TABLE OF CONTENTS

Section 5 Environmental Information 5.7-1

5.7 Cultural Resources 5.7-1
5.7.1 Affected Environment 5.7-2
5.7.1.1 Project Site 5.7-2
5.7.1.2 Site Description 5.7-3
5.7.1.3 Area of Potential Effect 5.7-3
5.7.1.4 Physiography 5.7-3
5.7.1.5 Soils and Geology 5.7-4
5.7.1.6 Existing Conditions 5.7-4
5.7.1.7 Site Disturbance within the Project Area 5.7-5
5.7.1.8 Prehistoric Context 5.7-5
5.7.1.9 Ethnography 5.7-7
5.7.1.10 Historic Context 5.7-8
5.7.1.11 Native American Consultation 5.7-16
5.7.1.12 Key Personnel Qualifications 5.7-17
5.7.1.13 Site Records and Literature Review 5.7-17
5.7.1.14 Field Survey 5.7-27
5.7.2 Environmental Consequences 5.7-33
5.7.2.1 Significance Criteria 5.7-33
5.7.2.2 Direct and Indirect Effects 5.7-34
5.7.3 Cumulative Effects 5.7-35
5.7.4 Mitigation Measures 5.7-35
5.7.5 Laws, Ordinances, Regulations, and Standards 5.7-39
5.7.5.1 Federal-level Mandates 5.7-43
5.7.5.2 State-level Mandates 5.7-43
5.7.5.3 Local-level Mandates 5.7-43
5.7.5.4 Agencies and Agency Contacts 5.7-43
5.7.5.5 Permits Required and Permitting Schedule 5.7-43
5.7.6 References 5.7-44

TABLE OF CONTENTS

Tables

Table 5.7-1 Previously Conducted Cultural Resources Investigations Within 1 Mile of the Project Area

Table 5.7-2 Previously Recorded Cultural Resources Within 1 Mile of the Project Area

Table 5.7-3 Cultural Resources Within the Project Area

Table 5.7-4 Cultural Resources Within One Parcel's Distance of the Project Area

Table 5.7-5 Summary of LORS – Cultural Resources

Table 5.7-6 Agency Contact List for LORS

Figures

Figure 5.7-1 Regional Map

Figure 5.7-2 Project Location Map

Figure 5.7-3 Cultural Resources APE Map

Figure 5.7-4 Archaeological and Historic Architecture Survey Results Map

5.7 CULTURAL RESOURCES

As proposed by Watson Cogeneration Company (Applicant), the Watson Cogeneration Steam and Electric Reliability Project (Project) is a nominal 85-megawatt (MW) combustion turbine power facility with a single-pressure heat recovery steam generator that will provide additional process steam to the BP Carson Refinery in Carson, California. The turbine would be located just west of the four existing turbines at the Watson Cogeneration Facility, which was constructed between 1987 and 1988 at the BP Carson Refinery. This Application for Certification is being submitted to the California Energy Commission (CEC) for this expansion of the Watson Cogeneration Facility.

URS Corporation Americas (URS) provided environmental consulting services to support the development of the Project. As part of these services, URS has prepared this cultural resources assessment report to inventory and evaluate the archaeological and built-environment cultural resources that the Project could potentially affect.

This section analyzes the potential effects that the Watson Cogeneration Steam and Electric Reliability Project (Project) may have on unknown or previously unrecorded cultural resources within the Areas of Potential Effect (APEs). Cultural resources include prehistoric resources, historic buildings, structures, objects, districts, and sites; and sites and resources of concern to Native American and other ethnic groups.

The cultural resources assessment prepared for the Project includes the following sections.

- A description of the Project Site and affected environment.
- Existing site conditions.
- A summary of the ethnography, prehistory, history of the region.
- A review of site records for previously completed cultural resource investigations and recorded sites in the APEs and within a 1 mile study area.
- Results of the archaeological and historic architecture pedestrian surveys of the APEs.
- Native American consultation.

Complete documentation of the cultural resources assessment is appended in the confidential archaeological survey report (Appendix J, Confidential Cultural Resources Technical Report) filed under separate cover.

The results of this study indicate that the Project will not affect cultural resources that are either eligible for the California Register of Historical Resources (CRHR) or considered historical resources for purposes of California Environmental Quality Act (CEQA) within the APEs. In the event of the discovery of a CRHR-eligible cultural resource within the APEs during construction phase of this Project, appropriate mitigation measures (as set forth in this section) will be employed to ensure site avoidance and/or proper treatment of cultural resources.

All cultural resources work for the Project was carried out under the direct supervision of an archaeologist who meets the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation Professional Qualification Standards (36 Code of Federal Regulations [CFR] Part 61, Appendix A).

The cultural resources investigation was done in accordance with the following codes and regulations.

- Warren-Alquist State Energy Resources Conservation and Development Act.
- Public Resources Code (PRC), Section 25000 *et seq.*
- Instructions to the California Energy Commission (CEC) Staff for the Review of and Information Requirements for an Application for Certification (CEC 1992).
- Regulations Pertaining to the Rules of Practice and Procedure and Power Plant Site Certification (CEC 2007a).
- Rules of Practice and Procedure and Power Plant Site Regulations Revisions (CEC 2007b).

Also, this study was done in accordance with the CEQA, PRC Section 21000 *et seq.*, and Title 14, California Code of Regulations (CCR), Chapter 3, Section 15000.

5.7.1 Affected Environment

5.7.1.1 Project Site

The Project Site is a 2.5-acre brown field site located within the boundary of the existing Watson Cogeneration Facility, which is a 21.7-acre area within the 428-acre parcel further described as Assessors Parcel Number (APN) 7315-006-003, 1801 Sepulveda Boulevard, Carson, California, 90745 and is integral to BP's existing Carson Refinery (BP Refinery). The street address of the Project Site is located within the boundary of the existing Watson Cogeneration Facility at 22850 South Wilmington Avenue, Carson, California. Figure 5.7-1, Regional Map, depicts the Project Site and surrounding area. A recently constructed warehouse/maintenance shop on a portion of the site will be removed as part of the Project. The Project Site is located approximately 0.7 mile south of the 405 Freeway, roughly bounded by Wilmington Avenue to the west, East Sepulveda Boulevard to the south, and South Alameda Street to the east.

The Project Site elevation is approximately 32 feet above mean sea level. Because the site is located within the existing refinery property boundary, the Project Site and surrounding areas are highly developed, and have been subject to disturbance heavy industrial uses for many years.

The Project's primary objective is to provide additional process steam in response to the refinery's process steam demand. The Project complements the existing cogeneration facility located within the confines of the refinery. The existing facility has four GE 7EA combustion turbine generators (CTGs), four heat recovery steam generators, and two steam turbine generators. The Project consists of adding a fifth CTG and heat recovery steam generator to the existing configuration and is referred to as the "fifth train." As part of the "fifth train" addition, the Project would add a 69 kV GIS, 230/69 kV 200 MVA transformer, two new cooling tower cells, one circulating water pump, one boiler feed water pump, and a maintenance shop. These additions are part of the Project Site and are located on heavily disturbed surfaces (e.g., asphalt, gravel).

The Project Area consists of two components: the Project Site (which is the proposed location of project improvements or the area of direct impact) and the Construction Laydown and Parking Area. The Construction Laydown and Parking Area is a paved 25-acre parcel located

approximately 1 mile southeast of the Project Site, at the northeast corner of East Sepulveda Boulevard and South Alameda Street. The area is owned by BP and is currently used as a truck parking and staging area.

No off-site improvements associated with the Project, such as water supply, natural gas or wastewater pipelines, are currently planned for the Project. The Project will connect to the existing supply pipelines currently located at the facility.

5.7.1.2 Site Description

The Project description is provided in Section 3.0, Project Description. Figure 5.7-2, Project Location Map, details the site description in relation to the Project Area.

5.7.1.3 Area of Potential Effect

The Project has two APEs: an archaeological APE and a historic architecture APE. The archaeological APE includes the Project Area (Project Site and Construction Laydown and Parking Area), and an additional 200 feet around it. The excavation area within the archaeological APE will not be more than 10 feet below the existing grade.

The historic architecture APE includes the Project Area parcels and extends one full parcel's distance from the Project Area (Project Site and Construction Laydown and Parking Area). The proposed stack will not be taller than 100 feet. The delineation of both APEs was done in accordance with the CEC's "Rules of Practice and Procedure and Power Plant Site Regulations Revisions," Appendix B, Transmission Line Analysis, (g)(2)(C) (CEC 2007a, b). Figure 5.7-3, Cultural Resources APE Map, shows the archaeological and historic architecture APEs.

5.7.1.4 Physiography

The Project Site is on an alluvial coastal plain, extending north from the present Los Angeles and Long Beach Harbors. The plain is flat and marshy and is dominated by two prominences; Dominguez Hill in the north with an elevation of 179 feet above sea level and the Palos Verde Hills to the southwest, which rise over 1,400 feet above sea level. Except for these landmarks and for the existence of several small marshy lakes, the Harbor Lakes, the Dominguez Channel, and the Los Angeles River, the plain is featureless and reaches a maximum elevation of 35 to 40 feet above sea level. The Project Site is in the Peninsular Ranges. The Peninsular Ranges stretch from Southern California to the southern tip of the Baja Peninsula in Mexico, and are part of the North American Coast Ranges which stretch along the Pacific Coast from Alaska to Mexico (California Department of Conservation 2002 a and b; Poland and Piper 1956; USGS 2007).

The Torrance Plain developed over a period of 20 million years. Originally the plain and the Project Area were submerged under the sea. Only the Palos Verde Hills were above sea level and were incorporated into a seacoast highlands area along with the Santa Monica Hills (Eggers 1977). During this time, volcanoes were very active, depositing extensive beds of lava on the floor of the Los Angeles Basin. Today, the floor of the Los Angeles Basin contains stratified layers of lavas and sediments over 10,000 feet thick. In addition, marine sediments accumulated on the floor of the Torrance Plain, including the Los Angeles Basin.

During the Pliocene period, an uplift further formed the Palos Verde Hills, raising them to their current elevation and creating Dominguez Hill (Eggers 1977). The uplift also caused much of the surface of the Los Angeles Basin to rise above sea level, and terrestrial alluvial sediments began to accumulate on top of the older marine deposits (Eggers 1977). This trapped or directed the flow of groundwater and created aquifers and artesian flows which were used at the beginning of the twentieth century as a major water source for the Carson area (Eggers 1977).

The formation of the coastal bar established a wide delta at the mouth of the southward flowing Los Angeles River. The delta area accumulated large quantities of sands and silts, some derived from terrestrial sources, others from the ocean. The mouth of the Los Angeles River has alternated between being a tidal salt water marsh and a fresh water marsh for at least the last few thousand years, and has extended from the present San Pedro Bay shoreline northwards to Sepulveda Boulevard.

The Los Angeles River has undergone several major shifts over time (Eggers 1977), but has occupied only three main river beds. The major bed appears to be the one it currently occupies, which was channelized by the U.S. Army Corps of Engineers (Eggers 1977). The San Gabriel River has also changed its course several times, fluctuating between its original bed flowing into Alamitos Bay and an intermittent channel connecting with the Los Angeles River below Dominguez Junction and the Southern Pacific Railroad. Whenever these changes occurred, extensive flooding was observed in the area of the Dominguez Slough and the Los Angeles River Delta (Eggers 1977). The flatness of the coastal plain and the proximity of inland highlands and mountain ranges have combined to make flooding a recurring phenomenon in the Carson area.

California's diverse environment is separated into 10 different bioregions. The Project Site lies within the South Coast Bioregion. The South Coast Bioregion is characterized by a mild year-round climate with hot dry summers, followed by wetter winters. The South Coast Bioregion contains a large amount of variation, stretching from ocean coasts to deserts and containing flatlands and mountain ranges (CERES n.d.). The tremendous amount of urbanization in the South Coast Bioregion has altered and destructed many natural habitats and supported the invasion of exotic and non-native plants and animals (CERES n.d.). Vegetation in the bioregion varies from chaparral, juniper-pinyon woodland, and grassland at the lower elevations, and mixed hardwood forest, southern oak, and southern Jeffrey pine at the higher elevations. The coast consisted of salt marshes and lagoons before urbanization (CERES n.d.).

5.7.1.5 Soils and Geology

Please refer to Section 5.3, Geologic Hazards and Resources, and Section 5.4, Agriculture/Soils, respectively, for detailed descriptions of regional geology and soil conditions.

5.7.1.6 Existing Conditions

The Project Site is distinctively industrial in nature within an urban setting. The landscape is characterized by buildings and structures associated with power generation and petroleum production, processing, and storage. Much of the landscape has been affected and disturbed by extensive development, dredging and fill activities, and the addition of hardscape and pavement. Overall, the landscape/topography does not generally resemble its natural environment.

The Project Site is located south of 223rd Street, north of Sepulveda Boulevard, west of the Dominguez Channel, and east of Wilmington Avenue. The City of Long Beach is to the east of the Project Area, and to the south is the community of Wilmington area, a part of the City of Los Angeles.

5.7.1.7 Site Disturbance within the Project Area

The primary sources of the previous surface and subsurface disturbance in and adjacent to the Project Area are related to the following.

- Industrial buildings and structures.
- Road construction.
- Railroad infrastructure.

5.7.1.8 Prehistoric Context

The prehistory of much of southern California is best described by a general chronology originally developed for the coastal region by William Wallace in 1955 but applicable to many near-coastal and interior areas. Supported by radiocarbon dates from key archaeological sites, Wallace (1955, 1978) established a four-stage sequence that after more than 50 years remains widely applicable today. He identified the following four archaeological *horizons* based on types of artifacts and features diagnostic of broad periods in the prehistory of southern California.

- Horizon I. Early Man (before 7,000 years ago).
- Horizon II. Millingstone (7,000–3,500 years ago).
- Horizon III. Intermediate Cultures (3,500–1,500 years ago).
- Horizon IV. Late Prehistoric Cultures (1,500–historic contact, ca. 200 years ago).

Horizon I, **Early Man**, included a speculated, but at the time unsubstantiated, late Pleistocene occupation. Since Wallace formulated his chronology, sites on the central coast and at Buena Vista Lake in the San Joaquin Valley, for example, have yielded radiocarbon ages between 9,500 and 8,000 years ago (Greenwood 1972; Fredrickson and Grossman 1977; Glassow 1997). Clovis-style fluted projectile points at least 11,000 years old have been found in the southern San Joaquin Valley, Mojave Desert, and Tehachapi Mountains (Moratto 1984) substantiating Wallace's belief in a late Pleistocene period of occupation.

The Early Man Horizon is usually thought to have been characterized by small, highly mobile bands of hunters who were drawn to Late Ice Age resources—broad inland lakes and marshes, and large game. Now known to correspond to the better-defined Western Pluvial Lakes Tradition of interior deserts or Paleo-Coastal Tradition of the Pacific littoral zone (both 11,000–8,000 years ago), sites from this period show a greater diversity of ecological settings and approaches to subsistence (Moratto 1984). Sophisticated lithic technology of the Western Pluvial Lakes / Paleo-Coastal Tradition featured finely crafted projectile points, crescents, scrapers, and knives.

Horizon II, **Millingstone Assemblages**, represents a long period characterized by small but less nomadic groups that probably relied on a seasonal round of settlement that may have begun during earlier millennia (see Moratto 1984). In many areas, the seasonal round likely included both inland and coastal residential bases. Millingstone sites are marked by the appearance of seed-grinding tools (such as manos, metates, and hammerstones) usually in large numbers. These often occur in association with shell middens in coastal locations. Seeds from sage, buckwheat, and various grasses provided staple foods, and hunting appears to have been less important. Coarse-grained, durable lithic materials (such as quartzite, rhyolite and other volcanic materials) are more common in flaked stone tools from this period than fine-grained, silicious materials such as chert and jasper.

During Horizon III, **Intermediate Cultures**, the first evidence of acorn processing appeared in the presence of mortars and pestles. As a high calorie, storable food, acorns contributed to increasing sedentism and more complex social organization (Johnson and Earle 1987). The absence of small projectile points indicates that the bow and arrow—a hallmark of the Late Prehistoric period—had not yet been introduced, but elaborate atlatl dart points are a common artifact of the Intermediate. Along the coast, the Intermediate Period saw the use of more diverse marine resources, evident in bone and shell fishhooks and gorges, harpoon points, and net weights. It was during this time that the introduction of plank canoes is postulated (Harrison and Harrison 1966). Shell and steatite beads and ornaments were produced in larger quantities and variety of styles. Regional exchange intensified with non-local materials such as steatite, serpentine, fused shale, and obsidian obtained through trade (McIntyre 1990).

Horizon IV, **Late Prehistoric Cultures**, exhibits larger populations and a wider variety of material culture and social institutions. Storable surplus foods (such as acorns and dried meats, especially fish and shellfish) allowed populations to increase and social mechanisms to diversify. New artifact classes, such as small triangular projectile points and steatite shaft straighteners (indicating bow and arrow technology), some types of shell beads, and ceramics (in some areas) are diagnostic of the Late Prehistoric. The production of pictographs (rock paintings) is also thought to be a hallmark of this period. It is during the Late Prehistoric that the Uto-Aztecan speaking emigrants from the Great Basin appeared in Los Angeles, Orange, and northern San Diego Counties.

The Late Prehistoric archaeology is generally better understood because the late nineteenth and early twentieth century descendants of native groups provided additional information to early anthropologists. Unfortunately, introduction of foreign diseases, displacement, and absorption into other groups caused by the arrival of the Spanish, Mexican, and American populations decimated native populations to such low numbers that by the mid to late 1800s, they were but a minor portion of the overall population. For this reason, very little interest in native inhabitants and their prehistory was initially generated.

By the turn of the twentieth century, anthropologists began to collect data about traditional native lifeways in California. Unfortunately, little remained of the native Gabrielino culture and a more limited amount is known of their past lifeways relative to other native populations. Despite these obstacles, knowledge of Gabrielino culture has been reconstructed through linguistic and ethnohistoric research, archaeological analysis, and remembrances of individuals from neighboring bands.

5.7.1.9 Ethnography

The name "Gabrielino" identifies those people who came under the control of *Misión San Gabriel Arcángel* and included the inhabitants of most of current-day Los Angeles and Orange Counties. According to the ethnographic evidence, the Gabrielino territory included the coastal plain of Los Angeles and Orange Counties extending from Topanga Canyon in the north to Aliso Creek in the south, and eastward of Mount Rubidoux in Western Riverside County. Their territory also included Santa Catalina, San Clemente, and San Nicolas Islands.

At the time of Spanish contact, the Project Area was inhabited by the Gabrielino, or *Tongva*, near the center of the coastal zone within their ethnographic territory (Kroeber 1925; Harrington 1942; Johnston 1962; Blackburn 1963; Heizer 1968; Bean and Smith 1978; McCawley 1996).

The Gabrielino are one of the least well documented of the native peoples of California because they were one of the first groups to suffer the effects of foreign diseases brought by the Spanish and the subsequent migration of foreigners who arrived in the region (Bean and Smith 1978). However, ethnographic studies conducted by J.P. Harrington (1942), Alfred Kroeber (1925) and others in the early twentieth century provide some insight into the culture of the Gabrielino.

Linguists have determined that the Gabrielino language was derived from one of the Cupan languages in the Takic family. The Takic family is part of the Uto-Aztecan linguistic stock (Bean and Smith 1978). Linguistic evidence indicates that the Gabrielino or their ancestors migrated from the Great Basin area. Linguistic analysis suggests that at one time the entire southern California coastal region was populated by Hokan speakers who were gradually separated and displaced by Takic speaking immigrants from the Great Basin area (Bean and Smith 1978; Cameron 1999). The timing and extent of the migrations and their effect on indigenous peoples is not well understood and any data related to it represent a valuable contribution to the understanding of local prehistory.

Gabrielino territory occupied one of the richest environmental habitats in all of California. The territory included four macro-environments: the Interior Mountains/Adjacent Foothills, Prairie, Exposed Coast, and Sheltered Coast (Bean and Smith 1978). These diverse macro-environments, and the resources contained within each, enabled the Gabrielino to develop one of the most complex cultures of any of the native California groups. The abundance of resources provided many opportunities for the Gabrielino to exploit native plants and animals. This, in turn, allowed the population to settle in small villages throughout the territory.

Permanent villages evolved in resource-rich areas near rivers, streams, and along the coast. Secondary, or satellite, villages were also established nearby. The preponderance of named villages around what is now Long Beach Harbor attests to the density of settlement in the area (Johnston 1962). The sheltered coast of the upper Bolsa Bay and that of the Long Beach coast provided an ideal setting for human occupation. The local environment provided access to resources in bays and close access to the coastal beaches. Ethnographic evidence indicates the village of Sua-nga (Suangna), recorded as CA-LAN-98, is documented directly southwest of the Project Area (Kroeber 1925; Johnston 1962).

The Gabrielino traditionally constructed two types of dwellings: the subterranean pit house and the thatched lean-to (wickiup). The pit house was constructed by excavating about 2 feet below the surface and constructing the walls and roof with wooden beams and earth around the excavation pit. The lean-to, or wickiup, was constructed of thatched walls and thatched roof,

surrounded by large converging poles. A hearth inside the structure provided warmth. Hearths used for cooking were outdoors. Sweathouses, or *temescals*, were used as a meeting place for the men (Kroeber 1925; Bean and Smith 1978).

The material culture of the Gabrielino reflected an elaborately developed artistic style and an adaptation to the various environments within their territory. This artistic style was often manifested in elaborate shell bead and asphaltum ornamentation on many utilitarian items, such as bone awl handles, bowl or mortar rims, etc. Spear, atlatl and dart, and bow and arrow were used for hunting, while manos and metates, as well as mortars and pestles, were used for processing plant and animal material into food items. The Gabrielino were also known for their high quality of basketry, made from rush stems (*Juncus* sp.), native grass (*Muhlenbergia rigens*), and squawbush (*Rhus trilobata*) (Bean and Smith 1978).

5.7.1.10 Historic Context

Spanish Period

Exploration and Early Spanish Settlement

European exploration and settlement of California began with Juan Cabrillo's voyage to Monterey Bay in 1542-1543. Cabrillo is reported to have sailed into San Pedro Bay, but did not land in the area. The San Pedro Bay was later named by Vizcaino during his 1602 voyage. Reportedly, Cabrillo made contact with the Tongva, near the present-day Carson area, and recorded his observations of the coastal area. Cabrillo named the bay "Bahia de los Fumos" (Jerrils 1972) because of the quantity of smoke from campfires from the many Native American villages along the harbor and on the slope of Palos Verde Hills (Bancroft 1886).

Although California served as a major landfall for the Manila Galleons sailing between Mexico and the Philippines, no further Spanish expeditions landed near the Project Area until Sebastian Vizcaino's expedition in 1602. Several passengers on Vizcaino's expedition recorded the path of the voyage and the landmarks seen from the ship. Vizcaino sailed into San Pedro Bay, and sent a small boat to shore to look for fresh water. No attempt was made to further explore the area (Bancroft 1886; Johnston 1962).

In the summer of 1769, Don Gaspar de Portola and his expedition, including Father Junipero Serra, traveled by land across the Los Angeles Coastal Plain. Portola was the Military Governor of Alta California and the basis of his expedition was to establish permanent colonies in Alta California. Juan Jose Dominguez, a soldier in the expedition, would eventually be granted the Rancho San Pedro land grant, becoming the owner of the present-day Carson area, including the Project Area (Jerrils 1972).

The Founding of the San Gabriel Mission and El Pueblo de Nuestra la Reina de Los Angeles

The earliest record of prolonged Hispanic contact within the present-day Carson area is contained in the Register of the San Gabriel Mission. The mission, the fourth in Alta California, was founded in 1771 by Father Juniper Serra near present-day Montebello. The mission was a means of controlling and converting the Native American population. Over 25,000 Native American baptisms took place at the mission and over 6,000 neophytes are buried around the mission (County of Los Angeles Public Library 2008). The common practice was to remove

converts from their villages, which the Spanish called "Rancherias" and place them in barrack-like domiciles at the Mission. There the conversion process continued and the neophytes were forced into labor (Eggers 1977).

Neophytes were removed from their lands across the Los Angeles Basin and the six villages in the South Bay, including the village of Suangna. Suangna, less than a mile west of the Project Site, was a large Gabrelino village site, which was still at least partially occupied until the early 1800s. The first archaeological investigations of the village were in 1939 and in 1972 the site was designated as a California Point of Historical Interest. By 1796, when the currently standing mission buildings were constructed, Mission San Gabriel had become the wealthiest of the Spanish missions in Alta California (The Civic Group 1998).

In 1781 the mission was so successful that two padres, several Native American acolytes, and eleven neophyte families founded El Pueblo de Nuestra la Reina de Los Angeles, 9 miles west of the mission, in the vicinity of San Pedro Harbor. This pueblo would become the present day City of Los Angeles.

Rancho San Pedro and the Dominguez Family

In 1784, Juan Jose Dominguez received the first private land grant in Alta California. The grant, known as Rancho San Pedro, included more than 75,000 acres (118 square miles) and extended to the coast from the western bank of the Los Angeles River, Rosecrans Avenue, and the northern boundary of the City of Redondo Beach. Dominguez was awarded the land grant as a gift for his military service (Jerrils 1972).

Dominguez occupied the land with a small herd of cattle and a few horses. He built a small adobe house northwest of Compton Creek on the northeast side of Dominguez Hill, but only lived in the house sporadically until his death in 1809. The rancho was managed by Manuel Gutierrez, who after Dominguez's death, served as trustee of the rancho until 1825. The rancho was willed to Dominguez's nephew, Cristobal Dominguez, but Cristobal did not occupy the rancho and in 1825 Cristobal's son, Manuel Dominguez took control of the rancho. Manuel would eventually live on the rancho for 57 years and greatly influence the development of the surrounding area.

Before Manuel Dominguez's arrival, the rancho had been developed by Gutierrez, who had also granted grazing and habitation rights to other Spanish colonists, most notably Jose Dolores Sepulveda. Sepulveda and his family moved to the rancho in about 1810 and lived near the San Pedro Harbor in the vicinity of the present intersection of Gaffey and Channel Streets. During the 15 years between Juan Jose Dominguez's death and the arrival of Manuel Dominguez, Sepulveda became a successful rancher. He was able to obtain a partition of the original Rancho, and to obtain ownership of 31,629 acres of land including the Palos Verde Peninsula and parts of the present day cities of Torrance and Redondo Beach. His property became known as Rancho Los Palos Verde, named after a large canyon filled with a dense growth of trees discovered by Vizcaino during his 1602 expedition.

During the first third of the nineteenth century, the raising of livestock on the two ranchos and elsewhere along California's coastal plain underwent considerable expansion, and ranching became a way of life (Gillingham 1961). Native Americans living in the village of Suangna were forced into work as vaqueros, showing that the village of Suangna was still partially inhabited even after the devastation of European colonialization and the mission system

(Gillingham 1961). A major part of the rapid decline in Native American populations must have resulted from the dramatic increase in cattle ranching which caused a marked change in the local environment. Foraging of large herds rapidly reduced the vegetation along much of the coastal plain leaving a near-barren landscape (Fages 1972; Dana 1968 [orig publ. 1840]). This dramatically reduced the sources of vegetable and animal food on which a hunting and gathering life depended.

Mexican Period

By 1810, an independence movement began as many rancheros sought to split Mexico (and California) from Spain. In 1821, this desire came to fruition as New Spain (Mexico) became independent. After Mexico's independence, the Alta and Baja California missions received less financial support from Spain and Mexico. In mid-1825, Governor Luis Antonio Arguello reported on the Indians' miserable state, "calling attention to the injustice" of keeping them "any longer in virtual slavery" (Rolle 2003). Ultimately, independence from Spain was a catalyst for Mexico to secularize the Alta and Baja California missions. Secularization would free vast amounts of land under mission control and the land would become civilian pueblos or large land grants rewarded to Mexican, American, or European settlers.

On 6 January 1831, Governor Jose Maria Echeandia announced the secularization of a number of missions, and by 1834, all the missions were secularized, including Mission San Gabriel (Rolle 2003). Within 10 years after secularization, the mission had failed, the neophytes had left, and the buildings were in disrepair. After its secularization, the San Gabriel mission became a parish for the City of San Gabriel.

Also in 1822, the new Mexican Government required that all land grants issued by the Spanish be reconfirmed. This caused great legal confusion between the Dominguez and Sepulveda families regarding the ownership of the Palos Verde Peninsula. In 1834, it was confirmed that the permit for Rancho San Pedro would be reconfirmed to the Dominguez family. However, it also provisioned for the land held by the Sepulvedas to remain in their possession, officially becoming Rancho Los Palos Verde (Gillingham 1961). A review of the California State Archives, United States Surveyor General for California: Spanish and Mexican Land Grant Maps, 1855-1875 (found at http://www.sos.ca.gov/archives/level3_ussg3.html) reported that the San Pedro Rancho was confirmed on 18 December 1858 to Manuel Dominguez and consisted of 43,119.13 acres (Identification Number MC 4:4-412) (United States Surveyor General for California 2007). This archive recorded the land grants found valid after the Land Act of 1851.

During the Mexican Period, the San Pedro Bay developed into a port for the transfer of goods and passengers. The port was originally known as the Embarcadero of San Gabriel, and a dirt road connected the port with the Pueblo of Los Angeles, known as San Pedro Road, approximately along the present day route of the Harbor Freeway. By the mid-1820s a second road was built from the mission to the port, which later became the route of Wilmington Avenue, passing through the San Pedro Rancho (Eggers 1977).

The outbreak of war in 1846 between Mexico and the United States ended the Mexican Period. The road between the San Gabriel Mission and the port was used by Stockton's troops during the battle of Dominguez Hill (Guinn 1905).

American Period

Statehood and Early Land Uses

"Manifest Destiny," was one of the likely causes for the Mexican-American War, 1846 to 1848. Jacksonian Democrats coined the phrase "Manifest Destiny" in the 1840s as a political philosophy whereby the United States would control all of the land between the Atlantic and Pacific Ocean. The focus was primarily on the northwest coast, in Oregon territory, and on the Texas territory. In 1845, during the Presidency of James K. Polk, the United States annexed Texas, and in 1846 invaded Mexico. In 1846, President Polk also enlisted the aid of Mormon volunteers to form a battalion and advance on the Mexican Army in California. The Mormons already had a large population in the West, particularly in Salt Lake City, Utah. In 1848, the United States, victorious over the Mexican Army, signed the Treaty of Guadalupe Hidalgo; thereby acquiring all Mexican territory north and west of the Rio Grande and Gila Rivers, which included Texas, New Mexico territory, and Alta California. Also, the discovery of gold in 1848 and the Gold Rush that ensued the following year, brought numerous settlers to California. In 1850, California became a state.

The gold rush in 1849 brought a great number of Americans to California and the Los Angeles area expanded as a center of trade and agriculture (McWilliams 1973). Postal service was established in 1851, and the Los Angeles area was further connected with the rest of the United States by stagecoaches and steamships. New roads were founded, and by 1872 Manuel Dominguez had converted nearly 300 acres of Rancho San Pedro land into roads (Gillingham 1961).

The Carson family arrived at the Rancho San Pedro in 1853, traveling from Chihuahua, Mexico (Jerrils 1972). George Henry Carson became a prosperous businessman in the Pueblo of Los Angeles. Eventually, he became Manuel Dominguez's business partner and son-in-law. The children of the Dominguez and Carson families would inherit and further develop the San Pedro Rancho.

Statehood created major changes in the Los Angeles area, which affected the present-day Carson area (though Carson did not officially incorporate until 1968). The Land Act of 1851 required that patents be obtained by land owners who had received title to their property from the Spanish or Mexican governments. Before the patent of the Rancho San Pedro was finally issued in 1869, the holdings underwent several partitions and some 6,000 acres of land were sold to developers. One of the sales involved 2,400 acres of property bordering San Pedro Bay, which was acquired by Phineas Banning to found the community of Wilmington. At this time, the first survey of the rancho was performed under American law and recorded that 44,219.82 acres of land were still held by the Rancho San Pedro.

The Arrival of the Railroad and the Community of Wilmington

Throughout the 1850s and 1860s the expansion of trade and roads in Los Angeles and San Pedro Harbor spurred the nearby development of other areas. The largest change came in 1869 when the first transcontinental railroad reached Los Angeles (Eggers 1977). The railroad extended through Rancho San Pedro to reach the San Pedro harbor, and was also known as the Los Angeles and San Pedro line or division. Additional interconnected lines were constructed between 1869 and 1876 (Eggers 1977) by the Southern Pacific, with one portion of the railroad running parallel to Alameda Street.

The railroad led to increased growth in the area. The City of Compton, which was founded originally in 1867 (and formed into 45-acre lots), transformed into a residential and commercial center after the arrival of the railroad through the town. The city eventually incorporated in 1888. Further, in 1870, 2,000 acres of the Rancho San Pedro land were sold and subdivided as the Dominguez Colony Tract, south of Dominguez Hill and west of the Los Angeles River (see below). The railroad ran directly through the new colony. Wilmington (south of the Project Site), after being acquired by Phineas Banning, was subdivided into residential and farming tracts. The town was originally named "New Town" then became known as "New San Pedro" and finally, was named after Banning's home town in Delaware, "Wilmington" (Jerrils 1972:19).

Economic Changes and Subdivisions in Rancho San Pedro

Hardship hit the Project Area environs in 1864 after three years of severe drought. Cattle ranching was brought to an end and many of the large ranchos were mortgaged to buy feed and other supplies. Several of the large ranchos including Rancho Los Palos Verde, Rancho Los Cerritos, Rancho Los Alamitos, and others were foreclosed and subdivided by new owners for development (Eggers 1977; Gillingham 1961).

Manuel Dominguez was not forced to sell Rancho San Pedro, but the water shortage changed his primary livestock from cattle to sheep. This caused further de-vegetation of the area, especially around the Dominguez Hill region (Gillingham 1961; Eggers 1977). By 1870, Dominguez had developed his only plan for subdividing his property. He formed a colony called the Dominguez Colony Tract which covered about 2,000 acres, centered on present-day Alameda and Carson Streets, about 1 mile north of the Project Site, near the current community of Dominguez. Manuel Dominguez formed the small colony into 40-acre blocks. However, only five sales took place between 1870 and 1872 (Jerrils 1972). Although during this time period the colony was a failure, it was sold in 1923 to the Davidson Investment Company, who further subdivided the area and it became the successful community of Dominguez.

When Don Manuel Dominguez died in 1882, Rancho San Pedro was resurveyed so that it could be distributed to his six daughters. At that time slightly more than half of the remaining rancho lands were used as pasture, about 13,000 acres. Another 7,000 acres were used as farmland, while over 5,000 acres were estuary land, marshes, sand dunes, the Dominguez Slough and the Watson Lakes (Eggers 1977; Gillingham 1961). In 1885 the rancho was partitioned to Manuel Dominguez's heirs.

The 1880s were a boom time for development in the Los Angeles area. The present-day City of Carson consists of lands originally part of the Rancho San Pedro. However, much of the area changed hands several times between 1855 and 1885 (Gillingham 1961). Between 1883 and 1910, the land in the southwest portion of Rancho San Pedro was leased to subtenants who performed dairy farming. In 1893, Mr. Fiesel arrived from Chicago and in 1896 he and his family started a large dairy production area comprised mostly of settlers of German descent. This "German Settlement", which is now Northern Wilmington, contained the only school in the area (Jerrils 1972). A northern section of the Rancho was sold and developed into the McDonald Tract.

Although economic advancements, land improvements, and new developments sprung up all around the Los Angeles area, the Carson area was still dry and dusty with little vegetation cover. Except for the Dominguez and Bixby Sloughs there were few water sources. Even the Los Angeles River was often dry as a result of a century of overgrazing by cattle and sheep

(Gillingham 1961). By 1911, the need for a regular water supply for expanding agriculture and community improvement led to the development of the Dominguez Water Company as a subsidiary of the Dominguez Estates Company. This greatly promoted the development of the southwest portion of present-day Carson. The Dominguez Water Company tapped artesian sources and drilled wells into the water table and piped it to the surrounding areas. At this time, the sale of Rancho San Pedro lands increased and farming became successful in this area (Gillingham 1961; Jerrils 1972).

Flood Control of Watson Lakes and Dominguez Channel

Watson Lakes, formerly adjacent to the Project Site, was a drainage for Compton Creek and the San Gabriel River into the Pacific Ocean, and also provided tidal access to the Wilmington Lagoon. Heavy flooding between 1914 and 1916 led to the extensive inundation of the Watson Lakes area with considerable damage to the farms and rural properties. Much of the flooding was caused by the rapid expansion of farming activities and the effects associated with it, such as infilling and altering gullies and drainages. During this period, earthen levees were created, as well as raised roadways and railroad tracks, which affected the drainage of the natural environment.

In 1917, issues associated with the overflow and ponding in the area were partially alleviated by dredging and the creation of the Dominguez Channel. Construction crews began by filling the marshes and ponds north of Sepulveda Boulevard and then redirecting the drainages. The work was spearheaded by the Los Angeles County Flood Control District and essentially replaced the inundated Watson Lakes with an improved channel (Eggers 1977; Case 1948). In 1956, work began on the San Diego Freeway (405 Freeway) and in 1958 work began on the channelization of the Los Angeles River and Compton Creek. These projects led to major alterations of the Dominguez Channel (Eggers 1977).

Oil Discovery and Production

In 1921, the discovery of oil at Signal Hill not only established a new profitable industry in the area, but also ignited a land boom. The first full year of oil production in the Long Beach/Signal Hill area (1921–1922) produced 18.5 million barrels of oil. On the discovery of oil, speculators arrived in droves to the Long Beach area and land values soared. Oil production became so common in Long Beach that advertisers said every home came with an oil well.

The next year, oil was discovered on Dominguez Hill (north of the Project Site) by the Davidson Investment Company, and within three years, the landowner, Senora Maria de los Reyes Dominguez de Francis, had the highest taxable income of any woman in the United States. By 1927, Shell Oil developed the site into a refinery (Jerrils 1972; Gillingham 1961). Additionally, several sections of the original Rancho San Pedro were sold for the production of oil, and by the mid-1920s, General Petroleum, Union Oil Company of California, Southern California Edison, and other oil companies owned property on former rancho land.

Oil prospecting became prevalent in the area and the 14 May 1923 *Los Angeles Times* reported that no less than 20 new wells were being installed each week in Long Beach and the surrounding areas (*Los Angeles Times*, 14 May 1923). Overall, since 1923, over 350 oil wells were drilled and produced over three hundred million barrels of oil in the area.

Expansion and Incorporation of Carson

Throughout the 1920s, the present-day Carson area continued to grow and agricultural pursuits expanded (Jerrils 1972). One example of the area's growth is the arrival of the utilities Southern California Edison and Southern California Gas Company in 1923. A subdivided area along 220th Street between Figueroa and Dolores Street became known as Keystone and was the nucleus for the future City of Carson. By 1926, this area had a general store, a lumber yard, and a church. However, the area had limited commercial businesses, except for a prosperous bar and café. Development continued to expand and by World War II almost all of present-day Carson was developed, under cultivation, or involved in petroleum production and processing.

Rapid change continued in the present-day Carson area after World War II. Industrial, residential, and commercial enterprises entirely replaced agricultural pursuits, such as the dairy farming areas around Wilmington. With the addition of the San Diego Freeway in 1956, the Carson area began to assume its present form.

Carson's expansion was bolstered in 1967 by the Dominguez Estate Company's announcement of the largest real estate offering in all of southern California history. Over $58,500,000 of property was being offered by the company (Jerrils 1972). Most of the property offered for sale was in the vicinity of the Project Site. The majority of the property was bought by the Union Pacific Railroad, Northwestern Mutual Life Insurance, Watson Land Company, Carson Estate Company, an undisclosed purchaser, and the State of California for the formation of the California State College at Dominguez Hills.

By the 1950s, many of the residents around the Carson area wanted to incorporate as a city to gain more control over zoning in their community. In June of 1960, a committee of residents first petitioned Los Angeles County for incorporation of a city to be called "Dominguez" (County of Los Angeles Public Library 2008). However, due to influence by local industrial leaders, the petition failed. Incorporation was again attempted several times throughout the 1960s, but was met with opposition by residents who feared increased taxes, and by the local industries who wanted to protect the profitability of their businesses.

A 1963 article in the *Los Angeles Times* discusses the influence that Shell, Texaco, Richfield, Union, Tidewater, and Mobil Oil held in the area's decision not to incorporate. At the time, these companies held over $134 million of assessed valuation for the proposed incorporation area. The article noted that "75 percent of the major industrials in the area said they oppose any cityhood movement" and that a possible increase in taxes was a major deterrent (*Los Angeles Times* 1963). Because these companies held over 25 percent of the assessed land value, their signatures on a petition were required for incorporation. The major industrial companies (including representatives from oil, chemical, land, utility, and railroad interests) then established an industrial committee to examine the feasibility and advantages of supporting incorporation.

In 1967, residents of the Carson area and industrial leaders agreed to incorporate. In February 1968, the community voted and the area was incorporated as the City of Carson. Although a more obvious name for the city would have been Dominguez after the Juan Jose Dominguez family, which had such a large influence over the area, the city was named Carson after John Manuel Carson (County of Los Angeles Public Library 2008). Carson was an active force in developing the community in the early 1900s. He was also a descendent of the Dominguez and Carson families (his middle name was a tribute to Manuel Dominguez, his great uncle) (County of Los Angeles Public Library 2008).

After incorporation, the City of Carson actively welcomed new industries, while attempting to clean up the city's image and environment. Carson residents pursued the removal of some industries, such as auto dismantling plants and landfills. In addition many other unsightly industries were moved to secluded industrial parks. Other improvements were made to the area including the addition of street lights and road repairs. Also many roads were added and widened to make transportation more efficient. In 1968, adjacent to the Project Site and Construction Laydown and Parking Areas, Wilmington Avenue (between Sepulveda and 223rd Street) was widened to four lanes and curbed (presently it has a landscaped median) and 223rd Street (between Wilmington and Alameda) was widened to four lanes (presently portions are six lanes) (*Carson-Dominguez American Herald* 1968).

Development within the Project Area and Environs

The Project Site is within the BP Carson Refinery in a portion of Los Angeles County that was historically used for petroleum processing and as tank farms. Between 1922 and 1925, Pan American Petroleum established the tank farm within the historic architecture APE, just south of the Project Site. This tank farm held about 30 tanks capable of storing 2,000 to 150,000 barrels (originally composed primarily of 100,000-barrel cylindrical tanks) of gasoline, and the tanks sat on berms constructed of fill. North of the tanks were two original crude oil reservoirs, which were partially removed in the 1980s. Pan American Petroleum was a petroleum storage and transport company, and during the 1920s held the Mexican Petroleum Company, Huasteca Petroleum Company, Caloric Company, Mexican Petroleum Corporation of Louisiana, and British Mexican Petroleum Company. The tank farm in the APE was essentially one of numerous tank farms in the Carson area, and part of the vast holdings of Pan American Petroleum Company.

By 1953, research indicates Richfield Oil (which eventually became ARCO and BP) had established an oil refinery within the Project Site (Sanborn Fire Insurance 1926; EDR 2008). At the time, Carson had not yet incorporated and much of the area's land was controlled by large industrial companies. While this area was first developed between 1951 and 1953, it experienced tremendous amounts of infill construction between 1956 and the present, as seen in a review of historic maps and photographs. The original construction included the refinery equipment, several warehouses (one to three stories) characterized by additive rectangular forms and clerestory windows, a substation, parking and storage areas, and extensive piping. An aerial photograph from 1953 shows about eight 100-foot tall stacks associated with the refinery. While many of these elements are extant, they have been completely surrounded by non-historic period buildings and structures erected to prolong operations at the facility. Just south of the refinery is the non-historic period cogeneration portion of the facility, operated by Watson. The cogeneration portion of the plant was built in 1987 and 1988 and consists of four identical combustion turbine generators (County of Los Angeles Public Library 2008).

The Carson Terminal, directly south of Construction Laydown and Parking Area and east of the Southern Pacific Railroad and Alameda Street, was originally constructed in the 1920s and was used as a tank farm for over 70 years. The majority of the tanks were first constructed between 1922 and 1924. A second set of tanks, ranging in size from 2,000 to 5,000 barrels, was constructed from 1932 to 1933. In the late 1950s, three small tanks were constructed along with modifications to seven other tanks. In the early 1980s, six 150,000-barrel tanks were built. The facility was originally owned by the Flying A Oil Company, which later became Associated Oil Company. In 1940, Associated Oil Company merged with Tidewater Oil Company, which

operated it until 1976 when GATX acquired it. In addition, a refinery was located in the area between 1936 and 1957.

In 2001 Carson planners proposed the development of an auto plaza along the 223rd Street corridor between Lucern and Alameda Streets. The area was previously filled with industrial businesses (*Los Angeles Business Journal* 2001). Not only was the auto plaza expected to generate revenue for Carson through sales, it also worked to further change the image of Carson from an industrial center to a more family friendly commercial and residential area.

Conclusions

Before European arrival in California, the Project vicinity was inhabited by the Gabrielino, and their ancestors. During the Spanish period, the area was part of the Rancho San Pedro, which was granted originally to Juan Jose Dominguez, and later was held by Manual Dominguez and Jose Dolores Sepulveda. During the Mexican period, the rancho was re-confirmed to the Dominguez family by the Mexican government and the San Pedro Bay was further developed (with new infrastructure and roadways) into a port for the transport of goods and materials. During the American period, portions of the Project vicinity were within an agricultural portion of the Watson Lakes. In 1917, to control flooding in the area, the Dominguez Channel was created.

In the early 1920s, the area became associated with petroleum processing, extraction, and storage, and companies like Shell Oil, Union Oil of California, Pan-American Petroleum Company, and Richfield Oil established a presence in the area. At first, a crude oil storage reservoir was within the Project Site. By 1953, an oil refinery was built just north of the Project Site and, from 1987 to 1988, four cogeneration turbine generators were installed near the Project Site. While the Project Site was initially within a rural agricultural setting in Los Angeles County's South Bay, after World War II the area rapidly industrialized and heavy industry uses within an urban setting dominate the Project Site's landscape today.

5.7.1.11 Native American Consultation

The Native American Heritage Commission (NAHC) was contacted on 12 June 2008 to request a search of the Native American Sacred Lands File to determine the presence of Native American sacred sites in the Project vicinity. A list of Native American Contacts that may have some knowledge of known cultural resources or sacred sites within the APE was also requested. The NAHC responded on 16 June 2008 and indicated a records search of the Sacred Lands File failed to indicate the presence of Native American cultural resources in the immediate APE. In addition to the response letter, the NAHC also supplied a Native American Contact list. Each contact on the list was sent a notification of the proposed undertaking by mail, email, and/or FedEx on 23 June 2008 and 8 and 11 July 2008 with a request that he or she respond with any questions, comments, or concerns regarding cultural resources or sacred sites within the Project vicinity. Between 14 and 15 July 2008, phone calls were made to the Native American tribes, groups, or individuals identified by the NAHC as having ancestral ties to the Project vicinity.

As a result of these measures, further consultation revealed that Mr. John Tommy Rosas of the Tongva Ancestral Territorial Tribal Nation is opposed to the Project due to numerous violations of indigenous rights. Mr. Rosas mentioned in an email response on 12 July 2008 that the Project will impose severe negative effects on territorial resources, and that he will provide further

comments at a later date. Also, Mr. Robert Dorame of the Gabrielino Tongva Indians of California Tribal Council responded via telephone on 15 July 2008 and expressed concerns regarding the Project and would like to be involved in future planning measures for the Project. On 30 July 2008, Mr. Anthony Morales of the Gabrielino Tongva San Gabriel Band of Mission responded via telephone and inquired about the Project timeline, extent of ground disturbance, and recent findings. Mr. Morales discussed the cultural sensitivity of the area and requested to be involved in future planning measures for the Project. On 21 February 2009, Mr. Sam Dunlap of the Gabrielino Tongva Nation responded via a letter requesting that the Project have an archaeological and Native American monitoring component and that consideration be given towards a monitor from the Gabrielino Tongva Nation.

Correspondence letters between URS, on behalf of the Applicant, and the NAHC, and a table showing those Native American individuals contacted are included in Appendix J, Confidential Cultural Resources Technical Report.

5.7.1.12 Key Personnel Qualifications

All cultural resources work for the Project was carried out under the direct supervision of an archaeologist who meets the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation, and is consistent with the procedures for compliance with CEQA Section 15064.5. The key cultural resources personnel who conducted and/or supervised the field survey and prepared the technical report are listed below.

- Brian Glenn, MA, RPA (URS Principal Investigator for this Project).
- Jeremy Hollins, MA (URS Architectural Historian).
- Shelby Gunderman, BA (URS Archaeologist).

Mr. Glenn meets the professional standards of the Secretary of Interior Standards and Guidelines for Archaeology and Historic Preservation, National Parks Service, 1983. Appendix J, Confidential Cultural Resources Technical Report, contains resumes for key personnel.

5.7.1.13 Site Records and Literature Review

On 23 June 2008, Ms. Michelle Galaz, South Central Coastal Information Center (SCCIC) Staff Researcher, performed a records search at the SCCIC at California State University, Fullerton. The SCCIC is the California Historical Resource Information System cultural resources database repository for Los Angeles and other counties in the region. Ms. Galaz searched all relevant previously recorded cultural resources and previous investigations completed for the Project Area and a 1-mile search radius. Information reviewed by Ms. Galaz included location maps for all previously recorded trinomial and primary prehistoric and historic archaeological sites and isolates, site record forms and updates for all cultural resources previously identified, previous investigation boundaries and National Archaeological Database citations for associated reports, historic maps, and historic addresses.

Previously Conducted Investigations

According to the SCCIC (2008), 26 previously conducted cultural resources investigations have been performed within 1 mile of the Project Area (Table 5.7-1, Previously Conducted Cultural

Resources Investigations Within 1 Mile of the Project Area). Of these 26 investigations, five are within the Project Area (LA2644, LA5971, LA4512, LA2751, and LA7952). In addition to the 26 previously conducted cultural resources investigations, the SCCIC reported another 19 investigations were potentially performed within a 1-mile search radius of the Project vicinity. The SCCIC was unable to map the boundaries of these investigations due to insufficient locational information; and therefore, it is unknown whether these investigations occurred within the Project Area boundaries.

Table 5.7-1
Previously Conducted Cultural Resources Investigations Within 1 Mile of the Project Area

NADB/ SHPO ID	Author and/or Company	Date	Report Title	7.5-Minute Quadrangle	Within Project Area (Composed of Project Site and Construction Laydown and Parking Area)
LA83	Rosen, Martin D.; University of California, Los Angeles Archaeological Survey	1975	Evaluation of the Archaeological Resources and Potential Impact of the Joint Outfall System's Improvements on Sewer Treatment Plants and Installation Routes for New Large Diameter Sewers, Los Angeles County	Long Beach, Los Alamitos	No
LA1082	Weil, Edward B.; California State University Dominguez Hills	1981	Cultural Resources Evaluation of Two Development Areas Within the Port of Los Angeles	Long Beach	No
LA2258	Breece, William H.; LSA Associates, Inc.	1991	Archaeological Survey Results: Proposed Oil Shell Oil Company Inter-Refinery Pipelines Project Carson, California	Long Beach, Torrance	No
LA2644	Wlodarski, Robert J.; Historical Environmental, Archaeological Research Team	1992	The Results of a Phase 1 Archaeological Study for the Proposed Alameda Transportation Corridor Project Los Angeles County, California	Los Angles, South Gate, Long Beach	Yes
LA2749	Charroin, Andrea; LSA Associates, Inc.	1992	Archaeological Monitoring for Shell Pipeline	Long Beach, Torrance	No
LA2751	Padon, Beth; LSA Associates, Inc.	1992	Archaeological Survey Results: Proposed Arco Los Angeles Refinery Clean Fuels Project Carson, California	Long Beach, Torrance	Yes
LA2862	Hector, Susan M., Manley, William, and Anderson, Carson; Broken Fragments	1993	Historic and Archaeological Inventory and Eligibility Survey of Savannah and Cabrillo Family Housing, Naval Station Long Beach, California Contract N68711-92-M-48	Long Beach	No

Table 5.7-1
Previously Conducted Cultural Resources Investigations
Within 1 Mile of the Project Area

NADB/ SHPO ID	Author and/or Company	Date	Report Title	7.5-Minute Quadrangle	Within Project Area (Composed of Project Site and Construction Laydown and Parking Area)
LA2950	Peak & Associates, Inc.	1992	Consolidated Report: Cultural Resources Studies for the Proposed Pacific Pipeline Project	Gaviota, Tajiguas, Don Pueblos Canyon Goleta, Santa Barbara, Carpinteria, Pitas Point, Ventura, Saticoy, Santa Paula, Fillmore, Piru, Oxnard, Moor Park, Simi, White Ledge Peak, Val Verde, Newhall, Oat Mountain, San Fernando, Van Nuys, Burbank, Hollywood, Los Angeles, South Gate, Long Beach, Inglewood,	No
LA3583	Buckman, Bonnie M.; California State University, Long Beach	1974	The Los Angeles Basin and Vicinity: A Gazetteer and Compilation of Archaeological Site Information (Report Unavailable at SCCIC)	Long Beach, Triunfo Pass, Point Dume, Malibu Beach, Topanga, Beverly Hills, Venice, Redondo Beach, Hollywood	No
LA3684	Padon, Beth; Petra Resources, Inc.	1996	Archaeological Resource Assessment Sepulveda Boulevard Grade Separation Over Alameda Street Los Angeles County, California	Long Beach	No
LA3707	Clewlow, C. William Jr., Ph.D.; University of California, Los Angeles Archaeological Survey	1974	Preliminary Report of the Potential Impact on Archaeological Resources of the Proposed Gas Transmission Pipeline from Los Angeles Harbor to Yorba Linda – Southern California Gas Co.: Environmental Analysis	San Pedro, Long Beach, Los Alamitos, Anaheim, Orange, Yorba Linda	No
LA4512	Eggers, A.V.	1977	Cultural Resources Inventory of the City of Carson, California	Torrance	Yes
LA4525	Woldarski, Robert J.; Historical, Environmental, Archaeological, Research Team	1999	A Phase I Archaeological Study for the Chadwick School Expansion Project (Conditional Use Permit) 26000 South Academy Drive Project, Palos Verdes Peninsula, Los Angeles County, California	Torrance	No
LA5871	Duke, Curt; LSA Associates, Inc.	2002	Cultural Resource Assessment AT&T Wireless Services Facility No. 05220A-01 Los Angeles County, California	Long Beach	No

Table 5.7-1
Previously Conducted Cultural Resources Investigations Within 1 Mile of the Project Area

NADB/ SHPO ID	Author and/or Company	Date	Report Title	7.5-Minute Quadrangle	Within Project Area (Composed of Project Site and Construction Laydown and Parking Area)
LA5971	William Self Associates, Inc.	2001	California Energy Commission Application for Certification BP Fifth Train Project City of Carson, Los Angeles County, California	Torrance, Long Beach	Yes
LA6049	Duke, Curt; LSA Associates, Inc.	2002	Cultural Resource Assessment AT&T Wireless Services Facility No. 05221A Los Angeles County, California	Long Beach	No
LA6053	Duke, Curt; LSA Associates, Inc.	2002	Cultural Resource Assessment AT&T Wireless Services Facility No. 052231A Los Angeles County, California	Long Beach	No
LA6064	Duke, Curt; LSA Associates, Inc.	2002	Cultural Resource Assessment Cingular Wireless Facility No. SM 425-01 Los Angeles County, California	Long Beach	No
LA6204	Martin, Leigh; William Self Associates, Inc.	2003	Cultural Resources Assessment Report Carson Terminal Upgrade Project Los Angeles County, California	Long Beach	No
LA6821	EIP Associates, Inc.	2003	Carson Terminal Expansion Draft Environmental Impact Report State Clearinghouse No. 2003061130	Long Beach	No
LA6822	Martin Leigh and Self, William; William Self Associates, Inc.	2003	Cultural Resources Assessment Report Carson Terminal Upgrade Project Los Angeles County, California	Long Beach	No
LA7952	Livingstone, David M., McDougall, Dennis, Goldberg, Susan K., and Nettles, Wendy M.; Applied EarthWorks, Inc.	2006	Trails to Rails: Transformation of a Landscape: History and Historical Archaeology of the Alameda Corridor, Volume 1	South Gate, Long Beach, Los Angeles	Yes

Table 5.7-1
Previously Conducted Cultural Resources Investigations
Within 1 Mile of the Project Area

NADB/ SHPO ID	Author and/or Company	Date	Report Title	7.5-Minute Quadrangle	Within Project Area (Composed of Project Site and Construction Laydown and Parking Area)
LA8255	Arrington, Cindy and Sikes, Nancy	2006	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and II	White Ledge Peak, Pitas Point, Ventura, Saticoy, Oxnard, Camarillo, Moorpark, Santa Susana, San Fernando, Van Nuys, South Gate, Long Beach, Whittier, Los Alamitos, Anaheim, Inglewood, Venice, Hollywood, Los Angeles, Orange, Newport Beach, Tustin, El Toro, San Juan Capistrano, Dana Point, San Clemente	No
LA8486	Farrell, Jenna; Tetra Tech, Inc	2005	Sound Energy Solutions Proposed C2 Ethane Pipeline for the Proposed Long Beach LNG Import Terminal, Cultural Resources Review	Long Beach	No
LA8719	Bonner, Wayne H.; Michael Brandman Associates	2007	Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate LA13126B (City of Carson ROW), Sepulveda Boulevard and Alameda Street Carson, Los Angeles County, California	Long Beach	No
LA8727	Bonner, Wayne H.; Michael Brandman Associates	2007	Cultural Resources Records Search and Site Visit Results for Royal Street Communications, LLC Candidate LA2892C (SCE Hinson Harbor) 2377 West Willow Street, Long Beach, Los Angeles County, California	Long Beach	No
LA105	Kaufman, Susan Hector; University of California, Los Angeles Archaeological Survey	1976	Archaeological Resources Within the Los Angeles County Area Are Evaluated as to the Importance, Nature, and Location, These Resources are Analyzed Following Careful Review of Maps and Archival Material Housed at the UCLA, Archaeological Survey	Unmapped	Unknown
LA3289	Davis, Gene; Dames & Moore	1990	Mobil M-70 Pipeline Replacement Project Cultural Resources Survey Report for Mobil Corporation	Unmapped	Unknown
LA3508	Van Wormer, Stephen R.; Archaeological Resources Management Corp.	1985	Historical Resources Overview and Survey for the Los Angeles County Drainage Area Review Study	Unmapped	Unknown

Table 5.7-1
Previously Conducted Cultural Resources Investigations
Within 1 Mile of the Project Area

NADB/ SHPO ID	Author and/or Company	Date	Report Title	7.5-Minute Quadrangle	Within Project Area (Composed of Project Site and Construction Laydown and Parking Area)
LA3509	Cottrell, Marie G., Hill, James N., Van Wormer, Stephen, and Cooper, John; Archaeological Resources Management Corp.	1985	Cultural Resource Overview and Survey for the Los Angeles County Drainage Area Review	Unmapped	Unknown
LA3588	Hastey, Ed; Bureau of Land Management	1992	Proposed South Coast Resource Management Plan and Final Environmental Impact Statement	Unmapped	Unknown
LA3698	MacFarlane Archaeological Consultants	1991	Technical Synthesis Report Underwater Archaeological Survey Los Angeles Outer Harbor and Offshore Channel Port of Los Angeles, California	Unmapped	Unknown
LA3860	Dixon, Keith A.; Copley International Corporation	1974	Environmental Management Element of the General Plan Archaeological Resource and Policy Recommendation, City of Long Beach	Unmapped	Unknown
LA4323	Hill, James N.; Archaeological Resource Management Corp.	1985	Cultural Evolution in the Archaic/Mesolithic: A Research design for the Los Angeles Basin	Unmapped	Unknown
LA6041	Venable, Phyllis E., Aquarium of the Pacific	2001	Proposed Expansion of the Long Beach Aquarium of the Pacific, Long Beach, Los Angeles County	Unmapped	Unknown
LA6042	Venable, Phyllis E., Aquarium of the Pacific	2001	Proposed Establishment of a Revolving Loan Fund for Small Business Assistance, Long Beach, Los Angeles County	Unmapped	Unknown
LA6065	Bryceson, Douglas; Jones & Stokes	2000	Evaluation of California Army National Guard Armories	Unmapped	Unknown
LA6195	Bonner, Wayne H.; Michael Brandman Associates	2001	Records Search Results for Sprint PCS Facility LA54XC773D (Ways Site), at the Intersection of Sepulveda and the Harbor Freeway, Carson in Los Angeles County, California	Unmapped	Unknown
LA6220	McKenna et al.	2002	Los Angeles Unified School District Proposed Expansion of Narbonne High School at 24300 South Western Avenue in Harbor City (in the City of Los Angeles)	Unmapped	Unknown
LA6829	Ruyle, Eugene; Peter Carr	1993	Lies, Bribes, and Archaeology	Unmapped	Unknown

Table 5.7-1
Previously Conducted Cultural Resources Investigations
Within 1 Mile of the Project Area

NADB/ SHPO ID	Author and/or Company	Date	Report Title	7.5-Minute Quadrangle	Within Project Area (Composed of Project Site and Construction Laydown and Parking Area)
LA6875	Bolin, David P.; GeoTrans, Inc.	2001	Proposed AT&T Wireless Telecommunication Equipment Installation 1601 West 190th Street, Gardena, California 90248 Site ID Number: C796-405 Western Avenue, GeoTrans Project Number: L260-680	Unmapped	Unknown
LA7427	McMorris, Christopher; JRP Historical Consulting	2004	Caltrans Historic Bridge Inventory Update: Metal Truss, Movable, and Steel Arch Bridges	Unmapped	Unknown
LA7425	McMorris, Christopher; JRP Historical Consulting	2004	City of Los Angeles Monumental Bridges 1900-1950: Historic Context and Evaluation Guidelines	Unmapped	Unknown
LA7826	Shepard, Richard and Mason, Roger D.; Chambers Group, Inc.	2001	Cultural Resources Records Search and Constraints Analysis Report: LAX/South (Orange County) High Speed Ground Access Study, Los Angeles and Orange Counties, California	Unmapped	Unknown
LA8478	Billat, Lorna; EarthTouch, Inc.	2005	Collocation ("CO") Submission Packet, FCC Form 621, Project Name: Luz, Project Number CA-6380, Wireless Communications Facility, 6164 Cherry Avenue, Long Beach	Unmapped	Unknown

Source: SCCIC 2008.
Notes:
Caltrans = California Department of Transportation
CO = Collocation
FCC = Federal Communications Commission
ID = Identification
LAX = Los Angeles Airport
NADB = National Archaeological Database
SCCIC = South Central Coastal Information Center
SHPO = State Historic Preservation Office

The following paragraphs summarize the investigations conducted within the Project Area.

Investigation LA4512 was completed in 1977 and its boundaries are inclusive of the Project Area (Project Site, Construction Laydown and Parking Area). The investigation was a cultural resources inventory and evaluation for the City of Carson and the study included preparation of a historic context, walkover survey of undeveloped portions of the city, and the creation of policies and procedures for the city. Since the Project Area at the time (1977) was primarily hardscape in an urban setting, it is unlikely that the Project Area was included in the walkover survey.

Investigation LA2644 was completed in 1992 and was conducted alongside the southern and western boundary of the Construction Laydown and Parking Area. The investigation was a

Phase I archaeological survey conducted in support of the development of the Alameda Transportation Corridor.

Investigation LA2751 was completed in 1992 and its boundaries are inclusive of the Project Site (covering a total area of about 2 acres). The investigation was a reconnaissance archaeological survey of a previously recorded archaeological site within the BP Carson Refinery.

Investigation LA5971 was completed in 2001 and its boundaries are inclusive of the Project Site (covering a total area of about 2.3 acres). The investigation was an archaeological field survey in support of the BP Fifth Train Project at the BP Carson Refinery.

Investigation LA7952 was completed in 2006 and was conducted alongside the western boundary of the Construction Laydown and Parking Area. The investigation reported on the treatment of historic properties discovered during the Alameda Corridor Project, which sought to improve railroad and motor vehicle travel along the 20 mile alignment.

Previously Recorded Cultural Resources

According to the SCCIC, 12 previously recorded cultural resources were identified within a 1-mile search radius of the Project Area (Table 5.7-2, Previously Recorded Cultural Resources within 1 Mile of the Project Area). Of the 12 previously recorded cultural resources, eight were recorded as archaeological sites and four were recorded as historic resources. Of the 12 previously recorded cultural resources, none were within the Project Area and only five were within 500 feet of the Project Area. To provide information regarding the types of cultural resources anticipated to be encountered near the Project Area, the following is a summary of the previously recorded cultural resources within 500 feet of the Project Area.

Table 5.7-2
Previously Recorded Cultural Resources
Within 1 Mile of the Project Area

Resource Identifier	Description	Significance	Date Recorded and Evaluator/ Recorder	7.5-Minute Quadrangle	Within Project Area (Composed of Project Site and Construction Laydown and Parking Area)
19-000098, LAN-013	The Suangna Indian Village site and shell midden. Two burials were excavated in association with mortars, 3 tubular stone pipes, 4 abrading stones, several “doughnut” stones, Steatite ear stones, several crystal fragments and 1 large crystal. Pottery consists of a large olla painted red and additional red-on-buff pottery shards. Also discovered were points, drills, metates, manos, mortars, pestles, steatite bowls, and flakes.	Designated as a California Point Historical Interest, 1972	1939; Racer, F.H.	Long Beach	No
19-000795	A debitage scatter with shell, bone, a core, large mano, stone mortar fragments, scrapers, projectile points, and retouched flakes.	Not evaluated	1977; Van Eggers	Torrance	No

Table 5.7-2
Previously Recorded Cultural Resources
Within 1 Mile of the Project Area

Resource Identifier	Description	Significance	Date Recorded and Evaluator/ Recorder	7.5-Minute Quadrangle	Within Project Area (Composed of Project Site and Construction Laydown and Parking Area)
19-002682	A proto-historic burial ground within midden soil. The site contains projectile points, bone awls, glass (trade) beads, steatite pipe fragments and objects, and over 500 shell beads. Over 25 burials, which were removed and studied, were found at the site. Site was severely impacted by trenching.	Not evaluated	1998; McDowell, Frank and Bonner, Wayne H.	Long Beach	No
19-002788	A partial human burial found with 10 *Olivella biplicata* "cup" shell beads and *Chione* shell fragments.	Not evaluated	1999; Horne, Melinda	Long Beach	No
19-002942	An historic site consisting of a series of 22, 1 foot-diameter, wooden posts formerly associated with the railroad (possibly Southern Pacific). The posts are set vertically in groups.	Not evaluated	2001; Horne, Melinda	Long Beach	No
19-003063 (formerly assigned 19-003042)	A 1920s wood box culvert, constructed with planks and heavy wire nails. The culvert measures 3 feet wide by 2 feet deep and 43 feet long and runs east to west beneath Sepulveda Boulevard. It contains at least one historic non-functional oil pipeline.	Not evaluated	2002; Wyss, M.	Long Beach	No
19-003067	A historic site consisting of two un-reinforced concrete features. Both features were likely associated with the Southern Pacific railroad.	Not evaluated	2001; Horne, Melinda	Long Beach	No
19-180783	About 1905, a passenger and freight railroad depot for the Pacific Electric Railway with one-story addition from 1920s.	3S (Appears NRHP-eligible as an individual property)	1994; Starzak, Richard	Long Beach	No
19-186868	100-acre storage tank facility for oil products originally constructed in the 1920s and used continuously as an oil storage or production area.	Not evaluated	2003; Martin, Leigh	Long Beach	No
19-187733	An approximate 100-acre storage tank facility for oil products originally constructed in the 1920s and used continuously as an oil storage or production area.	Not evaluated	2003; Martin, Leigh	Long Beach	No

Table 5.7-2
Previously Recorded Cultural Resources
Within 1 Mile of the Project Area

Resource Identifier	Description	Significance	Date Recorded and Evaluator/ Recorder	7.5-Minute Quadrangle	Within Project Area (Composed of Project Site and Construction Laydown and Parking Area)
36-010330, (CA-SBR-10330H)	Union Pacific Railroad (historically Southern Pacific Railroad) within Los Angeles County. Includes standard gauge trackage and associated features like stations, sidings, spurs, and yards.	Recommended as NRHP-Eligible (no NRHP Status Code assigned)	1999; Ashkar, S.	Los Angeles, El Monte, Baldwin Park, La Habra, San Dimas, Ontario, Guasti, Fontana, and San Bernardino South	No

Source: SCCIC 2008.
Note:
NRHP = National Register of Historic Places

Resource 19-003063, west of the Construction Laydown and Parking Area, was recorded in 2002 by Applied Earthworks as a wood box culvert found beneath the surface of Sepulveda Boulevard. It does not appear that this resource was evaluated for eligibility.

Resource 19-186868 and 19-187733, south of the Construction Laydown and Parking Area were recorded in 2003 by William Self Associates, Inc. as a 100-acre storage tank facility for oil production from the 1930s. The sites do not appear the have been evaluated for eligibility.

Resource 19-180783, found south-southwest of the Construction Laydown and Parking Area, was recorded in 1994 by Myra L. Frank & Associates, Inc. as a former passenger and freight railroad depot from about 1905. Per the site form, the building was recommended as eligible for separate listing to the National Register of Historic Places (NRHP) (NRHP Status Code 3S).

Resource 19-002942, west of the Construction Laydown and Parking Area, was recorded in 2000 by Applied Earthworks, as a series of 22 wooden posts, possibly formerly associated with the Southern Pacific Railroad. The site does not appear to have been evaluated for eligibility.

Resource 36-010330 (CA-SBR-10330H), west of the Construction Laydown and Parking Area, was recorded in 1999 by Jones & Stokes Associates, Inc. as part of the larger Union Pacific Railroad (historically known as Southern Pacific Railroad) system in Los Angeles County and part of the first transcontinental railroad. While the portion of the Southern Pacific railroad near the laydown area does not appear to have been separately recorded or individually evaluated, the entire railroad system was assigned a trinomial and recommended as eligible for listing to the NRHP under Criterion A (Events) and B (Persons).

The California Historical Resources Inventory did not identify properties within the Project Area that have previously been evaluated for significance. Within a 1-mile search radius of the

Project Area, the California Historical Resources Inventory identified 57 properties that have been evaluated for significance according to the Historic Property Data File for Los Angeles County. The SCCIC did not have site forms or technical reports available for these property evaluations; and therefore, their exact locations are unknown. Additional information regarding these 57 properties is included in Appendix J, Confidential Cultural Resources Technical Report.

Table 5.7-1, Previously Conducted Cultural Resources Investigations Within 1 Mile of the Project Area, and Table 5.7-2, Previously Recorded Cultural Resources Within 1 Mile of the Project Area, summarize the results of the SCCIC records search, and copies of the records search can be found in Appendix J, Confidential Cultural Resources Technical Report.

5.7.1.14 Field Survey

Archaeological Survey Methodology

On 8 July 2008, URS Principal Investigator for the Project, Mr. Brian Glenn, M.A., RPA, accompanied by Watson Cogeneration staff, conducted an archaeological survey of the archaeological APE, which extended 200 feet past each boundary of the Project Area. All areas of the archaeological APE were inspected on foot using intensive survey method, (i.e., no greater than 10 meters between transects). Due to restricted site access from the adjacent "Coke Barn," and extensive hardscape and pavement on the surface, a portion of the parking and laydown area could not be intensively surveyed and investigators performed a reconnaissance walkover archaeological inspection of the Construction Laydown and Parking Area with opportunistic survey methods employed.

Given the previously developed industrial components in and around the archaeological APE, the survey focused on inspection of areas of visible soil. Overall, the vast majority of the Project Site and Construction Laydown and Parking Area are overlain with asphalt, hardscape, gravels, and existing structures.

Historic Architecture Survey Methodology

On 8 July 2008, an intensive historic architecture survey was conducted to account for the properties that appeared to be older than 45 years (1963 or earlier) within the historic architecture APE, which extended one parcel's distance from the Project Area boundaries. The guidelines set forth in 14 CCR Section 15064.5(a), and the criteria outlined in PRC Section 5024.1 were used to evaluate properties within the historic architecture APE that appeared to be older than 45 years.

After completion of the survey, URS Architectural Historian Jeremy Hollins, recorded the properties that appeared to be older than 45 years on the appropriate Department of Parks and Recreation (DPR) 523 series forms (Appendix J, Confidential Cultural Resources Technical Report), and evaluated the properties per the criterion of the CRHR and as historical resources for purposes of CEQA. Properties that did not appear to be older than 45 years or were known not to be older than 45 years were not recorded. The survey occurred from public vantage points; and, in areas where views of the property were obstructed or restricted (e.g., limited access, security walls), investigators used available information to record the property.

As part of the historic architecture survey, Mr. Hollins contacted the City of Carson Planning Department and the Wilmington Historical Society on 30 June 2008 to identify cultural resources within a 1-mile radius around the Project Area listed pursuant to ordinance or recognized by a local historical society or museum. On 30 June 2008, Ms. Brannon McKina, Planning Technician, responded that no cultural resources were listed pursuant to ordinance by the City. The historical society did not respond. Copies of correspondence with the local agency and historical society are included in Appendix J, Confidential Cultural Resources Technical Report.

In addition to these efforts, site-specific and general primary and secondary research was conducted at the Los Angeles County Public Library Carson Branch; City of Carson Planning and Building Departments; California State University Fullerton; Los Angeles County Assessor-Recorder; Historical Society of Long Beach; photograph archives of the *Los Angeles Times*; San Diego State University Library; University of California, San Diego Geisel Library and Mandeville Special Collections; San Diego Public Library; and numerous online resources (e.g., Calisphere: A World of Digital Resources, California Historic Topographic Map Collection). Also, URS obtained several historic-period aerial photographs from Environmental Data Resources, Inc. Overall, the research provided insight into the historic contexts and themes of the area, and specific information concerning the properties within the historic architecture APE (e.g., date of construction, architect/builder, and historic landownership). Copies of historic maps and aerial images are included in Appendix J, Confidential Cultural Resources Technical Report.

Archaeological Survey Results

No archaeological sites were identified during the archaeological survey, though it is possible that there may be buried archaeological resources associated with prehistoric sites common around what is now the port areas of Los Angeles County. While it is conceivable that buried archaeological resources may be present, the severity of previous excavation and soil disturbance, coupled with the lack of archaeological resources present on the surface, suggests that this is not likely. Over 97 percent of the archaeological APE was previously disturbed and consisted of hardscape, industrial equipment and buildings, and structures used for petroleum production. Overall, there was virtually no visibility within the archaeological APE for the archaeological survey.

Historic Architecture Survey Results

The historic architecture survey identified and recorded a total of three properties within the historic architecture APE (Figure 5.7-4, Archaeological and Historic Architecture Survey Results Map). One property was within the Project Site parcel (1801 Sepulveda Boulevard [APN 7315-006-003]), and two properties were located one parcel past the Project Area. Table 5.7-3, Cultural Resources Within the Project Area, and Table 5.7-4, Cultural Resources Within One Parcel's Distance of the Project Area, below summarize the properties recorded as a result of the intensive survey:

Table 5.7-3
Cultural Resources Within the Project Area

Map Reference Number	Name	Year Constructed	Description of Resource	Locational Data	City/ County	Office of Historic Preservation Status Code
3	BP Carson Refinery	Approximately 1922 to 1925	Industrial Property	1801 Sepulveda Boulevard (APN: 7315-006-003)	Carson/Los Angeles County	6Z

Source: Watson Cogeneration Steam and Electric Reliability Project Team, 2008.
Note:
APN = Assessor's Parcel Number

Table 5.7-4
Cultural Resources Within One Parcel's Distance of the Project Area

Map Reference Number	Name	Year Constructed	Description of Resource	Locational Data	County	Office of Historic Preservation Status Code
1	Portion of Southern Pacific Railroad, 36-010330, CA-SBR-10330H	Approximately 1869 to 1872	Railroad	South of the Dominguez Channel, North of Sepulveda Boulevard, east of the Carson BP Refinery, and west of Alameda Boulevard	Carson/Los Angeles County	6Z
2	Portion of the Dominguez Channel	1917	Canal/Aqueduct (Water Conveyance System)	Southeast of the intersection of 223rd Street and Wilmington Avenue and travels in a southeast direction to Sepulveda Boulevard	Carson/ Los Angeles County	6Z

Source: Watson Cogeneration Steam and Electric Reliability Project Team, 2008

None of the properties identified and recorded as a result of the intensive survey were determined eligible for the CRHR or determined to be historical resources for purposes of CEQA. Additionally, none of the properties have retained a significant amount of their historic integrity. Historic integrity is the ability for a historic property to convey its significance and consists of seven aspects: location, design, setting, materials, workmanship, feeling, and association. The following is a summary of the historic-period properties that have been recorded and evaluated on the appropriate DPR 523 series forms (Appendix J, Confidential Cultural Resources Technical Report).

Cultural Resources within the Project Area

BP Carson Refinery

The BP Carson Refinery is a large industrial facility (about 200 acres) within an urban setting dedicated to the production, processing, and storage of petroleum products and power generation. The entire BP Carson Refinery parcel was recorded as part of this Project because it is within the historic architecture APE; however, the Project Site for the fifth train will be limited

to an approximate 2.5-acre area adjacent to the existing four cogeneration CTGs (known as Units 1 through 4).

The facility was first constructed between 1922 and 1925 as a gasoline tank farm (containing about 30 tanks) and five reservoirs used for storing crude oil. In fact, the Project Site was originally the location of a reservoir, but was replaced between 1987 and 1988 with a metal prefabricated non-historic period warehouse and the cogeneration facilities. Of note, access within the refinery during the survey was limited due to safety requirements, and a full inventory of every building and structure was not possible.

The facility generally has an axial plan, with most of the buildings and structures arranged latitudinally along the northern portion of the parcel. The buildings 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 near one another. (However, most buildings concentrated in the center of the parcel are less than three stories). The facility has a non-original perimeter fence along its boundaries. The entire parcel is primarily covered with pavement and hardscape. The original plan and layout of the facility is not necessarily visible or extant due to several episodes of infill construction that occurred from the 1930s to the present (intended to modernize operations and create new uses [e.g., installation of four cogeneration turbines]) disrupting the visual feel and narrative of the facility.

The oldest extant portion of the refinery is just south of the Project Site and occupies the southern portion of the parcel. While this is the oldest portion of the refinery, this area has been heavily altered within the past 30 years. This area has historically been a tank farm holding tanks capable of storing 2,000 to 150,000 barrels of gasoline. The tanks sit within berms constructed of fill. Originally, the majority of the tanks were 100,000-barrel cylindrical tanks. There are about 30 tanks and associated/ancillary structures (e.g., pipelines, foundations, support/scaffold systems).

The majority of the associated/ancillary structures are not more than 45 years old (per permit search with the City of Carson). The tanks are presently constructed out of metal and many feature new non-historic period caps to reduce evaporation. Many of the caps are geodesic covers. To the east of the Project Site, one of the original crude oil reservoirs is extant. At the southwest portion of the tank farm is a non-historic period entrance.

Just north of the tank farm is the non-historic period Watson Cogeneration Facility, operated by Watson. The cogeneration portion of the facility was built in 1987 and 1988 and consists of four identical CTGs. The existing four turbines occupy an area nearly a quarter-mile in length. Just west of the turbines (and within the Project Site) is a non-historic period prefabricated metal warehouse, currently used as a maintenance shop for the cogeneration turbines. The warehouse has a square form, is two stories tall, and has a utilitarian appearance. The stacks are about 100 feet tall and are surrounded by associated/ancillary equipment such as overhead pipelines, pipe supports, storage containers, open sheds, and pressure valves. The Project will replace the warehouse with the fifth train.

North of the cogeneration facility is the refinery. This area was first developed between 1951 and 1953, but a review of historic maps and photographs shows that it experienced tremendous amounts of infill construction between 1956 and the present. The original construction included

the refinery equipment, several warehouses (one to three stories) characterized by rectangular forms and clerestory windows, a substation, parking and storage areas, and extensive piping. An aerial photograph from 1953 shows about eight 100-foot tall stacks associated with the refinery. While many of these elements are extant, they have been completely surrounded by non-historic period buildings and structures erected to prolong operations at the facility. Many of the original circulation networks are no longer present or have been altered to accommodate new building footprints. Accordingly, this has disrupted the spatial relationship and visual narrative of the original facility.

The infill construction has also disrupted the original skyline from outside the facility, since numerous overbearing monumental-sized stacks now dot the skyline (as opposed to about eight originally). The majority of the new stacks are guyed, free standing, or feature lattice support structures, and are generally much larger than the original stacks. A permit search for this portion of the property revealed over 50 building permits filed within the last 20 years that altered main features of the facility, such as additions to existing buildings, replacement windows, and replacement of equipment like desulfurization and sulfur tanks.

Overall, the BP Carson Refinery has been heavily altered since its initial construction and the facility no longer resembles its original appearance and form from its period of construction (1922 through 1953). Its original appearance and arrangement can not be determined, and it appears to be a modest example of a large industrial refinery and power facility. Also, the Project is not anticipated to affect the overall BP Carson Refinery, because the construction of a new turbine would not remove any historic-period elements and the new turbine would be surrounded by larger non-historic period structures that have already punctuated existing viewsheds and affected the area's setting.

In summary, the BP Carson Refinery lacks a distinctive or distinguishing design, and it does not appear to have an important association with a specific significant event, pattern of events, or individual. The facility is representative of the utilitarian work found within similar industrial sites within the Carson-area, and does not appear to have the requisite significance to be individually eligible for listing on the CRHR or be considered a historical resource for purposes of CEQA. Further, the BP Carson Refinery does not appear to retain the historic integrity aspects of its design, setting, feeling, materials, and association that would make it eligible to qualify for listing in the CRHR or be considered a historical resource for purposes of CEQA.

Cultural Resources Within One Parcel's Distance of the Project Site

Portion of Southern Pacific Railroad

This portion of the Southern Pacific Railroad within the historic architecture APE was built between 1869 and 1876. It is first evident on the 1902 Downey USGS map. It appears to originally have been a single track railroad, but between 1903 and 1930, the area within the APE held multiple tracks used by the Pacific Electric, Southern Pacific, and Santa Fe railroads (Eggers 1977). Between 1951 and 1964, more tracks were added to the area. The railroads serviced the adjacent tank farms and refineries, and provided transportation from the port areas and Wilmington north to Los Angeles. Presently, the area is a siding area for railroad cars (primarily hopper, gondola, tankcars, and flatcars owned and operated by the Southern Pacific, Union Pacific, and Burlington Northern Santa Fe that primarily deliver and pick-up materials

(e.g., coal and petroleum) from the nearby facilities. The assessor parcel maps indicate the property is controlled by the Southern Pacific.

The siding area in the historic architecture APE consists of five to seven standard gauge tracks that run north and south parallel to Alameda Avenue (due to restricted access, surveyors could not walk past the first row of tracks). The area also contains railroad switches, signals, storage areas, and other associated equipment. The tracks sit on small-medium rock ballasts and the cars are operated remotely. Most of the materials appear to be recent replacement materials, and not from the historic period.

This portion of the Southern Pacific Railroad in the historic architecture APE does not appear to be a contributing element to the significance of the entire Southern Pacific railroad, and the portion within the APE does not appear to be individually eligible for the CRHR or be considered a historical resource for purposes of CEQA. It is a modest example of a siding area that lacks any distinguishing features, materials, and arrangements. It is not a distinctive element and does not appear to convey the significance of the entire Southern Pacific railroad. Additionally, the Project would not affect this portion of the railroad since the Project Site is not visible from the railroad, and therefore, the Project would not cause a visual or atmospheric intrusion to the railroad. Lastly, this portion of the railroad within the historic architecture APE does not appear to retain the historic integrity aspects of its feeling, materials, and association.

Portion of Dominguez Channel

The portion of the Dominguez Channel within the historic architecture APE is an open earthen and concrete lined flood control channel, about 2 miles long and 500 feet wide. It is about 0.5 mile east of the area of direct effect for the Project. The channel was originally dredged and improved in 1917 by the Los Angeles County Flood Control District (Case 1948), and the banks were earthen (Sanborn Fire Insurance 1926; Case 1948). It has a deep trapezoidal shape and form and features associated control and erosion structures, such as box and wing wall culverts, gage stations, pumps, and valves. Additionally, in several locations are recently constructed pedestrian and vehicle crossings and bridges. The property is within an urban industrial setting and is surrounded by an oil refinery and power generation facilities, warehouses and manufacturing plants, and railroad infrastructure.

Within the historic architecture APE, the channel features vegetation along portions of its banks and many areas feature rock ballasts (even atop the concrete lining). The portion of the channel within the historic architecture APE is in fair condition, but some concrete portions have experienced water ponding, cracking, spalling, chipping, and fretting. Water levels in the channel fluctuate since it is a tidal channel.

Overall, the entire channel is about 15 miles long and runs south from the City of Hawthorne into the Cerritos Channel and Inner Harbor of Los Angeles. (However, only the portion within the historic architecture APE was recorded due to the 0.5-mile distance from the channel to the Project Site and the unlikelihood the Project would cause a visual or atmospheric intrusion to the channel.) A review of historic aerial photographs and maps indicate that the channel was realigned into its current course between 1942 and 1946. Most likely, this is when portions of the channel were also lined with concrete.

Between 1956 and 1965, major improvements and alterations occurred to the profile and shape of the channel, due primarily to the construction of the San Diego Freeway and the

channelization of the Los Angeles River and Compton Creek (as well as the expansion of the refineries). Additional crossings were created along the channel to provide access among the oil industrial plants, and the channel was noticeably widened by the 1960s. Accordingly, new infrastructure like pumps, gage stations, valves, and culverts were installed, which upgraded the capacity of the channel and its abilities to regulate its flow. These alterations within the past 50 years have disrupted the feeling of the channel and the portion within the historic architecture APE lacks distinctive features and characteristics associated with its original period of construction.

Overall, 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, while the Los Angeles County Flood Control District spearheaded the work, the channel does not convey an important association with the agency. Rather, the channel is representative of the utilitarian work required to control an urban flood channel in a growing area.

The portion of the Dominguez Channel within the historic architecture APE does not appear to possess the requisite significance to be individually eligible for listing on the CRHR or be considered an historical resource for purposes of CEQA. Also, the portion of the Dominguez Channel within the historic architecture APE does not appear to retain the high historic integrity in its aspects of design, setting, feeling, materials, and association that would make it eligible to qualify for listing in the CRHR or be considered a historical resource for purposes of CEQA.

5.7.2 Environmental Consequences

5.7.2.1 Significance Criteria

The cultural resources investigations and reports for the Project were conducted in accordance with the CEQA, PRC, Section 21000 *et seq.*, and Title 14, CCR, Chapter 3, Section 15000. Consideration of significance as an "historical resource" is measured by cultural resource provisions considered under 14 CCR Section 15064.5 and 15126.4. Generally, a historical resource (these include the historic built environment and historic and prehistoric archaeological resources) is considered significant if it meets the criteria for listing on the CRHR. These criteria are set forth in 14 CCR Section 15064.5, and include resources that fall within one of the categories listed below.

- Are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- Are associated with lives of persons important in our past.
- Embody 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.
- Have yielded, or may be likely to yield, information important in prehistory or history.

14 CCR Section 15064.5 and Section 21084.1 further states that a resource not listed in or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to PRC Section 5020.1(k), or identified in an historical resources survey can

still be considered a historical resource (as defined in PRC Section 5020.1[j] and 5024.1) by a lead agency.

Under 14 CCR Section 15064.5(b), a project potentially would have significant effects if it would cause a substantial adverse change in the significance of a historical resource (i.e., a cultural resource eligible to CRHR, or archaeological resource defined as a unique archaeological resource which does not meet CRHR criteria), or would disturb human remains. The types of substantial adverse changes include physical demolition, destruction, relocation, or alteration of the resource.

14 CCR Section 15064.5 also assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. These procedures are also detailed under PRC Section 5097.98.

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

- The archaeological artifact, object, or site contains information needed to answer important scientific questions and there is a demonstrable public interest in that information.
- The archaeological artifact, object, or site has a special and particular quality, such as being the oldest of its type or the best available example of its type.
- The archaeological artifact, object, or site is directly associated with a scientifically recognized important prehistoric or historic event or person.

A non-unique archaeological resource indicates an archaeological artifact, object, or site that does not meet the above criteria. Effects to non-unique archaeological resources and resources that do not qualify for listing on the CRHR receive no further consideration under CEQA.

In many cases, determination of a resource's eligibility to the NRHP or CRHR (or its uniqueness) can be made only through extensive research. As such, the best alternative to preserve historic resources is the no action alternative; however, because this alternative is not always feasible, any project should consider alternatives or mitigation measures to lessen the effects to these resources. Where possible, to the maximum extent possible, effects to resources should be avoided. If, as the Project proceeds, it proves impossible to avoid cultural resources, formal eligibility evaluation will be undertaken. If the resource meets the criteria of eligibility to the CRHR, it will be formally addressed under 14 CCR Section 15064.5 and 15126.4.

5.7.2.2 Direct and Indirect Effects

Direct effects are typically associated with construction activity and have the potential to immediately alter, diminish, or destroy all or part of the character and quality of historic architecture and archaeological resources. Indirect effects are related to the primary consequences of the completed Project and can cause a change in the character or use of the built environment by the introduction of undesirable auditory or visual intrusions. The construction, operation, and maintenance of the Project are not expected to result in direct or indirect effects to historic architecture and archaeological resources.

5.7.3 Cumulative Effects

The Project and other projects in the vicinity are not expected to result in significant cumulative effects to cultural resources. All existing and proposed projects can be characterized primarily as industrial and infrastructure improvements. Within 1 mile of the Project Site, major projects include the Alameda Corridor Improvement Study and the Shell Oil Products U.S. Project. The proposed Alameda Corridor Improvement Study consists of major improvements along the Alameda Corridor to reduce delays, improve safety, and enhance traffic flows. This Project also includes the proposed replacement of the Schuyler Heim Bridge along Alameda Street. Shell Oil Products US is proposing the redevelopment of the 446-acre Shell Carson Terminal facility at 20945 South Wilmington Avenue. This Project will allow for the subsequent development of additional product storage tanks and light industrial storage. The City of Carson Development Service has not identified any trends on recent zoning changes.

This information indicates that no significant cumulative effects have been identified as a result of the construction, operation, maintenance, or long-term presence of the Project and other projects in the area.

The Project, when assessed with other projects, is not anticipated to have any foreseeable cumulative effects to cultural resources. No significant or unique cultural resources were found in the APEs during the archaeological pedestrian survey and historic architecture survey. Cumulative effects from the Project on local and regional cultural resources are limited because mitigation measures have been provided that would reduce potential effects to a less than significant level in the event that an archaeological site is identified within the Project boundaries during construction. In the event that a significant buried archaeology site is encountered during construction, data recovery, and/or site avoidance would ensure that the information content of the site would be retained. These measures would limit the cumulative effects the Project would have on cultural resources in the region.

5.7.4 Mitigation Measures

The Project is not anticipated to affect significant cultural resources; however, mitigation measures have been provided that would reduce potential effects to cultural resources to a less than significant level in the event that an archaeological site is identified within the Project boundaries during construction. As a result, archaeological monitoring must be conducted during all new ground-disturbing activities within the Project Area. Should a potentially significant cultural resource be encountered, evaluation of this resource to determine significance is required. With implementation of the measures listed below, no significant unavoidable effects to cultural resources are expected to occur.

All cultural resources monitoring and mitigation must be carried out under the direct supervision of an archaeologist who meets the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation, and is consistent with the procedures for compliance with Section 15064.5 of CEQA.

CUL-1: Avoidance

In the event cultural resources are encountered before or during construction activities, including subsurface excavation, construction activities in the immediate vicinity of the identified resource

shall be halted or redirected and a qualified archaeologist shall identify the nature and boundary of the finds and assess whether the proposed activities will impinge on a cultural resource. Routes of any access roads that must be built or graded that are outside of areas previously surveyed for cultural resources will be subjected to archaeological survey before construction.

If the resource is identified as a potentially significant cultural resource, planned construction activities shall be modified to avoid the resource if feasible. If it is not feasible to avoid the resource, the archaeologist shall identify the proper course of testing, excavation, recovery, and documentation to be undertaken to reduce Project-related effects to a less than significant level. In the event that archaeological resources are discovered during the course of construction, activities related to the Project, including grading and/or excavation activities within 100 feet of the potentially significant resource should be monitored by a qualified archaeologist.

CUL-2: Physical Demarcation and Protection

In instances where a Project facility must be placed within 100 feet of a known cultural resource eligible for inclusion on CRHR, the cultural resource will be temporarily fenced or otherwise demarcated on the ground, and the area will be designated environmentally sensitive. Construction equipment will be directed away from the cultural resource and construction personnel will be directed to avoid entering the area. Where cultural resource boundaries are unknown, the protected area will include a buffer zone with a 100-foot radius. In some cases, additional archaeological work may be required to demarcate the boundaries of the cultural resource to ascertain whether the cultural resource can be avoided.

CUL-3: Preconstruction Assessment and Construction Training

A qualified professional archaeologist shall be retained to observe all ground-disturbing activities associated with the Project. Ground disturbing activities include clearing, grubbing, grading, and trenching within the Project Area. The archaeological monitor shall visit the Project Area before commencement of construction activities to become familiar with site conditions.

The archaeological monitor shall attend the pre-construction meeting and work with the City of Carson, Los Angeles County, the Applicant, and construction management staff to suspend or redirect construction activities if cultural materials are encountered. The archaeological monitor shall also provide training to appropriate construction personnel on the site to explain the importance of and legal basis for the protection of significant archaeological resources. The initial training can be videotaped and provided to workers who join the Project at a later date.

CUL-4: Archaeological Monitoring

The archaeological monitor shall be equipped with a cellular telephone to ensure rapid communication with URS senior cultural resources staff to promptly report any cultural finds or discuss any problems as they are encountered in the field. Archaeological monitors shall keep a daily monitoring log of construction activities, observations, types of equipment used, problems encountered, and any new archaeological discovery (including the cultural material observed and location). Photographs shall be taken as necessary to supplement the documentation. These logs

shall be signed and dated by the archaeological monitor and included within the monitoring report.

The archaeological monitor shall monitor all ground-disturbing activities within the Project Area. The archaeological monitor will be authorized to temporarily halt ground-disturbing activities in the immediate vicinity of a discovery in the event that cultural resources are uncovered during construction. Similarly, if the construction staff or others identify cultural resources during construction activities, they shall halt construction in the immediate vicinity and immediately notify the archaeological monitor and Project supervisor. The archaeological monitor shall then immediately notify URS senior cultural resources staff.

The archaeological monitor shall use flagging tape to delineate the area of the find and protect the resources from construction activities. Construction activities shall not take place within the delineated discovery area until the archaeological monitor, in consultation with URS senior cultural resources staff and the CEC, can inspect and evaluate the significance of the find and implement mitigation measures, if needed. During this time, construction activities may be redirected to other areas outside of the flagged area.

After all ground-disturbing activities are complete, a cultural resources compliance monitoring report shall be prepared by URS cultural resources staff. The report shall include the daily monitoring logs as an appendix. The report shall also include the level of effort involved in monitoring cultural resources, a description of activities monitored, and the number and types of new cultural resources discoveries, including assessment and treatment action.

CUL-5: Native American Monitoring

To ensure participation by interested members of the Native American community, it is recommended that a Native American monitor be present during archaeological testing and/or data recovery for cultural resources that appear to have a prehistoric or ethnographic component. The monitor will be retained either directly by the Applicant or by the consultant conducting the actual fieldwork.

CUL-6: Resource Recordation and Evaluation

The archaeological monitor shall follow accepted professional standards in recording any discovery and shall submit applicable DPR forms to the SCCIC. If the discovery is deemed not significant by URS senior cultural resources staff, construction activities may proceed. Should a potentially significant cultural resource be encountered during monitoring, evaluation of this resource will be required to determine significance. Significant cultural resources affected by the Project would require additional mitigation, which may include data recovery. A recovery of a sample of the deposit from which the archaeologist can define scientific data to address archaeological research questions is considered an effective mitigation measure. URS cultural resources staff shall prepare and carry out a mitigation plan as quickly as possible to avoid construction delays. Construction may resume on-site as soon as the field data collection phase of any data recovery program is completed.

CUL-7: Provision for Encountering Human Remains

Human remains are not anticipated within the Project Site given the absence of a prehistoric deposit. If human remains are encountered, construction activities shall be immediately halted in the immediate vicinity of the discovery. The Project supervisor shall immediately contact the County Coroner and the Applicant. If the remains are Native American, the NAHC shall be contacted. The NAHC is required to determine the Most Likely Descendant, notify that person, and request that they inspect the burial and make recommendation for treatment and removal.

CUL-8: Laboratory Analysis and Curation

Cultural material removed during the course of monitoring or other implementation of mitigation measures shall be bagged and catalogued in the field and analyzed in the laboratory. Cultural materials shall be analyzed to characterize the resource(s) and its association to existing regional chronologies. The materials, and the contexts from which they were sampled, shall also be evaluated with regard to the eligibility criteria for inclusion on the CRHR.

The objectives of laboratory processing and analysis are to determine to the extent possible the date, function, cultural affiliation and significance of the archaeological sites, and to prepare artifacts for permanent curation. Artifacts shall be processed (i.e., cleaned, catalogued, and analyzed) according to the Secretary of the Interior's Standards and Guidelines for Curation (36 CFR 79). Artifacts shall be gently washed using tap water and a soft toothbrush. Delicate and/or unstable materials, such as decayed metal and organic material, shall be carefully dry-brushed with a soft toothbrush. After drying, artifacts shall be analyzed, catalogued, and rebagged according to provenience and type. Artifacts shall have acid-free paper labels with full provenience information, including the state site number, catalog number, shovel test pit or test unit number, stratum, and date. All artifact information shall be entered into a customized computer-based application.

Historic artifacts shall be cataloged according to group, material, and type, generally based on Stanley South's classifications (South 1977). South's artifact groups consist of the following list.

- Architecture – construction material and decoratively functional (e.g., doorknobs or moldings) elements used in a building.
- Clothing – any part of clothing, from a whole garment to a fragment of cloth, a single bead, or a button, as well as sewing items such as a needle or thimble.
- Furniture – furniture hardware and other furniture parts.
- Kitchen – items used primarily in the kitchen, such as glass, ceramics, stove parts, and food remains.
- Personal – small items belonging to one person, such as coins, hygiene products, and jewelry.
- Arms – gun parts and ammunition.
- Tobacco – items used to smoke tobacco.
- Activities – items used to perform an act, such as hardware, toys, transportation, construction, and recreation.

All artifacts, monitoring logs, and photographs are the property of the Applicant and shall be placed in appropriately labeled boxes for temporary storage at URS. As part of mitigation requirements, final curation shall be at the University of California, Los Angeles Department of Anthropology and funded by the Applicant.

5.7.5 Laws, Ordinances, Regulations, and Standards

The Project will be consistent with all applicable laws, ordinances, regulations, and standards (LORS). Any cultural resources potentially affected by the Project are subject to compliance with the provisions outlined in CEQA/CRHR. If a cultural resource is discovered during construction, and cannot be avoided, a program of site evaluation will be undertaken to ascertain site significance under CEQA/CRHR. All applicable LORS are summarized in Table 5.7-5, Summary of LORS – Cultural Resources.

Table 5.7-5
Summary of LORS – Cultural Resources

LORS	Applicability	Administering Agency	Agency Contact	Conformance (AFC Section)
Federal				
N/A	N/A	N/A	N/A	N/A
State				
The Warren-Alquist Act (1974, as amended)	Requires cultural, historic, and aesthetic resources be taken into account in consideration of an Application for Certification. Requires that a portion of any such resources on public land be set aside for public access.	CEC	Dorothy Torres	5.7
CEQA of 1970, as amended	Applies to discretionary projects causing a significant effect on the environment and a substantial adverse change in the significance of an historical or archaeological resource.	CEC	Dorothy Torres	5.7, 5.7.2.1, 5.7.2.2, 5.7.3
California PRC Section 5020-5029.5	Establishes the California Register of Historical Resources, criterion, and creates the California Historic Landmarks Committee and authorizes the Department of Parks and Recreation to designate Registered Historical Landmarks and Registered Points of Historical Interest; establishes criteria for the protection and preservation of historic resources.	CEC; State Historic Preservation Office; Department of Parks and Recreation	Dorothy Torres; Milford Wayne Donaldson, FAIA	5.7.2.1

Table 5.7-5
Summary of LORS – Cultural Resources

LORS	Applicability	Administering Agency	Agency Contact	Conformance (AFC Section)
Senate Bill 922 (Ducheny 2005)	Exempts from California Public Records Act Native American graves, cemeteries, archaeological site information, and sacred places in the possession of the Native American Heritage Commission and other state or local agencies.	CEC; Native American Heritage Commission	Dorothy Torres; Katy Sanchez	5.7.1.11
Senate Bill 18 (Burton 2004)	Protection and preservation of Native American Traditional Cultural Places during city and county general plan development.	CEC; County of San Luis Obispo; Native American Heritage Commission	Dorothy Torres; Victor Holanda; Katy Sanchez	N/A
Senate Concurrent Resolution Number 87 (1994)	Provides for the identification and protection of traditional Native American resource gathering sites on state land.	CEC	Dorothy Torres	N/A
Administrative Code, Title 14, Section 4307	No person shall remove, injure, deface, or destroy any object of paleontological, archaeological, or historical interest or value.	CEC	Dorothy Torres	5.7.2.1, 5.7.2.2, 5.7.3.1, 5.7.3.2, 5.7.3.5
Government Code, Sections 6253, 6254, 6254.10	Disclosure of archaeological site information is not required for records that relate to archaeological site information maintained by the Department of Parks and Recreation, the State Historical Resources Commission, or the State Lands Commission.	CEC	Dorothy Torres	5.7.1.11, 5.7.1.13, 5.7.3
Health and Safety Code, Section 7050.5	Requires construction or excavation stopped near human remains until a coroner determines whether the remains are Native American; requires the coroner to contact the NAHC if the remains are Native American.	CEC; County Coroner	Dorothy Torres (CEC); Anthony Hernandez (Coroner)	5.7.3.7
Health and Safety Code, Section 7051	Establishes removal of human remains from internment, or from a place of storage while awaiting internment or cremation, with the intent to sell them or to dissect them with malice or wantonness as a public offense punishable by imprisonment in a state prison.	CEC; County Coroner	Dorothy Torres (CEC); Anthony Hernandez (Coroner)	5.7.3.7

Table 5.7-5
Summary of LORS – Cultural Resources

LORS	Applicability	Administering Agency	Agency Contact	Conformance (AFC Section)
Health and Safety Code, Section 7052	States that willing mutilation of, disinterment of, removal from a place of disinterment of, and sexual penetration of or sexual contact with any remains known to be human are felony offenses.	CEC; County Coroner	Dorothy Torres (CEC); Anthony Hernandez (Coroner)	5.7.3
Penal Code, Title 14, Section 622.5	Misdemeanor offense for any person, other than the owner, who willfully damages or destroys archaeological or historic features on public or privately owned land.	CEC	Dorothy Torres	5.7.2.1, 5.7.2.2, 5.7.3
PRC 5097-5097.6	Provides guidance for state agencies in the management of archaeological, paleontological, and historical sites affected by major public works project on state land.	CEC	Dorothy Torres	N/A
PRC 5097.9-5097.991	Establishes regulations for the protection of Native American religious places; establishes the Native American Heritage commission; California Native American Remains and Associated Grave artifacts shall be repatriated; notification of discovery of Native American human remains to a most likely descendent.	CEC; State Historic Preservation Office; Tribal Historic Preservation Office; Native American Heritage Commission	Dorothy Torres; Milford Wayne Donaldson, FAIA; Katy Sanchez	5.7.1.11
14 CCR Section 1427	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 materials from a cave.	CEC	Dorothy Torres	5.7.1.1, 5.7.2.1, 5.7.2.2, 5.7.3, 5.7.4
Senate Concurrent Resolution Number 43	Requires all state agencies to cooperate with programs of archaeological survey and excavation, and to preserve known archaeological resources whenever reasonable.	CEC	Dorothy Torres	5.7.4.2
Penal Code, Title 14, Section 622.5	Misdemeanor offense for any person, other than the owner, who willfully damages or destroys archaeological or historic features on public or privately owned land.	CEC	Dorothy Torres	5.7.2.1, 5.7.2.2

Table 5.7-5
Summary of LORS – Cultural Resources

LORS	Applicability	Administering Agency	Agency Contact	Conformance (AFC Section)
Local				
Carson Municipal Code, Section 8600.10	Defines a historic structure in Carson as: listed individually in the NRHP or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the NRHP; certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of Interior; or individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either by an approved state program as determined by the Secretary of the Interior or directly by the Secretary of the Interior in states with approved programs	City of Carson	Sheri Repp-Loadsman	5.7.1.13, 5.7.1.14, 5.7.4.3
Carson Municipal Code, Section 2796	Identifies the responsibilities of the City's Fine Arts and Historical Commission including reviewing and making recommendations concerning the designation of buildings and sites as historic monuments.	City of Carson	Sheri Repp-Loadsman	5.7.4.3

Sources: Watson Cogeneration Steam and Electric Reliability Project Team, 2008.
Notes:
CCR = California Code of Regulations
CEC = California Energy Commission
CEQA = California Environmental Quality Act of 1970
FAIA = Fellow, American Institute of Architects
LORS = laws, ordinances, regulations, and standards
N/A = not applicable
NAHC = Native American Heritage Commission
NRHP = National Register of Historic Places
PRC = Public Resources Code

5.7.5.1 Federal-level Mandates

The Project is not anticipated to have federal involvement; therefore, federal LORS pertaining to cultural resources are not applicable. If the Project is determined to have federal involvement, then cultural resources investigations will be consistent with Section 106 of the National Historic Preservation Act per 36 CFR Part 800, and any other applicable federal LORS.

5.7.5.2 State-level Mandates

Table 5.7-5, Summary of LORS – Cultural Resources, summarizes the cultural resources state-level LORS that may be applicable to the Project.

5.7.5.3 Local-level Mandates

The City of Carson has specific LORS, which also determine the treatment of cultural resources identified and recorded in the City of Carson. Of note, the City of Carson does not appear to be a certified local government, per Sections 101 and 301 of the National Historic Preservation Act, and does not appear to have a local designation criterion. Table 5.7-5, Summary of LORS – Cultural Resources, summarizes the local-level LORS.

5.7.5.4 Agencies and Agency Contacts

Agencies with jurisdiction to enforce LORS related to cultural resources are shown in Table 5.7-6, Agency Contact List for LORS.

Table 5.7-6
Agency Contact List for LORS

Agency	Contact	Address	Telephone
California Energy Commission	Dorothy Torres	1516 Ninth Street Sacramento, CA 95814	916-653-3992
City of Carson Planning Division	Sheri Repp-Loadsman	701 East Carson Street, Carson, CA 90745	310-830-7600
State Historic Preservation Office	Milford Wayne Donaldson, FAIA	1416 9th Street, Room 1442-7 Sacramento, CA 95814 P.O. Box 942896 Sacramento, CA 94296-0001	916-653-6624

Sources: Watson Cogeneration Steam and Electric Reliability Project Team, 2008.
Notes:
FAIA = Fellow of the American Institute of Architects
LORS = laws, ordinances, regulations, and standards

5.7.5.5 Permits Required and Permitting Schedule

No permits are needed for the Project for cultural resources.

5.7.6 References

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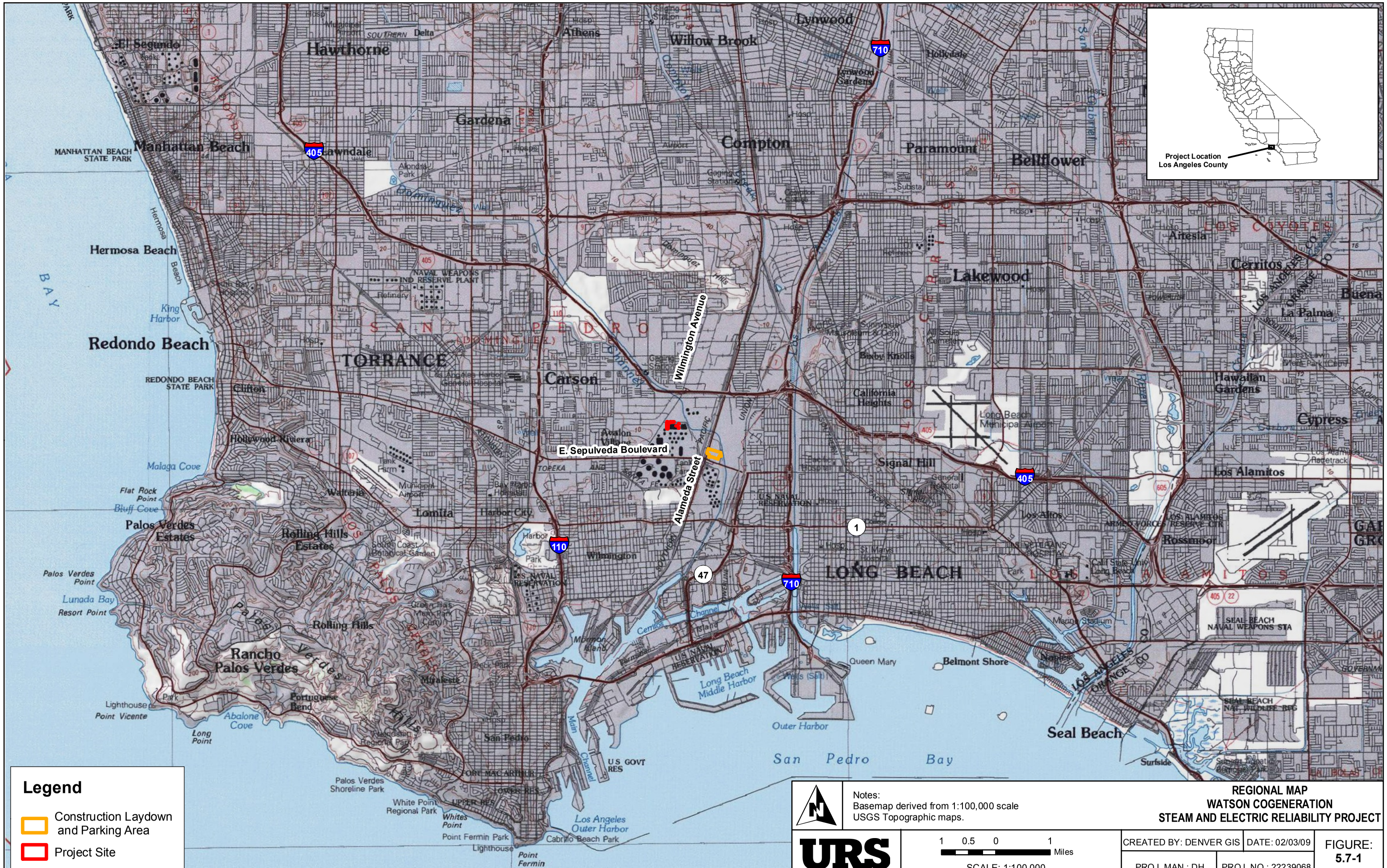

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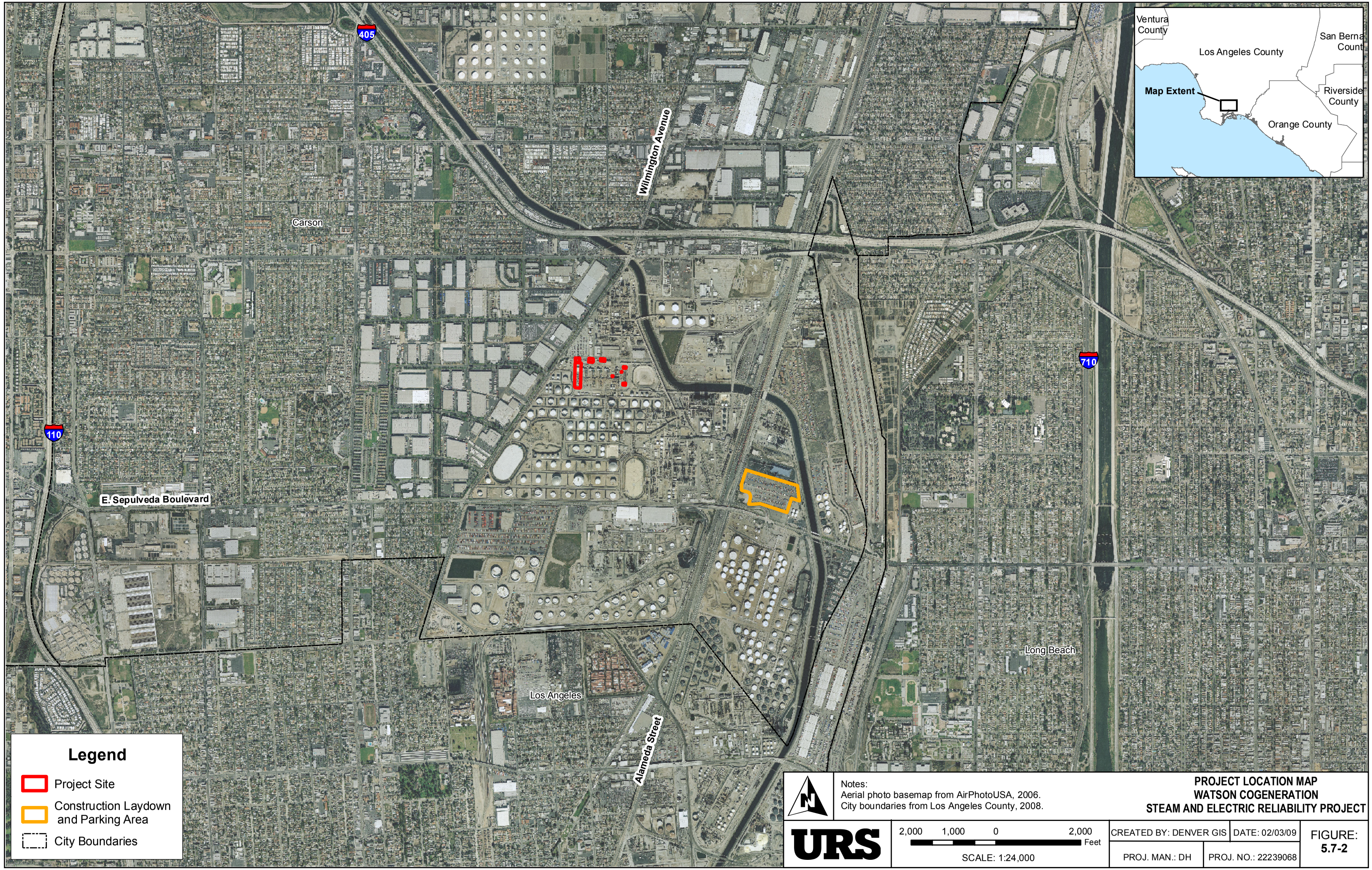

Notes:
Aerial photo basemap from AirPhotoUSA, 2006.
City boundaries from Los Angeles County, 2008.

PROJECT LOCATION MAP
WATSON COGENERATION
STEAM AND ELECTRIC RELIABILITY PROJECT

URS

2,000 1,000 0 2,000 Feet
SCALE: 1:24,000

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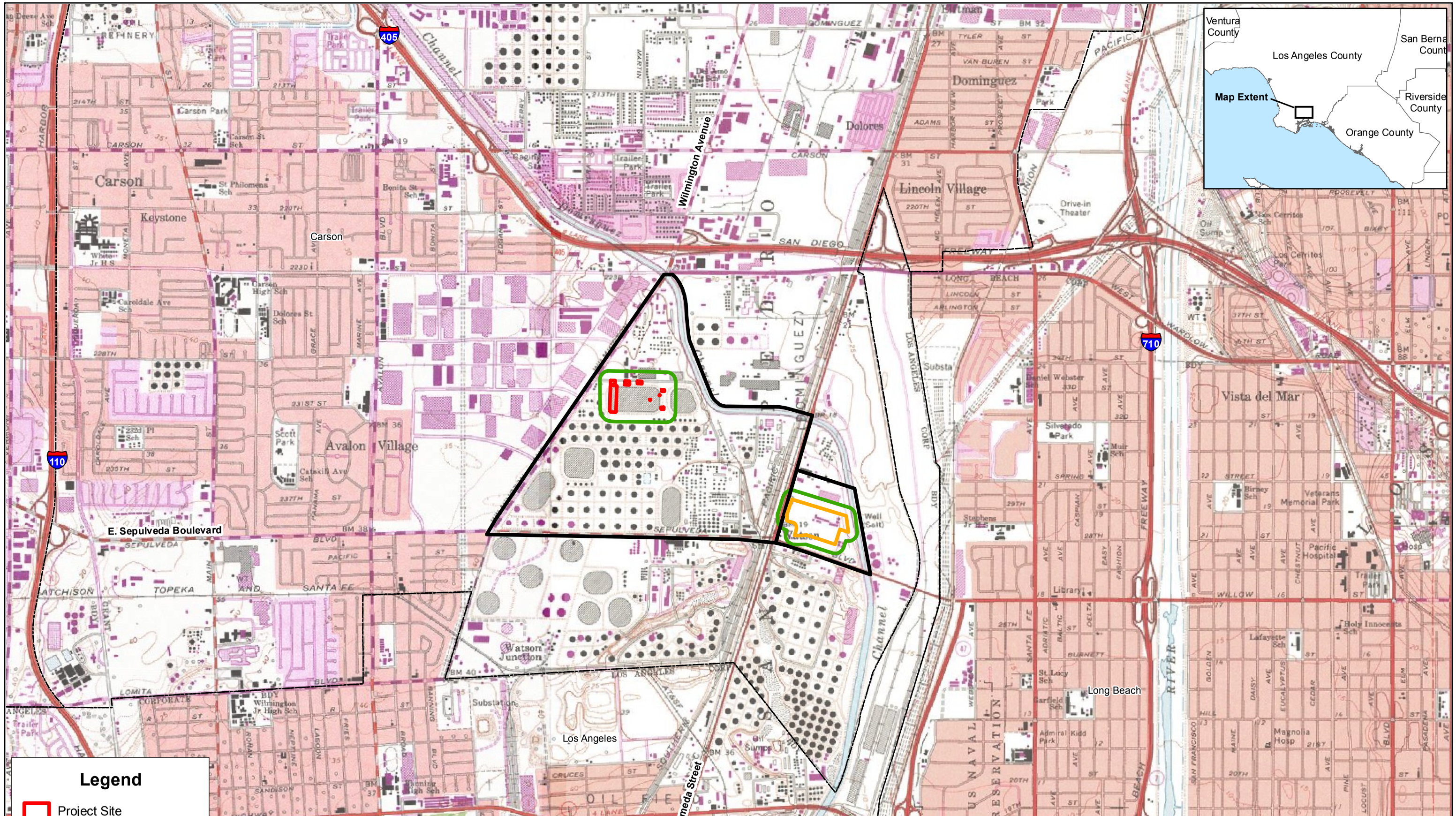

Notes:
Basemap derived from 1:24000 scale USGS Topographic maps.

CULTURAL RESOURCES APE - TORRANCE AND LONG BEACH , CA 7.5' USGS TOPOGRAPHIC QUADRANGLES
WATSON COGENERATION
STEAM AND ELECTRICAL RELIABILITY PROJECT

URS

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SCALE: 1:24,000

CREATED BY: DENVER GIS	DATE: 02/03/09	FIGURE: 5.7-3
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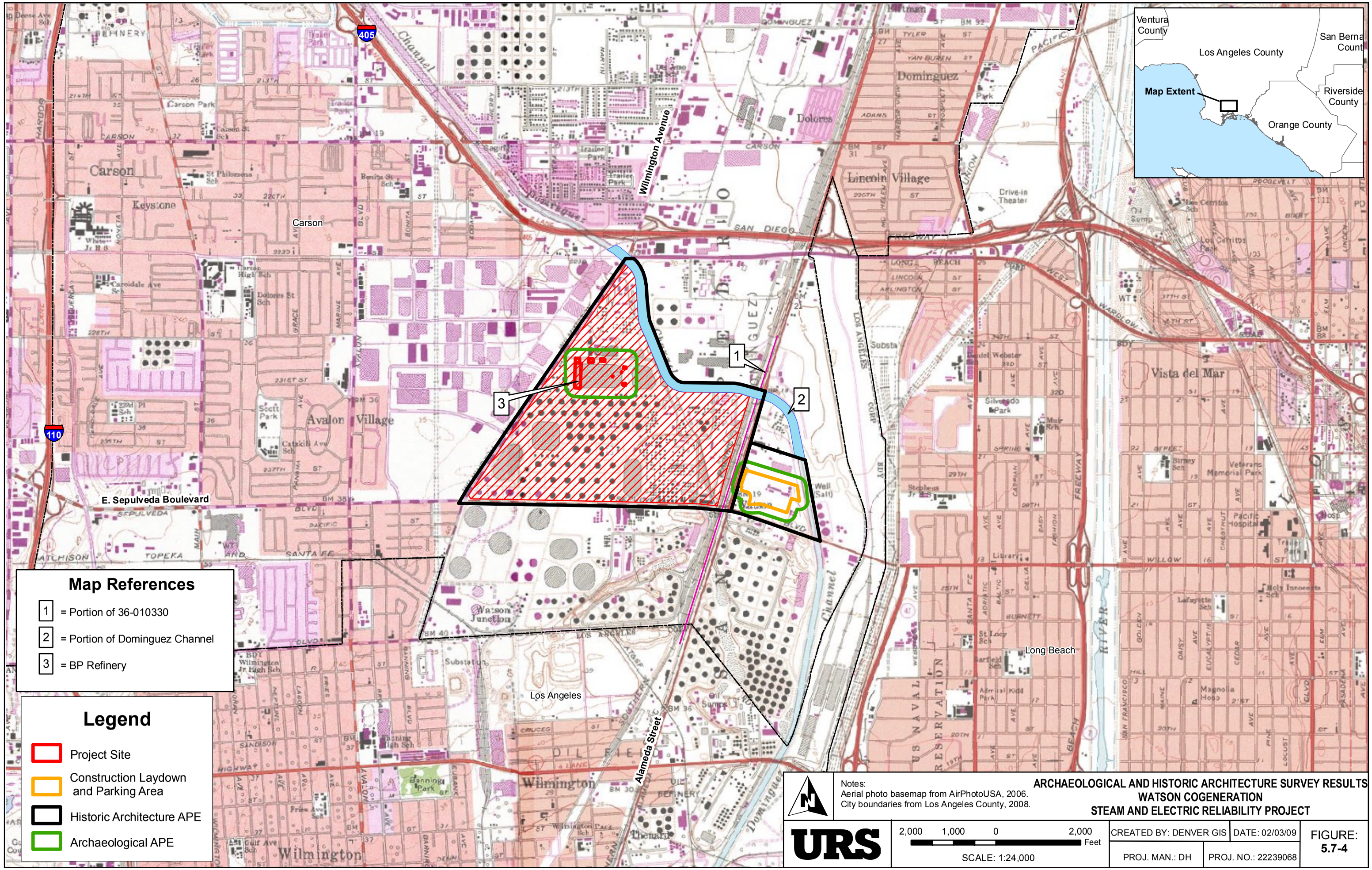

Notes:
Aerial photo basemap from AirPhotoUSA, 2006.
City boundaries from Los Angeles County, 2008.

ARCHAEOLOGICAL AND HISTORIC ARCHITECTURE SURVEY RESULTS
WATSON COGENERATION
STEAM AND ELECTRIC RELIABILITY PROJECT

URS

2,000 1,000 0 2,000 Feet
SCALE: 1:24,000

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Adequacy Issue: Adequate ____ Inadequate ____

DATA ADEQUACY WORKSHEET

Revision No. 0 Date ____

Technical Area: **Cultural Resources**

Project: Watson Cogeneration Steam and Electric Reliability Project

Technical Staff: ____

Project Manager: ____

Docket: ____

Technical Senior: ____

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the Project, the measures proposed to mitigate adverse environmental impacts of the Project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.	Section 5.7.1.1; pages 5.7-2 through 5.7-3 Section 5.7.1.2; page 5.7-3 Section 5.7.1.6; pages 5.7-4 through 5.7-5 Section 5.7.1.7; page 5.7-5 Section 5.7.2; pages 5.7-33 through 5.7-44 Section 5.7.3; page 5.7-35 Section 5.7.4; pages 5.7-35 through 5.7-39 Figure 5.7-2		
Appendix B (g) (2) (A)	A summary of the ethnology, prehistory, and history of the region with emphasis on the area within no more than a 5-mile radius of the Project location.	Section 5.7.1.8; pages 5.7-5 through 5.7-6 Section 5.7.1.9; pages 5.7-7 through 5.7-8 Section 5.7.1.10; pages 5.7-8 through 5.7-16		

Adequacy Issue: Adequate ____ Inadequate ____

DATA ADEQUACY WORKSHEET

Revision No. 0 Date ____

Technical Area: **Cultural Resources**

Project: Watson Cogeneration Steam and Electric Reliability Project

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Appendix B (g) (2) (B)	The results of a literature search to identify cultural resources within an area not less than a 1-mile radius around the Project site and not less that than one-quarter (0.25) mile on each side of the linear facilities. Identify any cultural resources listed pursuant to ordinance by a city or county, or recognized by any local historical or archaeological society or museum. Literature searches to identify the above cultural resources must be completed by, or under the direction of, individuals who meet the Secretary of the Interior's Professional Standards for the technical area addressed. Copies of California Department of Parks and Recreation (DPR) 523 forms (Title 14 CCR §4853) shall be provided for all cultural resources (ethnographic, architectural, historical, and archaeological) identified in the literature search as being 45 years or older or of exceptional importance as defined in the National Register Bulletin Guidelines, (36CFR60.4(g)). A copy of the USGS 7.5' quadrangle map of the literature search area delineating the areas of all past surveys and noting the California Historical Resources Information System (CHRIS) identifying number shall be provided. Copies also shall be provided of all technical reports whose survey coverage is wholly or partly within .25 mile of the area surveyed for the Project under Section (g)(2)(C), or which report on any archaeological excavations or architectural surveys within the literature search area.	Section 5.7.1.13; pages 5.7-13 through 5.7-27 Section 5.7.1.14; pages 5.7-27 through 5.7-33 Section 5.7.1.13, Table 5.7-1; pages 5.7-18 through 5.7-23 Section 5.7.1.13, Table 5.7-2; pages 5.7-24 through 5.4-26 Section 5.7.1.12; page 5.7-17 Confidential Appendix J (Appendix C) Section 5.7.1.13; pages 5.7-17 through 5.7-27 Confidential Appendix J (Appendices C and D) Confidential Appendix J (Figures 5-1, 5-1A, 5-1B and 5-2) Confidential Appendix J (Appendix C)		

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Appendix B (g) (2) (C)	The results of new surveys or surveys less than 5 years old shall be provided if survey records of the area potentially affected by the Project are more than five (5) years old. Surveys to identify new cultural resources must be completed by (or under the direction of) individuals who meet the Secretary of the Interior's Professional Standards for the technical area addressed. New pedestrian archaeological surveys shall be conducted inclusive of the Project site and Project linear facility routes, extending to no less than 200' around the Project site, substations and staging areas, and to no less than 50' to either side of the right-of-way of Project linear facility routes. New historic architecture field surveys in rural areas shall be conducted inclusive of the Project site and the Project linear facility routes, extending no less than .5 mile out from the proposed plant site and from the routes of all above-ground linear facilities. New historic architecture field surveys in urban and suburban areas shall be conducted inclusive of the Project site, extending no less than one parcel's distance from all proposed plant site boundaries. New historic architecture field reconnaissance ("windshield survey") in urban and suburban areas shall be conducted along the routes of all linear facilities to identify, inventory, and characterize structures and districts that appear to be older than 45 years or that are exceptionally significant, whatever their age.	Confidential Appendix J (Appendix C) Section 5.7.1.12; page 5.7-17 Section 5.7.1.14; pages 5.7-27 through 5.7-33 Section 5.7.1.14, Table 5.7-3; page 5.7-29 Section 5.7.1.14, Table 5.7-4; page 5.7-29 Figure 5.7-4 Figure 5.7-5		

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	A technical report of the results of the new surveys, conforming to the Archaeological Resource Management Report format (CA Office of Historic Preservation Feb 1990), which is incorporated by reference, shall be separately provided and submitted (under confidential cover if archaeological site locations are included).	Confidential Appendix J		
Appendix B (g) (2) (C) cont.	Information included in the technical report shall also be provided in the Application for Certification, except that confidential information (archaeological sites or areas of religious significance) shall be submitted under a request for confidentiality pursuant to Title 20, California Code of Regulations, § 2501 et seq. At a minimum, the technical report shall include the following:	Section 5.7; pages 5.7-1 through 5.7-43 Confidential Appendix J		
Appendix B (g) (2) (C) (i)	The summary from Appendix B (g)(2)(A) and the literature search results from Appendix B (g)(2)(B);	Confidential Appendix J (Section 4, Section 5)		
Appendix B (g) (2) (C) (ii)	The survey procedures and methodology used to identify cultural resources and a discussion of the cultural resources identified by the survey;	Confidential Appendix J (Section 6, Figure 6-1, Figure 6-2, Table 3, Table 4)		
Appendix B (g) (2) (C) (iii)	Copies of all new and updated DPR 523(A) forms. If a cultural resource may be impacted by the Project, also include the appropriate DPR 523 detail form for each such resource;	Confidential Appendix J (Appendix D)		
Appendix B (g) (2) (C) (iv)	A map at a scale of 1:24,000 U.S. Geological Survey quadrangle depicting the locations of all previously known and newly identified cultural resources through the research required by Appendix B (g)(2)(B) and Appendix B (g)(2)(C) (ii); and	Confidential Appendix J (Figure 5-1, Figure 5-2, Figure 6-1, Figure 6-2)		

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Appendix B (g) (2) (C) (v)	The names and qualifications of the cultural resources specialists who contributed to and were responsible for literature searches, surveys, and preparation of the technical report.	Confidential Appendix J (Section 1.3, Appendix A)		
Appendix B (g) (2) (D)	Provide a copy of your request to the Native American Heritage Commission (NAHC) for information on Native American sacred sites and lists of Native Americans interested in the Project vicinity, and copies of any correspondence received from the NAHC. Notify the Native Americans on the NAHC list about the Project, including a project description and map. Provide a copy of all correspondence sent to Native American individuals and groups listed by the NAHC and copies of all responses. Provide a written summary of any oral responses.	Confidential Appendix J (Section 2, Appendix B)		
Appendix B (g) (2) (E)	Include in the discussion of proposed mitigation measures required by subdivision (g)(1):	Confidential Appendix J (Section 7)		
Appendix B (g) (2) (E) (i)	A discussion of measures proposed to mitigate project impacts to known cultural resources;	Confidential Appendix J (Section 7)		
Appendix B (g) (2) (E) (ii)	A set of contingency measures proposed to mitigate potential impacts to previously unknown cultural resources and any unanticipated impacts to known cultural resources; and	Confidential Appendix J (Section 7)		
Appendix B (g) (2) (E) (iii)	Educational programs to enhance employee awareness during construction and operation to protect cultural resources.	Confidential Appendix J (Section 7)		

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Appendix B (i) (1) (A)	Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, leases, and permits applicable to the proposed project, and a discussion of the applicability of, and conformance with each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed; and	Section 5.7.5; pages 5.7-39 through 5.7-43 Section 5.7.5, Table 5.7-5; pages 5.7-39 through 5.7-42		
Appendix B (i) (1) (B)	Tables which identify each agency with jurisdiction to issue applicable permits, leases, and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the commission to certify sites and related facilities.	Section 5.7.5.4; page 5.7-43 Section 5.7.5.5; page 5.7-43 Section 5.7.5, Table 5.7-5; pages 5.7-39 through 5.7-43 Section 5.7.5.4, Table 5.7-6; page 5.7-43		
Appendix B (i) (2)	The name, title, phone number, address (required), and email address (if known), of an official who was contacted within each agency, and also provide the name of the official who will serve as a contact person for Commission staff.	Section 5.7.5.4; page 5.7-43 Section 5.7.5.4, Table 5.7-6; page 5.7-43		
Appendix B (i) (3)	A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.	Section 5.7.5.5; page 5.7-43		