architectural Resources in the Records Search Area

The records search revealed that one historic architectural resource, P-56-152738, has been previously identified in the records search area but outside of the PAA for historic architectural resources.

P-56-152738

P-56-152738 is a private residence thought to have been constructed by Dominick McGrath shortly after his arrival in Ventura County in the 1870s. The two-story structure is built on a rectangular floor plan with wide clapboard siding. The terminated pavilion roof uses asphalt shingles. An enclosed porch, possibly a later addition, runs along the façade. A garage and numerous small buildings for livestock and poultry are to the rear of the house. The house was recorded as being in poor condition, although structurally sound. The recordation of the residence does not include a formal evaluation of the property for inclusion to either the National or California registries of historic properties. Although within the records search radius, this resource is located over 0.5 mile away from the historic architectural PAA.

3.2.2 Historic Architecture Property Types

Based on the historic and archival research, Table 4 identifies potential historic architecture property types that may occur in the historic architectural PAA.

3.3 AGENCY CONTACT

Informational letters were sent by email on February 4, 6, and 13, 2015 to groups and organizations that may be interested in cultural resources. The letters afforded local governments, historical societies, and other groups the opportunity to provide information regarding significant cultural resources listed by ordinance or recognized by a local historical society or museum within a 1-mile search radius of the project. The following were the main points of contact for the informational letters.

- City of Oxnard, Planning Department
  Ashley Golden, Interim Planning Manager; and Chris Williamson, Principal Planner
  214 South C Street
  Oxnard, California 93030
  (805) 385-7882
  ashley.golden@ci.oxnard.ca.us

- City of Oxnard, City Clerk's Office
  Daniel Martinez, City Clerk
  305 West Third Street
  First Floor - East Wing
  Oxnard, California 93030
  (805) 385-7803
  daniel.martinez@ci.oxnard.ca.us

- County of Ventura, Planning Division
  Nicole Doner, Cultural Heritage Planner
  Ventura County Government Center
  800 South Victoria Avenue
  Ventura, California 93009
  (805) 654-5042
  nicole.doner@ventura.org

- City of Oxnard, Community Development Department
  Richard Bryan
  214 South C Street
  Oxnard, California 93030
  (805) 385-7407
  richard.bryan@ci.oxnard.ca.us

- Museum of Ventura County (Ventura County Historical Society)
  100 East Main Street
  Ventura, California 93001
  (805) 653-0323
  cjohnson@venturamuseum.org

- Oxnard Public Library
  251 South A Street
  Oxnard, California 93030
  (805) 385-7500
  localhistory@ci.oxnard.ca.us

To date, four responses have been received. On February 10, 2015, Ashley Golden, Interim Planning Manager, responded via email that AECOM should submit this request through the City Clerk's office. On February 13, 2015, the official request for information was submitted to the City Clerk's Office.

Nicole Doner, Ventura County Cultural Heritage Planner, responded via telephone on February 4, 2015. Ms. Doner mentioned that the only recorded resource in the area she was aware of was the McGrath House, which was found in the records search as P-56-152738, and is not in the historic architectural PAA.

Daniel Martinez, City Clerk, responded through email on February 23, 2015, stating, "Your public records request seeks various documents regarding history of a power plant and community

neighborhoods. City staff needs more time to determine whether your request seeks copies of disclosable public records in the possession of the City, given the need to search for, collect and appropriately examine the separate and distinct records. I expect to advise you of that determination no later than March 18, 2015."

On February 26, 2015 Chris Williamson, City of Oxnard Principal Planner, communicated by phone and email that he advised amending the original public records request to only the information about the MGS power plant and the known cultural resources due to the fact that the "Mandalay SCE Station was originally built in the late 1950s in the unincorporated County, and later annexed to the City of Oxnard." Many of the records associated with the power plant and surrounding neighborhoods are located in uncataloged storage boxes. AECOM subsequently emailed an amended public records request to the Oxnard City Clerk asking for MGS records and known cultural resources within 1 mile of the project site. On March 4, 2015, Chris Williamson responded, advising to review a copy of the General Plan, available on the City's website.

No additional responses to these letters have been received. A copy of the correspondence and any responses received are included in Appendix E.

SECTION 4
REPORT OF FINDINGS

The AECOM team identified a total of six historic architectural resources in the PAA during background research and field survey of the project area. These resources consisted of one previously recorded resource, a portion of the Mandalay-Santa Clara Transmission Line (P-56-153002), and five newly recorded resources consisting of a portion of the Mandalay Canal, MGS, SCE Switchyard, SCE Substation, and Jeep Trail Tank Farm. DPR 523 series forms for the historic resources are included in Appendix F. The following section provides a summary of findings for historic architecture.

4.1 FIELD METHODOLOGY

On January 12, 2015, and between February 11, 2015 and February 12, 2015, AECOM Senior Architectural Historian Jeremy Hollins, M.A., and Architectural Historian Sarah Champion, M.A., conducted a historic architectural survey of the PAA for historic architectural resources, as defined for the project site. All work was conducted by professionals who meet the *Secretary of Interior's Professional Qualification Standards* (36 CFR Part 61) in the disciplines of Architectural History and History.

During the field efforts, the investigators used DPR 523 series forms to record built environment features in the PAA, as defined for historic architectural resources. Recorded features were also photographed and mapped at this time. Based upon the results of the background investigation and the field survey, AECOM conducted research at the facilities and sources identified in earlier in this section.

As part of the field efforts, several features and properties were identified in the PAA that were not recorded or evaluated. Based on background research and visual inspection, these properties consisted primarily of buildings and structures built less than 45 years ago (and not possessing exceptional importance of an extent to be considered significant resources), or are minor, fragmentary, and ubiquitous features. For example, these types of built environment properties include recently constructed sheds and agricultural outbuildings, built-up roadway improvements, gas and oil storage tanks, and street lighting. As a result, these properties were not recorded or evaluated, and the proposed project will not cause a significant impact to these properties.

In addition, there were several properties in the PAA that are linear resources, and extended for several miles past the limits of the PAA. As a result, the historic architecture survey did not identify and record the portions of the linear resources outside of the PAA, because impacts to these portions of the linear resource, and the resource as a whole, would not be possible. However, the evaluation of the portions of the linear resources in the PAA considered the resource first as an individual resource, and then as a contributor to a larger resource, such as the entire linear alignment.

4.2 HISTORIC ARCHITECTURE FINDINGS

The following provides an architectural description, historical evaluation, and integrity analysis for the resources recorded and evaluated in the field. Maps depicting their locations, in relation to the project, are included in Appendix A, and Appendix F contains DPR 523 series forms.

4.2.1 Edison Canal

The Edison Canal is an approximately 4.5-mile-long open earthen- and concrete-lined water conveyance channel constructed by SCE as a source of cooling water for the MGS power plant (Ventura County Star-Free Press, 1957a-c, 1958a-d, and 1959a-d). Construction of the canal began in 1957, when a 100-ton dredger known as the "Explorer' started clearing the area. The canal was completed and operational in 1959, providing a supply of seawater water for the cooling needs of MGS, which had recently been brought on line.

The northern portion of the Edison Canal, which is in the historic architectural PAA, terminates at a culvert west of MGS in the Mandalay Beach area of the County of Ventura, west of the City of Oxnard. The canal was constructed with earthen banks, with a deep trapezoidal shape, and features no major control or erosion structures in the PAA; portions were later lined. In several locations, there are recently constructed pedestrian and vehicle crossings and bridges (such as along Harbor Boulevard). The property is located in a rural setting surrounded mostly by industrial uses, including oil- and gas-processing facilities, power-generating facilities, agricultural fields, and open space.

The portion of the Edison Canal under review in the historic architectural PAA is approximately 0.5 mile long and approximately 140 feet wide. Although the portion of the canal in the PAA is part of a larger linear resource, only the 0.5-mile-long portion of canal in the PAA was recorded and evaluated as part of this assessment to determine if it would be considered a contributor to a larger significant linear resource, or individually significant. The portions outside of the PAA were not recorded, because the potential effects to the resource as a whole would be negligible.

4.2.1.1 Evaluation

Under CRHR Criterion 1, the evaluated portion of the Edison Canal in the PAA has no significant association with the broad patterns of local or regional history, or the cultural heritage of California or the U.S. Although the canal is associated with the construction of the largest single generating unit in the Edison system in the 1950s and 1960s, as well as first in the world to use selective catalytic reduction technology to minimize emissions, the generating plant and canal is just one example among many of the steam-generating power plants constructed by electric companies in the Los Angeles Basin. The construction of the canal did not spur community development in the Mandalay Beach area; rather, it was constructed as a result of the post-WWII population boom experienced in the Oxnard area (creating a greater need for power service). In addition, the portion of the Edison Canal within the PAA does not retain any high potential as a historic or interpretive site. Because the evaluated portion of the Edison Canal has no association with the broad patterns of local or regional history, or the cultural heritage of California or the U.S., it is therefore not eligible for the CRHR under Criterion 1 as an individual resource or as a contributor to a larger significant linear resource (like the entire Edison Canal alignment), if it is ever determined such a resource may exist.

Under CRHR Criterion 2, the evaluated portion of the Edison Canal has no significant association with the lives of persons important to local, California, or national history. Important people that may be associated with the canal would be more likely eligible under Criterion 3, as an example of the work of a master engineer. The Caltrans historic context *Water Conveyance Systems in California* noted that water

conveyance systems will rarely be found eligible for their association with significant people (JRP and Caltrans, 2000). There may be instances, however, when a water conveyance system would be eligible under Criterion 2, notably when the person's association with the system is very strong and no properties more intimately associated with that person remain. Research conducted of people important in water history included a careful evaluation as to whether the water system under investigation is the property that best represents that association. In California, notable names for which there might be associations with water planning, construction, or engineering include: Anthony Chabot, George Chaffey, Frederick Eaton, William Mulholland, George Maxwell, Robert Marshall, Elwood Mead, and C.E. Grunsky (JRP and Caltrans, 2000). Research on the property did not reveal that the Edison Canal is associated with any of these notable persons, nor their work. It was developed by staff at Bechtel and SCE, and no prominent people associated with these groups have a direct link with the canal; and more importantly, the canal (as a small-scale feature) would not convey or represent the significance of any individuals. Because the evaluated portion of the Edison Canal in the PAA has no significant association with the lives of persons important to local, California, or national history, it is therefore not eligible for the CRHR under Criterion 2 as an individual resource or as a contributor to a larger significant linear resource (the entire Edison Canal alignment), if it is ever determined such a resource may exist.

Under CRHR Criterion 3, the evaluated portion of the Edison Canal within the PAA does not embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values. The Caltrans historic context *Water Conveyance Systems in California* notes properties eligible under Criterion 3 may have unique values, or they may be the best or good examples of a type of water conveyance property. The earliest, best preserved, largest, or sole surviving examples of particular types of water conveyance systems or a property that introduced a design innovation may be eligible as examples of evolutionary trends in engineering. To be considered a good representative of that type, period, or method of construction, a water conveyance system must possess "distinctive characteristics," the common features or traits of that type, period, or method of construction. Through those distinctive characteristics, a property must clearly illustrate one or more of the following: the pattern of features common to a particular class of resources; the individuality or variation of features that occurs within the class; the evolution of that class; or the transition between classes of resources (JRP and Caltrans, 2000). The Edison Canal is not the earliest, best preserved, largest, or sole surviving example of a water intake for a steam-generating power plant. It does not represent a particular or important method of construction; rather, the canal was initially quickly and roughly excavated to allow for the on-schedule completion of MGS, and is similar to numerous earthen canals when it was built. The canal was later lined with concrete, and then resembled other concrete-lined canals throughout the state (MBC Applied Environmental Sciences, 2001). Because the evaluated portion of the Edison Canal in the PAA does not embody the distinctive characteristics of a type, period, region, or method or construction, or represent the work of a master, or possess high artistic values, it is not eligible for the CRHR under Criterion 3 as an individual resource or as a contributor to a larger significant linear resource (the entire Edison Canal alignment), if it is ever determined such a resource may exist.

Under CRHR Criterion 4, the evaluated portion of the Edison Canal within the PAA has not yielded—nor does it appear to have the potential to yield—information important to the prehistory or history of the local area, California, or the nation. Research has indicated that no known events of importance occurred in relation to the canal. The resource is not likely to yield information important to the prehistory or history of the local area, California, or the nation. Because the evaluated portion of the Edison Canal has

not yielded—nor appears to have the potential to yield—information important to the prehistory or history of the local area, California, or the nation, it is therefore not eligible for the CRHR under Criterion 4.

4.2.2 Mandalay Generating Station

MGS is the NRG-owned power-generating facility currently comprises three power-generating units, supported by tanks, a maintenance building, an administration building, and other ancillary features originally constructed by SCE between 1957 and 1959 (per information provided by SCE). MGS is located in the historic architectural PAA at 393 North Harbor Boulevard, Oxnard, California. The generating station is bordered to the west by the Pacific Ocean; to the south by the McGrath Peaker Plant and undeveloped land; to the north by undeveloped land, primarily sandy dune in composition; and to the east by the SCE Substation and the SCE Switchyard (both described below), as well as agricultural land.

The majority of the buildings and structures associated with power generation are arranged along the western portion of the property; and the administrative and maintenance buildings are placed on the eastern portion of the parcel. The buildings and structures do not appear to be arranged in a visual hierarchy or have a specific datum; rather, buildings and structures were sited near one another based primarily on their functions. This causes the scale of the parcel to waver between human and monumental, because buildings and structures of different massing, forms, and size are located near one another.

The generating station portion consists of three units and has a combined rated capacity of 560 MW. Unit 1 and Unit 2 are both steam-electric generating units, each capable of providing 215 MW of power. Steam is supplied to the two steam-electric units by two oil- or gas-fired boilers, each rated at 707,600 kg of steam/hour. Unit 3 is a gas turbine unit rated at 130 MW. MGS draws water via Edison Canal to provide cooling for the plant's condensers and other necessary components. There are corresponding boilers, turbogenerators, cranes, feedwater tanks, and fuel storage tanks adjacent to the facility's units.

Aside from the large MGS structures, and in addition to small-scale storage and garage units, the property features two larger buildings: one for administration needs and the other for maintenance operations. The administration building is a rectangular, contemporary-style building with a flat roof and concrete-block walls. There is a flat, unadorned metal cornice that wraps around the majority of the building and projects outward at the entrance to create a covered entry porch. The main entry is made up of double doors made of fixed-glass commercial window panes with metal trim. The maintenance building is to the north of the administration building, across an asphalt-paved parking lot. The maintenance building was constructed in a utilitarian style, has an irregular rectangular form, and is much larger than the administration building. It has a flat roof, concrete-block walls, and features the same metal cornice and exterior paint color as the administration building.

4.2.2.1 Evaluation

Under CRHR Criterion 1, MGS has no significant association with the broad patterns of local or regional history, or the cultural heritage of California or the U.S. Although the power station is associated with the construction of the largest single generating unit in the Edison system in the 1950s and 1960s, as well as

first in the world to use selective catalytic reduction technology to minimize emissions, the generating plant is just one example among many of the popularity of constructing steam-generating power plants by electric companies in the Los Angeles Basin. At the time of its construction, the plant was one of several being built of similar—often nearly identical—design by SCE after WWII to supply the growing post-war demand for electricity in southern California. During the period in which MGS was built, 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 then Huntington Beach in 1958. In addition to SCE, other companies throughout California including PG&E, SDG&E, and California Electric, were also building similar steam-generating plants and associated substations at this time to meet energy demands. In addition, although MGS was important to the customers it served, it was one of many such power plants built during this era of tremendous growth that served essentially the same function, and this single plant does not stand out as particularly important within the SDG&E system, or electrical generating development in the southern California region or the state as a whole. Because MGS has no significant association with the broad patterns of local or regional history, or the cultural heritage of California or the U.S., it is not eligible for the CRHR under Criterion 1.

Under CRHR Criterion 2, MGS has no significant association with the lives of persons important to local, California, or national history. For instance, the office in which a prominent engineer prepared his/her most important designs could be eligible under Criterion 2 and would be more closely associated with his/her work than would the place where that person was born. On the other hand, a property such as a dam that represents the work of a master engineer would be eligible under Criterion 3, as the work of a master, rather than 2, as representing an important person. Research conducted of people important in electric history included a careful evaluation as to whether the MGS station under investigation is the property that best represents that association. In California, notable names for which there might be associations with steam generating plant planning, construction, or engineering include: PG&E Chief Engineer I.C. Steele; Bechtel Engineer Walter Dickey; Henry E. Huntington; and hydraulic engineer John S. Eastwood of SCE. Research on the property did not reveal that MGS is associated with any of these notable persons, or their work. Because MGS has no significant association with the lives of persons important to local, California, or national history, it is not eligible for the CRHR under Criterion 2.

Under CRHR Criterion 3, MGS does not embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values. This facility (including Units 1 and 2, contained in the power plant building, Unit 3 as it stands, as well as the maintenance and administrative buildings) was constructed as a steam-generating power plant, a design that was standard and common for the period, and was built for expansion. MGS is representative of the cost-efficient work required for a steam-generating station, and was designed to be expanded if market conditions warranted. It was built economically by minimizing the structural material, including not enclosing the turbo-generator units in a building (Dickey, 1956). In addition, all of the associated structures such as tanks, substations, and equipment installed at the plant, were typical for this type of facility. Nothing about the design or construction of MGS was unique, or required groundbreaking or innovative features to surmount engineering or design challenges. Additionally, the buildings on the property are generally common, utilitarian types constructed of concrete or prefabricated metal. They exhibit priority of function over style, and lack architectural distinction. Because MGS does not embody

the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values, it is not eligible for the CRHR under Criterion 3.

Under CRHR Criterion 4, MGS has not yielded—nor does it appear to have the potential to yield—information important to the prehistory or history of the local area, California, or the nation. Research has indicated that no known events of importance occurred in relation to MGS. The resource is not likely to yield information important to the prehistory or history of the local area, California, or the nation. Because the evaluated portion of MGS has not yielded—nor appears to have the potential to yield—information important to the prehistory or history of the local area, California, or the nation, it is not eligible for the CRHR under Criterion 4.

4.2.3 Mandalay-Santa Clara Transmission Line (P-56-153002) Update

The Mandalay-Santa Clara Transmission Line is the SCE-owned electric transmission line constructed to transmit power generated by MGS to the Santa Clara Substation for ultimate distribution to communities in Ventura and Santa Barbara counties. The transmission line was constructed circa 1958, concurrent with MGS and the Edison Canal, according to information provided by SCE. The Mandalay-Santa Clara Transmission Line consists of the approximately 9.4-mile-long aboveground transmission line and associated transmission towers, posts, and wires. In 2010, a single pylon tower of the Mandalay-Santa Clara Transmission Line was recorded and subsequently assigned the primary number of P-56-153002 (Crawford, 2010).

Only the portion of the transmission line within the historic architectural PAA was recorded and evaluated as part of this assessment. The portion outside of the PAA was not recorded, because the potential effects to the resource as a whole would be negligible. The assigned primary number was applied here, because the single tower that was previously recorded (P-56-153002) is only a part of a longer linear resource (i.e., the Mandalay-Santa Clara Transmission Line). The portion of the Mandalay-Santa Clara Transmission Line located in the PAA comprises four steel lattice towers: one tower within the MGS property (west of Harbor Boulevard) and the remaining three situated across Harbor Boulevard in the SCE-owned parcel that also holds the SCE substation (the line does not directly connect to the SCE substation). The towers stand approximately 150 feet tall and rest on cylindrical poured concrete pier foundations. While there are four towers total within the historic architectural PAA, only the three towers located east of Harbor Drive feature identification tag that states the tower number, reading "Mandalay Santa Clara 220 KV No. 1" through "Mandalay Santa Clara 220 KV No. 3. The one tower west of Harbor Drive does not appear to be numbered.

4.2.3.1 Evaluation

Under CRHR Criterion 1, the portion of the Mandalay-Santa Clara Transmission Line in the historic architectural PAA has no significant association with the broad patterns of local or regional history, or the cultural heritage of California or the U.S. Although the transmission line is associated with the construction of the largest single generating unit in the Edison system in the 1950s and 1960s, as well as the trend of using AC currents to distribute power throughout Southern California, the transmission line is just one example among many of transmission lines used by SCE in Southern California. At the time of its construction, the transmission line was one of several being built of similar—often nearly identical—

design by SCE to supply the growing demand for electricity in southern California. In addition to SCE, other companies throughout California, including PG&E, SDG&E, and California Electric, were also building similar transmission lines at this time to meet energy demands. Because the portion of the Mandalay-Santa Clara Transmission Line within the PAA has no significant association with the broad patterns of local or regional history, or the cultural heritage of California or the U.S., it is not eligible for the CRHR under Criterion 1 as an individual resource or as a contributor to a larger significant linear resource (like the entire transmission line alignment), if it is ever determined such a resource may exist.

Under CRHR Criterion 2, the portion of the Mandalay-Santa Clara Transmission Line in the historic architectural PAA has no significant association with the lives of persons important to local, California, or national history. Research conducted of people important in electric history included a careful evaluation as to whether the portion of the Mandalay-Santa Clara Transmission Line in the PAA under investigation is the property that best represents that association. In California, notable names for which there might be associations with steam-generating plant planning, construction, or engineering include: PG&E Chief Engineer I.C. Steele; Bechtel Engineer Walter Dickey; Henry E. Huntington, and hydraulic engineer John S. Eastwood of SCE. Research on the property did not reveal that the Mandalay-Santa Clara Transmission Line is associated with any of these notable persons, or their work. Because the portion of the Mandalay-Santa Clara Transmission Line in the PAA has no significant association with the lives of persons important to local, California, or national history, it is not eligible for the CRHR under Criterion 2 as an individual resource or as a contributor to a larger significant linear resource (like the entire transmission line alignment), if it is ever determined such a resource may exist.

Under CRHR Criterion 3, the portion of the Mandalay-Santa Clara Transmission Line in the historic architectural PAA does not embody the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values. In addition, all of the associated structures such as transmission towers, poles, and wires were also typical for this type of linear resource. Nothing about the design or construction of the portion of the Mandalay-Santa Clara Transmission Line in the PAA was unique, or required groundbreaking or innovative features to surmount engineering or design challenges. Because the portion of the Mandalay-Santa Clara Transmission Line in the PAA does not embody the distinctive characteristics of a type, period, region, or method or construction, or represent the work of a master, or possess high artistic values, it is not eligible for the CRHR under Criterion 3 as an individual resource or as a contributor to a larger significant linear resource (like the entire transmission line alignment), if it is ever determined such a resource may exist.

Under CRHR Criterion 4, the portion of the Mandalay-Santa Clara Transmission Line in the historic architectural PAA has not yielded—nor does it appear to have the potential to yield—information important to the prehistory or history of the local area, California, or the nation. Research has indicated that no known events of importance occurred in relation to the Mandalay-Santa Clara Transmission Line. The resource is not likely to yield information important to the prehistory or history of the local area, California, or the nation. Because the evaluated portion of the Mandalay-Santa Clara Transmission Line in the PAA has not yielded—nor appears to have the potential to yield—information important to the prehistory or history of the local area, California, or the nation, it is not eligible for the CRHR under Criterion 4 as an individual resource or as a contributor to a larger significant linear resource (like the entire transmission line alignment), if it is ever determined such a resource may exist.

4.2.4 SCE Switchyard

The SCE Switchyard is the SCE-owned and -operated switchyard facility located in the historic architectural PAA immediately east of MGS. The SCE Switchyard was constructed circa 1959, according to information provided by SCE, and distributes power from MGS through the Mandalay-Santa Clara Transmission Line, eventually connecting to the Santa Clara Substation 15 miles northeast of the PAA. The SCE Switchyard has a north-south rectangular arrangement. The northern portion of the switchyard contains the majority of the steel-framed switchgear. There are four square-shaped, steel-framed structures distributing the power lines along a north-south axis through the switchyard, centered by a series of thin A-shaped steel towers. These power lines and corresponding circuit breakers, cylindrical power transformers, lightning arrestors, and metal-clad switchgear are all enclosed by a chain-link security fence topped with barbed wire. All of the equipment and structures are on concrete footings in the gravel-covered yard.

4.2.4.1 Evaluation

Under CRHR Criterion 1, the SCE Switchyard has no significant association with the broad patterns of local or regional history, or the cultural heritage of California or the U.S. Although the switchyard is associated with the construction of the largest single generating unit in the Edison system in the 1950s and 1960s, as well as the trend of using AC currents to distribute power throughout Southern California, the switchyard is just one among many switchyards used by SCE in Southern California. At the time of its construction, the switchyard was one of several being built of similar—often nearly identical—design by SCE to supply the growing demand for electricity in southern California. In addition to SCE, other companies throughout California including PG&E, SDG&E, and California Electric, were also building similar switchyards at this time to meet energy demands. Because the SCE Switchyard has no significant association with the broad patterns of local or regional history, or the cultural heritage of California or the U.S., it is not eligible for the CRHR under Criterion 1.

Under CRHR Criterion 2, the SCE Switchyard has no significant association with the lives of persons important to local, California, or national history. Research conducted of people important in electric history included a careful evaluation as to whether the SCE Switchyard under investigation is the property that best represents that association. In California, notable names for which there might be associations with steam-generating plant planning, construction, or engineering include: PG&E Chief Engineer I.C. Steele; Bechtel Engineer Walter Dickey; Henry E. Huntington; and hydraulic engineer John S. Eastwood of SCE. Research on the property did not reveal that the SCE Switchyard is associated with any of these notable persons, or their work. Because the SCE Switchyard has no significant association with the lives of persons important to local, California, or national history, it is not eligible for the CRHR under Criterion 2.

Under CRHR Criterion 3, the SCE Switchyard does not embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values. Nothing about the design or construction of the SCE Switchyard was unique, or required groundbreaking or innovative features to surmount engineering or design challenges. Because the SCE Switchyard does not embody the distinctive characteristics of a type, period, region, or method or

construction, or represent the work of a master, or possess high artistic values, it is not eligible for the CRHR under Criterion 3.

Under CRHR Criterion 4, the SCE Switchyard has not yielded—nor does it appear to have the potential to yield—information important to the prehistory or history of the local area, California, or the nation. Research has indicated that no known events of importance occurred in relation to the SCE Switchyard. The resource is not likely to yield information important to the prehistory or history of the local area, California, or the nation. Because the SCE Switchyard has not yielded—nor appears to have the potential to yield—information important to the prehistory or history of the local area, California, or the nation, it is not eligible for the CRHR under Criterion 4.

4.2.5 SCE Substation

The SCE Substation is an SCE-owned and -operated substation facility located in the historic architectural PAA, across Harbor Boulevard from MGS and the SCE Switchyard, and in the same parcel through which the Mandalay-Santa Clara Transmission Line crosses. The SCE Substation was constructed to aid in the distribution of the power generated by MGS to communities in the counties of Ventura and Santa Barbara. The SCE Substation was built in 1958, according to information provided by SCE.

The SCE Substation has a north-south rectangular arrangement. The northern portion of the substation contains a poured, board-formed concrete building one story tall with a flat roof. This building is the control house, which contains switchboard panels, batteries, battery chargers, supervisory control, power-line carrier, meters, and relays. To the immediate west of the control house is a tall, steel-framed microwave tower with four antennas. The power-line transmission and distribution of power flows north-south by the transmission buses, which are steel structure arrays of switches used to route the power; and the distribution buses, which are a steel structure array of switches used to route the power out of the substation. All the above-mentioned structures, as well as the power lines and corresponding circuit breakers, large rectangular power transformers, lightning arrestors, and metal-clad switchgear, are enclosed by a chain-link security fence topped with barbed wire. All of the equipment and structures are on concrete footings in the gravel-covered yard.

Two additional single-story rectangular buildings, likely serving maintenance, storage, and security functions, are located in the substation. Both buildings are constructed of concrete and have flat roofs. The larger building has a metal overhanging awning and a metal door on the northern elevation. The smaller building has walls clad in aggregate brown-pebbled concrete and a metal door with a metal overhanging awning on the northern elevation. They are enclosed by a chain-linked fence topped with barbed wire. Inside the property along the northern perimeter are cell tower equipment and other antennas.

4.2.5.1 Evaluation

Under CRHR Criterion 1, the SCE Substation has no significant association with the broad patterns of local or regional history, or the cultural heritage of California or the U.S. Although the substation is associated with the construction of the largest single generating unit in the Edison system in the 1950s and 1960s, as well as the trend of using AC currents to distribute power throughout Southern California,

the substation is just one among many examples of switchyards used by SCE in Southern California. At the time of its construction, the substation was one of several being built of similar—often nearly identical—design by SCE to supply the growing demand for electricity in southern California. In addition to SCE, other companies throughout California, including PG&E, SDG&E, and California Electric, were also building similar substations to meet energy demands. Because the SCE Substation has no significant association with the broad patterns of local or regional history, or the cultural heritage of California or the U.S., it is not eligible for the CRHR under Criterion 1.

Under CRHR Criterion 2, the SCE Substation has no significant association with the lives of persons important to local, California, or national history. Research conducted of people important in electric history included a careful evaluation as to whether the SCE Substation under investigation is the property that best represents that association. In California, notable names for which there might be associations with substation planning, construction, or engineering include: Bechtel Engineer Walter Dickey, and Henry E. Huntington. Research on the property did not reveal that the SCE Substation is associated with any of these notable persons or their work. Because the SCE Substation has no significant association with the lives of persons important to local, California, or national history, it is not eligible for the CRHR under Criterion 2.

Under CRHR Criterion 3, the SCE Substation does not embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values. Nothing about the design or construction of the SCE Substation was unique, or required groundbreaking or innovative features to surmount engineering or design challenges. Because the SCE Substation does not embody the distinctive characteristics of a type, period, region, or method or construction, or represent the work of a master, or possess high artistic values, it is not eligible for the CRHR under Criterion 3.

Under CRHR Criterion 4, the SCE Substation has not yielded—nor does it appear to have the potential to yield—information important to the prehistory or history of the local area, California, or the nation. Research has indicated that no known events of importance occurred in relation to the SCE Substation. The resource is not likely to yield information important to the prehistory or history of the local area, California, or the nation. Because the SCE Substation has not yielded—nor appears to have the potential to yield—information important to the prehistory or history of the local area, California, or the nation, it is not eligible for the CRHR under Criterion 4.

4.2.6 Jeep Trail Tank Farm

The Jeep Trail Tank Farm is a privately owned storage tank farm, comprising several horizontally and vertically laid tanks connected by several pumps and piping, located in the southeastern edge of a large, rectangular parcel used primarily for agricultural purposes. The Jeep Trail Tank Farm is in the historic architectural PAA, approximately one-quarter mile northeast of MGS, in the parcel immediately north of the SCE Substation.

The Jeep Trail Tank Farm currently comprises six cylindrical cone roof tanks and three cylindrical horizontally laid tanks, connected with an arrangement of pumps and piping. The tank farm is set on a poured-concrete foundation partially covered with dirt and earthen materials, along a bend in the dirt road (unpaved) known as the "Jeep Trail," per historic topographic maps and City of Oxnard records. The

tanks are concentrated in the southern portion of the parcel, and the rest of the parcel is characterized by three small agricultural fields on the western side of the parcel, and open areas of sand dunes and coastal vegetation on the eastern side of the parcel. The northeastern edge of the parcel contains various agricultural outbuildings that appear to be constructed within the past 30 to 40 years, and consist mostly of sheds, barns, and pavilions.

The Jeep Trail Tank Farm was built between approximately 1954 and 1959, based on review of historic aerials photographs. Five large, upright tanks and small-scale structures first appear on the 1959 aerial photograph; and by 1967, two additional tanks have appeared in this location. By the 1977 aerial photograph, two of the tanks have been removed, and the photograph also depicts the initial grading/ clearing of the parcel's agricultural fields. The 1984 historic aerial photograph depicts the established agricultural fields north of the Jeep Trail Tank Farm, but only four upright tanks are now depicted. Between 1985 and the present, additional tanks have been added and/or replaced in this area.

4.2.6.1 Evaluation

Under CRHR Criterion 1, the Jeep Trail Tank Farm has no significant association with the broad patterns of local or regional history, or the cultural heritage of California or the U.S. Many rural properties contain landscape characteristics related to agricultural and mixed land uses and practices, such as power generation and small-scale oil and gas storage uses. This property has been associated with oil and gas small-scale storage since 1959 (at the latest), and has also been used for agricultural purposes since the 1970s. Overall, these events either occurred much later than when agricultural activities were occurring in Ventura County, or the oil- and gas-storage activities in this parcel were at a much smaller scale than elsewhere in the County at this time (such as at MGS, in comparison). Therefore, this property is neither associated with nor is considered a distinctive representation of any of the significant events important to the County, or activities directly associated with improving the area's economy, productivity, or identity. Although the property resembles an agricultural parcel with a small power storage use from the 1950s through the 1970s, it lacks a distinctive appearance that conveys this association and theme. The property is just one example among many similar examples of tank farms in agricultural properties used by landowners, farmers, and other companies to store and produce small-scale oil and gas activities in Southern California. Therefore, this property is not eligible for the CRHR under Criterion 1.

Under CRHR Criterion 2, the Jeep Trail Tank Farm has no significant association with the lives of persons important to local, California, or national history. For this property, this would be individuals who are associated with the County's agricultural production, as well as pioneers in the oil and gas industry. Research conducted of people important in agricultural and oil and gas development and history included a careful evaluation as to whether the tank farm under investigation is the property that best represents that association. For example; the property, in its current form and appearance, is not directly associated with significant people or early settlers like J.D. Patterson or energy pioneers like James Barnes Miller. Overall, research on the property did not reveal that the Jeep Trail Tank Farm is associated with notable persons, or their work. Because the Jeep Trail Tank Farm has no significant association with the lives of persons important to local, California, or national history, it is not eligible for the CRHR under Criterion 2.

Under CRHR Criterion 3, the Jeep Trail Tank Farm does not embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values. The organization of space, visible in the arrangement of fields or siting of farmsteads, tanks, etc., may illustrate a pattern of rural land uses significant for its representation of traditional practices unique to a community. Buildings and outbuildings, whether high-style or vernacular, may be distinctive in design, style, or method of construction, and be representative of historic rural local or regional trends. The *NPS National Register Bulletin 30: Guidelines for Evaluating and Documenting Rural Historic Landscapes* identifies 11 characteristics of the rural historic landscape; the following characteristics have been reviewed for the Jeep Trail Tank Farm:

- **Natural Systems and Features:** These are the natural aspects that influenced the development and resultant form of the property, such as climate, geology, geomorphology, hydrology, and physiology.

  The property's land use as a tank farm was not influenced by the temperate climate of the area that was conducive to agriculture. The tank farm portion (constructed in the 1950s) was built before the agricultural fields in the parcel were developed in the 1970s. The property lacks natural aspects that ultimately influenced the development of the parcel; and instead, was influenced more by zoning uses for the County.

- **Spatial Organization:** This is the arrangement of elements creating the ground, vertical and overhead planes that define and create spaces in the parcel.

  The landscape's spatial organization is very simple, with only two clusters of land uses: oil and gas storage in the eastern portion of the parcel; and agricultural buildings along the western portion of the parcel, with an agricultural field and open space filling out the rest of the parcel. As a result, this is a very simple spatial organization.

- **Land Use:** This is the organization, form, and shape of the property in response to land use.

  The oil and storage uses were placed beside the road, which would have been the most convenient location for a tank farm that was on the far outskirts of early City of Oxnard, allowing the most efficient use of the rest of the parcel at a later period (for agricultural). The flat topography enabled the tank farm to have trucks deliver oil and hazardous materials, minimizing the chances of a spill. Later, in the non-historic period, agriculture would soon also use this topography for its ability to plant crops in long, even rows.

- **Cultural Traditions:** These are the practices that influenced land use, patterns of division, building forms, and the use of materials in the property.

  The land use, orientation of the clusters, construction materials, and design of the structures and tank farm followed the cultural traditions of early- to mid-twentieth-century rural development in southern California. The tank farm is typical of the period, and went through many upgrades and changes throughout time as tank farm design became more developed.

- **Circulation:** This is the spaces, systems, and materials that constitute the systems for movement in the property.

  The Jeep Trail is a dirt road that runs north to south, providing access to the southern portion of the property. Other circulation networks include the access to the property off Gonzales Road, as well as the small dirt paths connecting the clusters of agricultural outbuildings along the northern part of the parcel, and the pathways lining the agricultural field.

- **Topography:** This is the three-dimensional configuration of the property's ground surface related to land use, and characterized by features and orientation.

  The land use as a tank farm and agricultural field was influenced by the natural, flat topography of the area. This topography permitted the tank farm a safe space for transporting and storing oils and other potentially hazardous materials, in a location removed from the original city center.

- **Vegetation Related to Land Use:** Various types of vegetation bear a direct relationship to long-established patterns of land use. Vegetation includes not only crops, trees, or shrubs planted for agricultural and ornamental purposes, but also trees that have grown up incidentally along fence lines, beside roads, or in abandoned fields. Vegetation may include indigenous, naturalized, and introduced species.

  The principal vegetation type when the tank farm was constructed was natural coastal vegetation growing among sandy dunes. The agricultural vegetation on the tank farm parcel did not appear until the 1970s.

- **Buildings, Structures, and Objects:** Rural buildings and structures often exhibit patterns of vernacular design that may be common in their region or unique to their community. Residences may suggest family size and relationships, population densities, and economic fluctuations. The repeated use of methods, forms, and materials of construction may indicate successful solutions to building needs or demonstrate the unique skills, workmanship, or talent of a local artisan.

  The buildings, structures and objects in the parcel are primarily of utilitarian design, and are not unique to the community. The buildings and structures were all constructed beginning in the 1950s, and reflect common or prefabricated construction techniques.

- **Clusters:** Groupings of buildings, fences, and other features, as seen in a farmstead, ranch, or mining complex, result from function, social tradition, climate, or other influences, cultural or natural.

  The oil and gas storage portions are primarily clustered at the southern edge of the parcel, away from major roads or residential neighborhoods, with the agricultural properties concentrated towards the northern portion of the property. This was likely due to safety, to protect again the dangers of hazardous material spills.

- **Archaeological Sites:** The sites of prehistoric or historic activities or occupation may be marked by foundations, ruins, changes in vegetation, and surface remains.

The tank farm is not eligible as an archaeological site, nor were there foundations, ruins, changes in vegetation, or surface remains located on the site.

- **Small-Scale Elements:** Small-scale elements, such as a foot bridge or road sign, add to the historic setting of a rural landscape. These features may be characteristic of a region and occur repeatedly throughout an area, such as limestone fence posts in Kansas or cattle gates in the Buffalo River Valley of Arkansas. While most small-scale elements are long-lasting, some, such as bales of hay, are temporal or seasonal.

  Due to the undeveloped nature of the tank farm and its utilitarian purpose, there were no small-scale elements that could contribute to the property's development as a rural landscape.

Based on the review of the *NPS National Register Bulletin 30: Guidelines for Evaluating and Documenting Rural Historic Landscapes*, the Jeep Trail Tank Farm does not appear to be eligible as a rural historic landscape. The agricultural portion of the parcel was developed in the 1970s, and is therefore ineligible for evaluation as a historic property. Nothing about the design or construction of the Jeep Trail Tank Farm was unique, or required groundbreaking or innovative features to surmount engineering or design challenges. Because the Jeep Trail Tank Farm does not embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values, it is not eligible for the CRHR under Criterion 3.

Under CRHR Criterion 4, the Jeep Trail Tank Farm has not yielded—nor does it appear to have the potential to yield—information important to the prehistory or history of the local area, California, or the nation. Research has indicated that no known events of importance occurred in relation to the Jeep Trail Tank Farm. The resource is not likely to yield information important to the prehistory or history of the local area, California, or the nation. Because the Jeep Trail Tank Farm has not yielded—nor appears to have the potential to yield—information important to the prehistory or history of the local area, California, or the nation, it is not eligible for the CRHR under Criterion 4.

SECTION 5
MANAGEMENT CONSIDERATIONS

As a result of the current effort, no historic architectural resources were identified or evaluated as eligible for listing in the CRHR or as a historical resource for purposes of CEQA in the PAA. Therefore, significant impacts are not expected to occur to historic architectural resources.

SECTION 6
REFERENCES

Baker Library, 2012. Southern California Edison Company. Lehman Brothers Collection—Contemporary Business Archives. Harvard Business School Historical Collections. Available online at: http://www.library.hbs.edu/hc/lehman/chrono.html?company=southern_california_edison_company. Accessed February 12, 2015.

Barajas, Frank P., 2102. Curious unions: Mexican American workers and resistance in Oxnard, California, 1898-1961. University of Nebraska Press.

Beebe, Rose Marie, and Robert M. Senkewicz, editors, 2001. Lands of Promise and Despair: Chronicles of Early California, 1535-1846. Berkeley: Heyday.

Beller, E.E., R.M. Grossinger, M.N. Salomon, S.J. Dark, E.D. Stein, B.K. Orr, P.W. Downs, T.R. Longcore, G.C. Coffman, A.A. Whipple, R.A. Askevold, B. Stanford, and J.R. Beagle, 2001. Historical ecology of the lower Santa Clara River, Ventura River, and Oxnard Plain: an analysis of terrestrial, riverine, and coastal habitats. Prepared for the State Coastal Conservancy. A report of SFEI's Historical Ecology Program. SFEI Publication #641, San Francisco Estuary Institute: Oakland, California.

California Department of Parks and Recreation, 2015. Mandalay State Beach. Available online at: http://www.parks.ca.gov/?page_id=609. Accessed February 21, 2015.

CEC (California Energy Commission), 1992. "Instructions to the California Energy Commission Staff for the Review of and Information Requirements for an Application for Certification."

CEC (California Energy Commission), 1997. "Rules of Practice and Procedure and Power Plant Site Regulations."

CEC (California Energy Commission), 2006. "Rules of Practice and Procedure and Power Plant Site Certification Regulations Revisions, 04-SIT-2." December 14.

CEC (California Energy Commission), 2008. California Code of Regulations, Title 20. Public Utilities and Energy Division 2. State Energy Resources Conservation and Development Commission.

City of Oxnard, 1982. Coastal Land Use Plan (CLUP). Prepared by the City of Oxnard Planning and Environmental Services. Oxnard.

City of Oxnard, 1990. 2020 General Plan, (amended July 2004). Prepared for the City of Oxnard by the following consultants: Ralph Castañeda, Jr., and Paul Dunholter of Castañeda & Associates; Mestre of Greve Associates; Robert Y. Takata of Takata Associates; Andrew Nelson of Jacobs Engineering; and Kendall Elmer of Austin-Foust Associates, Inc.

City of Oxnard, 2004. Code Chapter 37, Sec. 37-3.6.0 Cultural Resources and Development. Prepared for the City of Oxnard by the Development Services Department, Planning and Environmental Services Division.

City of Oxnard, 2011. 2030 General Plan Goals and Policies. Prepared for the City of Oxnard by the Development Services Planning Division. Oxnard.

Cortelyou, S.V., 1937. "Colorful Show Features Conejo Grade Dedication." California Highways and Public Works, pgs. 7-8. May.

County of Ventura, 2011. "General Plan Goals, Policies, and Progress."

Dickey, Walter L., 1956. "The Design of Two Steam Electric Plants." ASCE Transactions.

EDR. 2015. EDR Historical Topographic Maps Report and Historic Aerial Photo Decade Package for the Mandalay Energy Center Project Site, Inquiries Number: 4185537.4 and 4185537.12. Sheldon.

Electrical West, 1929. "1928 Steam Plants Account for 45 Percent of New Generating Capacity." February 2.

ENSR Corporation, 2006. Revised Proposal for Information Collection for Mandalay Generating Facility, Document Number 10267-022-100. Report prepared for Reliant Energy, Inc., Oxnard.

Garbarini, Edgar J., 1953. "Design Saves Construction Dollars on Contra Costa Power Plant." Civil Engineering. May.

Golla, Victor., 2011. California Indian Languages. Berkeley: University of California Press.

Greenland, Powell, 1994. Port Hueneme: A History. Oxnard, CA: Ventura County Maritime Museum.

History Associates Incorporated, 2009. Southern California Edison Records. The Huntington Library Manuscripts Department, San Marino. Available online at: http://www.oac.cdlib.org/findaid/ark:/13030/kt6199s2cp/entire_text/. Accessed February 12, 2015.

Hutchinson, W.H., 1965. Oil, Land and Politics: The California Career of Thomas Robert Bard. Two volumes. Norman, Oklahoma: University of Oklahoma Press.

Impact Sciences, Inc., 1998. North Shore at Mandalay Bay Draft Environmental Impact Report, Vol. I. Prepared for the City of Oxnard, Community Development Department. Oxnard.

JRP and Caltrans, 2000. Water Conveyance Systems in California: Historic Context Development and Evaluation Procedures. December.

JRP, 2014. Historical Resources Inventory and Evaluation Update Report for the Carlsbad Energy Center Project, Encina Power Plant. Carlsbad, California.

LAPL (Los Angeles Public Library), 2015. Sanborn Fire Insurance Maps. Available online at: http://sanborn.umi.com.ezproxy.lapl.org/nav_imgs/titlebar.gif. Accessed February 20, 2015.

Mason, Jesse D., 1961. History of Santa Barbara and Ventura Counties. Oakland, California: Thompson & West, 1883. Reprint edition published by Howell-North Books, Berkeley, California.

Masters, Nathan, 2014. When Oxnard Beach Became 'Hollywood-by-the-Sea.' Electronic document, Available online at: http://www.kcet.org/updaily/socal_focus/history/la-as-subject/when-oxnard-beach-became-hollywood-by-the-sea.html. Accessed February 21, 2015, 2014.

Maulhardt, Jeffrey Wayne, 2001. Beans, Beets & Babies: The Second Generation of Farming Families and the History of the Sugar Factory.

Maulhardt, Jeffrey Wayne, 2009. Oxnard, Charleston, South Carolina: Arcadia Publishing.

MBC Applied Environmental Sciences, 2001. Reliant Energy Mandalay Generating Station: Marine Mammal Protection Act Small Take Permit Application. Prepared for Reliant Energy. Oxnard.

McGrath Family Farm, 2015. Farm History: The Oxnard Plain Since 1868. Available online at: http://www.mcgrathfamilyfarm.com/farm-history/. Accessed February 21, 2015.

McGrath State Beach Natural Resources Management Plan Final, 2003.

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

Moir Jr., Leo H., 1953. "Oxnard Oil Field: Ventura County, California," American Association of Petroleum Geologists Bulletin Volume 37, Issue 1.

Newland, Jim, 2012. McGrath State Beach -- Sewer Force Main and Sewer Lift Station Replacement and Wet Well Conversion. Prepared by Archaeological Project Leader Brendon Greenway. California State Parks Department.

NPS (National Park Service), 1983. Secretary of the Interior Standards and Guidelines for Archaeology and Historic Preservation.

NPS (National Park Service), 2014. "Juan Bautista de Anza National Historic Trail." Available online at: http://www.anzahistorictrail.org/visit/explorer. Accessed February 25, 2014.

Oxnard Courier, 1909. "Buy, Eat and Boost Lima Beans." December 3.

Oxnard Courier, 1911. "New Railroad Company is Incorporated to Work Here." May 12.

Oxnard Daily Courier, 1913. "Remodeling all beet dumps." May 21, 1913.

Oxnard Press-Courier, 1961. "County Once Dreamed of Big Railroad." May 24.

Pacific Rural Press, 1916. "The New Lima Bean Association." Volume 92, Number 17. October 21.

San Buenaventura Research Associates, 2005. Downtown Oxnard Historic Resources Survey. City of Oxnard.

San Buenaventura Research Associates, 2008. Historic Resources Report for 1600 W. Fifth Street, Oxnard. 2008.

San Buenaventura Research Associates, 2014, Historic Context Statement and Reconnaissance Survey for the Eastern Oxnard Plain of Ventura County CA. Prepared for the County of Ventura Planning Division. Santa Paula.

SCE (Southern California Edison Company), 1962. "Metropolitan Oxnard: An Area Inventory." Oxnard.

Spencer, R.W., 1961. "Cooling Water For Steam Electric Stations in Tidewater," Transactions of the American Society of Civil Engineers 126.

Steele, I.C., 1950. "Steam Power Gains on Hydro in California." Civil Engineering 20, No. 1. January.

Storke, Yda Addis, 1891. A Memorial and Biographical History of the Counties of Santa Barbara, San Luis Obispo, and Ventura, Ca. Chicago, Illinois: Lewis Publishing Company.

Sturtevant, William C., editor, 1978. Handbook of North American Indians. Washington D.C.: Smithsonian Institution.

Termuehlen, Heinz, 2001. 100 Years of Power Plant Development: Focus on Steam and Gas Turbines as Prime Movers. New York: ASME Press.

The California State Military Museum, 2014. "Naval Construction Battalion Center, Port Hueneme." Available online at: http://www.militarymuseum.org/CBCPtHueneme.html. Accessed July 1, 2014.

The Port of Hueneme, 2014. The Port of Hueneme Oxnard Harbor District. "Ventura County Railway." Available online at: http://www.portofhueneme.org/the_port_at_work/ventura_county_railway.php. Accessed on July 14, 2014.

Triem, Judith P., 1985. *Ventura County: Land of Good Fortune: an illustrated history*. Windsor Publications, Northridge.

UCCE (University of California Cooperative Extension), 2015. Agriculture and Natural Resources Ventura County: History of Ventura and Oxnard. Available online at: http://ceventura.ucanr.edu/files/76412.swf. Accessed February 21, 2015.

USC Libraries, 2015. USC Digital Library, "Dick" Whittington Photography Collection, 1924-1987, Oxnard. Available online at: http://digitallibrary.usc.edu/cdm/landingpage/collection/p15799coll170. Accessed February 21, 2015.

Ventura County Genealogical Society, 2014. Land records for grantees and grantors 1873-1917. Accessed April 2, 2014. Available online at: http://venturacogensoc.org/clist.php?nm=51.

Ventura County Star-Free Press, 1956. "Contract Awarded For Edison Plant." December 2.

Ventura County Star-Free Press, 1957a. "On Edison Co. Steam Station." April 6.

Ventura County Star-Free Press, 1957b. "Work Starts at Steam Plant Site." April 8.

Ventura County Star-Free Press, 1957c. "Multi-Million Dollar Plant Taking Shape." August 14.

Ventura County Star-Free Press, 1958a. "Sea Conversion Plant Set: Edison Mandalay Facility Will Be First of Its Kind." August 26.

Ventura County Star-Free Press, 1958b. "Steam Plant Takes Shape." September 2.

Ventura County Star-Free Press, 1958c. "Giant Generator for County." September 18.

Ventura County Star-Free Press, 1958d. "Edison Awards Contract for Water Plant." December 18.

Ventura County Star-Free Press, 1959a. "Huge Mandalay Steam Plant Starts Test Runs." February 20.

Ventura County Star-Free Press, 1959b. "Pipeline will Transport Gas 58 Miles to Electric Plant." April 30.

Ventura County Star-Free Press, 1959c. "New Mandalay Steam Station Now Operating." May 15.

Ventura County Star-Free Press, 1959d. "Edison Company Shows Off Mandalay Steam Plant." December 10.

Ventura County Star-Free Press, 1960. "Visitors Sip Sea Water at Edison Plant." January 26.

Ventura County Star-Free Press, 1968. "$11 Million Canal Home Job Begins." June 15.

Williams, James C., 1997. Energy and the Making of Modern California. Akron, Ohio: University of Akron Press.

Table 1
Agency Contacts

Agency	Contact	Address	Telephone
CEC	John Hillard, AICP	1516 9th Street, Sacramento, CA 95814	(916) 653-3992
State Historic Preservation Officer (SHPO)	Carol Roland-Nawi, PhD	1725 23rd Street, Suite 100, Sacramento, CA 95816	(916) 445-7050
County Chief Medical Examiner	Jon J. Smith, M.D.	3291 Loma Vista Road, Ventura, CA 93003	(805) 641-4407

Table 2
Previously Conducted Cultural Resource Investigations

Report No.	Year	Author (s)	Title	Resources	Within Historic Architectural PAA?
VN-00009	1973	Browne, Robert O.	Proposed Widening of Harbor Boulevard From West Fifth Street to Channel Island Boulevard	Negative	No
VN-00236	1980	Horne, Stephen	Final Report: Onshore Cultural Resources Assessment, Union Oil Company Platform Gina and Platform Gilda Project Federal Lease OCS P-0202 and P-0216, Offshore Southern California	56-000553, 56-000662, 56-000663, 56-000664, 56-000665, 56-000666, 56-000667, 56-001234, 56-120002, 56-120003	Yes
VN-00385	1981	Wlodarski, Robert J.	Archaeological Monitoring Report: Union Oil Company Platform Gina and Platform Gilda Project, Ventura County, California	Negative	Yes
VN-00398	1981	Wlodarski, Robert J.	Archaeological Monitoring Report for the Proposed Location of an 8 Montalvo Pipeline, Along Harbor Boulevard, Ventura County, California	Negative	Yes
VN-00414	1982	Wlodarski, Robert J.	An Archival and Background Cultural Resource Research Study for the Proposed Mandalay Beach Park, Ventura County, California	56-000621, 56-001234	Yes
VN-01509/ VN-01733	1985	Sturn, Bradley L.	Ventura Marina Dredging Project	56-001234	Yes
VN-01475	1986	Hines, Philip, and Jan Timbrook	Cultural Resource Survey for McGrath State Beach	Negative	Yes
VN-00621	1986	Lopez, Robert	An Archaeological Reconnaissance of Portions of the Area Proposed for Mandalay State Beach Regional Recreation Park, Oxnard, Ventura County	56-001234	Yes

Table 2
Previously Conducted Cultural Resource Investigations (Continued)

Report No.	Year	Author (s)	Title	Resources	Within Historic Architectural PAA?
VN-02974	1987	Pierson, Larry, Gerald Shiner, and Richard Slater	California Outer Continental Shelf, Archaeological Resource Study: Morro Bay to Mexican Border, Final Report	Negative	Yes
VN 00976	1990	Singer, Clay A., and John E. Atwood	Cultural Resources Survey and Impact Assessment for the Proposed Realignment of the Doris Drain in the City of Oxnard, Ventura County, California	Negative	No
VN 00989	1990	Bissell, Ronald M.	Cultural Resources Reconnaissance of Four Possible Sites for the California State University, Ventura Campus in Oxnard and Ventura, Ventura County, California	56 000665	No
VN-01660	1997	Simon, Joseph M.	Phase I Archaeological Survey and Cultural Resources Assessment for the North Shore at Mandalay Bay Study Area, Ventura County, California	56-000667	Yes
VN-02014	1998	Whitley, David S. and Joseph Simms	Phase II Test Excavation and Determining of Significance of a Portion of CA-VEN-667, Oxnard, Ventura County, California	56-000667	Yes
VN-02011	2000	Unknown	Phase I Archaeological Survey for the Coastal Zone/Soil Transfer Program Study Area, Coastal Berry Ranch, Ventura County, California	Negative	No

Table 2
Previously Conducted Cultural Resource Investigations (Continued)

Report No.	Year	Author (s)	Title	Resources	Within Historic Architectural PAA?
VN-02978	2004	Sharpe, Jim and Lori Durio	Groundwater Recovery Enhancement and Treatment (GREAT) Program, Cultural Resources Inventory Report	56-000506, 56-000662, 56-000664, 56-000665, 56-000666, 56-000726, 56-000789, 56-000918, 56-100060, 56-152779, 56-152780, 56-152781, 56-152782, 56-152783, 56-152784	Yes
VN-02474	2005	Thal, Sean	Request for SHPO Review of FCC Undertaking; Project Identifier: 5th & Harbor/CA-7306c; Project Address: on an Existing Transmission Tower Adjacent to Harbor Boulevard North of 5th Street, Oxnard, CA; County: Ventura County	Negative	Yes
VN-02809	2010	Wlodarski, Robert	A Phase 1 Archaeological Study Lots 1-12, of Map 5063 Located Northeast of the Intersection of Reef Way and Harbor Boulevard City of Oxnard, County of Ventura, California	56-000667, 56-001234	No
VN-02901	2010	Bonner, Wayne, Sarah Williams, and Kathleen Crawford	Cultural Resources Records Search, Site Visit Results, and Direct APE Historic Architectural Assessment for Clearwire Candidate CA-VT0119A (Mandalay-Santa Clara 1 and 2), 400 North Harbor Boulevard, Oxnard, Ventura County, California	56-000667, 56-001234, 56	Yes
VN-03138	2012	Newland, Jim	McGrath State Beach – Sewer Force Main and Sewer Lift Station Replacement and Wet Well Conversion	Negative	Yes

Table 3
Previously Recorded Historic Architectural Resources in Records Search Area

Resource Identifier	Description	Significance	Date Recorded and Recorded By	Within Historic Architectural PAA?
P-56-152738	Historic 1870 to 1920 McGrath House (Conway House).	Not Formally Evaluated	1991 Bissell, Ronald M.	No
P-56-153002	Historic SCE Mandalay-Santa Clara 1 and 2 Transmission Tower constructed in 1958.	Determined ineligible for listing in the NRHP (Status Code 6Y)	2010 Crawford, K.A.	Yes

Table 4
Property Types

Historic Context	Property Types	Description
Land Grants and Ranchos (1833-1864)	Adobes	No adobe residences are known to exist in the survey area
	Outbuildings	None known to exist from this time period
	Roads	These two-lane dirt roads generally marked the boundaries of land-holdings, serving local farmers and as connections between the tiny agricultural communities
European-American Settlement (1864-1989)	Residences	Stick style, Italianate style, Queen Anne style and Folk Victorian farm houses
	Roads	These two-lane dirt roads generally marked the boundaries of land-holdings, serving local farmers and as connections between the tiny agricultural communities; smaller roads named after local farm owners
	Agricultural outbuildings	Western-style barns, sheds for equipment storage, agricultural storage; pens for sheep, hogs; chicken coops, water tanks, blacksmith shops, windmills
	Warehouses	Lima bean warehouses, walnut warehouses, sugar beet warehouses
	Labor housing	Single-family homes for ranch supervisors/managers, individual and group housing for farm laborers
	Agricultural landscape	Wind rows (eucalyptus and pepper trees), orchards (citrus, walnuts, almonds, peaches, apricots, olives), row crops (barley, corn, beans), vineyards, and grains (wheat, flax, oats, alfalfa)
	Water features	Artesian wells, Santa Clara River, irrigation and drainage ditches, pump houses, water tanks
The City of Oxnard (1898-1945)	Residences	Colonial Revival, Neo-Classical, California Bungalow, Spanish Revival, other period revival styles, Hollywood-by-the-Sea resort community

Table 4
Property Types (Continued)

Historic Context	Property Types	Description
The City of Oxnard (1898-1945) (Continued)	Schools	Colonia School
	Railroads	Southern Pacific Railroad, Ventura County Railroad, trestles, beet dumps
	Roads	Local roads, main highways: Pacific Coast Highway (Roosevelt Highway and State Route 1), State Route 101 (formerly Conejo Road and El Camino Real)
	Roadside commercial	Commercial buildings
	Agricultural outbuildings	Western-style barns, small barns, water tanks, blacksmith shops, windmills, garages, walnut dehydrators, sheds for equipment storage, agricultural storage, Patterson Ranch
	Agricultural landscape	Wind rows, orchards (citrus, walnuts, apricots), row crops (lima beans, sugar beets, hay, alfalfa, misc. vegetables)
	Warehouses	Citrus and lima bean warehouses, sugar beet warehouses
	Labor housing	Single-family homes for supervisors and managers, group housing for farm laborers
	Water features	Irrigation ditches, creeks, sloughs, levees, flood control, Water District facilities, including reservoirs, pipelines, pump houses
	Mining and Refining	Oil wells, derricks, refineries, tanks, gravel mines, West Montalvo Oil Field, Venoco, Inc.
	Recreational features	Hunting clubs
Suburbanization (1945-1965)	Residences	Ranch, Minimal Traditional, Modern style, Channel Islands, Patterson Ranch subdivision
	Schools	Colonia School
	Railroads	Southern Pacific, Ventura County railroads
	Roads	Local roads, main highways: Pacific Coast Highway (Roosevelt Highway and U.S. Route 1), U.S. Highway 101 Freeway (former Conejo Road and El Camino Real), Harbor Boulevard, Gonzales Road, Fifth Street
	Agricultural outbuildings	Western-style barns, small barns, water tanks, garages, sheds for equipment storage, agricultural storage, Quonset huts

Table 4
Property Types (Continued)

Historic Context	Property Types	Description
Suburbanization (1945-1965) (Continued)	Warehouses	Citrus and lima bean warehouses, sugar beet warehouses
	Labor housing	Houses for supervisors, managers, group housing for farm laborers
	Agricultural landscape	Wind rows, orchards (citrus, walnuts, apricots), row crops (lima beans, sugar beets, hay, alfalfa, misc. vegetables, strawberries), beet dumps
	Water features	Irrigation ditches, creeks, sloughs, levees, flood control, Water District facilities (reservoirs, pipelines, pump houses)
	Mining and refining	Oil wells, derricks, refineries, tanks, gravel mines, pits, West Montalvo Oil Field, Venoco, Inc., Mandalay Generating Station
	Military-Industrial	Cold War industries (office buildings, testing facilities), Naval Advance Base Depot, Naval Construction Battalion Center, NAS Point Mugu, U.S. Naval Air Missile Test Center, Pacific Missile Test Center, Naval Air Warfare Center Weapons Division, Naval Air Weapons Station, Camarillo Airport
	Military-residential	Off-base housing (trailer parks, apartments), Port Hueneme, Point Mugu, Channel Islands

APPENDIX A
PROJECT MAPS

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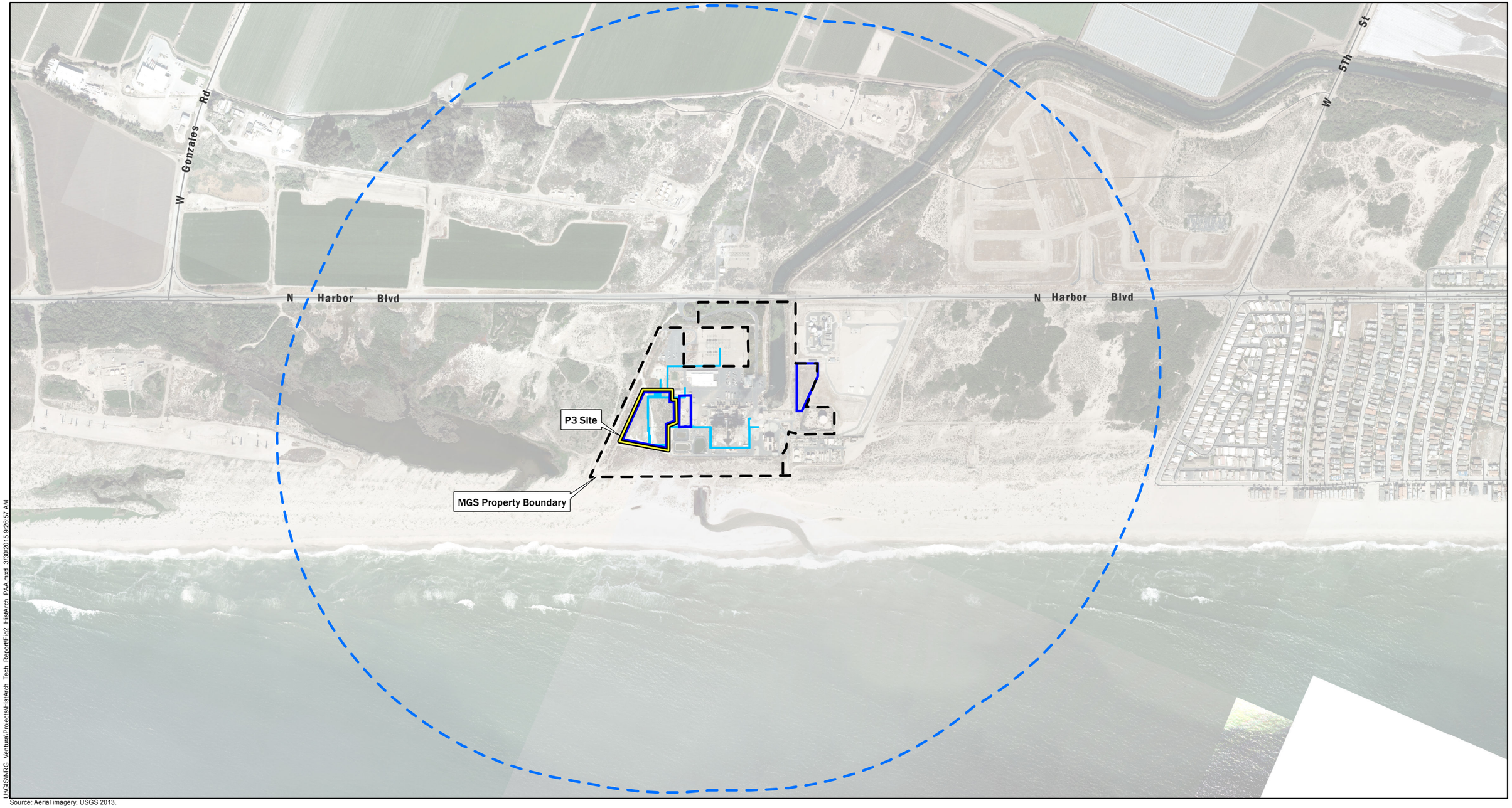
Source: ESRI Basemap

PROJECT SITE VICINITY MAP

■ Puente Power Project Site

NRG
Puente Power Project
March 2015 Oxnard, California

FIGURE 1



J:\GIS\NRG_Ventura\Projects\HistArch_Tech_Report\Fig2_HistArch_PAA.mxd 3/30/2015 9:26:57 AM

Source: Aerial imagery, USGS 2013.

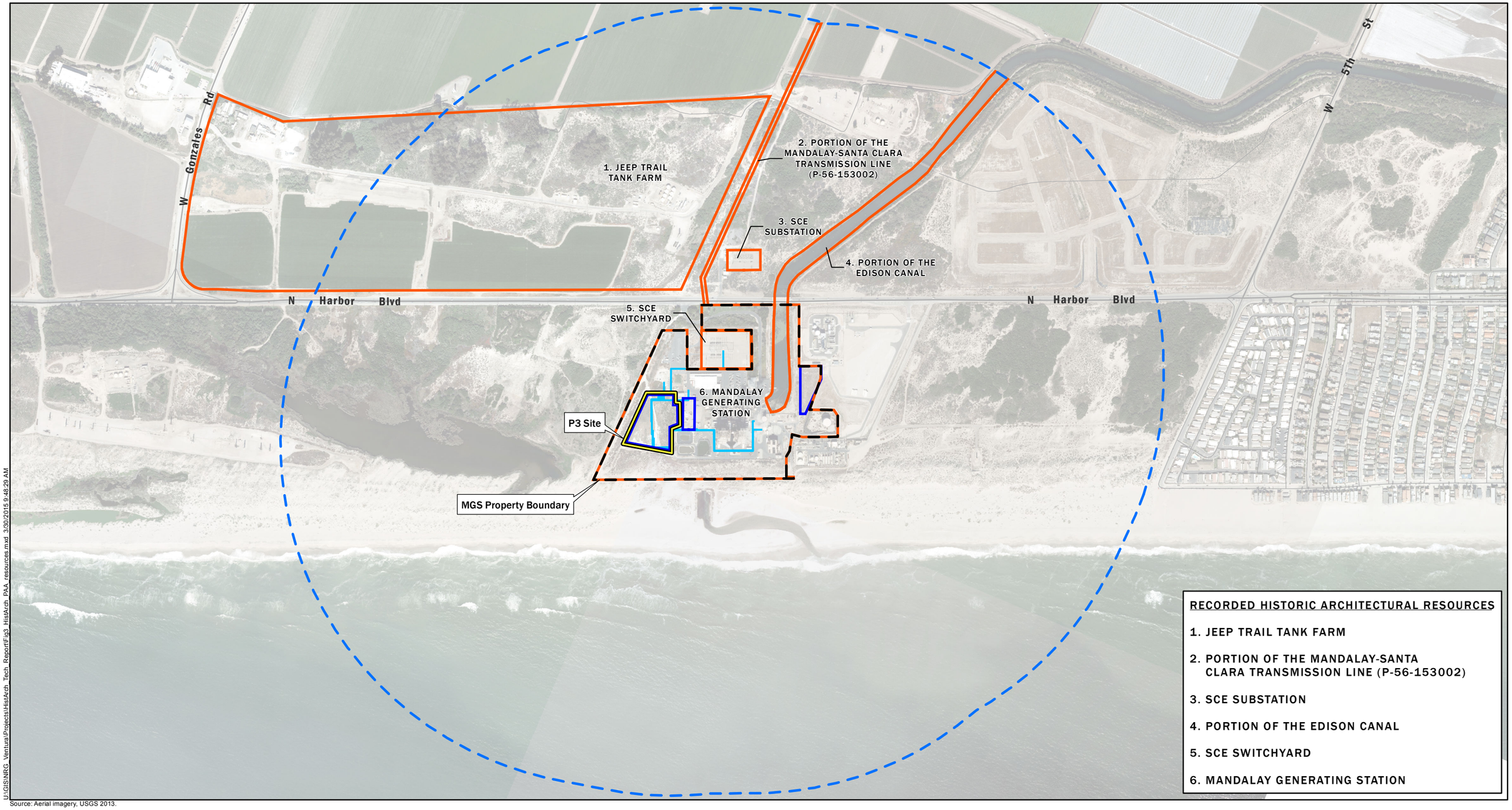
- Historic Architectural PAA (including CEC-mandated 0.5-mile buffer)
- Puente Power Project (P3)
- Mandalay Generating Station (MGS) Property
- Construction and Laydown Areas
- New Utility Line Route

0 400 800 FEET

HISTORIC ARCHITECTUAL PROJECT AREA OF ANALYSIS

NRG
Puente Power Project
March 2015 Oxnard, California

FIGURE 2



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Source: Aerial imagery, USGS 2013.

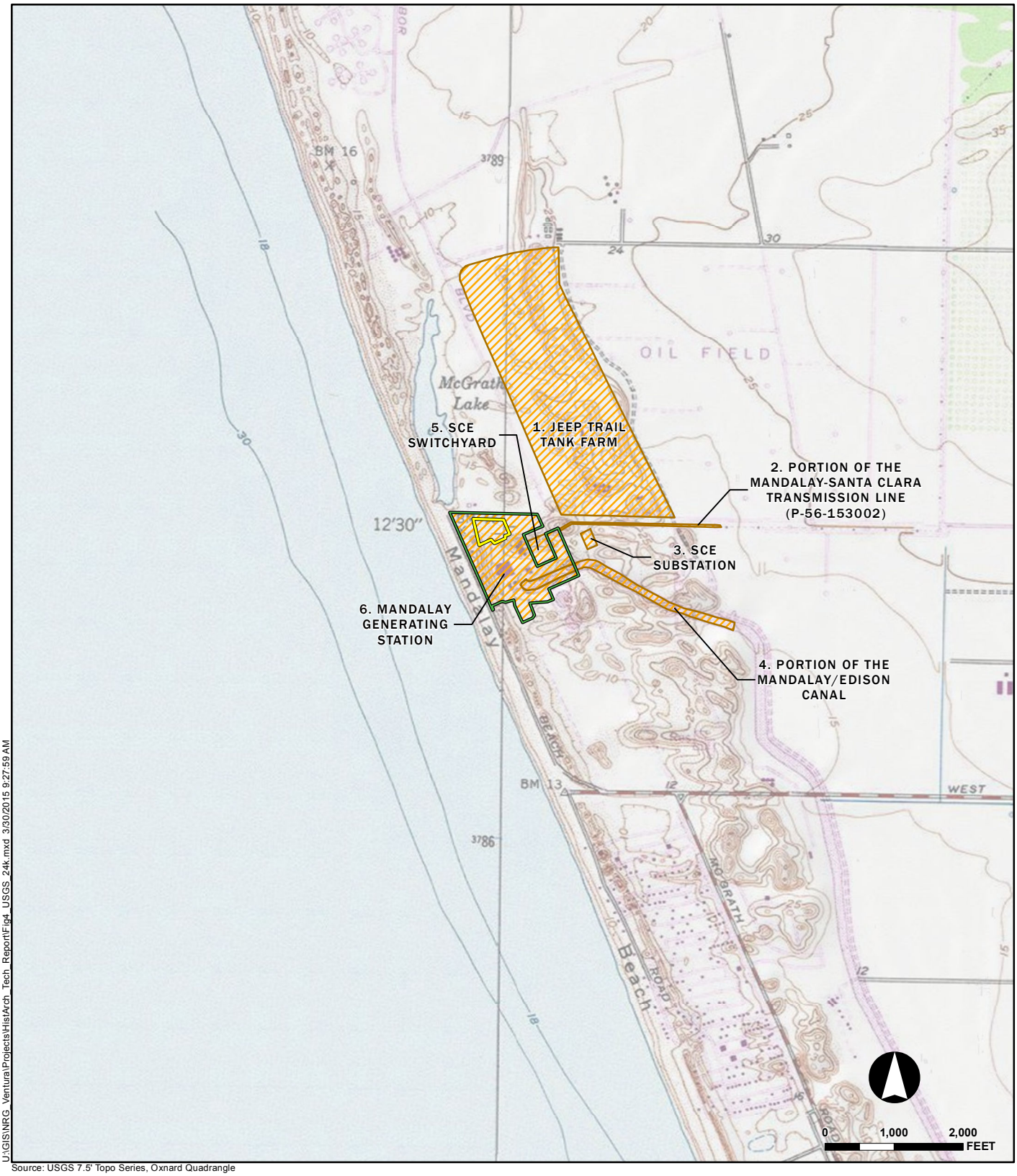
- Historic Architectural PAA (including CEC-mandated 0.5-mile buffer)
- Historic Architectural Resource Boundary
- Puente Power Project (P3)
- Mandalay Generating Station (MGS) Property
- Construction and Laydown Areas
- New Utility Line Route

0 400 800 FEET

HISTORIC ARCHITECTURAL RESOURCES IN THE PROJECT AREA OF ANALYSIS

NRG
Puente Power Project
March 2015 Oxnard, California

FIGURE 3



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Source: USGS 7.5' Topo Series, Oxnard Quadrangle

Historic Architectural Resource Boundary

Puente Power Project Site

Mandalay Generating Station Property

RESOURCE LOCATIONS

NRG
Puente Power Project
March 2015 Oxnard, California

FIGURE 4

APPENDIX B
OVERVIEW PHOTOGRAPHS OF PROJECT

Figure 1: Existing Construction Craft Parking, view to the northeast.

Figure 2: Gas Turbine Erection Area and Material Storage and Laydown, view towards the north.

Figure 3: Craft Trailer and Fabrication Shop area, view to the west.

Figure 4: Existing Construction Staff Parking, view to the southeast.

Figure 5: Proposed Overflow Material Storage and Laydown, view to the east.

APPENDIX C
RECORDS SEARCH RESULTS

(PROVIDED AS APPENDIX E-3 TO AFC)

APPENDIX D
HISTORIC MAPS AND AERIAL PHOTOGRAPHS

THE OLD SPANISH and MEXICAN RANCHOS of VENTURA COUNTY

N

Rancho Ojai

Rancho El Rincon

Rancho Santa Ana

Rancho Ex Mission Tract No. 1

Rancho Cañada Larga o Verde

Rancho Cañada de San Miguelito

Rancho Santa Paula y Saticoy

Rancho Las Posas

Rancho Santa Clara Del Norte

Rancho Calleguas

Rancho Simi

Rancho San Miguel

Rancho El Rio de Santa Clara o La Colonia

Rancho Ex Mission Tract No. 2

Rancho El Conejo

Rancho Guadalasca

Rancho Sespe

Prepared and Copyrighted by
Title Insurance and Trust Company
Ventura

1877


Rancho San Miguel
Rancho Santa Clara del Norte
Rancho Las Pesas
Gov. Lard
Rancho Calleguas
J. B. PATTERSON
Rancho Cañada de la
EL RIO DE SANTA CLARA
PACIFIC
OCEAN

U.S. GEOLOGICAL SURVEY
CHARLES D. WALCOTT,
DIRECTOR

TOPOGRAPHY

CALIFORNIA
(VENTURA COUNTY)
HUENEME QUADRANGLE

(Ventura) 119°15′ 10′ (Santa Paula) 5′ 119°00′ (Camulos) 34°15′

SAN MIGUEL
SANTA CLARA
S. P. R. R.
Montalvo
B.M. 93
SANTA PAULA Y SATICOY
RIVER
SANTA CLARA DEL NORTE
Elrio
LAS POSAS
Somis
R. 21 W.
R. 20 W.
Springville
PLEASANT
Camarillo
CALLEGUAS
VALLEY
T. 2 N.
T. 1 N.
B.M. 53
SOUTHERN PACIFIC R. R.
(SOMIS BRANCH)
Oxnard
B.M. 48
Leesdale
Sucrosa
Conejo Creek
CT.
RIO DE SANTA CLARA
15′
10′
B.M. 30
Round Mt.
Long Grade Canyon
Calleguas
Hueneme
B.M. 2
Hueneme Point
L.H.
GUADALASCA
La Joya Pk.
B.M. Laguna Peak
Canyon
(Camulos sheet)

Hueneme Point

Middle Point

Mugu Laguna

Mugu Point

La Joya Pk.

BM Laguna Peak 1427

Canyon

Sycamore

G U A D A L A S C A

P A C I F I C O C E A N

5'

34° 00'

119° 15'

10'

5'

ENGRAVED JAN. 1904 BY U.S.G.S.

R.U.Goode, Geographer in charge.
Triangulation by U.S.Coast and Geodetic Survey.
Topography by J.G.Hefty.
Surveyed in 1901.

TRUE NORTH
MAGNETIC NORTH
APPROXIMATE MEAN DECLINATION 1902

Scale 62500

1 0 1 2 3 4 Miles

1 0 1 2 3 4 5 Kilometers

Contour interval 50 feet.

Datum is mean sea level.

DIAGRAM OF TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Edition of Mar. 190

Hueneme

Historical Topographic Map

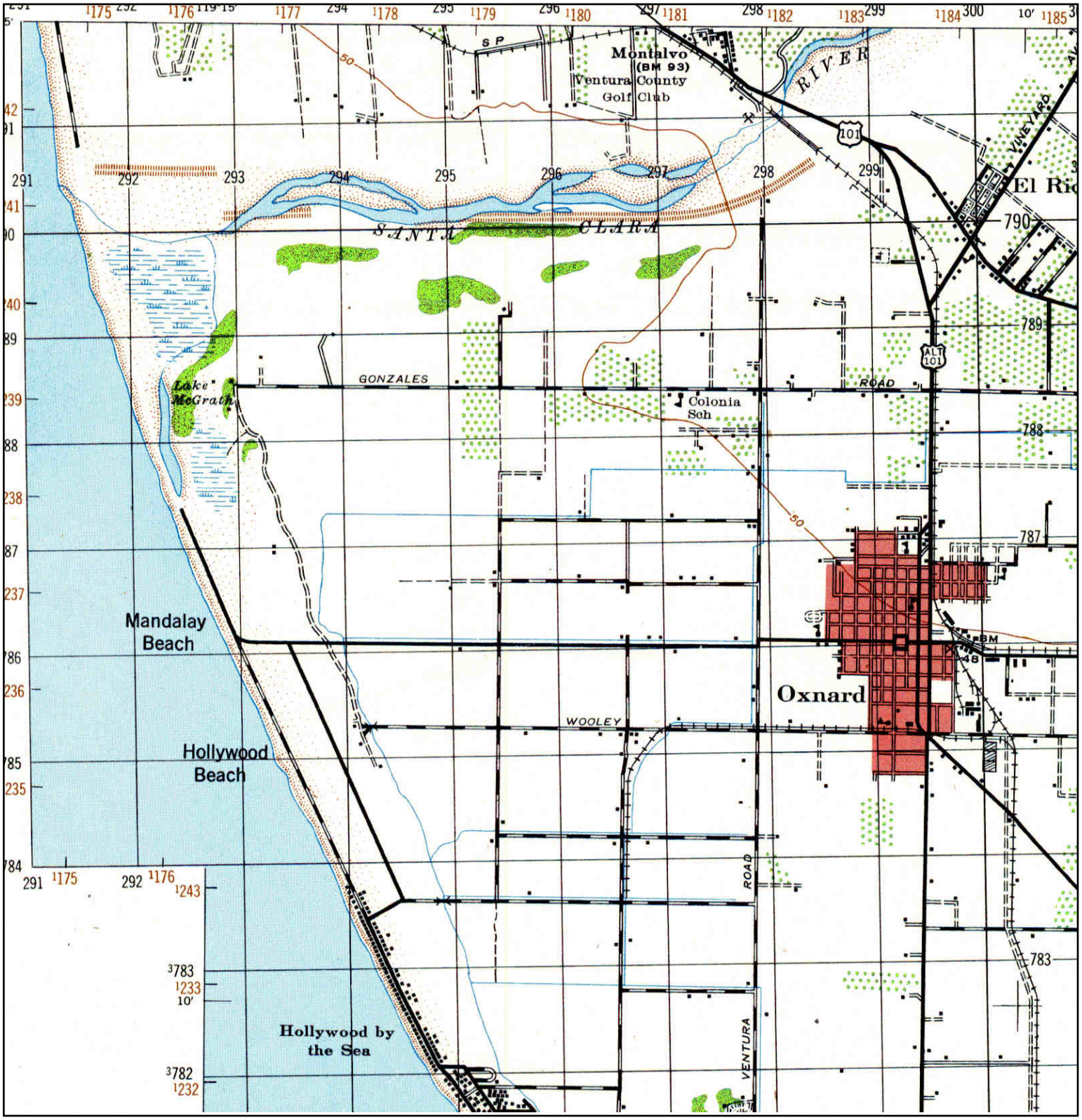
N	ADJOINING QUAD NAME: HUENEME MAP YEAR: 1904 SERIES: 15 SCALE: 1:62500	SITE NAME: Mandalay Energy Center Project Site ADDRESS: 393 North Harbor Boulevard Oxnard, CA 93035 LAT/LONG: 34.2068 / -119.2506	CLIENT: URS Corporation CONTACT: Tricia Winterbauer INQUIRY#: 4185537.4 RESEARCH DATE: 01/20/2015

Historical Topographic Map

N	TARGET QUAD NAME: SOUTHERN CA SHEET 3 MAP YEAR: 1910 SERIES: 60 SCALE: 1:250000	SITE NAME: Mandalay Energy Center Project Site ADDRESS: 393 North Harbor Boulevard Oxnard, CA 93035 LAT/LONG: 34.2068 / -119.2506	CLIENT: URS Corporation CONTACT: Tricia Winterbauer INQUIRY#: 4185537.4 RESEARCH DATE: 01/20/2015

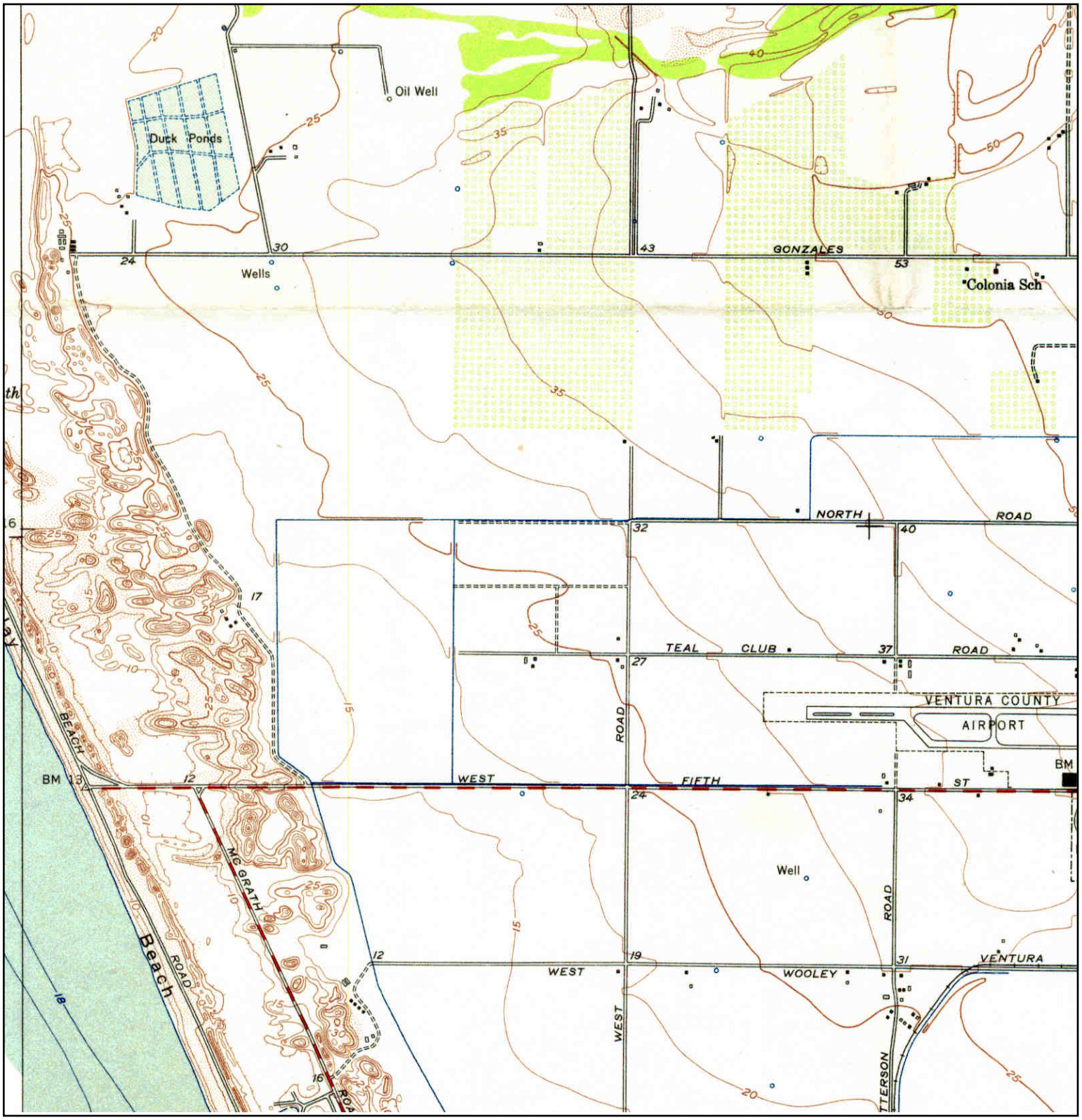

INQUIRY #: 4185537.12
YEAR: 1947
= 500'
N
EDR

Historical Topographic Map



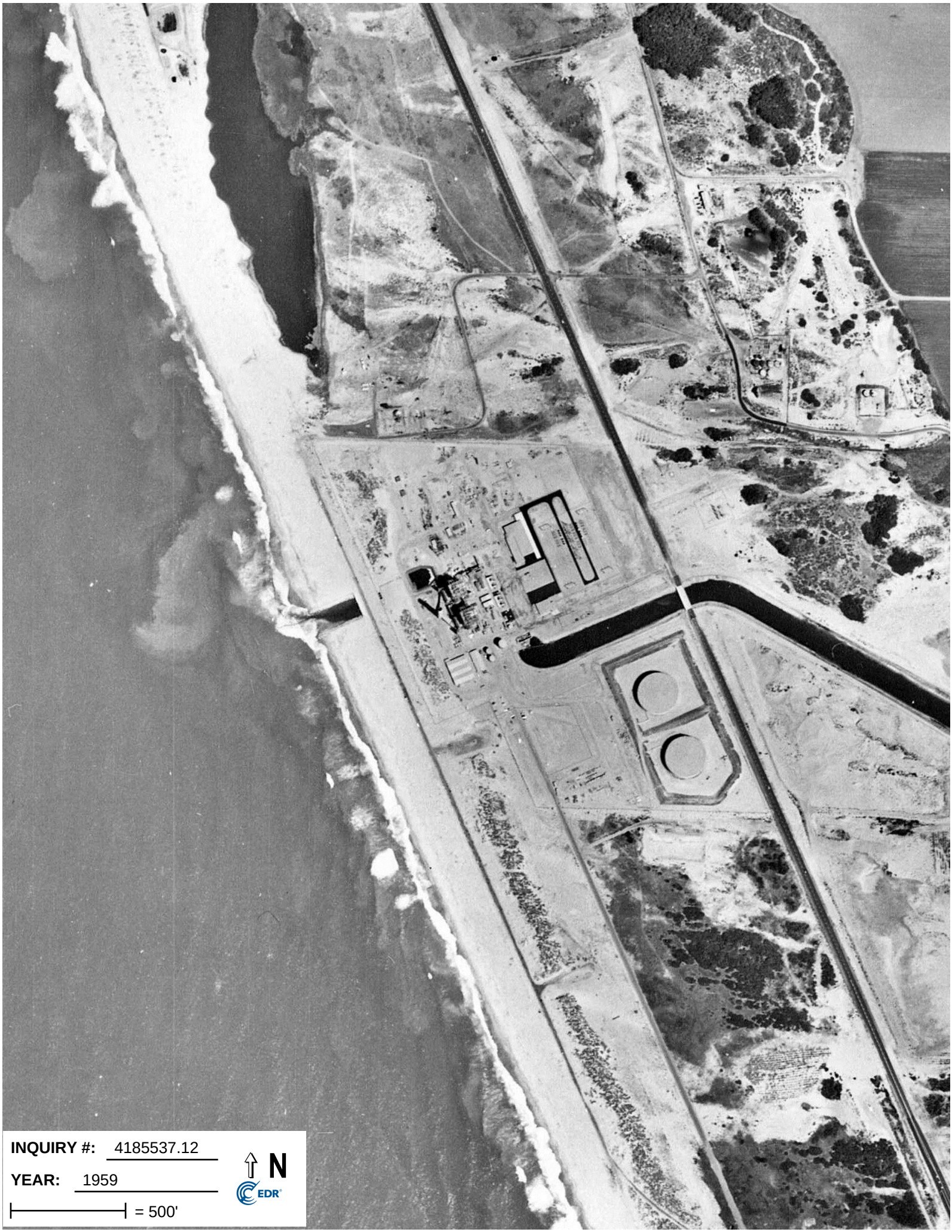
N	TARGET QUAD NAME: HUENEME MAP YEAR: 1947 SERIES: 15 SCALE: 1:50000	SITE NAME: Mandalay Energy Center Project Site ADDRESS: 393 North Harbor Boulevard Oxnard, CA 93035 LAT/LONG: 34.2068 / -119.2506	CLIENT: URS Corporation CONTACT: Tricia Winterbauer INQUIRY#: 4185537.4 RESEARCH DATE: 01/20/2015

Historical Topographic Map



N	TARGET QUAD				
	NAME:	OXNARD	SITE NAME:	Mandalay Energy Center Project Site	CLIENT: URS Corporation
	MAP YEAR:	1951	ADDRESS:	393 North Harbor Boulevard Oxnard, CA 93035	CONTACT: Tricia Winterbauer
	SERIES:	7.5	LAT/LONG:	34.2068 / -119.2506	INQUIRY#: 4185537.4
	SCALE:	1:24000			RESEARCH DATE: 01/20/2015


INQUIRY #: 4185537.12
YEAR: 1953
= 500'
N
EDR



INQUIRY #: 4185537.12

YEAR: 1959

= 500'

N

EDR

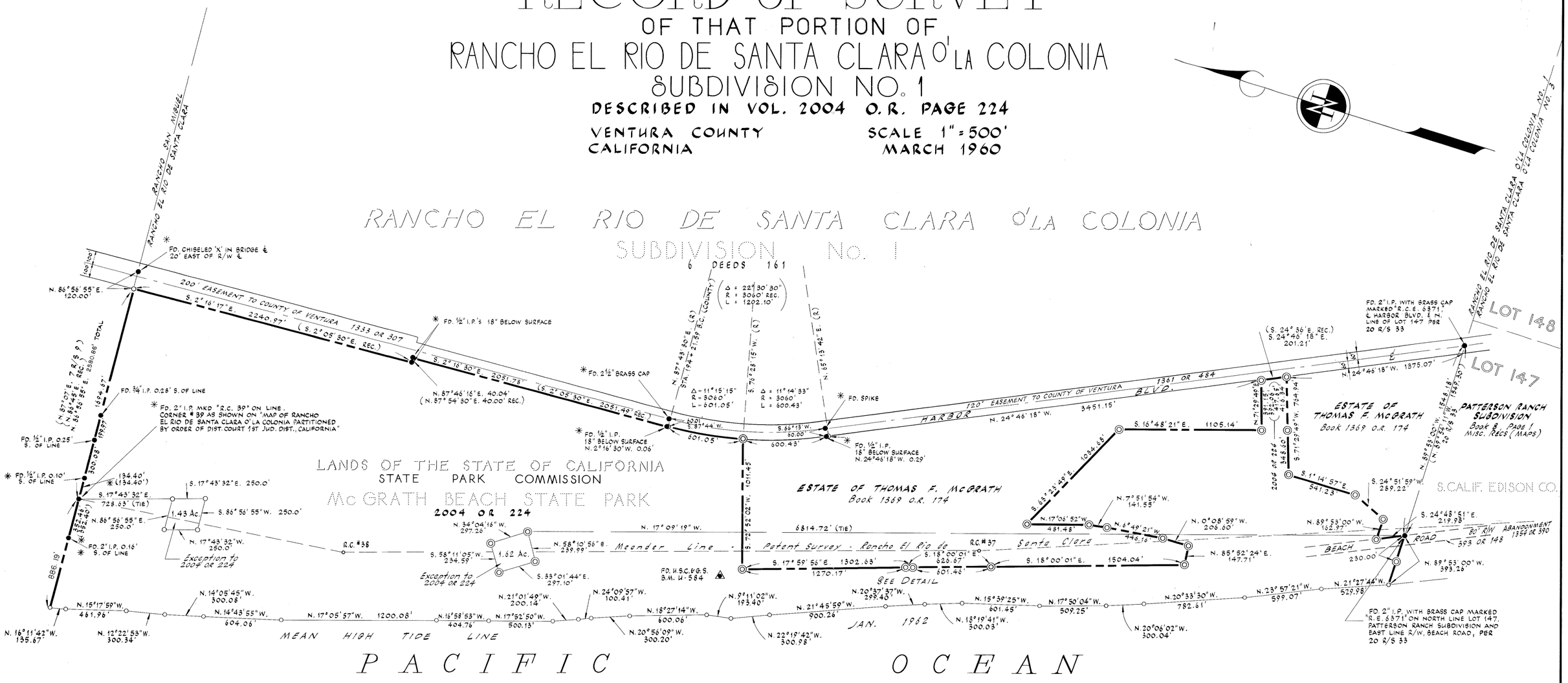
RECORD of SURVEY

OF THAT PORTION OF RANCHO EL RIO DE SANTA CLARA O'LA COLONIA SUBDIVISION NO. 1

DESCRIBED IN VOL. 2004 O.R. PAGE 224

VENTURA COUNTY
CALIFORNIA

SCALE 1" = 500'
MARCH 1960



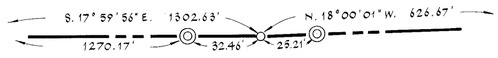
BASIS OF BEARINGS

THE NORTH LINE OF LOTS 147 AND 148 OF THE PATTERSON RANCH SUBDIVISION FILED OCTOBER 11, 1913 IN MISCELLANEOUS RECORDS (MAPS) BOOK 8, PAGE 1, VENTURA COUNTY RECORDS AS BEING N. 89° 53' W.

LEGEND

- STATE PARK BOUNDARY
- PT., NOTHING FOUND, NOTHING SET
- FOUND POINT AS DESCRIBED
- SET ¾" IRON PIPE WITH STANDARD B. & P CAP MARKED L.S. 2685 - 1960
- ( ) DENOTES RECORD BEARINGS & DISTANCES AS INDICATED IN VENTURA COUNTY SURVEYOR FIELD BOOK NO. 1236

NOTE:
THE MEAN HIGH TIDE LINE OF JANUARY 1962 IS DELINEATED AT AN ELEVATION OF 2.0 FEET ABOVE SEA LEVEL DATUM OF 1929 OF THE U.S. COAST & GEODETIC SURVEY. ON THIS DATUM U.S.C. & G.S. BENCH MARK V-584 IS AT ELEVATION 15.86 FEET.



DETAIL
No Scale

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF CHAPTER 15 OF DIVISION 3 OF THE BUSINESS AND PROFESSIONS CODE AT THE REQUEST OF THE STATE OF CALIFORNIA, DEPARTMENT OF NATURAL RESOURCES, DIVISION OF BEACHES AND PARKS, IN MARCH 1960.

Dean J. Jennings
DEAN J. JENNINGS L.S. 2685

SERIAL NO. 9551
FILED FOR RECORD THIS 15th DAY OF February 1963 AT 10:30 A.M. IN BOOK 26 AT PAGE 85 R.S. AT THE REQUEST OF THE STATE OF CALIFORNIA, DEPARTMENT OF NATURAL RESOURCES, DIVISION OF BEACHES AND PARKS.

Robert L. Hamm
VENTURA COUNTY RECORDER

BY: William Dover
DEPUTY COUNTY RECORDER

THIS MAP HAS BEEN EXAMINED FOR CONFORMANCE WITH THE REQUIREMENTS OF CHAPTER 15 OF DIVISION 3 OF THE BUSINESS AND PROFESSIONS CODE THIS 15 DAY OF February 1963.

M. C. LORENZ
VENTURA COUNTY SURVEYOR

BY: A. P. Stokes
ASSISTANT COUNTY SURVEYOR

INQUIRY #: 4185537.12

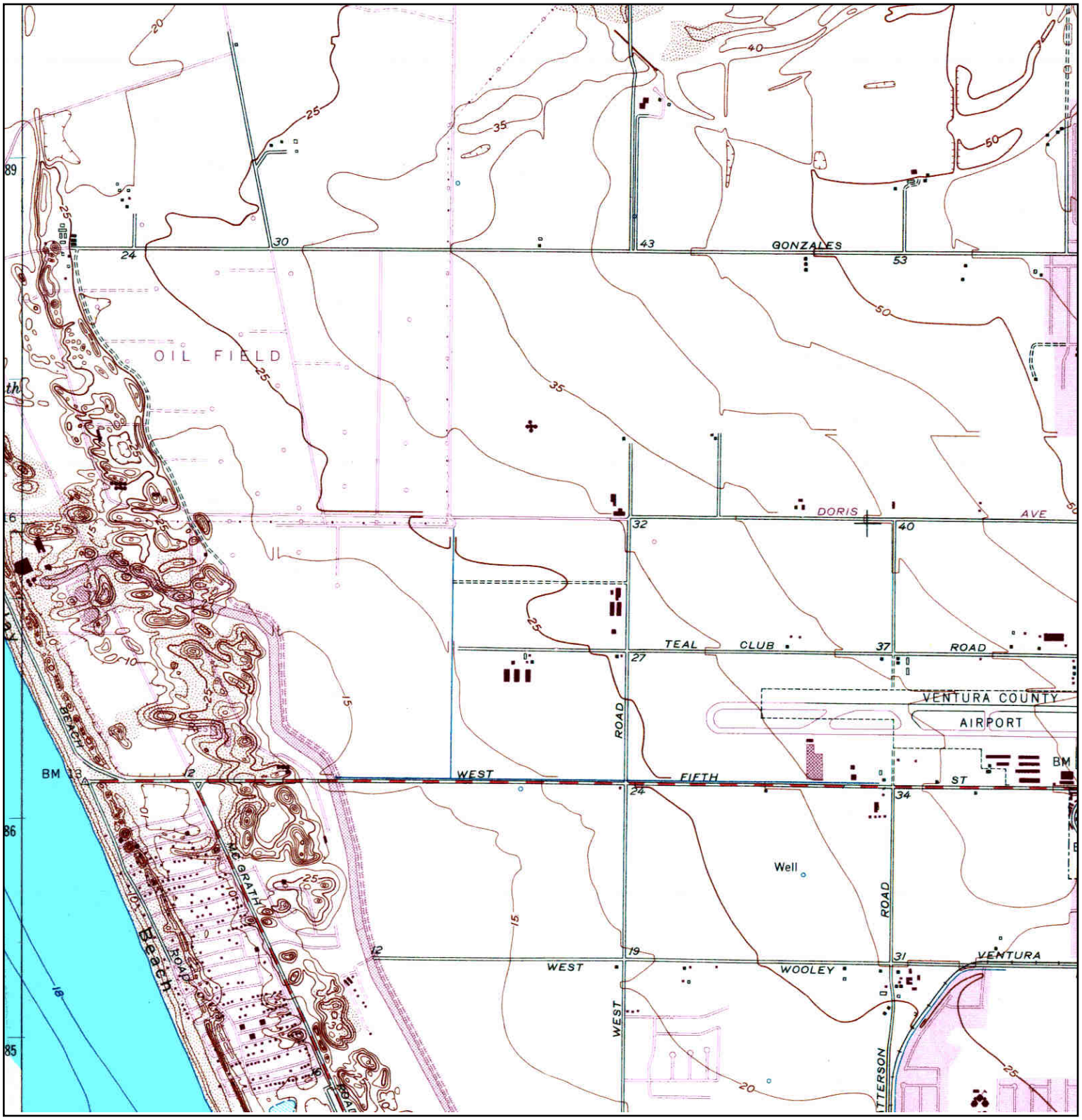
YEAR: 1967

= 500'

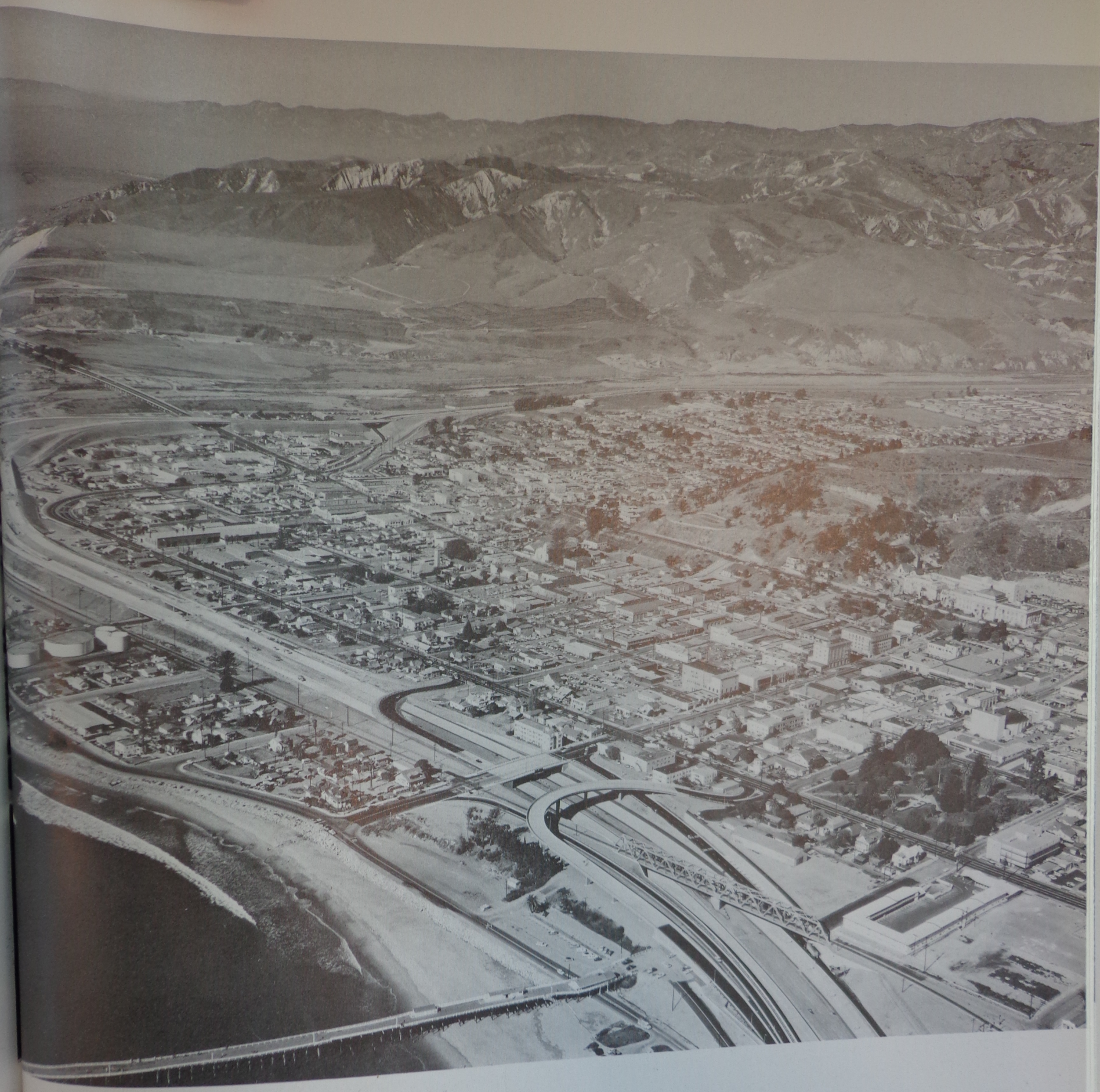
N

EDR

Historical Topographic Map



N	TARGET QUAD NAME: OXNARD MAP YEAR: 1967 PHOTOREVISED FROM :1949 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Mandalay Energy Center Project Site ADDRESS: 393 North Harbor Boulevard Oxnard, CA 93035 LAT/LONG: 34.2068 / -119.2506	CLIENT: URS Corporation CONTACT: Tricia Winterbauer INQUIRY#: 4185537.4 RESEARCH DATE: 01/20/2015



Although the completion of U.S. 101 through Ventura brought increased numbers of tourists to the community, it had the negative effect of separating the town from the beach, as seen in this 1962 aerial view. Courtesy, State of California, Department of Transportation

1967

1967 SCE MAP


SANTA CLARA RIVER
S. P. R. R.
MANDALAY STEAM STATION
VENTURA COUNTY AIRPORT
OXNARD
PORT HUENEME
NAVAL BASE
SMALL CRAFT HARBOR
PORT OF HUENEME
PACIFIC
VENTURA
COLONIA
INDUSTRIAL AREA
U.S. 101
CALIF. HWY. 34
GONZALES
NORTH
TEAL CLUB
WOOLEY
HOWE
WEST
OXNARD
LOS ALTOS
CUTTING RD
LEHMAN RD
PLEASANT VALLEY RD
BAYCE CANYON RD
JOHNSON RD
HUENEME RD
STATE
SANTA CLARA
CEMETERY LN
SAVIERS RD
CORTEZ
BALBOA
ALVARADO
DITCH
HOLLYWOOD
NAZLEWOOD
GLENWOOD
FERNWOOD
EASTWOOD
ROBERT AVE
W. MARRICK
RODDICK AVE
W. DOUGLAS
DOUGLAS AVE
W. DORIS
DORIS AVE
W. DEODAR
DEODAR AVE
BEVERLY
W. PALM
PALM DR
MAGNOLIA AVE
COLONIA
WOOLEY RD
WAKE
HILL ST
W. BIRCH
W. CEDAR
DATE
ELM
FIR
EUCA
HEMLOCK
IRIS
JUNIPER
KAMALA
LAUREL
MAPLE
NECTARINE
OLIVE
POPLAR
REDWOOD
MAIN ST
YUCCA
GLACIER
KERN
PARRISH
EVERGREEN
CLARA
JOYCE
SCOTT
MAIN
VENTURA
PARKING


INQUIRY #: 4185537.12
YEAR: 1977
= 500'
N
EDR


INQUIRY #: 4185537.12
YEAR: 1984
= 500'
N
EDR


INQUIRY #: 4185537.12
YEAR: 1994
= 500'
N
EDR


INQUIRY #: 4185537.12
YEAR: 2005
= 500'
N
EDR


INQUIRY #: 4185537.12
YEAR: 2009
= 500'
N
EDR


INQUIRY #: 4185537.12
YEAR: 2010
= 500'
N
EDR


INQUIRY #: 4185537.12
YEAR: 2012
= 500'
N
EDR

APPENDIX E
CORRESPONDENCE

Champion, Sarah

Subject: Ashley Golden City of Oxnard Planning Division Request
Attachments: 1 mile buffer around APE.pdf

From: Champion, Sarah
Sent: Wednesday, February 04, 2015 10:18 AM
To: 'oxnardcty@ci.oxnard.ca.us'
Cc: Hollins, Jeremy
Subject: Information Request Regarding Cultural Resources

Dear Ms. Golden of the City of Oxnard Planning Division,

As part of the cultural resource analysis requirements for the California Energy Commission Regulations, we are contacting you to request information about cultural resources located within a one-mile radius of a project site, as depicted on the attached map. Please provide information regarding any cultural resources listed pursuant to ordinance by a city or county, or recognized by any local historical or archaeological society or museum that you may be aware. Please respond back within 30 days of the date of this letter.

Please reach us at sarah.champion@aecom.com or 858-812-9292.

Thank you for your cooperation.

Sincerely,

Sarah Champion
Architectural Historian
D 1-858-812-8294
sarah.champion@aecom.com

AECOM
4225 Executive Square, Suite 1600, La Jolla, CA 92037
T 1-858-812-9292 F 1-858-812-9293
www.aecom.com

Twitter I Facebook I LinkedIn I Google+

Champion, Sarah

Subject: Ashley Golden Feb. 10 Response

From: Ashley Golden [mailto:Ashley.Golden@ci.oxnard.ca.us]
Sent: Tuesday, February 10, 2015 5:56 PM
To: Champion, Sarah
Subject: RE: Re: Information Request Regarding Cultural Resources

Yes, this needs to come in through City Clerks. It would be much better if your and Lauren could coordinate one request. I believe we've asked NRG to do this.

Ashley Golden
City of Oxnard
Interim Planning Manager

214 S C Street
Oxnard, CA 93030
805-385-7882
805-385-7417 (fax)

>>> "Champion, Sarah" <sarah.champion@aecom.com> 2/10/2015 4:12 PM >>>
Hi Ashley,

Sorry for my delayed response, I have been out of the office. The requests are related as they are for the same project, however Lauren Bridges is conducting historic research, and I am specifically asking about any cultural resources within the project site buffer area. Should I make a request through the City Clerk, or can you answer that inquiry?

Sarah Champion
Architectural Historian
D 1-858-812-8294
sarah.champion@aecom.com

AECOM
4225 Executive Square, Suite 1600, La Jolla, CA 92037
T 1-858-812-9292 F 1-858-812-9293
www.aecom.com

Twitter I Facebook I LinkedIn I Google+

From: Ashley Golden [mailto:Ashley.Golden@ci.oxnard.ca.us]
Sent: Wednesday, February 04, 2015 3:20 PM
To: Champion, Sarah
Cc: Chris Williamson; Lyn McGraw
Subject: Fwd: Re: Information Request Regarding Cultural Resources

Sarah,
We received a similar request with Lauren Bridges with AECOM. Can you confirm if the two requests are related, a duplicate, and if this request is related to any City sponsored activity? You will need to submit a public info request through the City Clerks office.

Thank you,

Ashley Golden
City of Oxnard
Interim Planning Manager

214 S C Street
Oxnard, CA 93030
805-385-7882
805-385-7417 (fax)

>>> "Champion, Sarah" <sarah.champion@aecom.com> 2/4/2015 10:18 AM >>>
Dear Ms. Golden of the City of Oxnard Planning Division,

As part of the cultural resource analysis requirements for the California Energy Commission Regulations, we are contacting you to request information about cultural resources located within a one-mile radius of a project site, as depicted on the attached map. Please provide information regarding any cultural resources listed pursuant to ordinance by a city or county, or recognized by any local historical or archaeological society or museum that you may be aware. Please respond back within 30 days of the date of this letter.

Please reach us at sarah.champion@aecom.com or 858-812-9292.

Thank you for your cooperation.

Sincerely,

Sarah Champion
Architectural Historian
D 1-858-812-8294
sarah.champion@aecom.com

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www.aecom.com

Twitter I Facebook I LinkedIn I Google+

Champion, Sarah

Subject: Chris Williamson stating to file a city clerk request

---

From: Chris Williamson [Chris.Williamson@ci.oxnard.ca.us]
Sent: Monday, February 02, 2015 2:04 PM
To: Bridges, Lauren
Subject: RE: Oxnard - your requests for information regarding Mandalay...etc.

You will need to file a Public Record Request through the City Clerk.
That date will not be possible. I'm sure you can find information on these topics outside of the City.

Chris Williamson, AICP, Principal Planner
City of Oxnard Planning Division
214 South C Street Oxnard, CA 93030
805-385-8156

Live Long and Prosper !
FAX 385-7417
chris.williamson@ci.oxnard.ca.us

>>> "Bridges, Lauren" <lauren.bridges@aecom.com> 2/2/2015 1:54 PM >>>
Chris,

This is not a city-sponsored activity and I am hoping to gather research information by February 11 or so. Please let me know if you would prefer and in-person visit or if you are able to assist remotely. I appreciate any information and resources your department can provide.

Lauren Bridges, MA, RPA
Archaeologist, Cultural Resources
C 1-404-630-4749
lauren.bridges@aecom.com

AECOM
4225 Executive Square, Suite 1600, La Jolla, California 92037
T 1-858-812-9292

From: Chris Williamson [Chris.Williamson@ci.oxnard.ca.us]
Sent: Monday, February 02, 2015 8:29 AM
To: Bridges, Lauren
Cc: Ashley Golden
Subject: Oxnard - your requests for information regarding Mandalay...etc.

This is not a small request. Please share if this is for a City-sponsored activity and what level of urgency.

Chris Williamson, AICP, Principal Planner
City of Oxnard Planning Division

214 South C Street Oxnard, CA 93030
805-385-8156

Live Long and Prosper !
FAX 385-7417
chris.williamson@ci.oxnard.ca.us

Champion, Sarah

Subject: records request response Chris Williamson

From: Chris Williamson [Chris.Williamson@ci.oxnard.ca.us]
Sent: Thursday, February 26, 2015 3:49 PM
To: Bridges, Lauren; Daniel Martinez; Jefferson Billingsley
Subject: RE: Public Records Request from AECOM dated Feb 2, 2015. Report of Conversation with requestor

TO: Oxnard City Clerk, Daniel Martinez
Jefferson Billingsley, Asst City Attorney

FROM: Chris Williamson, Principal Planner

RE: Public Records Request from AECOM dated Feb 2, 2015. Report of Conversation with Requestor Lauren Bridges

Today, at about 3:pm, I called Lauren Bridges of AECOM at 404-630-4749 to inform her of my preliminary findings regarding her public records request, as a courtesy given awareness that AECOM is preparing NRG's application to the CA Energy Commission and this request was made to gather information for the application. Ms Bridges confirmed that AECOM is preparing a historic context for the NRG application.

I described to her how the Mandalay SCE Station was originally built in the late 1950's in the unincorporated County, and later annexed to the City of Oxnard, and that I could not find records at City Hall related to the original permits. I explained we did have readily available building permit records from about the mid 1980's onward.

I further explained that the second part of her request, for information for six neighborhoods, was very broad. I explained that "neighborhoods" involve numerous permits and annexations over several decades, and gathering these data could take considerable time and effort.

Ms. Bridges agreed to reconsider her records request. She is copied on this e-mail and is likely to reply with a revised request for just building permit records for the NRG power plant and adjacent SCE properties (i.e. the APN's listed under "SCE History").

Lauren, please feel free to edit this summary of our conversation, if needed.

And, if you do wish to revise your request as I described above, please 'reply all' in the affirmative.

Chris Williamson, AICP, Principal Planner
City of Oxnard Planning Division

214 South C Street Oxnard, CA 93030
805-385-8156

Live Long and Prosper !
FAX 385-7417
chris.williamson@ci.oxnard.ca.us

Champion, Sarah

Subject: Public Records Request responses from Chris Williamson

---

From: Chris Williamson [Chris.Williamson@ci.oxnard.ca.us]
Sent: Wednesday, March 04, 2015 5:07 PM
To: Bridges, Lauren; Daniel Martinez; Jefferson Billingsley
Subject: RE: Public Records Request from AECOM dated Feb 2, 2015. Progress Report as of March 4.

Lauren:

So far we have about 100 pages of building permits to copy.
Staff are now printing out electronic building permit records. We should have this work completed soon, as will advise you on the reproduction cost.

Regarding the SCE peaker plant adjacent to the NRG plant. As you know, the City opposed the SCE plant, the City's denial was appealed to the Coastal Commission, and then there was a lawsuit. That adds up to a considerable amount of records - about an entire lateral file drawer. There are my electronic files - 450 MB - fairly well organized chronologically dating from 2006. Please indicate if you are ok to accept the electronic data, at least initially, and decide later if you want all, or selected, SCE Peaker Plant records. If you have an FTP site, I could upload them. If not, I could send you a burned CD to you address in La Jolla.

As for *"...cultural resources located within a one-mile radius of a project site located at 393 N Harbor Blvd, Oxnard, CA that the City may be aware of."* in your request. A one mile radius from the Mandalay Generating Station extends to about Beachcomber Street to the south, into the ag fields on the East, and north to just beyond Gonzales Road. Section 5.4 of the 2030 General Plan Background Report (2006) is the only documentation pertaining to this area, pages 5-52 and 5-53. The document is available at: http://developmentservices.cityofoxnard.org/7/76/961/

Chris Williamson, AICP, Principal Planner
City of Oxnard Planning Division
214 South C Street Oxnard, CA 93030
805-385-8156

Live Long and Prosper !
FAX 385-7417
chris.williamson@ci.oxnard.ca.us

>>> "Bridges, Lauren" <lauren.bridges@aecom.com> 2/27/2015 12:26 PM >>>
To: Oxnard City Clerk, Daniel Martinez

From: Lauren Bridges, AECOM

After speaking with Chris Williamson, we decided the best course of action is to amend our prior public records request to only include those building permit records for the NRG power plant and adjacent SCE properties (i.e. the APN's listed

under "SCE History, as well as, the original supplemental request for information about cultural resources located within a one-mile radius of a project site located at 393 N Harbor Blvd, Oxnard, CA that the City may be aware of.

The public records will be used for preparing a historic context for the NRG-owned Mandalay Generating Station.

Regards,

Lauren Bridges, MA, RPA
Archaeologist, Cultural Resources
C 1-404-630-4749
lauren.bridges@aecom.com

AECOM
4225 Executive Square, Suite 1600, La Jolla, California 92037
T 1-858-812-9292

From: Chris Williamson [Chris.Williamson@ci.oxnard.ca.us]
Sent: Thursday, February 26, 2015 3:49 PM
To: Bridges, Lauren; Daniel Martinez; Jefferson Billingsley
Subject: RE: Public Records Request from AECOM dated Feb 2, 2015. Report of Conversation with requestor

TO: Oxnard City Clerk, Daniel Martinez
Jefferson Billingsley, Asst City Attorney

FROM: Chris Williamson, Principal Planner

RE: Public Records Request from AECOM dated Feb 2, 2015. Report of Conversation with Requestor Lauren Bridges

Today, at about 3:pm, I called Lauren Bridges of AECOM at 404-630-4749 to inform her of my preliminary findings regarding her public records request, as a courtesy given awareness that AECOM is preparing NRG's application to the CA Energy Commission and this request was made to gather information for the application. Ms Bridges confirmed that she is preparing a historic context for the NRG-owned Mandalay Generating Station.

I described to her how the Mandalay SCE Station was originally built in the late 1950's in the unincorporated County, and later annexed to the City of Oxnard, and that I could not find records at City Hall related to the original permits. I explained we did have readily available building permit records from about the mid 1980's onward.

I further explained that the second part of her request, for information for six neighborhoods, was very broad. I explained that "neighborhoods" involve numerous permits and annexations over several decades, and gathering these data could take considerable time and effort.

Ms. Bridges agreed to reconsider her records request. She is copied on this e-mail and is likely to reply with a revised request for just building permit records for the NRG power plant and adjacent SCE properties (i.e. the APN's listed under "SCE History").

Lauren, please feel free to edit this summary of our conversation, if needed.

And, if you do wish to revise your request as I described above, please 'reply all' in the affirmative.

Chris Williamson, AICP, Principal Planner
City of Oxnard Planning Division
214 South C Street Oxnard, CA 93030
805-385-8156

Live Long and Prosper !
FAX 385-7417
chris.williamson@ci.oxnard.ca.us

AECOM CORPORATION

Report of Conversation

Project Title:	Puente Power Project				
Telephone:		**Meeting Location:**	Telephone Call		
Name:	Lauren Bridges	**Date:**	2/26/2015	**Time:**	3:00pm
With:	Chris Williamson, Oxnard City Principal Planner				
Subject:	Information Request Regarding Cultural Resources				

Chris called back in response to an official public records request for resources within 1-mile of the Project sent to Martha, the secretary of Daniel Martinez, City Clerk, February 13, 2015 at 1:27pm. Chris informed Lauren of his preliminary findings in looking into her public records request. He described how the Mandalay SCE Station was originally built in the late 1950s in the unincorporated county, and later annexed to the City of Oxnard, and that he could not records at City Hall related to the original permits. Chris also explained that the city had many buildings permits from the mid-1980s onward. Gathering the information for the many neighborhoods surrounding the Mandalay SCE Station would take considerable effort. Lauren agreed to amend the original public records request for just the building permit records for the NRG power plant and adjacent SCE properties. Lauren sent a confirmation e-mail to Chris, CC Daniel Martinez, on February 27, 2015 at 12:26pm of her revised public records request for just those records associated with the power plant and SCE properties, as well as any known cultural resources located within a 1-mile radius of the Project.

Champion, Sarah

Subject: City Clerk Request
Attachments: 1 mile buffer around APE.PDF

From: Bridges, Lauren
Sent: Friday, February 13, 2015 1:27 PM
To: Oxnardcity
Cc: Daniel Martinez; Lyn McGraw
Subject: RE: oxnard public records request

Martha,

Thank you so much for your assistance with my public records request. I am hoping to add a little bit to my prior request if possible.

As part of the cultural resource analysis requirements for the California Energy Commission Regulations, I am contacting you to request information about cultural resources located within a one-mile radius of a project site located at 393 N Harbor Blvd, Oxnard, CA, as depicted on the attached map. Please provide information regarding any cultural resources listed pursuant to ordinance by a city or county, or recognized by any local historical or archaeological society or museum that you may be aware. A response to this request within 30 days of the date of this letter is very much appreciated.

Thank you.

Regards,

Lauren Bridges, MA, RPA
Archaeologist, Cultural Resources
C 1-404-630-4749
lauren.bridges@aecom.com

AECOM
4225 Executive Square, Suite 1600, La Jolla, California 92037
T 1-858-812-9292

From: Oxnardcity [oxnardcty@ci.oxnard.ca.us]
Sent: Monday, February 09, 2015 3:56 PM
To: Bridges, Lauren
Cc: Daniel Martinez; Lyn McGraw
Subject: Re: oxnard public records request

Good afternoon,
Your email is being sent to the City Clerks to address. Thank you Martha

>>> "Bridges, Lauren" <lauren.bridges@aecom.com> 2/9/2015 3:05 PM >>>
City Clerk,

I am conducting some historic research on the mandalay generating station that was constructed by Southern California Edison between 1955-1961. I am hoping to gather some information on the below topics. Does your organization have any information, building plans, site plans, or photographs you can scan and send, or set aside for an in-house visit? I appreciate your time and efforts to aid in this historic research. Please let me know if you are able to assist with my request and the amount of time needed to pull the materials for this research.

Relevant Company Names: Southern California Edison, Bechtel Corporation, Reliant Energy, Inc.

- **SCE History**
  - SCE Mandalay-Santa Clara Transmission Line APN unknown
  - SCE Mandalay Generating station (constructed 1955-1961, 393 N Harbor Blvd, Oxnard, CA) APN 183002202
  - SCE San Miguel Switchyard/Switching Station APN 183002201
  - SCE's McGrath Peaker Plant APN 183002203
  - Edison Canal APNs 183002102, 183001069, 183002301
  - SCE Sub Station APN 183002101
- **Subdivisions/Nearby Neighborhoods History-(can send excel of relevant APNs if required for search)**
  - Oxnard Shores
  - Southwest Community
  - Channel Islands
  - Via Marina
  - Sea View Estates

    Patterson Ranch

Regards,

Lauren Bridges, MA, RPA
Archaeologist, Cultural Resources
C 1-404-630-4749
lauren.bridges@aecom.com

AECOM
4225 Executive Square, Suite 1600, La Jolla, California 92037
T 1-858-812-9292

Champion, Sarah

Subject: Records Request Daniel Martinez Response

From: Daniel Martinez [Daniel.Martinez@ci.oxnard.ca.us]
Sent: Monday, February 23, 2015 3:12 PM
To: Bridges, Lauren
Subject: More Time

Your public records request seeks various documents regarding history of a power plant and community neighborhoods. City staff needs more time to determine whether your request seeks copies of disclosable public records in the possession of the City, given the need to search for, collect and appropriately examine the separate and distinct records. I expect to advise you of that determination no later than March 18, 2015.

Daniel Martinez
City Clerk
305 West Third Street
Oxnard, CA 93030
805.385.7805

Champion, Sarah

Subject: Nicole Doner Request
Attachments: 1 mile buffer around APE.pdf

From: Champion, Sarah
Sent: Wednesday, February 04, 2015 10:18 AM
To: 'nicole.doner@ventura.org'
Cc: Hollins, Jeremy
Subject: Information Request Regarding Cultural Resources

Dear Ms. Doner,

As part of the cultural resource analysis requirements for the California Energy Commission Regulations, we are contacting you to request information about cultural resources located within a one-mile radius of a project site, as depicted on the attached map. Please provide information regarding any cultural resources listed pursuant to ordinance by a city or county, or recognized by any local historical or archaeological society or museum that you may be aware. Please respond back within 30 days of the date of this letter.

Please reach us at sarah.champion@aecom.com or 858-812-9292.

Thank you for your cooperation.

Sincerely,

Sarah Champion
Architectural Historian
D 1-858-812-8294
sarah.champion@aecom.com

AECOM
4225 Executive Square, Suite 1600, La Jolla, CA 92037
T 1-858-812-9292 F 1-858-812-9293
www.aecom.com

Twitter I Facebook I LinkedIn I Google+

AECOM CORPORATION

Report of Conversation

Project Title:	Puente Power Project				
Telephone:		**Meeting Location:**	Telephone Call		
Name:	Sarah Champion	**Date:**	2/4/2015	**Time:**	10:23am
With:	Nicole Donor, Ventura County Cultural Heritage Planner				
Subject:	Information Request Regarding Cultural Resources				

Nicole called back in response to an email sent at 10:18am seeing information regarding potential cultural resources within a one-mile buffer of the project site. She mentioned she had also been in contact with Lauren Bridges, AECOM Archaeologist, per discussions of historic context of the area. She mentioned that the only recorded resource in the area was the McGrath house (as found in our record search results, P-56-152738). She discussed how no survey has been done in that one-mile radius by Ventura County, and rather the east side of Oxnard has been previously surveyed, but not the west side of Oxnard – where our project is located. She also said that she would love to see a final copy of our report for her files.

Champion, Sarah

Subject: Richard Bryan Request
Attachments: 1 mile buffer around APE.pdf

From: Champion, Sarah
Sent: Wednesday, February 04, 2015 10:18 AM
To: 'richard.bryan@ci.oxnard.ca.us'
Cc: Hollins, Jeremy
Subject: Information Request Regarding Cultural Resources

Dear Mr. Bryan,

As part of the cultural resource analysis requirements for the California Energy Commission Regulations, we are contacting you to request information about cultural resources located within a one-mile radius of a project site, as depicted on the attached map. Please provide information regarding any cultural resources listed pursuant to ordinance by a city or county, or recognized by any local historical or archaeological society or museum that you may be aware. Please respond back within 30 days of the date of this letter.

Please reach us at sarah.champion@aecom.com or 858-812-9292.

Thank you for your cooperation.

Sincerely,

Sarah Champion
Architectural Historian
D 1-858-812-8294
sarah.champion@aecom.com

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4225 Executive Square, Suite 1600, La Jolla, CA 92037
T 1-858-812-9292 F 1-858-812-9293
www.aecom.com

Twitter I Facebook I LinkedIn I Google+

Champion, Sarah

Subject: FW: Information Regarding Cultural Resources
Attachments: 1 mile buffer around APE.PDF

From: Champion, Sarah
Sent: Friday, February 06, 2015 10:38 AM
To: 'library@venturamuseum.org'
Subject: RE: Information Regarding Cultural Resources

Please see attached map.

Sarah Champion
Architectural Historian
D 1-858-812-8294
sarah.champion@aecom.com

AECOM
4225 Executive Square, Suite 1600, La Jolla, CA 92037
T 1-858-812-9292 F 1-858-812-9293
www.aecom.com

Twitter I Facebook I LinkedIn I Google+

From: Champion, Sarah
Sent: Friday, February 06, 2015 10:36 AM
To: 'library@venturamuseum.org'
Subject: Information Regarding Cultural Resources

To Whom it May Concern,

As part of the cultural resource analysis requirements for the California Energy Commission Regulations, we are contacting you to request information about cultural resources located within a one-mile radius of a project site, as depicted on the attached map. Please provide information regarding any cultural resources listed pursuant to ordinance by a city or county, or recognized by any local historical or archaeological society or museum that you may be aware. Please respond back within 30 days of the date of this letter.

Please reach us at sarah.champion@aecom.com or 858-812-9292.

Thank you for your cooperation.

Sincerely,

Sarah Champion
Architectural Historian
D 1-858-812-8294
sarah.champion@aecom.com

AECOM
4225 Executive Square, Suite 1600, La Jolla, CA 92037
T 1-858-812-9292 F 1-858-812-9293
www.aecom.com

Twitter I Facebook I LinkedIn I Google+

Champion, Sarah

Subject: FW: Information Regarding Cultural Resources
Attachments: 1 mile buffer around APE.PDF

From: Champion, Sarah
Sent: Friday, February 06, 2015 10:38 AM
To: 'LocalHistory@ci.oxnard.ca.us'
Subject: RE: Information Regarding Cultural Resources

Please see attached map.

Sarah Champion
Architectural Historian
D 1-858-812-8294
sarah.champion@aecom.com

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Twitter I Facebook I LinkedIn I Google+

From: Champion, Sarah
Sent: Friday, February 06, 2015 10:36 AM
To: 'LocalHistory@ci.oxnard.ca.us'
Subject: Information Regarding Cultural Resources

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As part of the cultural resource analysis requirements for the California Energy Commission Regulations, we are contacting you to request information about cultural resources located within a one-mile radius of a project site, as depicted on the attached map. Please provide information regarding any cultural resources listed pursuant to ordinance by a city or county, or recognized by any local historical or archaeological society or museum that you may be aware. Please respond back within 30 days of the date of this letter.

Please reach us at sarah.champion@aecom.com or 858-812-9292.

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APPENDIX F
DPR 523 SERIES FORMS

State of California - The Resources Agency Primary#_____
DEPARTMENT OF PARKS AND RECREATION HRI#_____
PRIMARY RECORD
Trinomial_____
NRHP Status Code_____
Other Listings _____
Review Code Reviewer Date _____

Page 1 **of** 11 ***Resource Name or #:** (Assigned by recorder) Portion of the Edison Canal
P1. Other Identifier:
***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted**
***a. County:** Ventura **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Oxnard **Date** 1967 **T** N/A; **R** N/A; N/A ¼ **of** N/A ¼ **of Sec** N/A; N/A **B.M.;** Rio De Santa Clara Land Grant
c. Address Harbor Blvd City Oxnard Zip 93036
d. UTM: (Give more than one for large and/or linear resources) Zone 11, 293167 mE/ 3787284 mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) APN 183-002-102. A portion of the Mandalay / Edison Canal enters the historic architecture PAA south of Mandalay Generating Station (MGS) and travels in a southeastward direction along Jeep Trail (This site form only examines the portion of the channel within the PAA). To the west, it terminus is in the Pacific Ocean. To the south is the McGrath Peaker Plant and undeveloped land, primarily sandy dune in composition. To the north is the MGS and undeveloped land, sandy dune in composition. To the east is primarily agricultural land.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
The portion of Edison Canal within the historic architecture PAA is an open earthen and concrete lined flood control channel, 2.5 miles long and approximately 140-feet wide. The manmade canal was constructed in 1959 to provide cooling water from Channel Islands Harbor to the MGS (TetraTech 2008). The canal was originally connected to Port Hueneme, located approximately 4.5 miles southeast of MGS, but was disrupted by the construction of the harbor in 1965, which largely consisted of expanding the existing Edison Canal for a marina and a new outlet to the Pacific Ocean. As a result, it is difficult to determine what constitutes the boundary between the Edison Canal and Channel Islands Harbor and it is not entirely clear whether the source water for MGS is the harbor or the Pacific Ocean.
SEE CONTINUATION SHEET
***P3b. Resource Attributes:** (List attributes and codes); Canal/aqueduct – HP20

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)

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

P5b. Description of Photo: (view, date, accession #)
Photographer looking east; February 2015

***P6. Date Constructed/Age and Source:** ☒Historic ☐Prehistoric ☐Both
1959 per Ventura Star Free Press, February 20, 1959

***P7. Owner and Address:**
Southern California Edison

***P8. Recorded by:** (Name, affiliation, and address)
AECOM
4225 Executive Square, Suite 1600
La Jolla, CA 92037

***P9. Date Recorded:** February 2015

***P10. Survey Type:** (Describe) Reconnaissance Survey

***P11. Report Citation**: (Cite survey report and other sources, or enter "none.") Mandalay Energy Center (MEC) 2015 Application for Certification

***Attachments:** ☐NONE ☐Location 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):

P3a.** ***(continued)

The Edison Canal is an approximately 9.4 mile long open earthen and concrete lined water conveyance channel constructed by SCE as a source of cooling water for its newly constructed MGS power plant (Ventura County Star-Free Press 1957, 1958, 1959). Construction of the canal began in 1957, when a 100 ton dredger known as the "Explorer' started clearing the area. The canal was completed and operational in 1959, providing a supply of seawater water for the cooling needs of the then recently brought on-line MGS.

The northern portion of the Edison Canal, which is located within the PAA, terminates at a culvert west of the MGS in in the Mandalay Beach area of the County of Ventura, west of the City of Oxnard. The canal was constructed with earthen banks, with a deep trapezoidal shape and features no control or erosion structures within the PAA. In several locations, there are recently constructed pedestrian and vehicle crossings and bridges (such as along Harbor Boulevard). The property is located within a rural setting surrounded mostly by industrial uses, including oil and gas processing facilities, power generation facilities, agricultural fields, and open space.

The portion of the Edison Canal under review within the PAA is approximately 0.5 miles long and approximately 140-feet wide. While the portion of the canal in the PAA is part of a larger linear resource, only the 0.5-mile long portion of canal in the PAA was recorded and evaluated as part of this assessment to determine if it would be considered a contributor to a larger significant linear resources or individually significant. The portions outside of the PAA were not recorded since the potential effects to the resource as a whole would be negligible.

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** (Assigned by recorder) Portion of Edison Canal

B1. Historic Name: Edison Canal

B2. Common Name: Mandalay Canal, Edison Canal

B3. Original Use: Water Conveyance

B4. Present Use: Water Conveyance

***B5. Architectural Style:** Engineering Structure

***B6. Construction History:** (Construction date, alterations, and date of alterations)

The manmade canal was constructed in 1959 to provide cooling water from Channel Islands Harbor to the MGS. The canal was originally connected to Port Hueneme, located approximately 4.5 miles southeast of MGS, but was shortened by the construction of the harbor in 1965, which largely consisted of expanding the existing Edison Canal for a marina and a new outlet to the Pacific Ocean. Additionally, maintenance changes have occurred over time which typically includes widening/grading banks, addition of new gates and valves, and removal or addition of control features as needed for the canal, as a whole.

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

***B8. Related Features:**

B9a. Architect: N/A b. Builder: N/A

***B10. Significance: Theme** N/A **Area** Oxnard, Ventura County, CA
Period of Significance N/A **Property Type** Water Conveyance
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 significance for this portion of the Edison Canal within the historic architecture PAA was determined by applying the procedures and criteria for the *California Register of Historical Resources* (CRHR) eligibility or as a historical resource for purposes of CEQA.

Based on site investigations and historic research, this portion of the Edison Canal is ineligible for listing on the CRHR or as a historic resource for purposes of CEQA as an individual resource or as a contributor to a larger significant linear resource (like the entire Edison Canal alignment), if it is ever determined such a resource may exist..

(See Continuation Sheet)

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

B12. References:** ***(See Continuation Sheet)

B13. Remarks: None

***B14. Evaluator:** AECOM

***Date of Evaluation:** February 2015

USGS 7.5-Minute Topographic Maps
Oxnard Quadrangle Map 2012, Not to Scale,

(This space reserved for official comments.)

***B10. (Continued)**

The portion of the Edison Canal within the historic architecture PAA was initially a tidal estuary located in the Mandalay Beach area of Ventura County, west of the City of Oxnard. On the 1947 Hueneme USGS map, Mandalay Beach is located where the location of the present-day canal empties into the ocean. Mandalay Beach is located on land formerly owned and occupied by the old Patterson Ranch subdivision. Lake McGrath is located north of the canal and provides a drainage for the Santa Clara river.

The canal was constructed at the same time as the Mandalay Generating Station, in order to provide the station with cooling water. Within the historic architecture PAA, a review of historic aerial photographs and maps indicate the course of the canal was altered (to its current alignment) in 1962. Before 1962, the canal originally extended as far south as Port Hueneme.

The portion of the Mandalay / Edison Canal within the historic architecture PAA is a modest example of a water conveyance system in Ventura County. The manmade canal was constructed in 1959 to provide cooling water from Channel Islands Harbor to the Mandalay Generating Station (MGS). The canal was originally connected to Port Hueneme, located approximately 4.5 miles southeast of MGS, but was disrupted by the construction of the harbor in 1965, which largely consisted of expanding the existing Mandalay / Edison Canal for a marina and a new outlet to the Pacific Ocean. The channel lacks a distinctive or distinguishing design, and it does not appear to have an important association with a specific significant event or pattern of events. It is an example of the most common type of conveyance system in California – an open canal (JRP and Caltrans, 2000). Additionally, the channel does not convey an important association with any local agency. Rather, the channel is representative of the utilitarian work required in cooling water at a generating station.

Above, view of vehicle crossing bridge over the Mandalay / Edison Canal, facing southwest.

***B10. (Continued)**

Evaluation and Significance:
The significance of the Edison Canal was determined by applying the procedures and criteria for CRHR eligibility and as a historical resource for purposes of CEQA. Based on site investigations and historic research, the Edison Canal does not appear to be eligible for listing on the CRHR eligibility and as a historical resource for purposes of CEQA as an individual resource or as a contributor to a larger historic property, if it is ever determined that such a resource exists.

Criterion 1 (Event):
Under CRHR Criterion 1, the evaluated portion of the Edison Canal within the PAA has no significant association with the broad patterns of local or regional history, or the cultural heritage of California or the United States. Although the canal is associated with the construction of the largest single generating unit in the Edison system in the 1950s and 1960s, as well as first in the world to use selective catalytic reduction technology to minimize emissions, the generating plant and canal is just one example among many similar examples of the many steam generating power plants constructed by electric companies in the Los Angeles Basin. The construction of the canal did not spur community development in the Mandalay Beach area, rather it was constructed as a result of the post-WWII population boom experienced in the Oxnard area (creating a greater need for power service). In addition, the Edison Canal does not retain any high potential as a historic or interpretive site within the PAA.

Since the evaluated portion of the Edison Canal has no association with the broad patterns of local or regional history, or the cultural heritage of California or the United States, it is therefore not eligible for the CRHR under Criterion 1 as an individual resource or as a contributor to a larger significant linear resource (like the entire Edison Canal alignment), if it is ever determined such a resource may exist.

Criterion 2 (Person):
Under CRHR Criterion 2, the evaluated portion of the Edison Canal has no significant association with the lives of persons important to local, California, or national history. Important people that may be associated with the canal would be more likely eligible under Criterion 3, as an example of the work of a master engineer. The Caltrans historic context Water Conveyance Systems in California noted that water conveyance systems will rarely be found eligible for their association with significant people (JRP and Caltrans 2000). There may be instances, however, when a water conveyance system would be eligible under Criterion 2, notably when the person's association with the system is very strong and no properties more intimately associated with that person remain. Research conducted of people important in water history included a careful evaluation as to whether the water system under investigation is the property that best represents that association. In California notable names for which there might be associations with water planning, construction, or engineering include: Anthony Chabot, George Chaffey, Frederick Eaton, William Mulholland, George Maxwell, Robert Marshall, Elwood Mead and C. E. Grunsky (JRP and Caltrans 2000). Research on the property did not reveal that the Edison Canal is associated with any of these notable persons, nor their work. It was developed by staff at Bechtel and SCE, and no prominent people associated with these groups have a direct link with the canal, and more importantly the canal (as a small-scale feature) would not convey or represent the significance of any individuals.

Since the evaluated portion of the Edison Canal in the PAA has no significant association with the lives of persons important to local, California, or national history, it is therefore not eligible for the CRHR under Criterion 2 as an individual resource or as a contributor to a larger significant linear resource (like the entire Edison Canal alignment), if it is ever determined such a resource may exist.

Criterion 3 (Design/Construction):
Under CRHR Criterion 3, the evaluated portion of the Edison Canal within the PAA does not embody the distinctive characteristics of a type, period, region, or method or construction, or represents the work of a master, or possesses high artistic values. The Caltrans historic context Water Conveyance Systems in California notes properties eligible under Criterion 3 may have unique values or they may be the best or good examples of a type of water conveyance property. The earliest, best preserved, largest, or sole surviving examples of particular types of water conveyance systems or a property that introduced a design innovation may be eligible as examples of evolutionary trends in engineering. To be considered a good representative of that type, period, or method of construction, a water conveyance system must possess "distinctive characteristics," the common features or traits of that type, period, or method of construction. Through those distinctive characteristics, a property must clearly illustrate one or more of the following: the pattern of features common to a particular class of resources; the individuality or variation of features that occurs within the class; the evolution of that class; or the transition between classes of resources (JRP and Caltrans, 2000).
(See Continuation Sheet)

***B10. (Continued)**

The Edison Canal is not the earliest, best preserved, largest or sole surviving example of a water intake for a steam generating power plant. It does not represent a particular or important method of construction; rather the canal was initially quickly and roughly excavated to allow for the on-schedule completion of the MGS, and is similar to numerous earthen canals when it was built. The canal was later lined with concrete, and then resembled other concrete lined canals located throughout the state (MBC Applied Environmental Sciences 2001).

Since the evaluated portion of the Edison Canal in the PAA does not embody the distinctive characteristics of a type, period, region, or method or construction, or represents the work of a master, or possesses high artistic values it is therefore not eligible for the CRHR under Criterion 3 as an individual resource or as a contributor to a larger significant linear resource (like the entire Edison Canal alignment), if it is ever determined such a resource may exist.

Criterion 4 (Information Potential):
Under CRHR Criterion 4, the evaluated portion of the Edison Canal within the PAA has not yielded nor appears the potential to yield information important to the prehistory or history of the local area, California, or the nation. Research has indicated that no known events of importance occurred in relation to the canal. The resource is not likely to yield information important to the prehistory or history of the local area, California, or the nation. Since the evaluated portion of the Edison Canal has not yielded nor appears to have the potential to yield information important to the prehistory or history of the local area, California, or the nation it is therefore not eligible for the CRHR under Criterion 4..

Integrity Analysis:
In addition, in order for a property to be eligible for listing in the CRHR, besides meeting one of the above criteria, a property must also retain its historic integrity. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association.

Location
Location is the place where the historic property was constructed or the place where the historic event took place. The original location of Edison Canal has remained the same, and has only been shortened in length once the Channel Island Harbor was constructed in 1962. While no historic events have occurred at this location, the integrity of the property's location remains intact.

Design
Design is the combination of elements that create the form, plan, space, structure, and style of a property. The Edison Canal has a utilitarian design; and has been widened and shortened throughout its history. Still, these combined elements (e.g., form, space, style) reflect the property's integrity of design, and even though some major changes have occurred to original and historic-period elements and spaces, the property has generally retained its overall style, space, form, and plan.

Setting
Setting is the physical environment of a historic property. The historic setting of the Edison Canal is the rural and suburban underdeveloped character of the agricultural region in Ventura County, surrounded by industrial uses immediately near the MGS. Since its construction, the physical environment of the Edison Canal has not changed substantially and the historic setting of the canal remains evident today.

Materials
Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern of configuration to form a historic property. The Edison Canal is 55 years old, and its physical elements represent design materials common during mid-twentieth century construction. The Edison Canal has retained some of its original building elements, fabric, and materials. However, some of the original materials, like patch concrete repairs, have been upgraded to ensure the physical integrity of the canal.
.

(See Continuation Sheet)

***B10. (Continued)**

Workmanship
Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. While the canal has had maintenance upgrades, the property retains its integrity of workmanship since the canal is recognizable as a utilitarian water conveyance system. Overall, several methods of construction and evidence of crafts are still apparent, seen in its general form. The canal displays characteristics seen in mid-twentieth century engineering, and the workmanship is based on common traditions seen during that period (JRP and Caltrans 2000).

Feeling
Feeling is a property's expression of the aesthetic or historic sense of a particular period of time. In its present state, the canal has generally retained its property's location, design, setting, and workmanship; therefore, the property conveys its character and historic integrity of feeling as canal from the mid-twentieth century.

Association
Association is the direct link between an important historic event or person and a historic property. While it was built for the cooling off of a generating station, the Canal is not directly associated with any important historic event or person, or conveys a direct or distinctive link with any larger trend.

In conclusion, the portion of the Edison Canal located within the PAA does appear to retain its historic integrity, but it does not appear to be eligible for listing to the CRHR or as a historical resource for purposes of CEQA, either individually or as a contributing resource to a larger significant cultural resource, such as the entire Edison Canal.

B12. *(continued)

EDR Aerial Photo Package. Mandalay Energy Center Project Site. 2015.

EDR Historical Topographic Map Report. Mandalay Energy Center Project Site. 2015.

JRP Historical Consulting Services and Caltrans. Water Conveyance Systems in California: Historic Context Development and Evaluation Procedures. 2000.

MBC Applied Environmental Sciences. Reliant Energy Mandalay Generating Station: Marine Mammal Protection Act Small Take Permit Application. Prepared for Reliant Energy. Oxnard, 2001.

TetraTech. California's Coastal Power Plants: Alternative Cooling System Analysis: H. Mandalay Generating Station, Reliant Energy, Inc—Oxnard, CA. 2008. Accessed online: http://www.opc.ca.gov/webmaster/ftp/project_pages/OTC/engineering%20study/Chapter_7H_Mandalay_Generating_Station.pdf .

United States Geological Survey. Various Topographical Maps.

Ventura Star Free Press, July 1, 1958, "Monster Dredge to 'Eat' Rout For New Oxnard Beaches Canal. Located at the Oxnard Public Library, Local History Room.

Ventura Star Free Press, February 20, 1959, "Huge Mandalay Steam Plant Starts Test Runs." Located at the Oxnard Public Library, Local History Room.

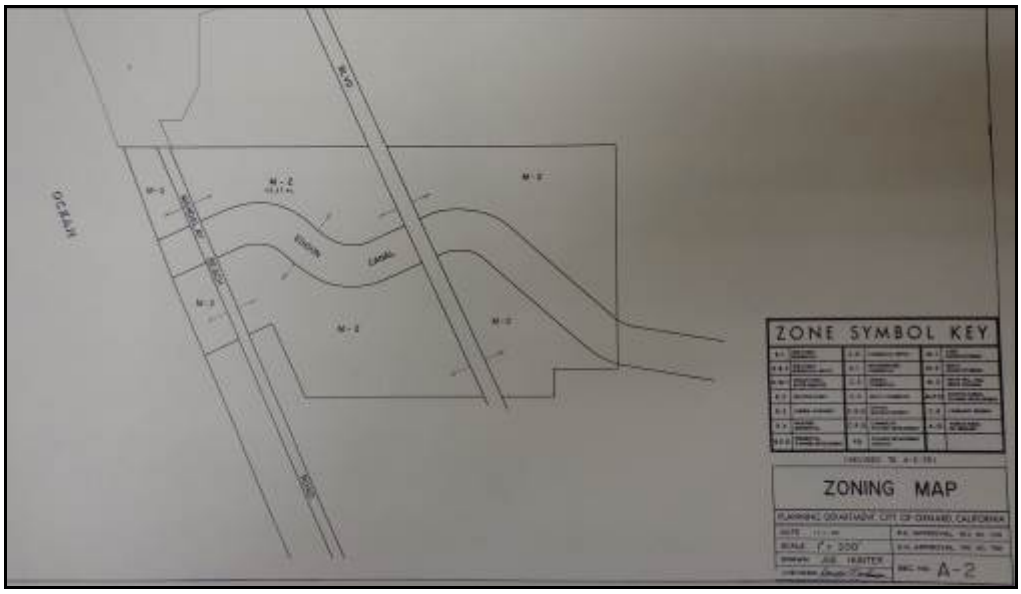
View of Edison Canal facing west.

View of Edison Canal providing cooling for the Mandalay Generating Station.

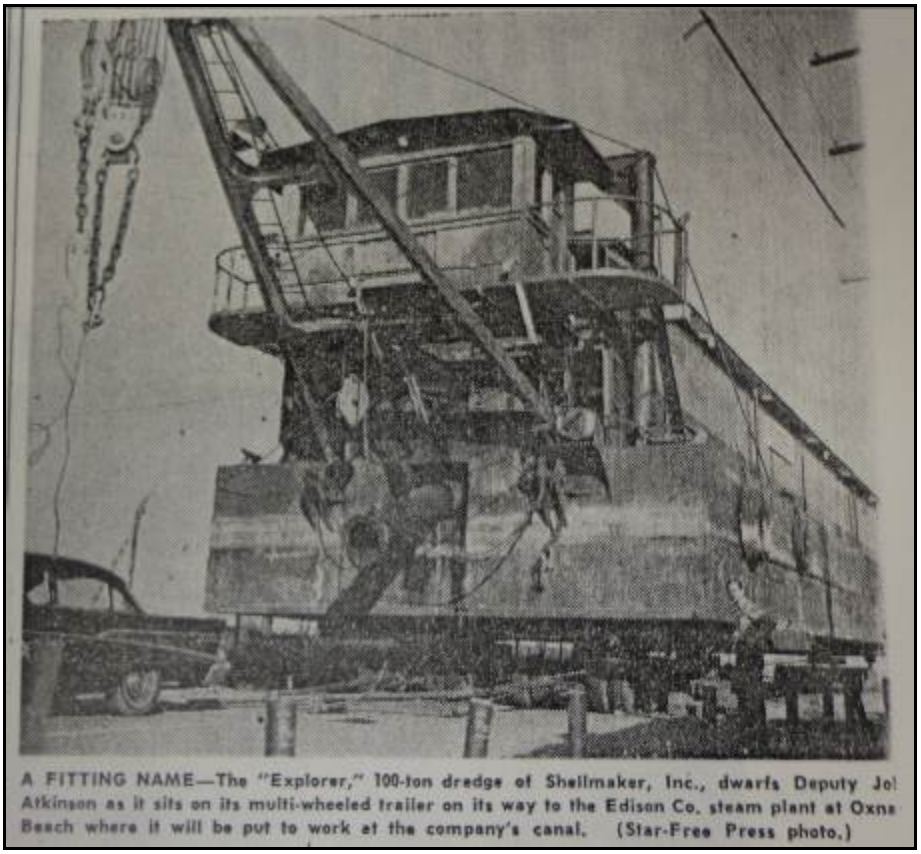
View of the Edison Canal, facing south, to the immediate east of Mandalay Generating Station.

View of the Edison Canal, facing east, located east of Mandalay Generating Station.

Aerial view of the Edison Canal through Mandalay Generating Station and emptying into Pacific Ocean (date unknown).



Location of present day canal and project site.
Zoning Map, Planning Department, City of Oxnard, November 1, 1962.
(Source Oxnard Public Library, Local History Room).



A FITTING NAME—The "Explorer," 100-ton dredge of Shellmaker, Inc., dwarfs Deputy Jo Atkinson as it sits on its multi-wheeled trailer on its way to the Edison Co. steam plant at Oxna Beach where it will be put to work at the company's canal. (Star-Free Press photo.)

Photo from the Ventura Star Free Press, July 1, 1958, discussing the dredging of the canal for the Mandalay Generating Station. (Source Oxnard Public Library, Local History Room).

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary#_____
HRI#_____
Trinomial_____
NRHP Status Code_____
Other Listings _____
Review Code _____ Reviewer _____ Date _____

Page 1 **of** 12 ***Resource Name or #:** (Assigned by recorder) Mandalay Generating Station
P1. Other Identifier:
***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted**
***a. County:** Ventura **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Oxnard **Date** 1967 **T** N/A; **R** N/A; N/A ¼ **of** N/A ¼ **of Sec** N/A; N/A **B.M.;** Rio De Santa Clara Land Grant
c. Address 393 Harbor Blvd City Oxnard Zip 93036
d. UTM: (Give more than one for large and/or linear resources) Zone 11, 292663 mE/ 3787394 mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) APN 183-002-202. The Mandalay Generating Station is bordered to the west by the Pacific Ocean; to the south is the McGrath Peaker Plant and undeveloped land, primarily sandy dune in composition; to the north is more undeveloped land, primarily sandy dune in composition; and to the east is an SCE Substation and an SCE Switchyard, as well as agricultural land.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
The station consists of three units and has a combined rated capacity of 577 megawatts (MW). Two of the facility's units (Unit 1 and Unit 2) use cooling water from the Pacific Ocean, via the Channel Island Harbor and the Edison Canal, in excess of 50 million gallons per day (MGD) (ENSR Corporation 2006). Unit 1 and Unit 2 are steam-electric generating units, each rated at 215 megawatts (Mw), and one gas turbine unit (Unit 3) rated at 147 Mw. Steam is supplied to the two steam-electric units by two oil- or gas-fired boilers, each rated at 707,600 kg of steam/hr. A take occurs when a pinniped enters the Edison Canal from the Channel Islands Harbor, 4.8 km down coast of the generating station. The MGS draws ocean water from the Channel Islands Harbor via the Edison Canal to provide cooling for the plant's condensers and other necessary components.

SEE CONTINUATION SHEET

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)

***P3b. Resource Attributes:** (List attributes and codes); Industrial Building – HP8

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

P5b. Description of Photo: (view, date, accession #) Photographer looking southwest; February 2015

***P6. Date Constructed/Age and Source:** ☒Historic ☐Prehistoric ☐Both
1959 per Ventura Star Free Press

***P7. Owner and Address:**
NRG Energy Inc.

***P8. Recorded by:** (Name, affiliation, and address)
AECOM
4225 Executive Square, Suite 1600
La Jolla, CA 92037

***P9. Date Recorded:** February 2015

***P10. Survey Type:** (Describe) Reconnaissance Survey

***P11. Report Citation**: (Cite survey report and other sources, or enter "none.") Mandalay Energy Center (MEC) 2015 Application for Certification

***Attachments:** ☐NONE ☐Location 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):

P3a.** ***(continued)

The MGS is the NRG-owned power generating facility currently comprised of three power generating units, supported by tanks, a maintenance building, an administration building, and other ancillary features originally constructed by SCE between 1957 and 1959 (per information provided by SCE). The MGS is located within the PAA at 393 N Harbor Boulevard, Oxnard, California. The generating station is bordered to the west by the Pacific Ocean; to the south by the McGrath Peaker Plant and undeveloped land; to the north by undeveloped land, primarily sandy dune in composition; and to the east by the SCE Substation and the SCE Switchyard (both described below), as well as agricultural land.

The majority of the buildings and structures associated with power generation are arranged along the western portion of the property and the administrative and maintenance buildings are placed on the eastern portion of the parcel. The buildings and structures do not appear to be arranged in a visual hierarchy or have a specific datum; rather, buildings and structures were sited near one another based primarily on their functions. This causes the scale of the parcel to waver between human and monumental, as buildings and structures of different massing, forms, and size are located near one another.

The generating station portion consists of three units and has a combined rated capacity of 577 megawatts (Mw). Unit 1 and Unit 2 are both steam-electric generating units, each capable of providing 215 Mw of power. Steam is supplied to the two steam-electric units by two oil- or gas-fired boilers, each rated at 707,600 kg of steam/hr. Unit 3 is a gas turbine unit rated at 147 Mw. The MGS draws water via the aforementioned Edison Canal to provide cooling for the plant's condensers and other necessary components. There are corresponding boilers, turbogenerators, cranes, feedwater tanks, and fuel storage tanks located adjacent to the facility's units.

Aside from the large MGS structures, and in addition to small scale storage and garage units, the property features two larger buildings, one for administration needs and the other for maintenance operations. The administration building is a rectangular contemporary-style building with a flat roof and concrete block walls. There is a flat, unadorned metal cornice that wraps around the majority of the building and projects outward at the entrance to create a covered entry porch. The main entry is comprised of double doors made of fixed glass commercial window panes with metal trim. The maintenance building is located to the north of the administration building across an asphalt paved parking lot. The maintenance building was built in a utilitarian style, has an irregular rectangular form, and is much larger than the administration building. It has a flat roof, concrete block walls, and features the same metal cornice and exterior paint color as the administration building.

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** (Assigned by recorder) Mandalay Generating Station

B1. Historic Name: Edison Canal

B2. Common Name: Mandalay Generating Station

B3. Original Use: Electric Steam Generating Station

B4. Present Use: Electric Steam Generating Station

***B5. Architectural Style:** Engineering Structure

***B6. Construction History:** (Construction date, alterations, and date of alterations)

Constructed in 1959, the MGS has had an addition of an enclosed Unit 3, as well as other garage and storage units. Aside from maintenance upgrades, the initial design and construction remains the same.

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

***B8. Related Features:**

B9a. Architect: N/A b. Builder: N/A

***B10. Significance: Theme** N/A **Area** Oxnard, Ventura County, CA

Period of Significance N/A **Property Type** Engineering Structure, Industrial Building

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 significance for this portion of Mandalay Generating Station within the historic architecture Project Area of Analysis (PAA) was determined by applying the procedures and criteria for *California Register of Historical Resources* (CRHR) eligibility and the definition of a historical resource for purposes of CEQA.

Based on site investigations and historic research, this portion of the Mandalay Generating Station is ineligible for listing on the CRHR and as a historical resource for purposes of CEQA.

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(See Continuation Sheet)

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

***B12. References:**

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

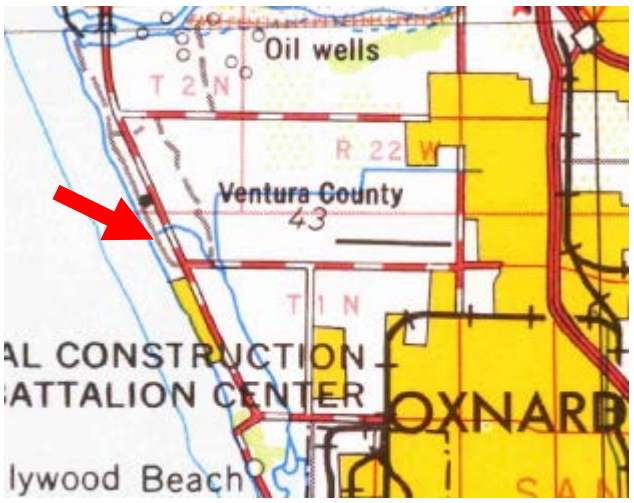
"Haynes Steam Plant Will Grow With Demand." *Southwest Builder and Contractor.* October 12, 1962.

Dickey, Walter L. "The Design of Two Steam Electric Plants." *ASCE Transactions*. 1956.

ENSR Corporation. Revised Proposal for Information Collection for Mandalay Generating Facility, Document Number 10267-022-100. Report prepared for Reliant Energy, Inc., Oxnard. 2006.

(See Continuation Sheet)

B13. Remarks: None



Los Angeles Bathymetric Map 1975, Not to Scale, USGS Topographic Maps

(This space reserved for official comments.)

***B14. Evaluator:** AECOM

***Date of Evaluation:** February 2015

***B10. (Continued)**

In the early twentieth century hydro-generated power was preferred over steam as companies constructed larger hydroelectric plants on many suitable sites throughout the state of California. By 1920, hydroelectric power accounted for 69 percent of all electrical power generated in the state. In 1930, that figure had risen to 76 percent, and to 89 percent in 1940 (Williams,1997). However, companies such as Pacific Gas & Electric (PG&E) and Southern California Edison (SCE) began seeking to construct steam plants based on several converging trends in the mid- to late-1920s. For example, a drought in California caused the major utilities to question the reliability of systems depending so heavily on hydroelectricity. This drought began in 1924 and continued for roughly a decade. Around this same time, new power plants on the East Coast (where steam had always played a more important role) were achieving greater efficiencies than had previously been possible. Between 1900 and 1930, the fuel efficiency of steam plants, measured in kilowatts per barrel of oil, was increasing drastically (JRP 2014; Williams,1997). Additionally, in 1924, the State Water and Power Act was passed in the general election as Proposition number 16. This act was a constitutional amendment that allowed the State of California to enter into the water and power business. This act, along with the systematic development of irrigation distribution in Oxnard that resulted in unprecedented agricultural gains in 1925, provided a great need for the construction and operation of a plant in the area in which present day MGS is located.

These factors encouraged 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 would be acquired by PG&E in 1930) built a large steam plant on San Francisco Bay, complete with two 55 MW generators. PG&E built a steam plant in Oakland in 1928. SCE had been operating its large facility at Long Beach on Terminal Island throughout most of the 20th century, and by World War II, the Long Beach plant was massive, with eleven units that were constructed in various stages beginning in 1911. In Southern California, the Los Angeles Department of Water and Power (LADWP) constructed a steam station at Seal Beach comprised of two units installed in 1925 and 1928. These steam plants proved to be both profitable and reliable for the various utilities. In 1930, a PG&E vice-president for engineering wrote: "Under the circumstances which now prevail, it is natural to question the future of hydro in California." (Electrical West 1929; JRP 2014; Spencer 1961; Williams,1997). By 1941 steam generating plants accounted for most of the new power capacity in the state. Technology and improvements for steam turbine power plants continued to advance, leading power companies to retire or replace many of the older steam-electric plant generating units with more efficient units in the 1950s and 1960s (JRP 2014; Termuehlen 2001; Williams,1997).

Coinciding with the advancements in power generating technology was an increase in demand for electricity in Southern California. After World War II the population grew and the defense industry, expanded throughout the region, contributing to an increased demand from residential and commercial customers. The need to generate power was imperative and companies such as PG&E, SCE, Los Angeles Department of Water and Power (LADWP), and San Diego Gas & Electric (SDG&E) expanded their systems. 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 advancements in design and abundant natural gas resources, steam plants became the preferred option. Steam turbine power plants were more cost efficient and faster to build than hydroelectric plants, and utilities companies began to move away from hydroelectricity, establishing steam turbines as the generator of choice. The efficiency of steam plants also kept costs down for the consumer. California energy historian James Williams observed, "the momentum for steam had been established by war, by drought, and by a positive history of increased thermal power plant development." (JRP 2014; Myers 1983; Williams 1997).

Dozens of new steam generation plants were constructed throughout California, primarily by PG&E and SCE, although LADWP and SDG&E built a few as well. The plants relied upon the new technologies and were assembled quickly and inexpensively, comparative to earlier electric plants. In 1950 an article in *Civil Engineering* written by PG&E Chief Engineer I. C. Steele, 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 criteria were the same in all cases: to build the facility close to load centers to reduce transmission expenses; 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. In another article in *Transactions of the ASCE,* Walter Dickey, an engineer from Bechtel, detailed the economics of steam plant design from this era. Virtually all of these plants were designed to be expanded if market conditions warranted and most of them ultimately were. These plants, he argued, could be built economically by minimizing the structural material, including not enclosing the turbo-generator units in a building (as seen on the Mandalay Generating Station). Many plants in Southern California are of this "outdoor" variety, but some, such as the Encina Power Plant, were enclosed in curtain walls (Dickey 1956; Garbarini 1953; JRP 2014; Steele 1950).

***B10. (Continued)**

The decades between 1950 and 1970 were the years of 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 then Huntington Beach in 1958. Due to the population and subsequent building boom in Oxnard and Ventura County in the early 1950s, SCE announced plans to construct "a multimillion-dollar steam-electric generating plant near Mandalay Beach, west of Oxnard." The MGS station, designed to meet the growing electrical needs of Ventura and Santa Barbara Counties, was to be situated on unincorporated Ventura County. The MGS was constructed by Bechtel Corporation from 1956 through 1959 as part of SCE's ten-year work program to double its power output to keep up with the growing power needs of the rapidly expanding community. The 100-acre site for MGS was situated on the location of the old Patterson Ranch subdivision. The first unit of the new generating station, to be built at a cost of $35,000,000, was estimated to have a generating capacity of 200,000 kW and was the largest single generating unit in the Edison system. By 1960, all SCE plants either had multiple units or had additional units in the planning stages. Many other utility companies began expanding during this period as well.

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 (Spencer 1961; Steele 1950; Dickey 1956; SBC 1962; Williams 1997; JRP 2014). Most of the oil- or gas-fired steam plants currently in use in California were built in the period from about 1950 through 1970 and all of these used virtually the same technology and design. 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 (Termuehlen 2001; JRP 2014).

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The MGS lacks a distinctive or distinguishing design, and it does not appear to have an important association with a specific significant event or pattern of events. It is an example of the most common type of steam generating plant in California built in the late 1950s– with non-enclosed turbo-generator units along the a large body of water (Dickey 1956; JRP 2014; Steele 1950). Additionally, the MGS does not convey an important association with any local agency. Rather, the MGS is representative of the cost efficient work required for a steam generating station, and was designed to be expanded if market conditions warranted (Dickey 1956). Therefore, the portion of the MGS does not appear to possess the requisite significance to be individually eligible for listing on the CRHR or be considered a historical resource for purposes of CEQA.

Evaluation and Significance:

The significance of the MGS was determined by applying the procedures and criteria for CRHR eligibility and as a historical resource for purposes of CEQA. Based on site investigations and historic research, the MGS does not appear to be eligible for listing on the CRHR or as a historical resources for purposes of CEQA, as an individual resource or as a contributor to a larger historic property, if it is ever determined that such a resource exists.

Criterion 1 (Event):

Under CRHR Criterion 1, the MGS has no significant association with the broad patterns of local or regional history, or the cultural heritage of California or the United States. Although the power station is associated with the construction of the largest single generating unit in the Edison system in the 1950s and 1960s, as well as first in the world to use selective catalytic reduction technology to minimize emissions, the generating plant is just one example among many similar examples of the popularity of constructing steam generating power plants by electric companies in the Los Angeles Basin. At the time of its construction, the plant was one of several being built of similar – often nearly identical – design by SCE after WWII to supply the growing post-war demand for electricity in southern California. During the period in which the MGS was built, 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 then Huntington Beach in 1958. In addition to SCE, other companies throughout California including PG&E, SDG&E, and California Electric were also building similar steam generating plants at this time to meet energy demands. These plants and associated substations generated the power needed to answer the demands of its customers. In addition, while the MGS was important to the customers it served, it was one of many such power plants built during this era of tremendous growth that served essentially the same function, and this single plant does not stand out as particularly important within the SDG&E system or electrical generating development in the southern California region or the state as a whole. Since the MGS has no significant association with the broad patterns of local or regional history, or the cultural heritage of California or the United States, it is therefore not eligible for the CRHR under Criterion 1. ***(See Continuation Sheet)***

***B10. (Continued)**

Criterion 2 (Person):
Under CRHR Criterion 2, the MGS has no significant association with the lives of persons important to local, California, or national history. For instance, the office in which a prominent engineer prepared his/her most important designs could be eligible under Criterion 2 and would be more closely associated with his/her work than would the place where that person was born. On the other hand, a property such as a dam that represents the work of a master engineer would be eligible under Criterion 3, as the work of a master, rather than 2, as representing an important person. Research conducted of people important in electric history included a careful evaluation as to whether the MGS station under investigation is the property that best represents that association. In California notable names for which there might be associations with steam generating plant planning, construction, or engineering include: PG&E Chief Engineer I. C. Steele; Bechtel Engineer Walter Dickey; Henry E. Huntington and hydraulic engineer John S. Eastwood of SCE. Research on the property did not reveal that the MGS is associated with any of these notable persons, nor their work. Since the MGS has no significant association with the lives of persons important to local, California, or national history, it is therefore not eligible for the CRHR under Criterion 2.

Criterion 3 (Design/Construction):
Under CRHR Criterion 3, the MGS does not embody the distinctive characteristics of a type, period, region, or method or construction, or represents the work of a master, or possesses high artistic values. This facility (including Units 1 and 2, contained within the power plant building, Unit 3 as it stands, as well as the maintenance and administrative buildings) was constructed as a steam generating power plant, a design that was standard and common for the period and was built for expansion. The MGS is representative of the cost efficient work required for a steam generating station, and was designed to be expanded if market conditions warranted. It was built economically by minimizing the structural material, including not enclosing the turbo-generator units in a building (Dickey 1956). In addition, all of the associated structures such as tanks, substations and equipment installed at the plant were also typical for this type of facility. Nothing about the design or construction of the MGS was unique, or required groundbreaking or innovative features to surmount engineering or design challenges. Additionally, the buildings on the property are generally common, utilitarian types built of concrete or prefabricated metal. They exhibit priority of function over style and lack architectural distinction. Since the MGS does not embody the distinctive characteristics of a type, period, region, or method or construction, or represents the work of a master, or possesses high artistic values it is therefore not eligible for the CRHR under Criterion 3.

Criterion 4 (Information Potential):
Under CRHR Criterion 4, the MGS has not yielded nor appears the potential to yield information important to the prehistory or history of the local area, California, or the nation. Research has indicated that no known events of importance occurred in relation to the MGS. The resource is not likely to yield information important to the prehistory or history of the local area, California, or the nation. Since the evaluated portion of the MGS has not yielded nor appears to have the potential to yield information important to the prehistory or history of the local area, California, or the nation it is therefore not eligible for the CRHR under Criterion 4.

Integrity Analysis:
In addition, in order for a property to be eligible for listing in the CRHR, besides meeting one of the above criteria, a property must also retain its historic integrity. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association.

Location
Location is the place where the historic property was constructed or the place where the historic event took place. The original location of the MGS remained the same, and while no historic events have occurred at this location, the integrity of the property's location remains intact.

Design
Design is the combination of elements that create the form, plan, space, structure, and style of a property. The MGS has a utilitarian design; however, this has been partly impacted by some additions to the station as seen with Unit 3 and other garage standalone units. Still, these combined elements (e.g., form, space, style) reflect the property's integrity of design, and even though some major changes have occurred to original elements and spaces, the property has generally retained its overall style, space, form, and plan.

(See Continuation Sheet)

***B10. (Continued)**

Setting

Setting is the physical environment of a historic property. The historic setting of the MGS is the rural and suburban underdeveloped character of the agricultural region in Ventura County. Since its construction, the physical environment of the MGS has not changed substantially and the historic setting of the station remains evident today. However, around the station other industrial properties have been constructed which slightly disrupts some of the original setting and visual narrative.

Materials

Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern of configuration to form a historic property. The MGS is 55 years old, and its physical elements represent design materials common during mid-twentieth century construction. The MGS has retained many of its original building elements, fabric, and materials. However, some of the original materials have been upgraded to ensure the integrity of the station.

Workmanship

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. While the station has had maintenance upgrades, the property retains its integrity of workmanship since the station is recognizable as an industrial generating station. Overall, several methods of construction and evidence of crafts are still apparent, seen in its general form. The MGS displays characteristics seen in mid-twentieth century engineering, and the workmanship is based on common traditions seen during that period.

Feeling

Feeling is a property's expression of the aesthetic or historic sense of a particular period of time. In its present state, the MGS has generally retained its property's location, design, setting, and workmanship; therefore, the property conveys its character and historic integrity of feeling as station from the mid-twentieth century.

Association

Association is the direct link between an important historic event or person and a historic property. While it was built to provide electricity to the region, the MGS is not directly associated with any important historic event or person, or conveys a direct or distinctive link with any larger trend.

In conclusion, the portion of the MGS located within the PAA does appear to retain its historic integrity, but it does not appear to be eligible for listing to the CRHR or as a historical resource for purposes of CEQA.

B12. *(continued)

Garbarini, Edgar J. "Design Saves Construction Dollars on Contra Costa Power Plant." *Civil Engineering*. May 1953.

JRP 2014. Historical Resources Inventory and Evaluation Update Report for the Carlsbad Energy Center Project, Encina Power Plant. Carlsbad, California.

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

R.W. Spencer, "Cooling Water For Steam Electric Stations in Tidewater," *Transactions of the American Society of Civil Engineers* 126.1961.

Steele, I.C. "Steam Power Gains on Hydro in California." *Civil Engineering 20*, no. 1. January 1950.

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.

View of north and east elevation facing southwest, displaying non-enclosed Units 1 and 2.

View of east and south elevation facing northwest, displaying Units 1 and 2, de-aerator system.

View of west elevation facing east, displaying Units 1 and 2 and steam plant stack.

View of west and south elevation facing northeast, displaying Units 1 and 2, and de-aerator system.

View of south elevation of Unit 3 and storage tanks (foreground), with Units 1 and 2 and steam stack in the distance, facing north.

View of south elevation of Unit 3 and connecting electrical lines, facing north.

View of west and north elevation of Unit 3, facing southeast.

View of Unit 3 north elevation and garage storage units, facing south.

Birds eye view of Mandalay Generating Station.

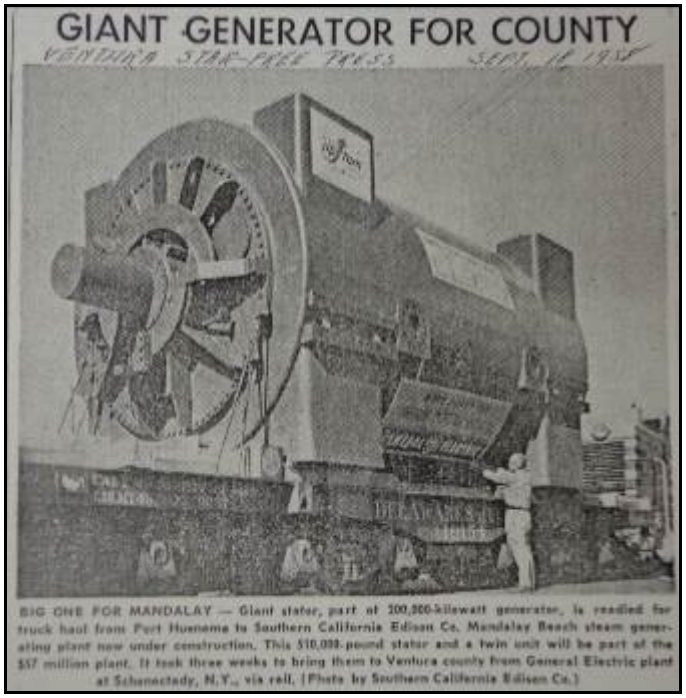
View of the maintenance building and garages, facing south.

View of the administrative building, facing west.

STEAM PLANT TAKES SHAPE

SKYLINE MUSHROOMS—The skyline of Mandalay beach is broken as the $75 million Southern California Edison company steam plant takes shape. Last week welders connected up a 4,900 foot oil pipeline that will carry oil from ocean going tankers to storage tanks. With the completion of the pipeline the plant reached 50 percent completion. (Star-Free Press photo).

Photo from the Ventura Star Free Press, September 2, 1958, discussing the construction of the Mandalay Generating Station reaching 50% completion.
(Source Oxnard Public Library, Local History Room).



GIANT GENERATOR FOR COUNTY

VENTURA STAR-FREE PRESS SEPT. 18 1958

BIG ONE FOR MANDALAY — Giant stator, part of 300,000-kilowatt generator, is readied for truck haul from Port Hueneme to Southern California Edison Co. Mandalay Beach steam generating plant now under construction. This 510,000-pound stator and a twin unit will be part of the $57 million plant. It took three weeks to bring them to Ventura county from General Electric plant at Schenectady, N.Y., via rail. (Photo by Southern California Edison Co.)

Photo from the Ventura Star Free Press, September 18, 1958, discussing the construction of the Mandalay Generating Station generator which will be installed with the twin unit plant.
(Source Oxnard Public Library, Local History Room).

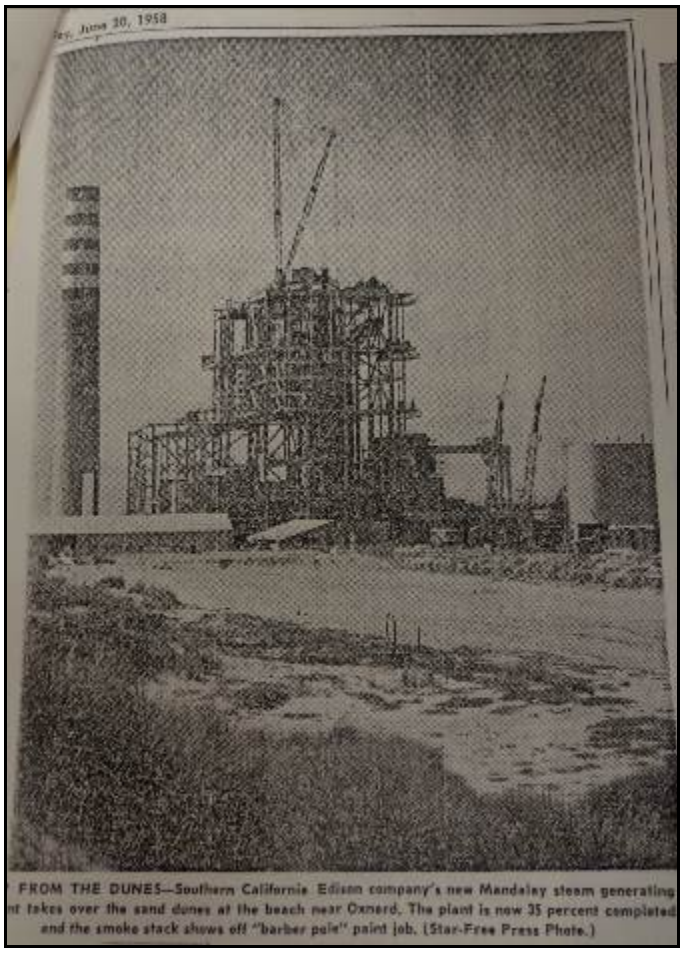


Photo from the Ventura Star Free Press, June 20, 1958, discussing the construction of the Mandalay Generating Station reaching 35% completion.
(Source Oxnard Public Library, Local History Room).

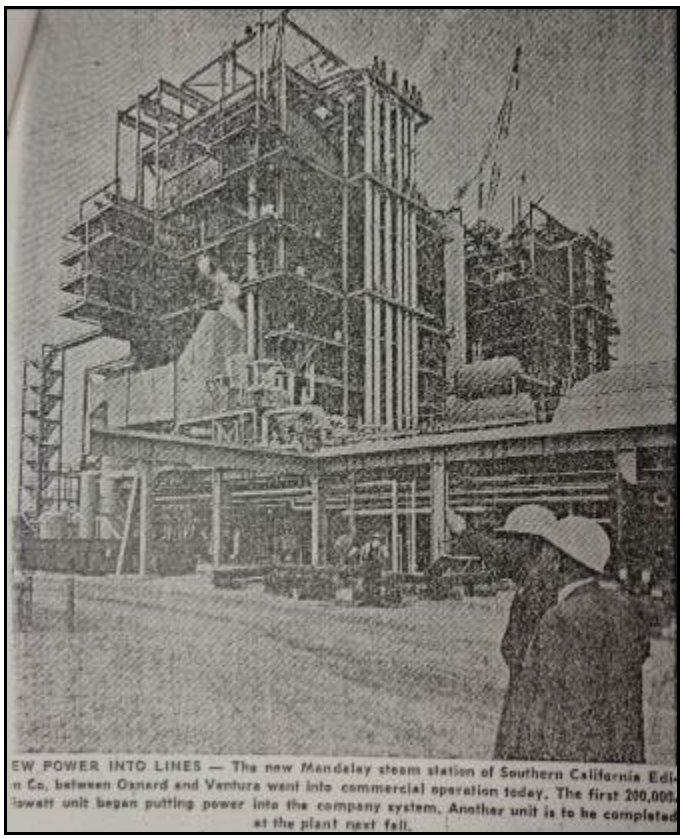


Photo from the Ventura Star Free Press, May 15, 1959, discussing the Mandalay Generating Station officially going into commercial operation.
(Source Oxnard Public Library, Local History Room).

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary#_____
HRI#_____
Trinomial_____
NRHP Status Code_____
Other Listings _____
Review Code _____ Reviewer _____ Date _____

Page 1 **of** 12 ***Resource Name or #:** (Assigned by recorder) SCE Substation
P1. Other Identifier:
***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted**
***a. County:** Ventura **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Oxnard **Date** 1967 **T** N/A; **R** N/A; N/A ¼ **of** N/A ¼ **of Sec** N/A; N/A **B.M.;** Rio De Santa Clara Land Grant
c. Address North Harbor Blvd City Oxnard Zip 93036
d. UTM: (Give more than one for large and/or linear resources) Zone 11, 293171 mE/ 3787452 mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) APN 183-002-101. The SCE Substation is bordered to the west by the MGS, an SCE Switchyard, and Harbor Boulevard and the Pacific Ocean; to the south is undeveloped land, primarily sandy dune in composition; to the north is more undeveloped and agricultural land, primarily sandy dune in composition; and to the east is additional agricultural land.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
The SCE Substation has north-south rectangular arrangement and is comprised of three small buildings; a steel frame microwave tower with four antennae; steel structure transmission buses; as well as power lines and corresponding circuit breakers, large rectangular power transformers, lightning arrestors, metal-clad switchgear are all enclosed by a chain link security fence topped with barbed wire. All of the equipment and structures are on concrete footings in the gravel-covered yard.

SEE CONTINUATION SHEET

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)

***P3b. Resource Attributes:** (List attributes and codes); Public Utility – HP11 Engineering Structrure

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

P5b. Description of Photo: (view, date, accession #) Photographer looking southeast; February 2015

***P6. Date Constructed/Age and Source:** ☒Historic ☐Prehistoric ☐Both
1959 per Historic Aerials

***P7. Owner and Address:**
Southern California Edison

***P8. Recorded by:** (Name, affiliation, and address)
AECOM
4225 Executive Square, Suite 1600
La Jolla, CA 92037

***P9. Date Recorded:** February 2015

***P10. Survey Type:** (Describe) Reconnaissance Survey

***P11. Report Citation**: (Cite survey report and other sources, or enter "none.") Mandalay Energy Center (MEC) 2015 Application for Certification

***Attachments:** ☐NONE ☐Location 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):

P3a.** ***(continued)

The SCE Substation is an SCE-owned and operated substation facility located within the PAA, across Harbor Boulevard from the MGS and SCE Switchyard and within the same parcel through which the Mandalay-Santa Clara Transmission Line crosses. The SCE Substation was constructed to aid in the distribution of the power generated by the MGS to communities in the Counties of Ventura and Santa Barbara. The SCE Substation was built in 1958 according to information provided by SCE.

The SCE Substation has a north-south rectangular arrangement. The north portion of the substation contains a poured board formed concrete building one story tall with a flat roof. This building is the control house which contains switchboard panels, batteries, battery chargers, supervisory control, power-line carrier, meters, and relays. To the immediate west of the control house is a tall steel frame microwave tower with four antennae. The power line transmission and distribution of power flows north-south by the transmission buses, which are steel structure arrays of switches used to route the power; and the distribution buses which are a steel structure array of switches used to route the power out of the substation. All the above mentioned structures, as well as the power lines and corresponding circuit breakers, large rectangular power transformers, lightning arrestors, metal-clad switchgear are all enclosed by a chain link security fence topped with barbed wire. All of the equipment and structures are on concrete footings in the gravel-covered yard.

Two additional single story rectangular buildings, likely serving maintenance, storage, and security functions, are located within the substation. Both buildings are constructed of concrete and have flat roofs. The larger building has a metal overhanging awning and a metal door on the north elevation. The smaller building has walls clad in aggregate brown pebbled concrete and a metal door with a metal overhanging awning on the north elevation. They are enclosed by a chain linked fence topped with barbed wire. Within the property along the northern perimeter are also cell tower equipment and other antennas.

BUILDING, STRUCTURE, AND OBJECT RECORD

 ***NRHP Status Code** 6Z

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

B1. Historic Name: SCE Substation

B2. Common Name: SCE Substation

B3. Original Use: Substation

B4. Present Use: Substation

***B5. Architectural Style:** Engineering Structure

***B6. Construction History:** (Construction date, alterations, and date of alterations)

Constructed in 1959, the SCE Substation has had periodic maintenance upgrades (dates unknown), the initial design and construction remains the same.

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

***B8. Related Features:**

B9a. Architect: N/A b. Builder: N/A

***B10. Significance: Theme** N/A **Area** Oxnard, Ventura County, CA

Period of Significance N/A **Property Type** Engineering Structure, Industrial Building

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 significance for this SCE Substation within the historic architecture Project Area of Analysis (PAA) was determined by applying the procedures and criteria for *California Register of Historical Resources* (CRHR) eligibility and the definition of a historical resource for purposes of CEQA.

Based on site investigations and historic research, this portion of the SCE Substation is ineligible for listing on the CRHR and the definition of a historical resource for purposes of CEQA.

(See Continuation Sheet)

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

***B12. References:**

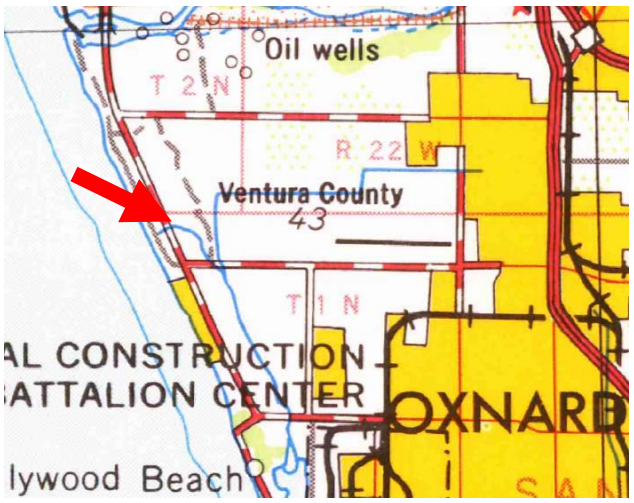
Baker Library. Southern California Edison Company. Lehman Brothers Collection—Contemporary Business Archives. Harvard Business School Historical Collections. Electronic document, http://www.library.hbs.edu/hc/lehman/chrono.html?company=southern_california_edison_company, accessed February 12, 2015, 2012.

ENSR Corporation. Revised Proposal for Information Collection for Mandalay Generating Facility, Document Number 10267-022-100. Report prepared for Reliant Energy, Inc., Oxnard. 2006.

History Associates Incorporated. Southern California Edison Records. The Huntington Library Manuscripts Department, San Marino. Electronic document, http://www.oac.cdlib.org/findaid/ark:/13030/kt6199s2cp/entire_text/, accessed February 12, 2015, 2009.

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

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



Los Angeles Bathymetric Map 1975, Not to Scale, USGS Topographic Maps

B13. Remarks: None

***B14. Evaluator:** AECOM

***Date of Evaluation:** February 2015

(This space reserved for official comments.)

***B10. (Continued)**

SCE History and Growth in Oxnard, CA

SCE is the largest electric utility in California and one of the nation's largest investor-owned electric utilities, serving more than 13 million people in 15 counties of central, coastal and southern California. Based in Rosemead, California, the utility has been providing electric service in the region for more than 120 years. SCE is a subsidiary of Edison International, which also is headquartered in Rosemead. The SCE service territory includes approximately 430 cities and communities with a total customer base of approximately 4.8 million residential and business accounts. SCE is regulated by the California Public Utilities Commission and the Federal Energy Regulatory Commission (History Associates Incorporated 2009).

SCE's earliest predecessor was Holt and Knupps, which installed street lights in Visalia, California in 1886. In 1896, a group of businessmen established the West Side Lighting Company to provide electricity to Los Angeles. In 1897, West Side Lighting Company merged with Los Angeles Edison Electric, which owned the rights to the Edison name and patents in the region, and Baker became the president of the new combined company. During this time, Edison Electric installed the first DC-power underground conduits in the Southwest (Baker Library 2012). In 1899 the Edison Electric Company's Santa Ana River No. 1 hydroelectric plant began operation, transmitting power to Los Angeles over the world's longest power line (83 miles) (History Associates Incorporated 2009).

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In September 1958, welders connected a 4,900-foot oil pipeline that was designed to carry oil from ocean tankers to MGS storage tanks. Construction of MGS was 50 percent complete with the installation of the pipeline. The company built the generating station in stages with the first 215 megawatt unit coming on line in May 1959. Similar to other plants built at this time in California, it used a combination gas/oil powered generator and seawater to cool the condensers. Steam is supplied to the two steam-electric units by two oil- or gas-fired boilers, each rated at 707,600 kg of steam/hr. A take occurs when a pinniped enters the Edison Canal from the Channel Islands Harbor, three miles down coast of the generating station. In December 1958, SCE was awarded a contract for pilot plant equipment which would convert sea water to fresh water at MGS.

In April 1959, Cuyama gas line, owned and operated by Richfield Oil Corporation, was installed from Cuyama Valley to the SCE MGS. In July that same year, test runs began on the second 215 megawatt unit. In addition to the two steam-electric units, other major elements of the complex included one gas turbine unit (Unit 3) rated at 147 MW. In January 1960, MGS 26-stage sea water conversion plant was fully operational. Additionally in 1959, in order to distribute power generated at the plant, SCE constructed a substation across Harbor Boulevard from the MGS.

(See Continuation Sheet)

***B10. (Continued)**

Evaluation and Significance:

The significance of the SCE Substation was determined by applying the procedures and criteria for CRHR eligibility and as a historical resource for purposes of CEQA. Based on site investigations and historic research, the SCE Substation does not appear to be eligible for listing on the CRHR and as a historical resource for purposes of CEQA, as an individual resource or as a contributor to a larger historic property, if it is ever determined that such a resource exists.

Criterion 1 (Event):

Under CRHR Criterion 1, the SCE Substation has no significant association with the broad patterns of local or regional history, or the cultural heritage of California or the United States. Although the substation is associated with the construction of the largest single generating unit in the Edison system in the 1950s and 1960s, as well as trend of using AC currents to distribute power throughout Southern California, the substation is just one example among many similar examples of switchyards used by the SCE in Southern California. At the time of its construction, the substation was one of several being built of similar – often nearly identical – design by SCE to supply the growing demand for electricity in southern California. In addition to SCE, other companies throughout California including PG&E, SDG&E, and California Electric were also building similar substations at this time to meet energy demands. Since the SCE Substation has no significant association with the broad patterns of local or regional history, or the cultural heritage of California or the United States, it is therefore not eligible for the CRHR under Criterion 1.

Criterion 2 (Person):

Under CRHR Criterion 2, the SCE Substation has no significant association with the lives of persons important to local, California, or national history. Research conducted of people important in electric history included a careful evaluation as to whether the SCE Substation under investigation is the property that best represents that association. In California notable names for which there might be associations with substation planning, construction, or engineering include: Bechtel Engineer Walter Dickey; Henry E. Huntington and hydraulic engineer John S. Eastwood of SCE. Research on the property did not reveal that the SCE Substation is associated with any of these notable persons, nor their work. Since the SCE Substation has no significant association with the lives of persons important to local, California, or national history, it is therefore not eligible for the CRHR under Criterion 2.

Criterion 3 (Design/Construction):

Under CRHR Criterion 3, the SCE Substation does not embody the distinctive characteristics of a type, period, region, or method or construction, or represents the work of a master, or possesses high artistic values. Nothing about the design or construction of the SCE Substation was unique, or required groundbreaking or innovative features to surmount engineering or design challenges. Since the SCE Substation does not embody the distinctive characteristics of a type, period, region, or method or construction, or represents the work of a master, or possesses high artistic values it is therefore not eligible for the CRHR under Criterion 3.

Criterion 4 (Information Potential):

Under CRHR Criterion 4, the SCE Substation has not yielded nor appears the potential to yield information important to the prehistory or history of the local area, California, or the nation. Research has indicated that no known events of importance occurred in relation to the SCE Substation. The resource is not likely to yield information important to the prehistory or history of the local area, California, or the nation. Since the SCE Substation has not yielded nor appears to have the potential to yield information important to the prehistory or history of the local area, California, or the nation it is therefore not eligible for the CRHR under Criterion 4.

Integrity Analysis:

In addition, in order for a property to be eligible for listing in the CRHR, besides meeting one of the above criteria, a property must also retain its historic integrity. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association.

Location

Location is the place where the historic property was constructed or the place where the historic event took place. The original location of the SCE Substation remained the same, and while no historic events have occurred at this location, the integrity of the property's location remains intact.

(See Continuation Sheet)

***B10. (Continued)**

Design
Design is the combination of elements that create the form, plan, space, structure, and style of a property. The SCE Substation has a utilitarian design and still retains its original design properties. These combined elements (e.g., form, space, style) reflect the property's integrity of design, and the property has generally retained its overall style, space, form, and plan.

Setting
Setting is the physical environment of a historic property. The historic setting of the SCE Substation is the rural and suburban underdeveloped character of the agricultural region in the County of Ventura. Since its construction, the physical environment of the SCE Substation has not changed substantially and the historic setting of the substation remains evident today. However, around the SCE Substation other industrial properties have been constructed which slightly disrupts some of the original setting and visual narrative.

Materials
Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern of configuration to form a historic property. The SCE Substation is approximately 57 years old, and its physical elements represent design materials common during mid-twentieth century construction. The SCE Substation has retained many of its original building elements, fabric, and materials.

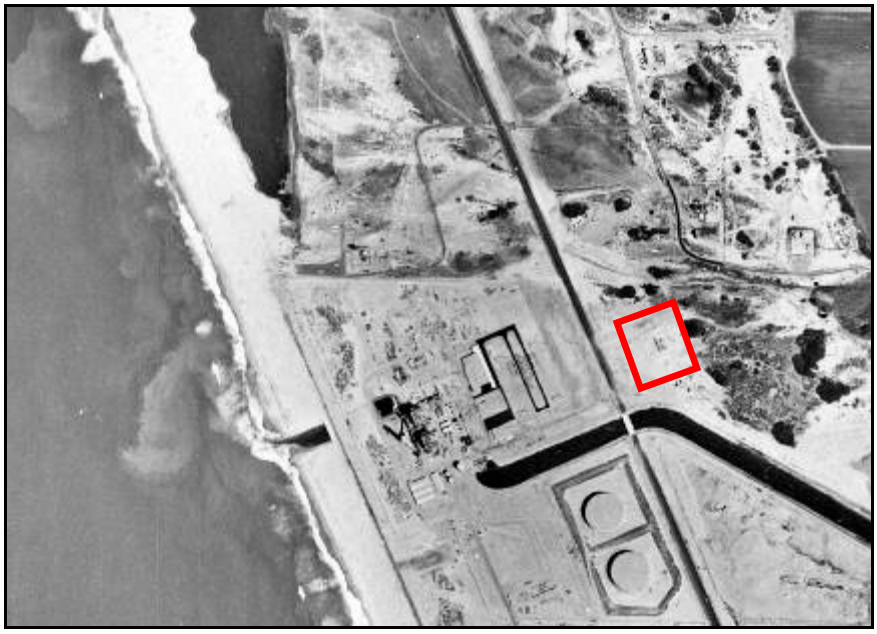
Workmanship
Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. While the substation has had maintenance upgrades, the property retains its integrity of workmanship since the substation is recognizable as an industrial power conduit. Overall, several methods of construction and evidence of crafts are still apparent, seen in its general form. The SCE Substation displays characteristics seen in mid-twentieth century engineering, and the workmanship is based on common traditions seen during that period.

Feeling
Feeling is a property's expression of the aesthetic or historic sense of a particular period of time. In its present state, the SCE Substation has generally retained its property's location, design, setting, and workmanship; therefore, the property conveys its character and historic integrity of feeling as substation from the mid-twentieth century.

Association
Association is the direct link between an important historic event or person and a historic property. While it was built to provide electricity to the region, the SCE Substation is not directly associated with any important historic event or person, or conveys a direct or distinctive link with any larger trend.

In conclusion, the SCE Substation located within the PAA does appear to retain its historic integrity, but it not appear to be eligible for listing to the CRHR or as a historical resource for purposes of CEQA, either individually or as a contributing resource to a larger significant cultural resource.

1953 Aerial Photograph. Not to Scale. Flight Year: 1953 Source: USGS, EDR Aerial Photos.



1959 Aerial Photograph. Not to Scale. Flight Year: 1959.
Source: Robinson, EDR Aerial Photos. Substation outlined in red.

North elevation view, facing south, of the substation, microwave antennae tower and control house.

West elevation view facing east, of the likely storage and security outbuildings.

View of substation and microwave tower facing south.

View of substation facing east.

View of substation facing northeast.

View of substation facing south.

View of substation facing southeast.

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary#_____
HRI#_____
Trinomial_____
NRHP Status Code_____
Other Listings _____
Review Code _____ Reviewer _____ Date _____

Page 1 **of** 11 ***Resource Name or #:** (Assigned by recorder) SCE Switchyard
P1. Other Identifier:
***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted**
***a. County:** Ventura **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Oxnard **Date** 1967 **T** N/A; **R** N/A; N/A ¼ **of** N/A ¼ **of Sec** N/A; N/A **B.M.;** Rio De Santa Clara Land Grant
c. Address 393 Harbor Blvd City Oxnard Zip 93036
d. UTM: (Give more than one for large and/or linear resources) Zone 11, 292663 mE/ 3787394 mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) APN 183-002-201. The SCE Switchyard is located to the immediate west of Harbor Boulevard, in Oxnard, CA. It is bordered to the west by the Pacific Ocean; to the south is the McGrath Peaker Plant and undeveloped land, primarily sandy dune in composition; to the north more undeveloped land, primarily sandy dune in composition; and to the east is an SCE Substation, as well as agricultural land.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
The SCE Switchyard has a north-south rectangular arrangement. The north portion of the switchyard contains the majority of the steel framed switchgear. There are four square shaped, steel frame structures distributing the power lines along a north-south axis through the switchyard centered by a series of thin A-shaped steel towers. These power lines and corresponding circuit breakers, cylindrical power transformers, lightning arrestors, and metal-clad switchgear are all enclosed by a chain link security fence topped with barbed wire. All of the equipment and structures are on concrete footings in the gravel-covered yard.

SEE CONTINUATION SHEET

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)

***P3b. Resource Attributes:** (List attributes and codes); Engineering Structure – HP11

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

P5b. Description of Photo: (view, date, accession #) Photographer looking southwest; February 2015

***P6. Date Constructed/Age and Source:** ☒Historic ☐Prehistoric ☐Both
1959 per Historic Aerials

***P7. Owner and Address:**
Southern California Edison

***P8. Recorded by:** (Name, affiliation, and address)
AECOM
4225 Executive Square, Suite 1600
La Jolla, CA 92037

***P9. Date Recorded:** February 2015

***P10. Survey Type:** (Describe) Reconnaissance Survey

***P11. Report Citation**: (Cite survey report and other sources, or enter "none.") Mandalay Energy Center (MEC) 2015 Application for Certification

***Attachments:** ☐NONE ☐Location 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):

P3a.** ***(continued)

The SCE Switchyard is the SCE-owned and operated switchyard facility located within the PAA immediately east of the MGS. The SCE Switchyard was constructed circa 1959 according to information provided by SCE, and distributes power from the MGS through the Mandalay-Santa Clara Transmission Line, eventually connecting to the Santa Clara Substation, located 15 miles northeast of the PAA. The SCE Switchyard has a north-south rectangular arrangement. The north portion of the switchyard contains the majority of the steel framed switchgear. There are four square shaped, steel frame structures distributing the power lines along a north-south axis through the switchyard centered by a series of thin A-shaped steel towers. These power lines and corresponding circuit breakers, cylindrical power transformers, lightning arrestors, and metal-clad switchgear are all enclosed by a chain link security fence topped with barbed wire. All of the equipment and structures are on concrete footings in the gravel-covered yard.

Typical fuels for generating electricity at a steam powered electrical generation plant in the late nineteenth century, such as coal, were expensive in Southern California (the technology for using local oil as a boiler fuel did not arrive until the first decade of the twentieth century). On the other hand, hydro power was relatively abundant locally, the last expensive fuel source by far, and well understood from an engineering standpoint (Hay 1993). But the fuel and hence generation source (falling water) was usually located far from the urban load centers. The solution to the dilemma of how to get hydroelectric energy to the load center lay in the development of Alternation Current or AC power systems. AC power differs from DC power in that it is generated in waves or pulses termed cycles. It was discovered that the voltage of AC power can be manipulated by induction transformers. That discovery resulted in the ability to generate power at lower voltages for safe control by powerhouse machinery and switches, stepped up or transformed to higher voltages for long distance transmission on relatively small diameter (an inexpensive) wires with little line loss, and stepped down again to low, safe levels at the load end for domestic or commercial use. Because of a geographic setting that dictated a requirement for long distance power transmission from hydroelectric generation source to electrical load centers,. Southern California became the testing ground for AC power development. AC power discoveries and solutions in Southern California, in the late nineteenth century, became to industry standard common today (Hay 1991). Pioneering AC power developments occurred at three locations during the 1890s: San Antonio Canyon, Mill Creek, and Santa Ana River (Angeles National Forest 2005).

The SCE Switchyard is located to the immediate west of Harbor Boulevard, across the street from the SCE substation. The SCE Substation was constructed to aid in the distribution of the power generated by the MGS to communities in the Counties of Ventura and Santa Barbara. The SCE Substation was built in 1958 as part of the overall continuing development of the Oxnard area, which began in the late 1800s and accelerated after WWII.

SCE was founded in the late 1880s, forming various subsidiaries, which served the Southern California area. The company provides power services from Bakersfield to San Diego County. The SCE Switchyard was built in 1958 to address the continuing service needs of the Oxnard community. As one of the many small farming communities of the County of Ventura, the area began to expand over the 1950s and 1960s, and new residential and commercial areas required additional power services. The SCE Switchyard continues to serve the local community.

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** (Assigned by recorder) SCE Switchyard

B1. Historic Name: SCE Switchyard

B2. Common Name: SCE Switchyard

B3. Original Use: Switchyard

B4. Present Use: Switchyard

***B5. Architectural Style:** Engineering Structure

***B6. Construction History:** (Construction date, alterations, and date of alterations)

Constructed in 1959, the SCE Switchyard has had maintenance upgrades, but the initial design and construction remains the same.

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

***B8. Related Features:**

B9a. Architect: N/A b. Builder: N/A

***B10. Significance: Theme** N/A **Area** Oxnard, Ventura County, CA
Period of Significance N/A **Property Type** Engineering Structure, Industrial Building
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 significance for this SCE Switchyard within the historic architecture Project Area of Analysis (PAA) was determined by applying the procedures and criteria for *California Register of Historical Resources* (CRHR) eligibility the definition of a historical resource for purposes of CEQA

Based on site investigations and historic research, this portion of the SCE Switchyard is ineligible for listing on the CRHR and as a historical resource for purposes of CEQA.

(See Continuation Sheet)

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

***B12. References:**

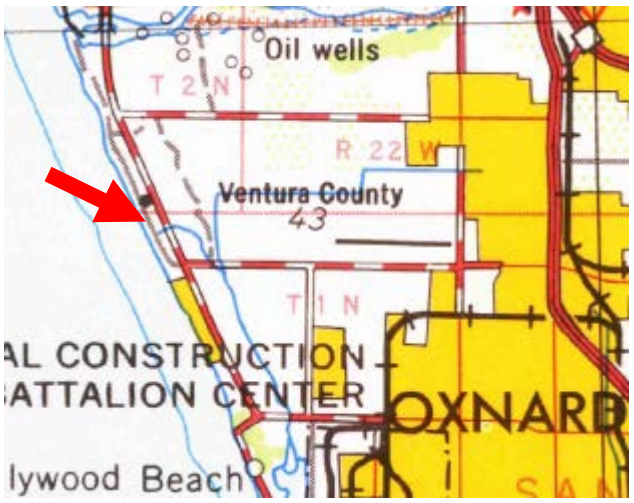
Baker Library. Southern California Edison Company. Lehman Brothers Collection—Contemporary Business Archives. Harvard Business School Historical Collections. Electronic document, http://www.library.hbs.edu/hc/lehman/chrono.html?company=southern_california_edison_company, accessed February 12, 2015, 2012.

ENSR Corporation. Revised Proposal for Information Collection for Mandalay Generating Facility, Document Number 10267-022-100. Report prepared for Reliant Energy, Inc., Oxnard. 2006.

History Associates Incorporated. Southern California Edison Records. The Huntington Library Manuscripts Department, San Marino. Electronic document, http://www.oac.cdlib.org/findaid/ark:/13030/kt6199s2cp/entire_text/, accessed February 12, 2015, 2009.

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

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



Los Angeles Bathymetric Map 1975, Not to Scale, USGS Topographic Maps

B13. Remarks: None

***B14. Evaluator:** AECOM

***Date of Evaluation:** February 2015

(This space reserved for official comments.)

***B10. (Continued)**

SCE History and Growth in Oxnard, CA

SCE is the largest electric utility in California and one of the nation's largest investor-owned electric utilities, serving more than 13 million people in 15 counties of central, coastal and southern California. Based in Rosemead, California, the utility has been providing electric service in the region for more than 120 years. SCE is a subsidiary of Edison International, which also is headquartered in Rosemead. The SCE service territory includes approximately 430 cities and communities with a total customer base of approximately 4.8 million residential and business accounts. SCE is regulated by the California Public Utilities Commission and the Federal Energy Regulatory Commission (History Associates Incorporated 2009).

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In April 1957, Union Construction Company of Ventura began general excavation for the generating station. Auxiliary construction included a substation, a ten-mile transmission line, and a temporary transformer. Betchel Corporation, builders of the new MGS, contracted Saticoy Rock as the concrete contractor for the project. In 1957, the "Explorer," a 100-ton Shellmaker Inc. dredge begins an approximately six-month excavation to clear the four-mile Mandalay/Edison Canal that will supply the generating station with cooling sea water.

In September 1958, welders connected a 4,900-foot oil pipeline that was designed to carry oil from ocean tankers to MGS storage tanks. Construction of MGS was 50 percent complete with the installation of the pipeline. The company built the generating station in stages with the first 215 megawatt unit coming on line in May 1959. Similar to other plants built at this time in California, it used a combination gas/oil powered generator and seawater to cool the condensers. Steam is supplied to the two steam-electric units by two oil- or gas-fired boilers, each rated at 707,600 kg of steam/hr. A take occurs when a pinniped enters the Edison Canal from the Channel Islands Harbor, three miles down coast of the generating station. In December 1958, SCE was awarded a contract for pilot plant equipment which would convert sea water to fresh water at MGS.

In April 1959, Cuyama gas line, owned and operated by Richfield Oil Corporation, was installed from Cuyama Valley to the SCE MGS. In July that same year, test runs began on the second 215 megawatt unit. In addition to the two steam-electric units, other major elements of the complex included one gas turbine unit (Unit 3) rated at 147 MW. In January 1960, MGS 26-stage sea water conversion plant was fully operational. Additionally in 1959, in order to distribute power generated at the plant, SCE constructed the present switchyard in review next to the MGS.

(See Continuation Sheet)

***B10. (Continued)**

Evaluation and Significance:
The significance of the SCE Switchyard was determined by applying the procedures and criteria for CRHR eligibility and as a historical resource for purposes of CEQA. Based on site investigations and historic research, the SCE Switchyard does not appear to be eligible for listing on the CRHR and as a historical resource for purposes of CEQA as an individual resource or as a contributor to a larger historic property, if it is ever determined that such a resource exists.

Criterion 1 (Event):
Under CRHR Criterion 1, the SCE Switchyard has no significant association with the broad patterns of local or regional history, or the cultural heritage of California or the United States. Although the switchyard is associated with the construction of the largest single generating unit in the Edison system in the 1950s and 1960s, as well as trend of using AC currents to distribute power throughout Southern California, the switchyard is just one example among many similar examples of switchyards used by the SCE in Southern California. At the time of its construction, the switchyard was one of several being built of similar – often nearly identical – design by SCE to supply the growing demand for electricity in southern California. In addition to SCE, other companies throughout California including PG&E, SDG&E, and California Electric were also building similar switchyards at this time to meet energy demands. Since the SCE Switchyard has no significant association with the broad patterns of local or regional history, or the cultural heritage of California or the United States, it is therefore not eligible for the CRHR under Criterion 1.

Criterion 2 (Person):
Under CRHR Criterion 2, the SCE Switchyard has no significant association with the lives of persons important to local, California, or national history. Research conducted of people important in electric history included a careful evaluation as to whether the SCE Switchyard under investigation is the property that best represents that association. In California notable names for which there might be associations with steam generating plant planning, construction, or engineering include: PG&E Chief Engineer I. C. Steele; Bechtel Engineer Walter Dickey; Henry E. Huntington and hydraulic engineer John S. Eastwood of SCE. Research on the property did not reveal that the SCE Switchyard is associated with any of these notable persons, nor their work. Since the SCE Switchyard has no significant association with the lives of persons important to local, California, or national history, it is therefore not eligible for the CRHR under Criterion 2.

Criterion 3 (Design/Construction):
Under CRHR Criterion 3, the SCE Switchyard does not embody the distinctive characteristics of a type, period, region, or method or construction, or represents the work of a master, or possesses high artistic values. Nothing about the design or construction of the SCE Switchyard was unique, or required groundbreaking or innovative features to surmount engineering or design challenges. Since the SCE Switchyard does not embody the distinctive characteristics of a type, period, region, or method or construction, or represents the work of a master, or possesses high artistic values it is therefore not eligible for the CRHR under Criterion 3.

Criterion 4 (Information Potential):
Under CRHR Criterion 4, the SCE Switchyard has not yielded nor appears the potential to yield information important to the prehistory or history of the local area, California, or the nation. Research has indicated that no known events of importance occurred in relation to the SCE Switchyard. The resource is not likely to yield information important to the prehistory or history of the local area, California, or the nation. Since the SCE Switchyard has not yielded nor appears to have the potential to yield information important to the prehistory or history of the local area, California, or the nation it is therefore not eligible for the CRHR under Criterion 4.

Integrity Analysis:
In addition, in order for a property to be eligible for listing in the CRHR, besides meeting one of the above criteria, a property must also retain its historic integrity. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association.

Location
Location is the place where the historic property was constructed or the place where the historic event took place. The original location of the SCE Switchyard remained the same, and while no historic events have occurred at this location, the integrity of the property's location remains intact.

B10. (Continued)

Design

Design is the combination of elements that create the form, plan, space, structure, and style of a property. The SCE Switchyard has a utilitarian design and still retains its original design properties. These combined elements (e.g., form, space, style) reflect the property's integrity of design, and the property has generally retained its overall style, space, form, and plan.

Setting

Setting is the physical environment of a historic property. The historic setting of the SCE Switchyard is the rural and suburban underdeveloped character of the agricultural region in the County of Ventura. Since its construction, the physical environment of the SCE Switchyard has not changed substantially and the historic setting of the switchyard remains evident today. However, around the SCE Switchyard other industrial properties have been constructed which slightly disrupts some of the original setting and visual narrative.

Materials

Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern of configuration to form a historic property. The SCE Switchyard is approximately 57 years old, and its physical elements represent design materials common during mid-twentieth century construction. The SCE Switchyard has retained many of its original building elements, fabric, and materials.

Workmanship

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. While the switchyard has had maintenance upgrades, the property retains its integrity of workmanship since the switchyard is recognizable as an industrial power conduit. Overall, several methods of construction and evidence of crafts are still apparent, seen in its general form. The SCE Switchyard displays characteristics seen in mid-twentieth century engineering, and the workmanship is based on common traditions seen during that period.

Feeling

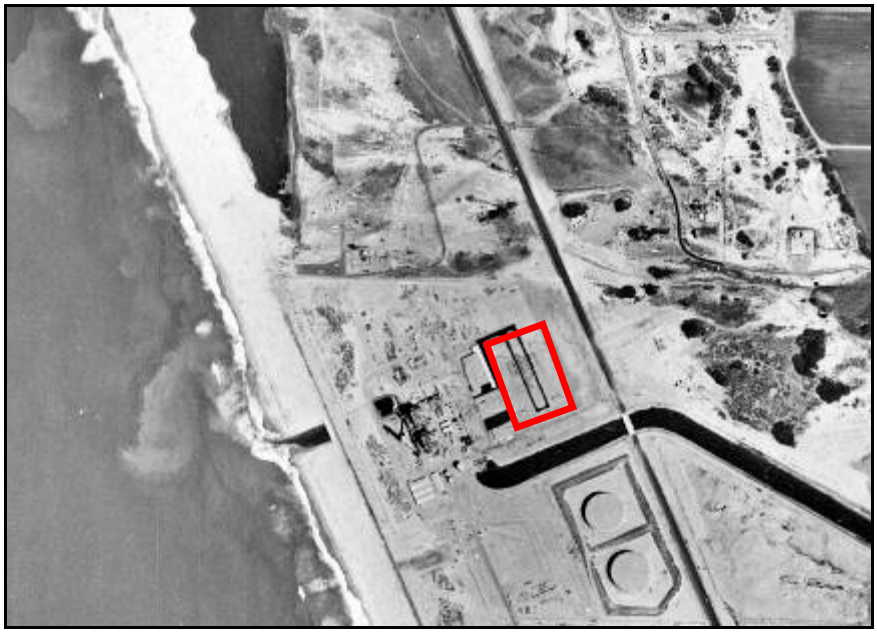
Feeling is a property's expression of the aesthetic or historic sense of a particular period of time. In its present state, the SCE Switchyard has generally retained its property's location, design, setting, and workmanship; therefore, the property conveys its character and historic integrity of feeling as switchyard from the mid-twentieth century.

Association

Association is the direct link between an important historic event or person and a historic property. While it was built to provide electricity to the region, the SCE Switchyard is not directly associated with any important historic event or person, or conveys a direct or distinctive link with any larger trend.

In conclusion, the SCE Switchyard located within the PAA does appear to retain its historic integrity, but it not appear to be eligible for listing to the CRHR or as a historical resource for purposes of CEQA, either individually or as a contributing resource to a larger significant cultural resource.

1953 Aerial Photograph. Not to Scale. Flight Year: 1953 Source: USGS, EDR Aerial Photos.



1959 Aerial Photograph. Not to Scale. Flight Year: 1959.
Source: Robinson, EDR Aerial Photos. Switchyard outlined in red.

View of northwest side of the SCE Switchyard from north end of the MGS, facing south.

View of west side of the SCE Switchyard behind the MGS maintenance building, facing east.

Detail view of the south end of the SCE Switchyard, facing south.

Detail view of the north end of the SCE Switchyard, facing northeast.

Detail view of interior of SCE Switchyard, facing northeast.

Detail view of exterior security fence and of SCE Switchyard, facing northeast.

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary#_____
HRI#_____
Trinomial_____
NRHP Status Code_____
Other Listings _____
Review Code Reviewer Date _____

Page 1 **of** 10 ***Resource Name or #:** (Assigned by recorder) Jeep Trail Tank Farm
P1. Other Identifier:
***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted**
***a. County:** Ventura **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
- ***b. USGS 7.5' Quad** Oxnard **Date** 1975 **T** N/A; **R** N/A; N/A ¼ **of** N/A ¼ **of Sec** N/A; N/A **B.M.;** SF
- **c.** Address Harbor Blvd City Oxnard Zip 93036
- **d.** UTM: (Give more than one for large and/or linear resources) Zone 11, 292936 mE/ 3787649 mN
- **e.** Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) APN 183-001-046. The Jeep Trail Tank Farm is bordered to the south by the curve of Jeep Trail dirt road, to the north by open space, undeveloped land, primarily sandy dune in composition and agricultural land, to the west by open space and the Pacific Ocean and to the east by additional agricultural land.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
The Jeep Trail Tank Farm located north of the SCE Substation and east of Harbor Boulevard and the Mandalay Generating Station (MGS). The Jeep Trail Tank Farm is located in the southern end of a large rectangular parcel with a north-south axis featuring mixed uses in a rural landscape. There are three small agricultural fields on the west side of the parcel, and open areas of silty sand dunes and coastal vegetation on the east side of the parcel. The northeastern edge of the parcel contains various agricultural outbuildings of no historic age or significance.

SEE CONTINUATION SHEET

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)

***P3b. Resource Attributes:** (List attributes and codes); Engineering Structure – HP11; Farm/Ranch - HP33

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

P5b. Description of Photo: (view, date, accession #) Aerial Photograph Google Maps 2015

***P6. Date Constructed/Age and Source:** ☒Historic ☐Prehistoric ☐Both
1954-1959 per EDR Historic Aerials

***P7. Owner and Address:**
Unknown

***P8. Recorded by:** (Name, affiliation, and address)
AECOM
4225 Executive Square, Suite 1600
La Jolla, CA 92037

***P9. Date Recorded:** February 2015

***P10. Survey Type:** (Describe) Reconnaissance Survey

***P11. Report Citation**: (Cite survey report and other sources, or enter "none.") Mandalay Energy Center (MEC) 2015 Application for Certification

***Attachments:** ☐NONE ☐Location 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):

P3a.** ***(continued)

The Jeep Trail Tank Farm is a privately-owned storage tank farm, comprised of several horizontally and vertically laid tanks connected by several pumps and piping, located within the southeastern edge of a large rectangular parcel used primarily for agricultural purposes. The Jeep Trail Tank Farm is located within the PAA, approximately a quarter-mile northeast of the MGS, within the parcel immediately north of the SCE Substation. The Jeep Trail Tank Farm was built between approximately 1954 and 1959, based on review of historic aerials photographs.

The Jeep Trail Tank Farm presently is comprised of six cylindrical cone roof tanks and three cylindrical horizontally laid tanks, connected with an arrangement of pumps and piping. The tank farm is set on a poured concrete foundation partially covered with dirt and earthen materials, along a bend in the dirt road (unpaved) known as the "Jeep Trail", per historic topographic maps and City records. The tanks are concentrated in the southern portion of the parcel, while the rest of the parcel is characterized by three small agricultural fields on the west side of the parcel, and open areas of sand dunes and coastal vegetation on the east side of the parcel. The northeastern edge of the parcel contains various agricultural outbuildings which appear to be constructed within the past thirty to forty years, and consist mostly of sheds, barns, and pavilions.

Based on a review of historic aerial imagery, the Jeep Trail Tank Farm was built sometime between 1954 and 1959. Five large upright tanks and small-scale structures first appear on the 1959 aerial photograph and by 1967 two additional tanks have appeared in this location. By the 1977 aerial photograph, two of the tanks have been removed and the photograph also depicts the initial grading/clearing of the parcel's agricultural fields. The 1984 historic aerial depicts the established agricultural fields north of the Jeep Trail Tank Farm, but only four upright tanks are now depicted. Between 1985 and the present, additional tanks have been added and/or replaced to this area.

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** (Assigned by recorder) Jeep Trail Tank Farm

B1. Historic Name N/A

B2. Common Name: N/A

B3. Original Use: Tank Farm

B4. Present Use: Tank Farm

***B5. Architectural Style:** Utilitarian

***B6. Construction History:** (Construction date, alterations, and date of alterations)

The tank farm was built approximately between 1954 and 1959, and many additions and removals have occurred since its original construction (exact dates unknown).

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

***B8. Related Features:**

B9a. Architect: N/A b. Builder: N/A

***B10. Significance: Theme** N/A **Area** Oxnard, Ventura County, CA

Period of Significance N/A **Property Type** Utility, Agricultural Field

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 significance for the Jeep Trail Tank Farm within the historic architecture Project Area of Analysis (PAA) was determined by applying the procedures and criteria for *California Register of Historical Resources* (CRHR) eligibility and the definition of a historical resource for purposes of CEQA

Based on site investigations and historic research, this portion of the Jeep Trail Tank Farm is ineligible for listing on the CRHR and as a historical resource for purposes of CEQA.

(See Continuation Sheet)

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

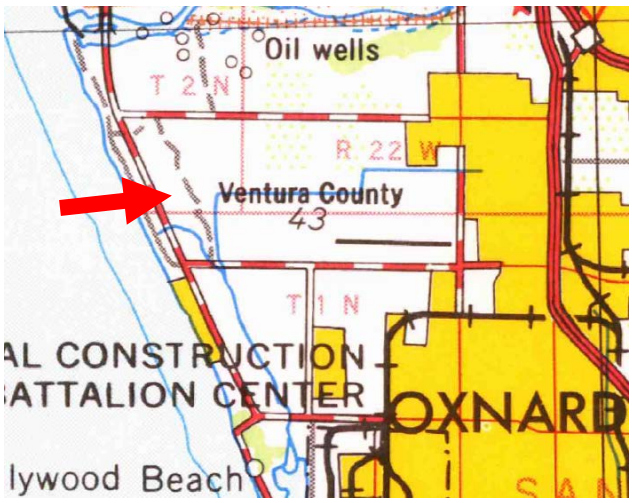
***B12. References:**

(See Continuation Sheet)

B13. Remarks: None

***B14. Evaluator:** AECOM

***Date of Evaluation:** February 2015



Los Angeles Bathymetric Map 1975, Not to Scale, USGS Topographic Maps

(This space reserved for official comments.)

***B10. (Continued)**

The Jeep Trail Tank Farm is a privately owned storage tank farm, comprised of several horizontally and vertically laid tanks connected by several pumps and piping, located in the southeastern edge of a large rectangular parcel used primarily for agricultural purposes. The Jeep Trail Tank Farm is in the historic architectural PAA, approximately a quarter-mile northeast of the MGS, in the parcel immediately north of the SCE Substation.

The Jeep Trail Tank Farm currently is comprised of six cylindrical cone roof tanks and three cylindrical horizontally laid tanks, connected with an arrangement of pumps and piping. The tank farm is set on a poured-concrete foundation partially covered with dirt and earthen materials, along a bend in the dirt road (unpaved) known as the "Jeep Trail," per historic topographic maps and City of Oxnard records. The tanks are concentrated in the southern portion of the parcel, and the rest of the parcel is characterized by three small agricultural fields on the western side of the parcel, and open areas of sand dunes and coastal vegetation on the eastern side of the parcel. The northeastern edge of the parcel contains various agricultural outbuildings that appear to be constructed within the past 30 to 40 years, and consist mostly of sheds, barns, and pavilions.

The Jeep Trail Tank Farm was built between approximately 1954 and 1959, based on review of historic aerials photographs. Five large upright tanks and small-scale structures first appear on the 1959 aerial photograph; and by 1967, two additional tanks have appeared in this location. By the 1977 aerial photograph, two of the tanks have been removed, and the photograph also depicts the initial grading/clearing of the parcel's agricultural fields. The 1984 historic aerial photograph depicts the established agricultural fields north of the Jeep Trail Tank Farm, but only four upright tanks are now depicted. Between 1985 and the present, additional tanks have been added and/or replaced in this area.

***B10. (Continued)**

Evaluation and Significance:

Criterion 1 (Event):

Under CRHR Criterion 1, the Jeep Trail Tank Farm has no significant association with the broad patterns of local or regional history, or the cultural heritage of California or the United States. Many rural properties contain landscape characteristics related to agricultural and mixed land uses and practices, such as power generation and small scale oil and gas storage uses. Eligibility for significance in agriculture on a local level depends on several factors. First, the characteristics must have served or resulted from an important event, activity, or theme in agricultural development as recognized by the historic contexts for the area. Second, the property must have had a direct involvement in the significant events or activities by contributing to the area's economy, productivity, or identity as an agricultural community. Third, through historic landscape characteristics, the property must cogently reflect the period of time in which the important events took place. This property is associated with oil and gas small-scale storage since 1959 (at the latest), and has also been used for agricultural purposes since the 1970s. Overall, these events either occurred much later than when agricultural activities were occurring in Ventura County, or the oil and gas storage activities within this parcel were at a much smaller scale than elsewhere in the County at this time (like at the MGS plant in comparison). Therefore, this property is not associated with or is considered a distinctive representation of any of the significant events important to the County or activities directly associated with improving the area's economy, productivity, or identity. While the property resembles an agricultural parcel with a small power storage use from the 1950s through the 1970s, it lacks a distinctive appearance which conveys this association and theme. The property is just one example among many similar examples of tank farms within agricultural properties used by landowners, farmers, and other companies, to store and produce small scale oil and gas activities in Southern California. Since the Jeep Trail Tank Farm has no significant association with the broad patterns of local or regional history, or the cultural heritage of California or the United States, it is therefore not eligible for the CRHR under Criterion 1.

Criterion 2 (Person):

Under CRHR Criterion 2, the Jeep Trail Tank Farm has no significant association with the lives of persons important to local, California, or national history. For this property, this would be individuals who are associated with the County's agricultural production, as well as pioneers in the oil and gas industry. Research conducted of people important in agricultural and oil and gas development and history included a careful evaluation as to whether the tank farm under investigation is the property that best represents that association. For example, the property, in its current form and appearance, is not directly associated with significant people or early settlers like J.D. Patterson or energy pioneers like James Barnes Miller. Overall, research on the property did not reveal that the Jeep Trail Tank Farm is associated with notable persons, nor their work. Since the Jeep Trail Tank Farm has no significant association with the lives of persons important to local, California, or national history, it is therefore not eligible for the CRHR under Criterion 2.

Criterion 3 (Design/Construction):

Under CRHR Criterion 3, the Jeep Trail Tank Farm does not embody the distinctive characteristics of a type, period, region, or method or construction, or represents the work of a master, or possesses high artistic values. The organization of space, visible in the arrangement of fields or siting of farmsteads, tanks, etc., may illustrate a pattern of rural land uses significant for its representation of traditional practices unique to a community. Buildings and outbuildings, whether high-style or vernacular, may be distinctive in design, style, or method of construction, and be representative of historic rural local or regional trends. The NPS National Register Bulletin 30: Guidelines for Evaluating and Documenting Rural Historic Landscapes identifies 11 characteristics of the rural historic landscape, the following characteristics have been reviewed for the Jeep Trail Tank Farm:

• Natural Systems and Features: These are the natural aspects that influenced the development and resultant form of the property, such as climate, geology, geomorphology, hydrology, and physiology. The property's land use as a tank farm was not influenced by the temperate climate of the area that was conducive to agriculture. The tank farm portion (constructed in the 1950s) was built before the agricultural fields within the parcel were developed in the 1970s. The property lacks natural aspects that ultimately influenced the development of the parcel, and instead was influenced more by zoning uses for the County.

• Spatial Organization: This is the arrangement of elements creating the ground, vertical and overhead planes that define and create spaces in the parcel. The landscape's spatial organization is very simple with only two clusters of land uses: oil and gas storage in the east portion of the parcel and agricultural buildings along the west portion of the parcel, with an agricultural field and open space filling out the rest of the parcel. As a result, this is a very simple spatial organization. *(See Continuation Sheet)*

***B10. (Continued)**

• Land Use: This is the organization, form, and shape of the property in response to land use. The oil and storage uses were placed beside the road, which would have been the most convenient location for a tank farm that was on the far outskirts of early City of Oxnard, allowing the most efficient use of the rest of the parcel at a later period (for agricultural). The flat topography enabled the tank farm to have trucks deliver oil and hazardous materials, minimizing the chances of a spill. Later, in the non-historic period, agriculture would soon also utilize this topography for its ability to plant crops in long even rows.

• Cultural Traditions: These are the practices that influenced land use, patterns of division, building forms, and the use of materials in the property. The land use, orientation of the clusters, construction materials, and design of the structures and tank farm followed the cultural traditions of early-mid twentieth century rural development in southern California. The tank farm is typical of the period and went through many upgrades and changes throughout time as tank farm design became more developed.

• Circulation: This is the spaces, systems, and materials that constitute the systems for movement in the property. The Jeep Trail is a dirt road that runs north to south, providing access to the southern portion of the property. Other circulation network include the access to the property off Gonzales Road, as well as the small dirt paths connecting the clusters of agricultural outbuildings along the north part of the parcel, and the pathways lining the agricultural field.

• Topography: This is the three-dimensional configuration of the property's ground surface related to land use, and characterized by features and orientation. The land use as a tank farm and agricultural field was influenced by the natural, flat topography of the area. This topography permitted the tank farm a safe space for transporting and storing oils and other potentially hazardous materials, in a location removed from the original city center.

• Vegetation Related to Land Use: Various types of vegetation bear a direct relationship to long-established patterns of land use. Vegetation includes not only crops, trees, or shrubs planted for agricultural and ornamental purposes, but also trees that have grown up incidentally along fence lines, beside roads, or in abandoned fields. Vegetation may include indigenous, naturalized, and introduced species. The principal vegetation type when the tank farm was constructed was primarily natural coastal vegetation growing among sandy dunes. The agricultural vegetation on the tank farm parcel did not appear until the 1970s.

• Buildings, Structures, and Objects: Rural buildings and structures often exhibit patterns of vernacular design that may be common in their region or unique to their community. Residences may suggest family size and relationships, population densities, and economic fluctuations. The repeated use of methods, forms, and materials of construction may indicate successful solutions to building needs or demonstrate the unique skills, workmanship, or talent of a local artisan. The buildings, structures and objects in the parcel are primarily of utilitarian design, and are not unique to the community. The buildings and structures were all constructed beginning in the 1950s and reflect common or prefabricated construction techniques.

• Clusters: Groupings of buildings, fences, and other features, as seen in a farmstead, ranch, or mining complex, result from function, social tradition, climate, or other influences, cultural or natural. The oil and gas storage portions are primarily clustered at the southern edge of the parcel, away from major roads or residential neighborhoods, with the agricultural properties concentrated towards the northern portion of the property. This was likely due to safety, to protect again the dangers of a hazardous material spills.

• Archeological Sites: The sites of prehistoric or historic activities or occupation, may be marked by foundations, ruins, changes in vegetation, and surface remains. The tank farm is not eligible as an archaeological site, not were there foundations, ruins, changes in vegetation, or surface remains located on the site.

• Small-scale elements: Small-scale elements, such as a foot bridge or road sign, add to the historic setting of a rural landscape. These features may be characteristic of a region and occur repeatedly throughout an area, such as limestone fence posts in Kansas or cattle gates in the Buffalo River Valley of Arkansas. While most small-scale elements are long-lasting, some, such as bales of hay, are temporal or seasonal. Due to the undeveloped natures of the tank farm, and its utilitarian purpose, there were no small-scale elements that could contribute to the property's development as a rural landscape.

(See Continuation Sheet)

***B10. (Continued)**

Based on the review of the NPS National Register Bulletin 30: Guidelines for Evaluating and Documenting Rural Historic Landscapes, the Jeep Trail Tank Farm does not appear to be eligible as a rural historic landscape. The agricultural portion of the parcel was developed in the 1970s and is thus ineligible for evaluation as a historic property. Nothing about the design or construction of the Jeep Trail Tank Farm was unique, or required groundbreaking or innovative features to surmount engineering or design challenges. Since the Jeep Trail Tank Farm does not embody the distinctive characteristics of a type, period, region, or method or construction, or represents the work of a master, or possesses high artistic values it is therefore not eligible for the CRHR under Criterion 3.

Criterion 4 (Information Potential):

Under CRHR Criterion 4, the Jeep Trail Tank Farm has not yielded nor appears the potential to yield information important to the prehistory or history of the local area, California, or the nation. Research has indicated that no known events of importance occurred in relation to the Jeep Trail Tank Farm. The resource is not likely to yield information important to the prehistory or history of the local area, California, or the nation. Since the Jeep Trail Tank Farm has not yielded nor appears to have the potential to yield information important to the prehistory or history of the local area, California, or the nation it is therefore not eligible for the CRHR under Criterion 4.

Integrity Analysis:

In order to meet the CRHR criteria a property must also retain integrity, which is the ability of a property to convey its significance. Besides meeting one of the CRHR criteria, a property must also retain a significant amount of its historic integrity to be considered eligible for listing to a registry. Historic integrity is made up of seven aspects: location, design, setting, materials, workmanship, feeling, and association.

Location

Location is the place where the historic property was constructed or the place where the historic event took place. The original location of the tank farm has remained the same, and while no historic events have occurred at this location, the integrity of the property's location remains intact.

Design

Design is the combination of elements that create the form, plan, space, structure, and style of a property. The tank farm has a utilitarian design. These combined elements (e.g., form, space, style) reflect the property's integrity of design, and several major changes (such as additions and removals) have occurred to original elements and spaces. Based on aerial imagery, the tank farm has not retained its original style, space, form, and plan.

Setting

Setting is the physical environment of a historic property. The historic setting of the tank farm is the rural and suburban underdeveloped character of the agricultural region in Ventura County. Since its construction, the tank farm has not changed substantially and the historic setting of the tank farm remains evident today. However, around the tank farm other industrial properties have been constructed which slightly disrupts some of the original setting and visual narrative.

Materials

Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern of configuration to form a historic property. The tank farm is 55 years old, and its original remaining physical elements represent design materials common during mid-twentieth century construction. The tank farm has not retained all of its original building elements, fabric, and materials; as many of the original materials have been upgraded to ensure the integrity of the structure and design of the tanks.

Workmanship

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. While the tank farm has had maintenance upgrades, it retains the integrity of workmanship since it is recognizable as a tank farm. Overall, the methods of construction and evidence of crafts are still apparent. The tank farm displays characteristics seen in mid-twentieth century engineering, and the workmanship is based on common traditions seen during that period.

(See Continuation Sheet)

***B10. (Continued)**

Feeling

Feeling is a property's expression of the aesthetic or historic sense of a particular period of time. In the present state, the tank farm has generally retained its property's location, design, setting, and workmanship; therefore, it conveys its character and historic integrity of feeling as a tank farm from the mid-twentieth century.

Association

Association is the direct link between an important historic event or person and a historic property. While it was built for gas and oil storage for the region, the tank farm is not directly associated with any important historic event or person, nor does it convey a direct or distinctive link with any larger trend.

In conclusion, while the Jeep Trail Tank Farm retains some off its integrity, it does not meet any of the CRHR criterion for eligibility. Therefore, based on site investigations and historic research conducted to date, this portion under investigation does not appear to be eligible for listing on the CRHR either as an individual resource or as a contributor to a larger historic property (if it is ever determined one exists).

***B12. References:** (Continued)

Baker Library. Southern California Edison Company. Lehman Brothers Collection—Contemporary Business Archives. Harvard Business School Historical Collections. Electronic document, http://www.library.hbs.edu/hc/lehman/chrono.html?company=southern_california_edison_company, accessed February 12, 2015, 2012.

EDR. EDR Historical Topographic Maps Report and Historic Aerial Photo Decade Package for the Mandalay Energy Center Project Site, Inquiries Number: 4185537.4 and 4185537.12. Sheldon, 2015.

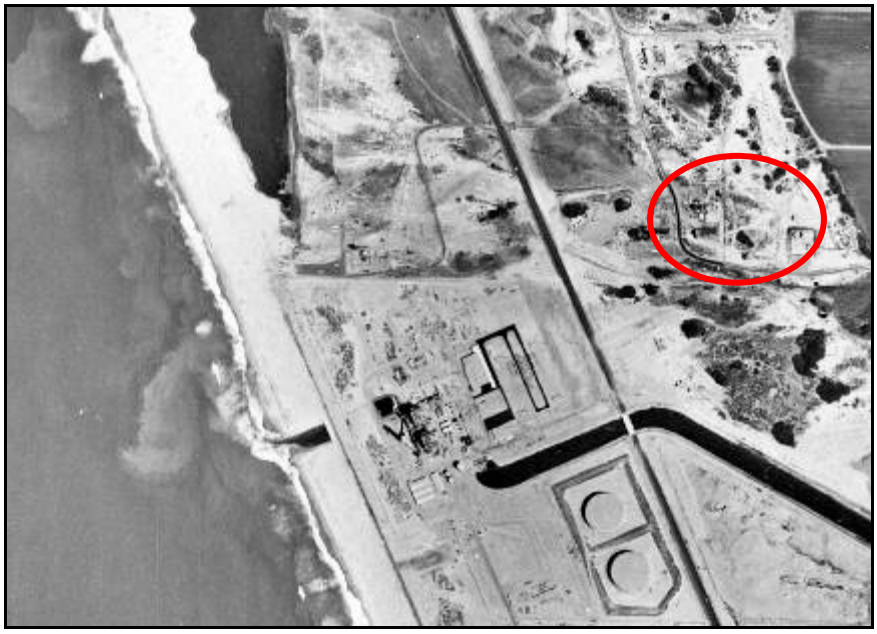
ENSR Corporation. Revised Proposal for Information Collection for Mandalay Generating Facility, Document Number 10267-022-100. Report prepared for Reliant Energy, Inc., Oxnard. 2006.

History Associates Incorporated. Southern California Edison Records. The Huntington Library Manuscripts Department, San Marino. Electronic document, http://www.oac.cdlib.org/findaid/ark:/13030/kt6199s2cp/entire_text/, accessed February 12, 2015, 2009.

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

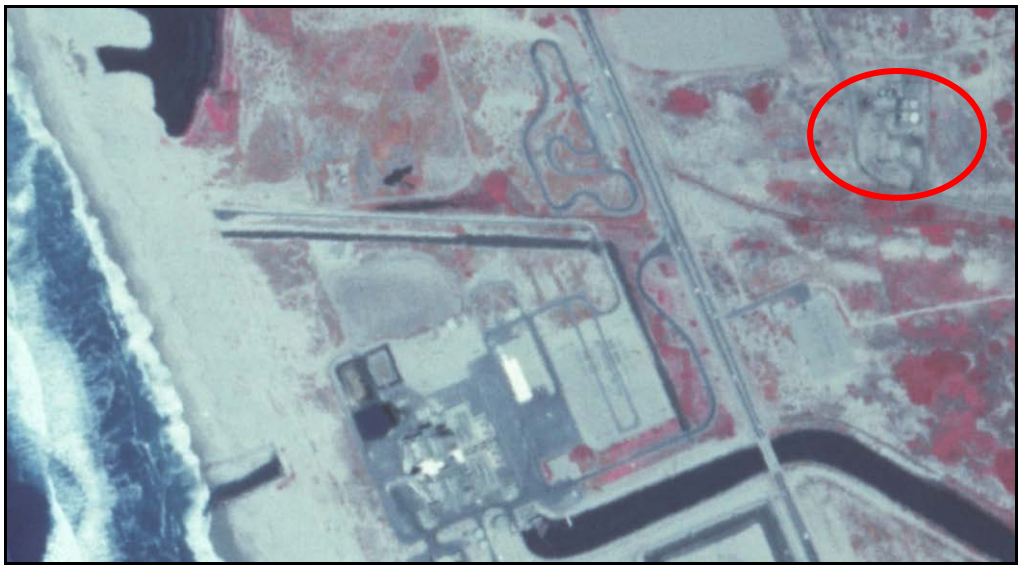
Williams, James C. *Energy and the Making of Modern California*. Akron, Ohio: University of Akron Press, 1997.

1953 Aerial Photograph. Not to Scale. Flight Year: 1953 Source: USGS, EDR Aerial Photos.



1959 Aerial Photograph. Not to Scale. Flight Year: 1959.
Source: Robinson, EDR Aerial Photos. Jeep Trail Tank Farm circled in red.

View of Jeep Trail Tank Farm, facing east (Restricted Visual Access).



1984 Aerial Photograph. Not to Scale. Flight Year: 1984. Source: USGS, EDR Aerial Photos.
Jeep Trail Tank Farm circled in red.

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary#_____
HRI#_____
Trinomial_____
NRHP Status Code_____
Other Listings _____
Review Code Reviewer Date _____

Page 1 **of** 12 ***Resource Name or #:** (Assigned by recorder) Portion of the Mandalay-Santa Clara T-Line (P-56-153002 UPDATE)
P1. Other Identifier: SCE Mandalay-Santa Clara 1 and 2, M0-T1; Clearwire CA-VTA0119-A
***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted**
***a. County:** Ventura **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Oxnard **Date** 1975 **T** N/A**; R** N/A**;** N/A **¼ of** N/A **¼ of Sec** N/A**;** N/A **B.M.;** SF

c. Address 400 N. Harbor Blvd City Oxnard Zip 93035

d. UTM: (Give more than one for large and/or linear resources) Zone 11**,** 293171 mE/ 3787452 mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) APN 183-002-101. This portion of the Mandalay-Santa Clara Transmission Line is bordered to the west by North Harbor Boulevard and the Pacific Ocean; to the south is the SCE Substation and undeveloped land, primarily sandy dune in composition; to the north is more undeveloped land, primarily sandy dune in composition; and to the east additional agricultural land.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
This form serves as an update to the previously recorded single pylon tower of the Mandalay-Santa Clara Transmission Line (P-56-153002), recorded by K.A. Crawford/Michael Brandman Associates in 2010. The Mandalay-Santa Clara Transmission Line is the SCE-owned electric transmission line constructed to transmit power generated by the MGS to the Santa Clara Substation for ultimate distribution to communities in Ventura and Santa Barbara Counties. The Mandalay-Santa Clara Transmission Line consists of the approximately 9.4-mile long above ground transmission line and associated transmission towers, posts, and wires.

SEE CONTINUATION SHEET

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)

***P3b. Resource Attributes:** (List attributes and codes); Engineering Structure – HP11

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

P5b. Description of Photo: (view, date, accession #) Photographer looking southeast; February 2015

***P6. Date Constructed/Age and Source:** ☒Historic ☐Prehistoric ☐Both
1959 per NETR Historic Aerials

***P7. Owner and Address:**
Southern California Edison

***P8. Recorded by:** (Name, affiliation, and address)
AECOM
4225 Executive Square, Suite 1600
La Jolla, CA 92037

***P9. Date Recorded:** February 2015

***P10. Survey Type:** (Describe) Reconnaissance Survey

***P11. Report Citation**: (Cite survey report and other sources, or enter "none.") Mandalay Energy Center (MEC) 2015 Application for Certification

***Attachments:** ☐NONE ☐Location 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):

P3a.** ***(continued)

The Mandalay-Santa Clara Transmission Line was constructed to aid in the distribution of the power generated by the MGS to communities in the Counties of Ventura and Santa Barbara. The transmission line was constructed in approximately 1958, as part of the overall continuing development of the Oxnard area, which began in the late 1800s and accelerated after WWII. The Mandalay-Santa Clara Transmission Line consists of an above ground transmission line and associated transmission towers, posts, and wires, including Mandalay-Santa Clara 1 and 2 (Crawford 2010).

Prior to the early 1890s, electrical systems developed for lighting and running small motors in Southern California were all run on Direct Current or DC power, and were often constructed for publicity or demonstration purposes (Meyers 1983). DC power, however, could be transmitted more than a few miles at the low generation voltages used by the equipment common in that era without significant line losses (Hay 1991), thus limiting the usefulness of DC power from a commercial standpoint. As long as generation was located close to the load center, such as a densely settled city, DC power performed adequately.

Typical fuels for generating electricity at a steam powered electrical generation plant in the late nineteenth century, such as coal, were expensive in Southern California (the technology for using local oil as a boiler fuel did not arrive until the first decade of the twentieth century). On the other hand, hydro power was relatively abundant locally, the last expensive fuel source by far, and well understood from an engineering standpoint (Hay 1991). But the fuel and hence generation source (falling water) was usually located far from the urban load centers. The solution to the dilemma of how to get hydroelectric energy to the load center lay in the development of Alternation Current or AC power systems. AC power differs from DC power in that it is generated in waves or pulses termed cycles. It was discovered that the voltage of AC power can be manipulated by induction transformers. That discovery resulted in the ability to generate power at lower voltages for safe control by powerhouse machinery and switches, stepped up or transformed to higher voltages for long distance transmission on relatively small diameter (an inexpensive) wires with little line loss, and stepped down again to low, safe levels at the load end for domestic or commercial use. Because of a geographic setting that dictated a requirement for long distance power transmission from hydroelectric generation source to electrical load centers. Southern California became the testing ground for AC power development. AC power discoveries and solutions in Southern California, in the late nineteenth century, became to industry standard common today (Hay 1991).

The Mandalay-Santa Clara Transmission Line is the SCE-owned electric transmission line constructed to transmit power generated by the MGS to the Santa Clara Substation for ultimate distribution to communities in Ventura and Santa Barbara Counties. The transmission line was constructed circa 1958, concurrent with the MGS and Edison Canal according to information provided by SCE. The Mandalay-Santa Clara Transmission Line consists of the approximately 4.5-mile long above ground transmission line and associated transmission towers, posts, and wires. In 2010, a single pylon tower of the Mandalay-Santa Clara Transmission Line was recorded and subsequently assigned the primary number of P-56-153002 (Crawford 2010).

Only the portion of the transmission line within the PAA was recorded and evaluated as part of this assessment. The portion outside of the PAA was not recorded since the potential effects to the resource as a whole would be negligible. The assigned primary number was applied here as the single tower that was previously recorded (P-56-153002) is but a part of a longer linear resource (i.e., the Mandalay-Santa Clara Transmission Line). The portion of the Mandalay-Santa Clara Transmission Line located in the PAA is comprised of four steel lattice towers, one tower within the MGS property and the remaining three situated across Harbor Boulevard within the SCE-owned parcel that also holds the SCE substation (the lines does not directly connect to the SCE substation). The 220kV steel lattice towers stand approximately 150" tall and rest on cylindrical poured concrete pier foundations. While there are four towers total within the Historic Architecture PAA, only the three towers located east of Harbor Drive feature identification tag that states the tower number, reading “Mandalay Santa Clara 220 KV No. 1” through “Mandalay Santa Clara 220 KV No. 3. The one tower located west of Harbor Drive does not appear to be numbered.

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** (Assigned by recorder) Portion of the Mandalay-Santa Clara T-Line (P-56-153002 UPDATE)

B1. Historic Name Mandalay-Santa Clara Transmission Line; Clearwire CA-VTA0119-A

B2. Common Name: Mandalay-Santa Clara Transmission Line

B3. Original Use: Utility/Transmission Line

B4. Present Use: Utility/Transmission Line

***B5. Architectural Style:** Engineering Structure

***B6. Construction History:** (Construction date, alterations, and date of alterations)

The line was constructed in 1958, no major alterations were noted.

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

***B8. Related Features:**

B9a. Architect: N/A b. Builder: N/A

***B10. Significance: Theme** N/A **Area** Oxnard, Ventura County, CA

Period of Significance N/A **Property Type** Utility

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

This form serves as an update to the previously recorded portion of the Mandalay-Santa Clara Transmission Line (P-56-153002), recorded by K.A. Crawford/Michael Brandman Associates in 2010. The significance for the portion of the transmission line and corresponding transmission tower within the historic architecture Project Area of Analysis (PAA) was determined by applying the procedures and criteria for *California Register of Historical Resources* (CRHR) eligibility and the definition of a historical resource for purposes of CEQA

Based on site investigations and historic research, this portion of the portion of the Mandalay-Santa Clara Transmission Line is ineligible for listing on the CRHR and as a historical resource for purposes of CEQA, as an individual resource or as a contributor to a larger significant linear resource (like the entire transmission line alignment), if it is ever determined such a resource may exist.

(See Continuation Sheet)

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

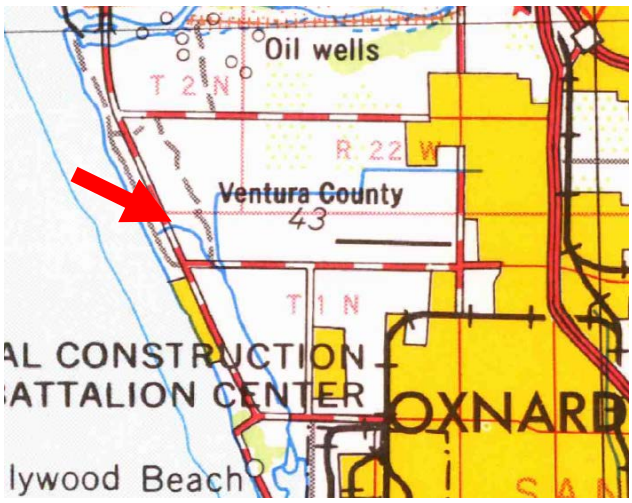
***B12. References:**

(See Continuation Sheet)

B13. Remarks: None

***B14. Evaluator:** AECOM

***Date of Evaluation:** February 2015



Los Angeles Bathymetric Map 1975, Not to Scale, USGS Topographic Maps

N

(This space reserved for official comments.)

***B10. (Continued)**

SCE History and Growth in Oxnard, CA

SCE is the largest electric utility in California and one of the nation's largest investor-owned electric utilities, serving more than 13 million people in 15 counties of central, coastal and southern California. Based in Rosemead, California, the utility has been providing electric service in the region for more than 120 years. SCE is a subsidiary of Edison International, which also is headquartered in Rosemead. The SCE service territory includes approximately 430 cities and communities with a total customer base of approximately 4.8 million residential and business accounts. SCE is regulated by the California Public Utilities Commission and the Federal Energy Regulatory Commission (History Associates Incorporated 2009).

SCE's earliest predecessor was Holt and Knupps, which installed street lights in Visalia, California in 1886. In 1896, a group of businessmen established the West Side Lighting Company to provide electricity to Los Angeles. In 1897, West Side Lighting Company merged with Los Angeles Edison Electric, which owned the rights to the Edison name and patents in the region, and Baker became the president of the new combined company. During this time, Edison Electric installed the first DC-power underground conduits in the Southwest (Baker Library 2012). In 1899 the Edison Electric Company's Santa Ana River No. 1 hydroelectric plant began operation, transmitting power to Los Angeles over the world's longest power line (83 miles) (History Associates Incorporated 2009).

John Barnes Miller began his 31-year service as company president in 1901, the same year that the Edison Electric Company of Los Angeles recapitalized as a $10 million corporation. In 1909 after another recapitalization, the corporate name was changed to the present Southern California Edison Company. The company acquired many neighboring utilities and built several power plants in the subsequent years. In 1907, the company's Kern River-Los Angeles Transmission Line began operation. At 118 miles and 75 kV, it was the world's longest and highest voltage power line and the first line in the nation to be entirely supported by steel towers. The company changed its name to Southern California Edison in 1909 (Baker Library 2012).

In 1917, SCE doubled its assets through a merger with Henry E. Huntington's Pacific Light and Power Corporation, making it the fifth-largest central-station power company in the U.S. It now served over 100 communities with a total population of 1.25 million. In 1917, SCE also acquired control of the Ventura County Power Company and the Mount Whitney Power & Electric Company (Baker Library 2012; History Associates Incorporated 2009).

From 1917 through the 1920s, SCE created and expanded the Big Creek Project, which was the first large-scale progressive hydroelectric development in the country. This massive construction effort employed 2,000 workers and produced numerous technical innovations. By 1929 Big Creek's eight powerhouses generated a total of 360,000 kW, half of SCE's total capacity (Baker Library 2012).

At the same time, SCE increased its generation and transmission assets through the merger with Pacific Light and Power Corporation, it also was losing a major customer in the city of Los Angeles. Beginning in 1912, the city of Los Angeles began developing its own city-owned power department and conflict with SCE ensued. In 1917, SCE and the city of Los Angeles reached a settlement under which SCE sold its combined distribution system within Los Angeles to the city for $12 million. SCE continued to operate the system under lease until 1922, since the city of Los Angeles required that time to develop the generating capacity to serve its new system (History Associates Incorporated 2009).

SCE expanded its steam plants in Long Beach during the 1930s to include 11 new generators and a total of 419,000 kW by the end of the decade. In August 1939, SCE swapped the remainder of its Los Angeles distribution system for facilities outside the city limits. These facilities were formerly owned by Los Angeles Gas and Electric and were acquired by the Los Angeles City Council in 1937 (Baker Library 2012). During WWII, Japanese submarines shelled the Ellwood oil fields near Santa Barbara, damaging SCE transformers. In May 1942, SCE joined with all other investor and government-owned utilities in California, southern Nevada, and Arizona to form the Pacific Southwest Power Pool. The organization provided service to areas suffering power shortages or outages during the duration of the war. In the post-WWII period, SCE grew substantially as many industrial and military personnel returned to the Southern California region at a rate of 1,000 per week. SCE installed its one millionth meter in 1951 (Baker Library 2012).

***B10. (Continued)**

During the middle years of the twentieth century, SCE faced a number of natural and economic challenges. A 1925 earthquake and the 1928 collapse of the St. Francis Dam severely damaged SCE's facilities. The Great Depression and WWII had a significant effect on SCE's continued growth and access to economic and natural resources. Human resources also proved to be an issue in these years as WWII constricted SCE's access to workers and in 1953 SCE faced a major employee strike (History Associates Incorporated 2009).

In July 1957, at the Santa Susana Experimental Station, SCE became the first investor-owned utility to generate non-military nuclear power. Later that same year in November, Moorpark, Ventura, became the first town in the world to receive its entire energy supply from a nuclear power plant, launching California's "Age of Atomic Energy" (Baker Library 2012).

SCE survived these difficult decades and in 1964 consolidated its eastern service area by merging with the California Electric Power Company (also known as Calectric). Through this merger, SCE gained access to Calectric's 450,000 customers and 41,500-square-mile territory. A second significant mid-1960s event for SCE was the 1963 initiation of construction of the San Onofre Nuclear Generating Station (SONGS). SONGS Unit 1 began operation in 1968, as a joint project between SCE (80 percent) and San Diego Gas and Electric Company (20 percent). In 1971, SCE reported a net income of $127 million from revenues of $802 million (Baker Library 2012). In addition to nuclear energy, SCE has also supported the development of renewable and alternative energy resources such as wind, solar and geothermal (History Associates Incorporated 2009).

Due to the population and subsequent building boom in Oxnard and Ventura County in the early 1950s, SCE announced plans to construct "a $35,000,000 steam-electric generating plant estimated to have a generating capacity of 200,000 kW near Mandalay Beach, west of Oxnard." The station, designed to meet the growing electrical needs of Ventura and Santa Barbara Counties, was situated on unincorporated Ventura County. SCE filed application with California Public Utilities authority for construction of a steam-electric generating facility at Mandalay Bay in December 1956 on a 100-acre site located on the Patterson Ranch subdivision. The station was to consist of three units and have a combined rated capacity of 577 MW. Two of the facility's units (Unit 1 and Unit 2) would use cooling water from the Pacific Ocean, via the Channel Island Harbor and the Mandalay/Edison Canal, in excess of 50 million gallons per day (ENSR Corporation 2006).

In April 1957, Union Construction Company of Ventura began general excavation for the generating station. Auxiliary construction included a substation, a ten-mile transmission line, and a temporary transformer. Betchel Corporation, builders of the new MGS, contracted Saticoy Rock as the concrete contractor for the project. In 1957, the "Explorer," a 100-ton Shellmaker Inc. dredge begins an approximately six-month excavation to clear the four-mile Mandalay/Edison Canal that will supply the generating station with cooling sea water.

In September 1958, welders connected a 4,900-foot oil pipeline that was designed to carry oil from ocean tankers to MGS storage tanks. Construction of MGS was 50 percent complete with the installation of the pipeline. The company built the generating station in stages with the first 215 megawatt unit coming on line in May 1959. Similar to other plants built at this time in California, it used a combination gas/oil powered generator and seawater to cool the condensers. Steam is supplied to the two steam-electric units by two oil- or gas-fired boilers, each rated at 707,600 kg of steam/hr. A take occurs when a pinniped enters the Edison Canal from the Channel Islands Harbor, three miles down coast of the generating station. In December 1958, SCE was awarded a contract for pilot plant equipment which would convert sea water to fresh water at MGS.

In April 1959, Cuyama gas line, owned and operated by Richfield Oil Corporation, was installed from Cuyama Valley to the SCE MGS. In July that same year, test runs began on the second 215 megawatt unit. In addition to the two steam-electric units, other major elements of the complex included one gas turbine unit (Unit 3) rated at 147 MW. In January 1960, MGS 26-stage sea water conversion plant was fully operational. Additionally in 1959, in order to distribute power generated at the plant, SCE constructed a substation across Harbor Boulevard from the MGS. From this substation the portion of the Mandalay-Santa Clara Transmission Line (P-56-153002) under review and related transmission tower were built as well.

(See Continuation Sheet)

***B10. (Continued)**

Evaluation and Significance:

The significance of this portion of the Mandalay-Santa Clara Transmission Line was determined by applying the procedures and criteria for CRHR eligibility and the definition of a historical resource for purposes of CEQA. Based on site investigations and historic research, the portion of transmission line and tower do not appear to be eligible for listing on the CRHR as an individual resource or as a contributor to a larger historic property, if it is ever determined that such a resource exists.

Criterion 1 (Event):

Under CRHR Criterion 1, the portion of the Mandalay-Santa Clara Transmission Line in the PAA has no significant association with the broad patterns of local or regional history, or the cultural heritage of California or the United States. Although the transmission line is associated with the construction of the largest single generating unit in the Edison system in the 1950s and 1960s, as well as trend of using AC currents to distribute power throughout Southern California, the transmission line is just one example among many similar examples of transmission lines used by the SCE in Southern California. At the time of its construction, the transmission line was one of several being built of similar – often nearly identical – design by SCE to supply the growing demand for electricity in southern California. In addition to SCE, other companies throughout California including PG&E, SDG&E, and California Electric were also building similar transmission lines at this time to meet energy demands. Since the portion of the Mandalay-Santa Clara Transmission Line within the PAA has no significant association with the broad patterns of local or regional history, or the cultural heritage of California or the United States, it is therefore not eligible for the CRHR under Criterion 1 as an individual resource or as a contributor to a larger significant linear resource (like the entire transmission line alignment), if it is ever determined such a resource may exist.

Criterion 2 (Person):

Under CRHR Criterion 2, the portion of the Mandalay-Santa Clara Transmission Line in the PAA has no significant association with the lives of persons important to local, California, or national history. Research conducted of people important in electric history included a careful evaluation as to whether the portion of the Mandalay-Santa Clara Transmission Line in the PAA under investigation is the property that best represents that association. In California notable names for which there might be associations with steam generating plant planning, construction, or engineering include: PG&E Chief Engineer I. C. Steele; Bechtel Engineer Walter Dickey; Henry E. Huntington and hydraulic engineer John S. Eastwood of SCE. Research on the property did not reveal that the Mandalay-Santa Clara Transmission Line is associated with any of these notable persons, nor their work. Since the portion of the Mandalay-Santa Clara Transmission Line in the PAA has no significant association with the lives of persons important to local, California, or national history, it is therefore not eligible for the CRHR under Criterion 2 as an individual resource or as a contributor to a larger significant linear resource (like the entire transmission line alignment), if it is ever determined such a resource may exist.

Criterion 3 (Design/Construction):

Under CRHR Criterion 3, the portion of the Mandalay-Santa Clara Transmission Line in the PAA does not embody the distinctive characteristics of a type, period, region, or method or construction, or represents the work of a master, or possesses high artistic values. In addition, all of the associated structures such as transmission towers, poles, and wires were also typical for this type of linear resource. Nothing about the design or construction of the portion of the Mandalay-Santa Clara Transmission Line in the PAA was unique, or required groundbreaking or innovative features to surmount engineering or design challenges. Since the portion of the Mandalay-Santa Clara Transmission Line in the PAA does not embody the distinctive characteristics of a type, period, region, or method or construction, or represents the work of a master, or possesses high artistic values it is therefore not eligible for the CRHR under Criterion 3 as an individual resource or as a contributor to a larger significant linear resource (like the entire transmission line alignment), if it is ever determined such a resource may exist.

Criterion 4 (Information Potential):

Under CRHR Criterion 4, the portion of the Mandalay-Santa Clara Transmission Line in the PAA has not yielded nor appears the potential to yield information important to the prehistory or history of the local area, California, or the nation. Research has indicated that no known events of importance occurred in relation to the Mandalay-Santa Clara Transmission Line. The resource is not likely to yield information important to the prehistory or history of the local area, California, or the nation. Since the evaluated portion of the Mandalay-Santa Clara Transmission Line in the PAA has not yielded nor appears to have the potential to yield information important to the prehistory or history of the local area, California, or the nation it is therefore not eligible for the CRHR under Criterion 4 as an individual resource or as a contributor to a larger significant linear resource (like the entire transmission line alignment), if it is ever determined such a resource may exist.

(See Continuation Sheet)

***B10. (Continued)**

Integrity Analysis:

In addition, in order for a property to be eligible for listing in the CRHR, besides meeting one of the aforementioned criteria, a property must also retain its historic integrity. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association.

Location

Location is the place where the historic property was constructed or the place where the historic event took place. The original location of the Mandalay-Santa Clara Transmission Line remained the same, and while no historic events have occurred at this location, the integrity of the property's location remains intact.

Design

Design is the combination of elements that create the form, plan, space, structure, and style of a property. The Mandalay-Santa Clara Transmission Line has a utilitarian design and still retains its original design properties. These combined elements (e.g., form, space, style) reflect the property's integrity of design, and the property has generally retained its overall style, space, form, and plan.

Setting

Setting is the physical environment of a historic property. The historic setting of the Mandalay-Santa Clara Transmission Line is the rural and suburban underdeveloped character of the agricultural region in the County of Ventura. Since its construction, the physical environment of the Mandalay-Santa Clara Transmission Line has not changed substantially and the historic setting of the station remains evident today. However, around the transmission line other industrial properties have been constructed which slightly disrupts some of the original setting and visual narrative.

Materials

Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern of configuration to form a historic property. The Mandalay-Santa Clara Transmission Line is approximately 57 years old, and its physical elements represent design materials common during mid-twentieth century construction. The Mandalay-Santa Clara Transmission Line has retained many of its original building elements, fabric, and materials.

Workmanship

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. While the transmission line has had maintenance upgrades, the property retains its integrity of workmanship since the station is recognizable as an industrial generating station. Overall, several methods of construction and evidence of crafts are still apparent, seen in its general form. The Mandalay-Santa Clara Transmission Line displays characteristics seen in mid-twentieth century engineering, and the workmanship is based on common traditions seen during that period.

Feeling

Feeling is a property's expression of the aesthetic or historic sense of a particular period of time. In its present state, the Mandalay-Santa Clara Transmission Line has generally retained its property's location, design, setting, and workmanship; therefore, the property conveys its character and historic integrity of feeling as station from the mid-twentieth century.

Association

Association is the direct link between an important historic event or person and a historic property. While it was built to provide electricity to the region, the Mandalay-Santa Clara Transmission Line is not directly associated with any important historic event or person, or conveys a direct or distinctive link with any larger trend.

In conclusion, the portion of the Mandalay-Santa Clara Transmission Line located within the PAA does appear to retain its historic integrity, but it does not appear to be eligible for listing to the CRHR or as a historical resource for purposes of CEQA, either individually or as a contributing resource to a larger significant cultural resource.

***B12. References:** (Continued)

Baker Library. Southern California Edison Company. Lehman Brothers Collection—Contemporary Business Archives. Harvard Business School Historical Collections. Electronic document, http://www.library.hbs.edu/hc/lehman/chrono.html?company=southern_california_edison_company, accessed February 12, 2015, 2012.

Crawford, K.A. Primary Record, P-56-153002 "Clearwire CA-VTA0119-A". California Department of Parks and Recreation, 2010.

EDR. EDR Historical Topographic Maps Report and Historic Aerial Photo Decade Package for the Mandalay Energy Center Project Site, Inquiries Number: 4185537.4 and 4185537.12. Sheldon, 2015.

ENSR Corporation. Revised Proposal for Information Collection for Mandalay Generating Facility, Document Number 10267-022-100. Report prepared for Reliant Energy, Inc., Oxnard. 2006.

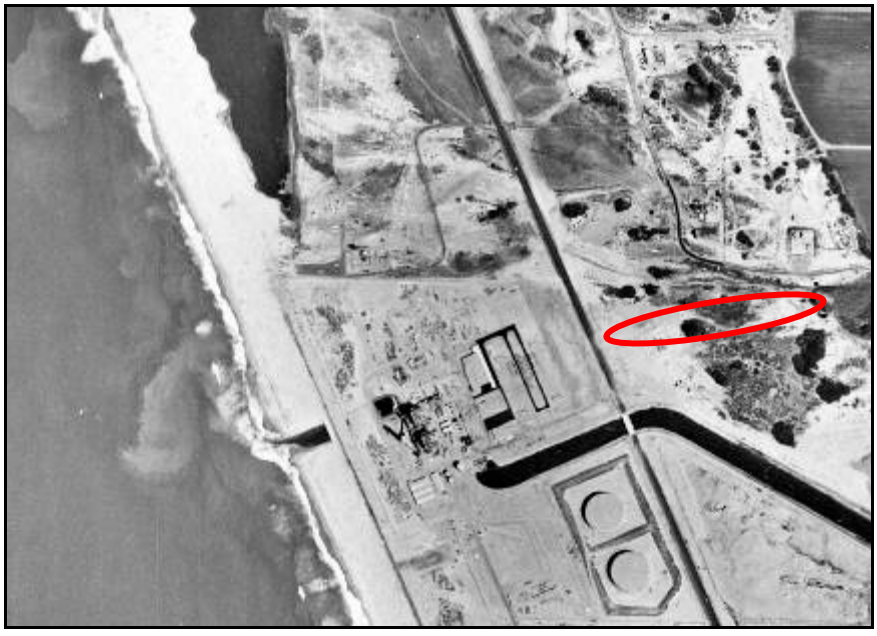
Hay, Duncan. Hydroelectric Development in the United States, 1880-1940, Vol. l. Report to the Task Force on Cultural Resource Management, Edison Electric Institute, Washington, DC. New York: New York State Museum, 1991.

History Associates Incorporated. Southern California Edison Records. The Huntington Library Manuscripts Department, San Marino. Electronic document, http://www.oac.cdlib.org/findaid/ark:/13030/kt6199s2cp/entire_text/, accessed February 12, 2015, 2009.

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

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

1953 Aerial Photograph. Not to Scale. Flight Year: 1953 Source: USGS, EDR Aerial Photos.



1959 Aerial Photograph. Not to Scale. Flight Year: 1959.
Source: Robinson, EDR Aerial Photos. Portion of transmission line and tower under investigation are circled in red.

View of the Mandalay-Santa Clara 1 Transmission 220kV steel lattice tower, facing north.

Detail view of the Mandalay-Santa Clara 1 Transmission tower signage.

View of the Mandalay-Santa Clara Transmission path, facing east.

View of the Mandalay-Santa Clara Transmission line from the SCE Substation, facing east.

View of the Mandalay-Santa Clara Transmission Line and an individual tower facing east, with SCE Switchyard and Mandalay Generating Station in foreground.

Detail view of the base of a steel lattice tower (Tower 1).

APPENDIX G
RÉSUMÉS

Jeremy Hollins

Senior Architectural Historian/ Architectural History Team Lead

Education

MA, University of San Diego, Public History, 2005
BA, University of Rhode Island, History [Environmental], 2003

Years of Experience

With AECOM	9
With Other Firms	2

Jeremy Hollins is a Secretary of Interior Professional Qualified Architectural Historian for URS' San Diego office. Since 2003, Mr. Hollins has performed numerous historic evaluations, context studies, and determinations of eligibility and effect for a range of resources based on local, state, and National Register criteria and through technical reports, DPR 523 series forms, HABS reports, cultural landscape reports, historic structures reports, and resolution documents. He has a detailed knowledge of the laws and ordinances which affect historic properties, such as Section 106 of the NHPA, CEQA, NEPA, Section 4(f), California Public Resources Code, State Historic Building Code, and the Secretary of Interior Standards for the Treatment of Historic Properties. Additionally, two academic journals have published Mr. Hollins' work, and he was an adjunct instructor in 'World Architectural History' at the New School of Architecture before coming to URS in 2006.

Experience

Brightsource Solar Energy, Rio Mesa Solar – Blythe, CA: Oversaw architectural history field survey and archival research as architectural history task manager for a large solar project in the Colorado Desert (partially within BLM land) in accordance with Section 106 of the NHPA, NEPA and, CEQA. Oversaw architectural history field survey of project footprint, transmission line and substation locations, and half-mile buffer. Oversaw historic research and community consultation, and the recordation and evaluation of approximately 30 cultural resources, including historic-age transmission lines, canals and irrigation ditches, historic roads, mines, and borrow pits. (2011)

Pio Pico Energy Center, LLC, Pio Pico Energy Center, Otay Mesa – San Diego County, CA: an intensive architectural history field survey of the project survey area in accordance with CEQA and CEC guidelines. Oversaw archival research, evaluated the project APE for eligibility for listing in the CRHR or as a historical resource for purposes of CEQA, recorded two new resources (circa 1909 ranch complex and 1960 ranch-style residence) and re-recorded a third (historic road) on the appropriate DPR 523 forms, and drafted the architectural history portion of the cultural resources technical report for submission to the CEC. (2010-2011)

Tessera Solar, Imperial Valley Solar (formerly Solar II) – El Centro, CA: Supervised archival research and compiled findings regarding Juan Bautista de Anza National Historic Trail and historic gravel mines in the project APE and vicinity pursuant to Section 106 of the NHPA, NEPA,

and CEQA. Input archaeological field data to DPR 523 form database. (2009)

Lost Hills Solar, Lost Hills – Kern County, CA: Facilitated research and drafted the historic context pursuant to CEQA. (2009)

Anaheim Historic Resource Evaluation, City of Anaheim, Orange County, CA: Architectural Historian (URS Corporation). Performed CEQA-level cultural resource assessment for three historic-period residences (Tudor Revival, modern ranch, contemporary style) within the City of Anaheim. Performed background research, wrote historic context on northeast Anaheim's transformation from agricultural to industry in the mid-20th century, performed built environment survey, recorded and evaluated resources through DPR 523 series forms, and produced a technical report. (2007)

100MW Solar/Bio-Waste Power Plant, Spinnaker Energy, Inc., Fresno County, CA: Cultural Resources Task Manager (URS Corporation). Served as Task Manager for cultural resources assessment. Performed fieldwork and co-authored Cultural Resources AFC section and technical report for a proposed hybrid solar and bio-fuel power plant in Fresno County. Deliverables were submitted to the CEC in support of a CEQA-level assessment. Duties included coordination of field survey, CHRIS records search, Native American consultation, primary and secondary research, development of historic context, recordation and evaluation of historic-period properties through DPR 523 series forms, analysis of effects, and development of mitigation measures. (2008)

Carrizo Energy Solar Farm AFC Data Requests, Ausra, Inc., San Luis Obispo County, CA: Architectural Historian (URS Corporation). Performed additional historic research and field surveys for CEC AFC Data Requests to determine the presence of a potential cultural landscape within the northern Carrizo Plains near the vicinity of the Project Area. Research efforts included a review of primary and secondary sources, development of an evaluative context, and recordation and evaluation of 8 potential contributing resources through DPR 523 series forms. Recordation and evaluation followed National Register Bulletin 30: Guidelines for Evaluating and Documenting Rural Historic Landscapes. (2008)

Carrizo Energy Solar Farm AFC Supplemental Filing, Ausra, Inc., San Luis Obispo County, CA: Cultural Resources Task Manager (URS Corporation). Served as Task Manager for cultural resources assessment. Performed CHRIS records search and authored Cultural Resources AFC section for a 150-mile transmission line corridor intended for use as part of the 177 MW solar power project located in San Luis Obispo County, California. (2008)

FAA, San Francisco International Airport Runway Safety Area Program – San Francisco, CA: Task manager for reconnaissance survey of the historic-age runways, taxiways, canal, and approach-lighting trestles within the project APE; evaluated the airport facilities pursuant to Section 106 of the NHPA, NEPA, and CEQA; assessed effects and impacts from the proposed undertaking; completed DPR 523 forms; and authored the Historic Architecture Survey Report. (2011)

Los Angeles Unified School District, Alameda Transportation Relocation Project – Historical Architecture Assessment – Los Angeles, CA: Oversaw a historic architecture assessment in accordance with CEQA and according to City of Los Angeles criteria for listing as a historical or cultural monument. Managed an intensive architectural history survey, archival research, and evaluation. Authored the letter report to assess the significance of the three mid-twentieth century light industrial buildings on the site and any project impacts according to CEQA. (2011)

National Oceanic and Atmospheric Administration (NOAA), Integrated Water Resources Science and Services (IWRSS), University of Alabama Section 106 Compliance – Tuscaloosa, AL: Leader of project planning and photo guidance for a desktop evaluation of eligibility and effect pursuant to Section 106 of the NHPA for buildings associated with the mid-nineteenth century Bryce Hospital (Alabama State Hospital for the Insane) NRHP-eligible historic district. Task manager for resolution of adverse effects and completing SHPO consultation regarding the necessary HABS standards. (2011)

Caltrans and Alameda Corridor Transportation Authority, HAER, Level II, for the Commodore Schuyler F. Heim Bridge, Schuyler Heim Bridge Replacement and SR-47 Expansion Project – Long Beach, CA: Managed HAER for Commodore Schuyler F. Heim Bridge, a 1948 steel vertical lift bridge eligible for listing in the NRHP, to fulfill NHRA Section 106 mitigation requirements. The study was completed consistent to the specific guidelines and requirements of the United States Department of Interior and Library of Congress for a Level II HAER and included written historical and descriptive data, 5-by-7" large-format photographs and negatives, and 4-by-5" large-format photographic copies of as-built drawings and negatives. Oversaw project planning (client meetings, site visits, access permits, contract and engagement with photographer), facilitated field work, archival research, report drafting and editing and archival processing. Project required extensive FHWA, Caltrans, and Port of Los Angeles-Port of Long Beach coordination and consultation. Project was nominated for a URS Pyramid Award for Technical Excellence. (2010-2011)

Caltrans and City of Santa Ana, Bristol Street HPSR and HRER, Phase 3 and Phase 4 – Santa Ana, CA: Task manager for an intensive architectural history field survey of the direct APE and a reconnaissance survey of the indirect APE in accordance with the Programmatic Agreement between the FHA, the Advisory Council on Historic Preservation, the California OHP, and Caltrans. Managed archival research, wrote a historic context, evaluated the APE for eligibility for listing in the NRHP and the CRHR (or as historical resources for purposes of CEQA), recorded 66 resources (primarily early to mid-century residences in planned subdivisions) on the appropriate DPR 523 forms, and authored the HPSR and HRER. Adapted unique approach for recordation based on historic subdivisions and property types to facilitate and streamline compliance. (2010-2011)

Caltrans and SANBAG, Lenwood Road HPSR, ASR, and HRER – Barstow, CA: Task manager for cultural resources studies, and preparation of HPSR, ASR, and HRER. Oversaw archival research, historic context, evaluated the project APE for eligibility for listing in the NRHP and the CRHR (or as historical resources for purposes of CEQA), recorded forty-one resources (Historic Route 66-related commercial

buildings and single-family residences) on the appropriate DPR 523 forms, and drafted the Historic Resources Evaluation Reports and Historic Properties Survey Reports. (2009-2011)

Publications

"*Village Memories: A Photo Essay on La Jolla's Past*," Journal of San Diego History, Vol. # 54, Fall 2008

"*Until Kingdom Come: The Design and Construction of La Jolla's Children's Pool*," Journal of San Diego History, Vol. # 51, Winter/Spring, 2005

Lauren A. Bridges

Archaeologist

Education

BA, Archaeology, Sewanee: The University of the South, Sewanee, 2007
MA, Historical Archaeology, Illinois State University, Normal, 2011

Years of Experience

With AECOM	2
With Other Firms	3

Professional Associations

Member, Register of Professional Archaeologists (RPA)
Member, Society for Historical Archaeology (SHA)
Member, Council for Northeast Historical Archaeology (CNEHA)

Ms. Bridges is a Secretary of Interior Professional Qualified Archaeologist and a member of the Register of Professional Archaeologists (RPA) since 2012. Ms. Bridges has performed archaeological evaluations, context studies, and determinations of eligibility and effect for a range of resources based on local, state, and National Register criteria and through technical reports, DPR 523 series forms, and historic structures reports. She has 5 years of cultural resources management experience. She has performed cultural and architectural history fieldwork in a variety of settings in Tennessee, Illinois and Southern California. Ms. Bridges specializes in historic periods and has technical skills in ceramic analysis, artifact curation and database organization.

Ms. Bridges has conducted cultural resources literature searches, historic/archival research, archaeological field surveys for CEQA and NEPA compliance, archaeological excavations, site recordation and mapping, assisted in both laboratory and field testing and data recovery procedures, has prepared archaeological collections for curation, and has coordinated with local tribal entities. Ms. Bridges has created cultural resources data organization and tracking systems utilizing innovative technology. Ms. Bridges has access to military bases and is able to coordinate with the base environmental staff to perform fieldwork and research. She has her Bachelor's degree in Anthropology from Sewanee: The University of the South, Sewanee. She has her Master's degree in Historical Archaeology from Illinois State University, Normal.

Experience

California High Speed Rail Authority, High Speed Train, Palmdale to Los Angeles Union Station Segment EIR/EIS and Technical Report – Los Angeles County, CA. 2012-Ongoing: Assistant task leader and technical leader, coordinated urgent deliverables and created efficient work flow models for calculation and analysis of complex data. Conducted research for the various associated reports for the Palmdale to Burbank Station segment of the California High Speed Train project pursuant to CEQA and NHPA.

Amtrak Stations Project —Nationwide (Northeast, Midwest, Southwest, Southeast, West, and Northwest). 2014-Ongoing: Co-lead author, created historic context, documented present conditions, and developed new report format to address client's needs in accordance with Section 106 of the NHPA. Coordinated project to meet urgent deadlines. Performed background and archival research, and coordinated with local, state, and federal repositories (libraries, museums, historical societies, SHPOs, etc.).

North County Transit District (NCTD) Positive Train Control Project, San Diego County, CA. 2014: Lead Author of letter reports in accordance with NEPA and Section 106 of the NHPA compliance, conducted archaeological and architectural history fieldwork, and performed background literature and archival research through state information centers and local repositories. Projects completed as part of Section 106 of the NHPA and the FCC Programmatic Agreement with the California Office of Historic Preservation (OHP).

Terra-Gen, LLC. Power Project, Pico Rivera, CA. 2014: Contribing Author of the Cultural Resources Technical Report and AFC. Coordinated with staff from other URS offices to complete reports. Conducted archaeological fieldwork. Completed determinations of eligibility, analyses of integrity, and identifications of effect.

Frank Sinatra Drive Bridge at Whitewater River Project, Rancho Mirage, CA. 2014: Co-Principal Investigator, contributing author for the Archaeological Survey Report, conducted archival research, archaeological analysis and evaluation of resources and impacts in compliance with Section 106 of the NHPA and CEQA.

Verizon Wireless, Telecommunication Projects – CA. 2012-2013: Contributing author of letter reports for telecommunication projects' direct Areas of Potential Effect (APE) and viewshed (indirect APE). Projects completed as part of Section 106 of the NHPA and the FCC Programmatic Agreement with the California Office of Historic Preservation (OHP). Conducted archival research, evaluated the projects' APE for eligibility for listing in the NRHP and California Register of Historic Resources (CRHR), identified effects, completed appropriate DPR 523 forms, drafted the reports for submission to OHP.

Interstate 15/Murrietta Hot Springs Road Operational Improvement Project – CA. 2013: Co-Principal Investigator, contributing author for the Archaeological Survey Report and the Historic Property Survey Report , conducted archival research, archaeological analysis and evaluation of resources and impacts in compliance with Section 106 of the NHPA and CEQA.

Devore Interchange Project, 3rd Supplemental Historic Property Survey Report, San Bernardino County, California. 2013: Contributing author to 3rd Supplemental HPSR and conducted archival research for determination of eligibility for listing in the NRHP and the CRHR.

Bristol Street Widening Project, Phase 3 and 4, City of Santa Ana Public Works Agency, Santa Ana, CA. 2013: Supported Section 106 Compliance Study for the City of Santa Ana Public Works Agency for the roadway widening at Bristol Street from Civic Center Drive and Seventeenth Street and from Warner Avenue to Saint Andrew Place. Assisted in drafting an independent technical review of the final report in compliance with Caltrans/FHWA guidelines.

Clay Street Grade Separation, Riverside County Transportation Department, Riverside County, CA. 2013: Supported Section 106 Compliance Study for Riverside County Transportation Department for the at-grade crossing of Clay Street with the Union Pacific Railroad. Assisted in drafting technical review of the final report and supervised

archaeological fieldwork and team was in compliance with Caltrans/FHWA guidelines.

Sunsets Cliffs Natural Park Hillside Section Improvements Project, San Diego, CA. 2013: Cultural Resources Archaeological Assessment, including records search coordination and assisting with letter report writing.

Hawaii Department of Defense, State Civil Defense, Hawaii State Civil Defense Administrative and Warehouse Building, Diamond Head, Honolulu, HI. 2013: Assisted in drafting historic properties report. Conducted archival research and assembled viewshed attachments.

BrightSource Energy – Rio Mesa Solar Energy Project, Riverside County, CA. Prehistoric/Historic Cultural Resources Assessment. 2012-2013: Post-processing data management and organization, project assistance, prepared responses to data requests. Prepared responses to data requests and reviewer comments for the cultural resources section of the Technical Report.

BrightSource Energy – Sonoran West Solar Energy Project, Riverside County, CA. Prehistoric/Historic Cultural Resources Assessment. 2012-2013: Background literature and archival research, development of cultural database and tracking systems, post-processing data management, field and office coordination, project assistance, preparation of DPR 523 series forms, Quality Control/Quality Assurance of archaeological field data.

BrightSource Energy, Inc., Siberia Electric Generating Facility, Cultural Resources Class I Inventories. 2012: Background literature and archival research, development of cultural database and tracking systems, post-processing data management, field and office coordination, project assistance, preparation of DPR 523 series forms, Quality Control/Quality Assurance of archaeological field data.

Joshua Tree Solar Farm, Joshua Tree, Unincorporated San Bernardino County, California. 2012: Prepared DPR 523 series forms for Cultural Resources Technical Report.

FAA, Northside Plan Update EIR –Los Angeles International Airport, CA. 2012: Prepared responses to data requests and reviewer comments for the cultural resources section of the EIR for the Northside Plan Update.

Class I and III Cultural Resources Technical report for the calico exploration Project, San Bernardino County, California. 2012: Prepared DPR 523 series forms for Cultural Resources Technical Report.

Other Experience

Illinois State Archaeological Survey, Champaign, IL.: Assistant to the Historical Archaeologist, Field Tech, IDOT Archaeological survey and monitoring, Phase I Cultural Resource Investigation and Laboratory work, Phase II Archaeological Testing and Evaluation of Significance (Prehistoric/Historic)

Research Assistant, Normal, IL.: Spanish Conquest and Colonialism, 15th-20th Centuries, Archival Research, Digitization and Inventory of Data and Ceramic Curation

Field School, Greenville, TN.: ISU Field School in Historical Archaeology: Cherokee Towns in the Time of Spanish Contact, Phase III Archaeological Testing and Excavation, Archaeological Assessment and Evaluation of Significance, Tribal Coordination

Fernbank Museum of Natural History, Atlanta, GA.: Fernbank Ultimate Naturalist Education Intern, Develop Curriculum for Museum Educators, Train and Supervise Educators and Volunteers

Pinson Mounds State Archaeological Park, Pinson, TN.: Seasonal Interpretive Ranger (Prehistoric/Historic), Develop and Facilitate Educational Programs, Archival Research, Walking Survey

Community Involvement

Del Mar Historical Society, Del Mar, CA: Volunteered with the historical society to help organize and systematize their collections. Attended meetings and assisted in community outreach projects like travelling trunk exhibits and oral histories.

La Mesa Historical Society, La Mesa, CA: Volunteered with the historical society to create an object database and help organize their collections.

Publications and Presentations

Resnik, Suzi, Susie Stevenson, Tensia Trejo, Annie DuVal, Robert Healey, and Lauren Bridges, 2014, *Del Mar Voices: Update on the Del Mar, California Historical Society's Community Oral History Model*. Presentation and roundtable discussion at the Southwest Oral History Association (SOHA) Conference, Phoenix-Tempe, Arizona.

Bridges, Lauren and Holly Brookens, 2011, *Commodities and Communities: Constructing Identities at Cacao, Indigo, and Sugar Production sites in the Early Republican Period of El Salvador*. Paper presented at the Boundaries and Crossroads in Action: Global Perspectives in Historical Archaeology, Society for Historical Archaeology Conference, Austin, Texas.

2008 *ITARP Annual Report. Illinois Department of Transportation and Illinois Transportation Archaeological Research Program, University of Illinois*, Urbana-Champaign.

Sarah Champion

Architectural Historian

Education

BA, Geography and History, Texas Christian University, 2008
MA, Urban Geography, San Diego State University, 2010

Years of Experience

With AECOM	4
With Other Firms	1

Professional Associations

Association of American Geographers (AAG)
Association of Environmental Planners (AEP)
Association of Pacific Coast Geographers (APCG)
California Geographical Society (CGS)
Gamma Theta Upsilon, Geography Honor Society
San Diego History Center
Save Our Heritage Organization
Society for Architectural Historians (SAH)

Registration/Certification

Secretary of the Interior Qualified Architectural Historian and Historian (36 CFR Part 61)

Since 2010, Ms. Champion has performed numerous historic assessments and determinations of eligibility and effect for a range of property types based on local, state, and National Register of Historic Places (NRHP) criteria in the form of technical reports, Environmental Impact Studies (EIS)/Environmental Impact Reports (EIR), California Department of Parks and Recreation (DPR) 523 series forms, cultural landscape reports, and Historic American Building Survey (HABS)/Historic American Engineering Record (HAER) documentation. Ms. Champion is a Secretary of the Interior Professional Qualified Architectural Historian and Historian for URS' San Diego office.

Ms. Champion has expert knowledge of the laws and ordinances that affect historic properties, such as Sections 106 and 110 of National Historic Preservation Act (NHPA), the National Environmental Protection Act (NEPA), the California Environmental Quality Act (CEQA), and the Secretary of Interior Standards for the Treatment of Historic Properties. She has completed work for various Federal, state, and local agencies, including Federal Communications Commission (FCC), California Department of Transportation (Caltrans), as well as numerous local agencies and private clients.

Experience

AMTRAK Accessibility Stations Development Program - Phase I Preliminary Historic Evaluations of Amtrak Rail Stations – Nationwide: Technical writer for the Phase I Preliminary Historic Evaluation reports, conducted archival research and desktop investigation, recorded historic properties identified, and led task management for Amtrak Rail Stations across the United States. Reports verify the presence or condition of major historic elements that have been documented in places like NRHP nominations or past SHPO consultation materials. (Ongoing)

FEMA Flood Control Elevation Program – Sonoma County, CA: Technical writer for reports to ensure compliance with Section 106 of the National Historic Preservation Act (NHPA) regarding above-ground historic properties, for the Federal Emergency Management Agency (FEMA) to comply with the State Historic Preservation Officer (SHPO) in order elevate homes for flood control program in Russian River valley. (June-November 2014)

FEMA San Fernando Middle School - San Fernando, Los Angeles County, CA: Technical writer for reports to ensure compliance with Section 106 of the National Historic Preservation Act (NHPA) regarding above-ground historic properties, as the Federal Emergency Management Agency (FEMA) would need to complete a literature review

and a reconnaissance survey, and consult with the State Historic Preservation Officer (SHPO) in order retrofit the Girl's Gym at San Fernando Middle School. (April- June 2014)

California High Speed Rail Authority, High Speed Train, Palmdale to Los Angeles Union Station Segment EIR/EIS and Technical Report – Los Angeles County, CA: Field researcher for the Historic Architecture Survey Report and historic architecture section of the EIR/ EIS for the Palmdale to Los Angeles Union Station segment of the California High Speed Train project pursuant to CEQA and NHPA. Delineated area of potential effect (APE), conducted archival research, recorded historic properties identified in the field, and led task management. (Ongoing)

FAA, Northside Plan Update EIR –Los Angeles International Airport, CA: Evaluated the airport facilities pursuant to the NHPA, NEPA, and CEQA; assessed effects/impacts from the proposed undertaking; completing recordation forms; and coauthored the cultural resource sections of the EIR. (2012)

BrightSource Energy, Siberia and Sonoran West Projects Application for Certification – San Bernardino and Riverside Counties, CA: Conducting field survey and archival research for large solar projects. Contributing to the architectural history portion of cultural resources section of the Application for Certification, which will evaluate the direct and indirect impacts of the project to cultural resources. Will complete determination of eligibility, analysis of integrity, and identification of effect for resources in accordance with the NHPA, NEPA, CEQA, and California Energy Commission guidelines. (Ongoing)

FAA, Airport Runway Safety Area Program EA and EIR –Los Angeles International Airport, CA: Assessed the historic-age airport infrastructure (runways, taxiways, and buildings) within the project APEs for runway safety area improvements as required by the FAA at the Los Angeles International Airport. Evaluated the airport facilities pursuant to the NHPA, NEPA, and CEQA; assessed effects/impacts from the proposed undertaking; completing recordation forms; and coauthored the Historic Architecture Survey Report and historic architecture sections of the Environmental Assessment (EA) and EIR. (2012)

Verizon Wireless, Telecommunication Projects – CA and NV: Performed NRHP Compliance Studies for the Federal Communications Commission on behalf of Verizon Wireless for new tower support structures and collocated towers throughout California and Nevada. Completed determination of eligibility, analysis of integrity, and identification of effect. Evaluated projects' APE for eligibility for listing in the NRHP and California Register of Historical Resources (CRHR), identified effects, drafted the reports for submission to OHP, and provided technical editing expertise. Resources identified and evaluated have dated from the late nineteenth century to the recent past, were located in various settings (dense urban, suburban, rural, and industrial), and have included numerous property types such as residential and commercial buildings, military buildings, airport hangars, and educational institutions. (2011-Present)

Santa Ana-Garden Grove Fixed Guideway Project– Santa Ana and Garden Grove, CA: Assisted with the survey and reporting for the architectural review of historic properties older than 1966 for a proposed streetcar project that is situated within the APE of a proposed streetcar route from Santa Ana to Garden Grove, California. Conducted archival

research, contributed toward historic context, evaluated the project APE for eligibility for listing in the NRHP and the CRHR (or as historical resources for purposes of CEQA), recorded over 100 properties in the field (twentieth-century commercial, institutional, and residential buildings and districts) on the appropriate DPR 523 forms, evaluated project effects by alternative, proposed mitigation measures, and drafted the technical report. (2011-Present)

Conference Presentations

"Urban Revitalization and Employment Opportunities for Immigrant Women," Paper presentation at the Annual Conference of the Association of American Geographers, Paper Session *Access and Equity in Transportation, Health Care and Employment*; Washington, D.C., April 2010.

"Examining the Spaces Between Urban Revitalization: A case study of City Heights, San Diego, California," Paper presentation and student competitor at the Annual Conference of the Association of Pacific Coast Geographers, Paper *Session Urban I: Governance*; San Diego, CA, October 2009.

"Geography of Change: Neighborhood Revitalization and Economic Impacts," Paper presentation and student competitor at the Annual Conference of the California Geographical Society, Paper Session *Urban Geography II*; Santa Ynez, CA, May 2009.

"New Urban Living in 'Cowtown' Texas: Three case studies of recently gentrified neighborhoods," Poster presentation at the Annual Conference of the Association of American Geographers, Poster Session *Local, Regional, and National Urban and Transportation Geography*, Boston, MA, April 2008.

APPENDIX E-3

CULTURAL RESOURCES RECORD SEARCH
(SUBMITTED SEPARATELY
UNDER THE RULES OF CONFIDENTIALITY)