

APPENDIX J

CULTURAL RESOURCE TECHNICAL REPORT

Portions of this report are confidential and are not appropriate for public distribution. Copies of this report that include all confidential materials have been provided to the California Energy Commission under separate cover.

TECHNICAL REPORT

EL SEGUNDO POWER
REDEVELOPMENT PROJECT
CULTURAL RESOURCES
(ARCHAEOLOGICAL RESOURCES)

APPENDIX J

(CONFIDENTIAL: NOT FOR DISTRIBUTION)

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TABLE OF CONTENTS

Section 1	Introduction.....	1
1.1	Preliminary Project Description	1
1.2	Project Site Description.....	3
1.3	Cultural Resource Requirements.....	4
1.3.1	Native American Contact and Communication	5
1.4	Environmental Setting.....	6
1.4.1	Natural History.....	6
1.4.2	Disturbance Within the Study Area	7
1.5	Cultural Setting	7
1.5.1	Prehistory	7
1.5.2	Ethnography	13
1.5.3	Historic Setting.....	15
Section 2	Bibliographic Survey Methods and Results (Record and Literature Search).....	20
2.1	Bibliographic Survey.....	20
Section 3	Field Survey Methods and Results.....	22
3.1	Introduction	22
3.2	Field Survey Methodology.....	22
3.3	Field Survey Results.....	23
3.3.1	Power Plant Site	23
3.3.2	Route 1 - Water Supply Lines	23
3.3.3	Route 2 - Sanitary Discharge Line	24
3.3.4	Route 3 - Aqueous Ammonia Supply Line	25
3.3.5	Area 1 - Kramer Staging Area.....	25
3.3.6	Area 2 - Federal Express Staging/Parking Area.....	26
3.3.7	Area 3 - Lax Pershing Staging/Parking Area	27
3.3.8	Area 4 - Marina Del Rey Boat Launch Parking Area	27
3.3.9	Area 5 - Dockweiler State Beach Parking Area.....	28
3.3.10	Area 6 - Hyperion Parking Area	29
3.3.11	Area 7 - Grand Avenue Parking Area	29
3.3.12	Area 8 - Chevron Marine Terminal Staging Area.....	30
Section 4	Significance Impacts and Mitigation Recommendations	31
4.1	State Level Mandates	31
4.2	Federal Level Mandates	32
4.3	Environmental Consequences	33
4.3.1	Power Plant Site	33
4.3.2	Route 1 - Water Supply Lines	33
4.3.3	Route 2 - Sanitary Discharge Line	33
4.3.4	Route 3 - Aqueous Ammonia Supply Line	34
4.3.5	Area 1 - Kramer Staging Area.....	34

TABLE OF CONTENTS

4.3.6	Area 2 - Federal Express Staging/Parking Area.....	34
4.3.7	Area 3 - Lax Pershing Staging/Parking Area	34
4.3.8	Area 4 - Marina Del Rey Boat Launch Parking Area	34
4.3.9	Area 5 - Dockweiler State Beach Parking Area.....	34
4.3.10	Area 6 - Hyperion Parking Area	34
4.3.11	Area 7 - Grand Avenue Parking Area	34
4.3.12	Area 8 - Chevron Marine Terminal Staging Area.....	35
4.4	Mitigation of Construction Related Impacts	35
4.4.1	Impacts and Mitigation Measures	35
4.5	Mitigation for Resources Discovered During Construction.....	36
4.6	Protection of Resources During ESPR Operation and Maintenance: Specific Mitigation Measures.....	37
4.6.1	Power Plant Site	37
4.6.2	Route 1 - Water Supply Lines	37
4.6.3	Route 2 - Sanitary Discharge Line	37
4.6.4	Route 3 - Aqueous Ammonia Supply Line	37
4.6.5	Area 1 - Kramer Staging Area.....	38
4.6.6	Area 2 - Federal Express Staging/Parking Area.....	38
4.6.7	Area 3 - Lax Pershing Staging/Parking Area	38
4.6.8	Area 4 - Marina Del Rey Boat Launch Parking Area	38
4.6.9	Area 5 - Dockweiler State Beach Parking Area.....	39
4.6.10	Area 6 - Hyperion Parking Area	39
4.6.11	Area 7 - Grand Avenue Parking Area	39
4.6.12	Area 8 - Chevron Marine Terminal Staging Area.....	39
Section 5	References Cited In the Text.....	40

Figures

Tables

Attachments

- A Key Personnel Resumes
- B Previous Site Records from the Project Area
- C New Sites Recorded during the ESPR Project Survey
- D Native American Correspondence

This Cultural Resources Technical Report has been prepared for an Application for Certification (AFC) for submittal to the California Energy Commission (CEC) regarding the proposed redevelopment and operation of an existing steam generating station in Los Angeles County, California. This project is known as the El Segundo Power Redevelopment (ESPR) Project.

The purpose of the cultural resources technical study is to inventory cultural resources that the proposed project could potentially affect. Included in this report are archaeological site records and records of correspondence with local Native Americans. These records, including site locational data, are considered confidential and should be made available only to qualified cultural resource specialists and project managers on a need-to-know basis.

The report details the results of systematic bibliographic (literature review) and field surveys. These field survey included most areas in the project Area of Potential Effect (APE). Specific areas could not be surveyed because right-of-entry had not been secured. The bibliographic survey encompassed all areas in the project APE, as well as study areas adjacent to each project component.

1.1 PRELIMINARY PROJECT DESCRIPTION

The existing El Segundo generating station is located in the City of El Segundo, Los Angeles County, California (Figure J-1). The facility is currently owned by El Segundo Power II LLC, who proposes to redevelop the power plant. The existing electric generating station is currently comprised of four gas-fired conventional, electric power generating units. The proposed ESPR Project will include demolition of the existing power blocks of Units 1 and 2, and construction of a combined cycle plant within the footprint of the demolished units. In addition to the redevelopment of the existing steam generating plant, the ESPR Project involves the construction of several ancillary pipelines, and the temporary use of several off-site areas for worker parking and/or equipment staging.

The proposed project consists of the following components:

Power Plant Site

The ESPR power plant site is located in the City of El Segundo, along the shoreline and immediately adjacent to the well-known El Portal surfing spot. The ESPR plant site, approximately 32.8 acres in size, is bounded by 45th Street to the south, Dockweiler State Beach to the west, the Chevron Marine Terminal to the north, and Vista Del Mar Avenue to the east. The existing electric generating station is currently comprised of four gas-fired conventional, electric power generating units. The proposed ESPR Project will include demolition of the existing power blocks of Units 1 and 2, and construction of a combined cycle plant within the footprint of the demolished units.

Pipeline Routes

- Route 1 - Water Supply Lines

Two new water supply pipelines will be constructed. The proposed 12-inch diameter potable water pipeline will link potable water from the City of El Segundo to the El Segundo power plant site. The proposed potable water supply line will connect with an existing 18 inch City water line on El Segundo Boulevard, adjacent to the Chevron

Refinery. The proposed 8-inch diameter reclaimed water supply pipeline will link reclaimed water from the West Basin Municipal Water District (WBMWD) to the El Segundo power plant site. The proposed reclaimed water supply line will connect with an existing WBMWD reclaimed water line on El Segundo Boulevard, adjacent to the Chevron Refinery. Both pipelines will be constructed within the same trench, which will run within existing city streets to the power plant site, via Grand Avenue and Vista Del Mar. Several alternative routes are being considered for the connection between El Segundo Boulevard and Grand Avenue. The full range of alternatives extends from Eucalyptus Street on the east to Loma Vista Street on the west. Under any alternative, the water lines will be installed in Grand Avenue west of Loma Vista and on Vista Del Mar from its juncture with Grand Avenue to the plant site. The entire route of the water lines lies within paved city street and/or an existing, disturbed utility corridor.

- Route 2 - Sanitary Discharge Line

The proposed sanitary discharge line will exit the ESPR Power Plant site near the southwestern corner of the plant, extending approximately 150 feet to the south.

- Route 3 - Aqueous Ammonia Supply Line

The proposed aqueous ammonia supply line will exit the ESPR Power Plant site near the northeastern portion of the plant. The aqueous ammonia supply line will be bundled with existing utilities, crossing Vista Del Mar, and entering the west side of the Chevron Refinery. Once inside the refinery boundary, the aqueous ammonia supply line continues to follow an existing, disturbed utility corridor to the east. The existing utility corridor follows a paved driveway and then a railroad track, into a switchyard, where it ends.

Staging/ Parking Areas

- Area 1 - Kramer Staging Area

The proposed 11.5-acre Kramer Staging Area is located in southern El Segundo and may be utilized for staging and/or parking. It is delimited by Rosecrans Boulevard on the south, El Segundo Boulevard on the north, Aviation Boulevard on the east and Sepulveda Boulevard on the west. The site surface is partially paved and has been nearly completely disturbed from prior industrial activity and infrastructure development. The eastern end of the property has been completely sealed with an asphalt covering.

- Area 2 - Federal Express Staging/Parking Area

This 46 acre site is located on the northeast corner of Mariposa Avenue and Nash Street in the municipality of El Segundo. A perimeter fence encompasses the parcel and the site surface appears disturbed from prior agricultural and/or industrial activity.

- Area 3 - LAX Pershing Staging/Parking Area

The proposed LAX Pershing Staging Area is located on the east side of Pershing Avenue, roughly 0.5 miles north of Imperial Highway, within the western runway path of the Los Angeles International Airport. Total acreage and parcel boundaries are still pending. A perimeter fence encompasses the parcel and the site surface is paved.

- Area 4 - Marina Del Rey Boat Launch Parking Area

The proposed Marina Del Rey Marina Boat Launch Parking Area is located west of Admiralty Way, north of Fiji Avenue, at the northeast end of Basin G, Marina Del Rey. The site is under consideration only for automobile parking use for the plant construction crew. The total area of concern encompasses 442 parking spaces. The site surface is entirely paved.

- Area 5 - Dockweiler State Beach Parking Area

The proposed Dockweiler State Beach Parking Area is an existing parking lot for Dockweiler State Beach, located between Vista Del Mar Avenue and the beach. The site is under consideration only for automobile parking use for the plant construction crew. The total area of concern encompasses three parking lots, each containing 300 spaces, for a total of 900 parking spaces. The site surface is entirely paved.

- Area 6 - Hyperion Parking Area

The proposed Hyperion Parking Area is an existing Hyperion Corporation parking lot located between Vista Del Mar Avenue and the beach, south of the proposed Dockweiler State Beach Parking Area, and north of the proposed Grand Avenue Parking Area. The site is under consideration only for automobile parking use for the plant construction crew. The total area of concern encompasses 461 parking spaces. The site surface is entirely paved.

- Area 7 - Grand Avenue Parking Area

The proposed Grand Avenue Parking Area is an existing Hyperion Corporation parking lot located between Vista Del Mar Avenue and the beach, south of the proposed Hyperion Parking Area, and north of the proposed Chevron Marine Terminal Staging Area. The site is under consideration only for automobile parking use for the plant construction crew. The total area of concern encompasses 115 parking spaces. The site surface is entirely paved.

- Area 8 - Chevron Marine Terminal Staging Area

The proposed Chevron Marine Terminal Staging area is located approximately one-quarter-mile north of the ESPR plant site and is bordered by Vista Del Mar Avenue on the east, and the Santa Monica Bay bike path on the west. Portions of the site has been previously leveled by heavy equipment. A spoils pile containing an estimated 10,000 cubic yards of material that was excavated from a nearby sump feature is located near the center of the proposed staging area.

1.2 PROJECT SITE DESCRIPTION

The ESPR Project involves the redevelopment of an existing steam generating plant, as well as the construction of several ancillary pipelines, and the temporary use of several off-site areas for worker parking and/or equipment staging. The project components are described in detail in AFC Section 3.0. The project area is localized along the Pacific Ocean shoreline of the Los Angeles Basin. The proposed primary ESPR Project components (Plant Site/Routes 1, 2, 3) are located in El Segundo, and extend eastward from the sandy beaches into stabilized sand dunes located on the adjacent shoreline bluffs. Off site staging/ parking areas are located in El

Segundo and Marina del Rey, while Route 2 (Sanitary Discharge Line) extends into Manhattan Beach.

1.3 CULTURAL RESOURCE REQUIREMENTS

California Energy Commission regulations require that the project undergo various environmental resource assessments (i.e., cultural, paleontological, biological, etc.) as part of an AFC for the ESPR Project. With few exceptions, the potential effects of any project upon cultural resources are always evaluated under the California Environmental Quality Act (CEQA) and/or the National Environmental Policy Act (NEPA). The ESPR Project currently does not require an assessment with respect to the requirements of NEPA because the proposed facilities envisioned do not cross Federal lands (e.g. Bureau of Land Management lands). If this scenario prevails, the AFC will serve as CEQA environmental documentation.

At this time there are no permit requirements that have been identified at the federal, state or local level that would be needed to perform any cultural resources work that may subsequently be required during the construction or operational phases of the project. However, if subsequent action requires a U.S. Army Corps of Engineers (USACE) 404 permit, compliance with Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations, set forth at 36 CFR 800, may be invoked for those portions of the project subject to such a permit. If utilization of the proposed LAX Pershing Staging/Parking Area requires coordination with the Federal Aviation Administration (FAA), compliance with Section 106 of the NHPA may be invoked for these portions of the project. As noted in greater detail in Section 4, the California State and Federal criteria for evaluating cultural resources are consistent and generally interchangeable, and therefore application of one set of evaluation criteria essentially conforms with the other.

Prior to initiation of the cultural resources inventory, pre-field research was conducted to identify the extent of prior archaeological surveys and known cultural resources within the project corridor. The pre-field research included a record search conducted at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System (CHRIS). The SCCIC search included a review within the project APE and adjacent study areas of all recorded sites, surveys, historical listings, and historical maps. Review of the existing archaeological survey information indicated that only limited portions of the project area had previously undergone archaeological survey.

Cultural resources work was conducted in compliance with CEC "Instructions to the California Energy Commission Staff for the Review of and Information Requirements for an Application for Certification" (CEC, 1992) and "Rules of Practice and Procedure and Power Plant Site Certification Regulations (CEC, February 1997). Cultural resources field work protocols were prepared in consultation with the California Energy Commission (CEC).

Section 2 details the bibliographic survey. Pedestrian field inventory was conducted November 3, 2000 and November 29, 2000. As part of the field inventory, archaeological field investigations were undertaken to assess the presence or absence of archaeological resources. Results of these efforts, and survey results, are detailed in Section 3. Recommendations for treatment of cultural resources identified within the project APE and adjacent study areas are

discussed in Section 4. Historic built environment surveys and resources are detailed under separate cover in Appendix K.

All cultural resources work for this project was carried out under the direct supervision of an archaeologist who meets the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (National Park Service, 1983), and is consistent with the procedures for compliance with Section 106 of the National Historic Preservation Act (NHPA), set forth at 36 CFR 800. This report was prepared by Mr. Alex Wesson, Dr. Bryon Bass, and Mr. Brian Hatoff (Principal Investigator). Mr. Hatoff meets the professional standards of the Secretary of the Interior for this work and is certified by the Register of Professional Archaeologists (RPA). The archaeological field survey was conducted by Dr. Bryon Bass (see Appendix A for resumes of the project personnel). Mrs. Sally Morgan provided peer review of the final report.

Laws, ordinances and regulations (LORS) pertinent to the identification, assessment of significance, and assessment of and mitigation of adverse effects to cultural resources are identified in Sections 5.7 and 7.0 of the ESPR Project AFC, and in Sections 4.1 and 4.2 of this technical report. Compliance with these LORS is also detailed in Section 7.0 of the ESPR Project AFC.

1.3.1 Native American Contact and Communication

The ESPR Project Native American correspondences discussed below – including consultation letters, Native American mailing list, telecommunication notes, follow-up letters, and responses – are confidential. Copies are appended to the confidential Cultural Resources Technical Report, Appendix J.

Concurrent with the records search at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System (CHRIS), and prior to the beginning of fieldwork, the California Native American Heritage Commission (NAHC) was contacted on October 6, 2000 for a list of local Native American groups and/or individuals with direct or indirect knowledge of cultural resources within or near the project area. These consultations also sought to identify any sacred lands within the proposed project area (including a one-mile radius study area) that are identified in the NAHC's Sacred Lands File. An initial search of the Sacred Lands File of the NAHC failed to indicate the presence of Native American cultural resources in the immediate project area.

Letters describing the project and a map of the proposed plant site and various components were sent by priority mail, with delivery confirmation, to 25 groups or individuals identified by the NAHC as appropriate contacts for Los Angeles County on October 18, 2000. The letters inquired whether the groups/individuals had any concerns regarding the project, or wished to provide input regarding cultural resources in the project area. No responses were received.

Changes in the project description subsequent to the initial mailing of contact letters necessitated the initiation of a second consultation process, in order to address new temporary staging and parking areas not included in the first NAHC request and mailing. A second letter was sent to the NAHC on November 1, 2000, requesting a search of the Sacred Lands File for the new project components, and a current list of contacts for Los Angeles County. The NAHC responded on November 6, 2000, with a negative search of the Sacred Lands File. A second set of letters and

maps was mailed to the NAHC listed contacts on November 14, 2000, informing them of the revised project and soliciting comments from concerned groups/individuals.

Two telephoned responses were received. A telephoned response from Mr. Samuel Dunlap was received by URS Corporation on November 17, 2000. Mr. Dunlap requested that an archaeological monitor be present to inspect all ground-breaking activity, especially trenching for utilities, and that a Native American monitor be present to monitor any construction resulting in subsurface disturbance in areas adjacent to known prehistoric sites. Another telephoned response was received from Chrissy Woods of Owl Clan Consultants. Ms. Woods left a telephone message with Mr. Alex Wesson at URS stating that she is the assistant of Quntan Shup. She noted that Owl Clan Consultants had comments and requests that would be detailed in a letter and mailed to URS. Receipt of the letter is pending. A written response from a Chief Mark Vigil, Sr. of the San Luis Obispo County Chumash Council was received on November 27, 2000, expressing concern that Native Americans be involved in the project, particularly in regard to monitoring of any ground disturbing construction activity. No other responses have been received to date. The Applicant is committed to forwarding copies of all correspondence to the CEC that may be received subsequent to submission of the AFC.

Copies of the correspondence with the NAHC, including the contact list, as well as the consultation letters and maps are appended to Section 5.7 of the AFC as Appendix B. Confidential telecommunication notes and responses from Native American contacts are appended to the cultural resources technical report as Appendix D.

1.4 ENVIRONMENTAL SETTING

1.4.1 Natural History

Surficial sedimentary units of predominantly Pleistocene and Holocene age underlie the entire project area. These sediments include deposition that range from continental, alluvial fan-derived sediments to subaerial floodplain to marine terrace and near-shore deposits. Lithologies include sand, gravel, silt and clay. the successive series of Pleistocene marine terraces that have undergone geomorphic development of been subsequently dissected by the major west flowing river drainages of the Los Angeles Basin.

The Cenozoic rock formations range in facies type from conglomerates to sandstones to unconsolidated siltstone and clays, all of which are either fossiliferous or potentially fossiliferous. Gradual, long-term erosion has removed parts of the Tertiary and Quaternary rock formations so that these rocks and their contained fossils are now at or near the surface throughout most of the project area. These formations or parts of the formations now exist at or near the surface as rock outcrops with varying width across the project area terrain, but are obscured in most areas by industrial development and surficial sediments. The majority of the plant site area is overlain by imported fill or is comprised of unconsolidated sediments of Holocene age.

Many of the temporary staging and parking components lie within the ancient Los Angeles River floodplain and river basin. The Ballona Creek serves as a secondary drainage flowing to the southwest along the base of the Del Rey bluffs. Rainfall averages about twelve inches per annum in the Los Angeles Basin. The bluffs probably supported grasslands in prehistoric times, and in

the 1800s, the area around Ballona Lagoon was essentially swamp, thickets, and a rather rich riparian environment.

1.4.2 Disturbance within the Study Area

The primary sources of historic surface and subsurface disturbances in - and adjacent to - the project area are related to:

- construction of the Los Angeles International Airport,
- power stations/ sewage refineries and related constructions,
- oil and chemical production, storage, and transfer facilities,
- typical residential and commercial expansions in the communities of El Segundo, Marina del Rey, and Playa del Rey

Oil and chemical production is confined to locations east of the existing El Segundo power plant site, while power plant and related constructions have been confined to the existing El Segundo power plant site.

1.5 CULTURAL SETTING

1.5.1 Prehistory

The project area is localized along the Pacific Ocean shoreline of the Los Angeles Basin. Specifically, the proposed ESPR Project components are limited to the geomorphologic transition zone extending from the sandy beaches up into the Late Pleistocene and Holocene stabilized sand dunes immediately east, on the adjacent bluffs above the shoreline.

1.5.1.1 Chronological Overview

The Los Angeles plain and fringing coastline has supported a continuous cultural occupation for at least the last 8000 years. An Archaic occupation has been identified in the archaeological record that reflects the early emergence of non-agricultural village-based groups in the Los Angeles Basin. Current archaeological evidence suggests that a relatively small population existed in the basin until approximately 2000 years before present (B.P.). After that temporal marker, populations appear to have expanded considerably into resource-rich coastal and near-shore estuarine environments (Dillon 1990: 6). Reports from early European contacts to the area such as Juan Rodríguez Cabrillo (Wagner 1929: 79-93) and Sebastian Vizcaino (Bolton 1930: 52-103) indicated that some of the large coastal villages had hundreds of occupants. These observations appear to be supported by the archaeological evidence (Bean and Smith 1978: 540), although by the late 18th Century, reports indicate that the Los Angeles City environs supported only a small but established hunter/gatherer culture (Dillon 1990: 6).

1.5.1.2 Early Evidence

Calico Hills

The presence of pre-Native American hominid occupation in the California desert at the Calico Hills site near Barstow, possibly dating to the period between 200, 000 to 500, 000 B.P., is controversial at best. There is still no firm archaeological evidence to support claims of a Middle Pleistocene hominid presence in the Americas. However, some have argued that there exists a few strands of possible evidence in the form of chopper/chopping tools, scrapers, blade cores, and blades/bladelets found at the Calico Hills site (e.g., Leakey *et al.* 1968, 1969, 1972; Schuiling 1972, 1979).

Moratto detailed the Calico Hills ‘evidence’ and the consequential controversy that surrounds the materials, and has provided an excellent summary (1984: 41-48). The ‘tools’ have been examined and appear to be various forms of naturally occurring ecofacts located in – and probably created by - the Yermo geologic formation. A possible hearth ‘feature’ has been used to support the site’s lithic ‘evidence’, although there is no clear indication that the fire was created by humans. In actuality, there is a complete lack of convincing supportive faunal or lithic contextual materials associated with this hearth. If the date of the Yermo Formation is correct, then the Calico Hills materials would be associated a *Homo Erectus* population. However, the presence of a *Homo Erectus* population in North America is totally unsubstantiated, and there is a complete lack of corroborative cultural or skeletal evidence to support such claims.

Likewise, it appears that supporters have overlooked a pertinent cultural/technological issue regarding the Calico Hills evidence. If archaeologists do accept a *Homo Erectus* population predating the Native Americans, then the archaeological community must also accept that this group possessed a lithic technology based not only on choppers and scrapers, but also on blades and bladelets. These materials comprise the so-called ‘representative tool kit’ from the Calico Hills site, and are presented as such in supportive academic literature.

However, there is no evidence on the African, European or Asian continents that any *Homo Erectus* population possessed even a remote form of blade-based lithic manufacturing technology. As a matter of fact, this form of lithic tool production is not present in any form until at least 100, 000 B.P., and even then only in limited areas of the Middle East and Africa (Gowlett 1984: 122-29). Blade technology, as marked by the Aurignacian phase of the European Upper Paleolithic, did not fully appear in European prehistoric cultural communities until approximately 35, 000 B.P. Furthermore, the transition from - and technological preference for - blade-based tools over chopper/chopping tools did not really occur until this period. Finally, it should also be noted that this lithic assemblage is associated in Europe, Africa, and Asia not only with anatomically modern humans but also the first examples of representational art (*op cit.* 128-29; Champion *et al.* 1984:48-57).

In summary, the complete lack of an association with the Calico Hills assemblage to a contemporaneous European, Asian, or African population possessing blade-based tool knowledge is hard to overlook. Apparently, this fact was glossed over by most of the Calico Hills supporters.

Los Angeles Man

Partial remains of a skeleton referred to as ‘Los Angeles Man’ were recovered from the ancient channel of the Los Angeles river in the Baldwin Hills area. The ‘Los Angeles Man’ appeared to be contemporaneous with the partially preserved remains of an imperial mammoth. The remains, located some 370 meters apart (Moratto 1984: 53), revealed a similar fluorine content profile (Heizer and Cook 1952) and were recovered within the same geological unit. It was only years later that the ‘Los Angeles Man’ remains were finally dated, but by then the mammoth remains were not available for comparative study (Dillon 1990: 6) and only the cranium of ‘Los Angeles Man’ remained available for dating. The UCLA radiocarbon laboratory indicated the sample age to be >23, 600 (UCLA sample # 1430). Unfortunately, the sample (obtained from cranial bone collagen) was quite small and did not produce a confident date (*cf.* Chartkoff and Chartkoff 1984: 33-35).

Saber-toothed cat bones from the well-known Rancho La Brea tar pits and radiocarbon dated to 15, 200 +/- 800 B.P. (uncalibrated) show signs of ‘artificial’ cut marks at oblique angles to the long axis of each bone (Moratto 1984: 54). If these cuts are in fact tool marks resultant from butchering activities, then this material would provide the earliest solid evidence human association with the Los Angeles Basin. Unfortunately, it is not clear whether residual contamination, as a result of saturation by asphaltum, has occurred in the bones, offsetting the radiocarbon dates (*ibid.*).

The ‘La Brea Woman,’ consisting of a cranium, mandible, and post-cranial remains of a 25-year old adult female, was recovered from Pit 10 at the Rancho La Brea tar pits. The remains were assigned to the Early Holocene due to their geological association with avifaunal remains (Dixon 1999: 130) typical from that period. A mano was also recovered in proximity to the remains, and Berger provided a radiometric date indicating 9000+/- 80 B.P. (uncalibrated) (1975).

It must be noted that there is no firm evidence of human occupation in the Los Angeles Basin until roughly 10,000 B.P. and this has, no doubt, made academic acceptance of the ‘Los Angeles Man’ date problematic (Moratto 1984: 53).

1.5.1.3 Paleoindian Period

The academic community generally accepts the ‘La Brea Woman’ remains as the earliest confirmed Paleoindian evidence in the Los Angeles Basin. At 9000+/- 80 B.P. (uncalibrated) (Berger 1975), this would make the ‘La Brea Woman’ contemporaneous with the so-called ‘big game hunting tradition’ found at that time across most of the North American continent (Willey 1966: 37-38; and *cf.* Dixon 1999: 45-89).

Due to a lack of corroborative evidence within the Los Angeles Basin, archaeologists have yet to assign a cultural affiliate group to the La Brea Woman. To the north, in the Southern San Joaquin Valley, evidence of Early Holocene Paleoindian (~12,000-8000 B.P) cultural activities have been firmly substantiated. However, it must be noted that the sites do not necessarily span the region in great quantity. The paleo-shoreline sites of Tulare Lake have provided nearly all of the diagnostic materials including fluted projectile points (described as Clovis-like), scrapers, and chipped crescents (Moratto 1984: 81). The fluted projectile points of the San Joaquin Valley associate with sites to the east, in the Mohave Desert, and can be loosely classified into a 'Far Western Fluted Point Tradition' (*ibid.*). These sites appear along paleo-shorelines, piedmont zones of former grasslands, and in mountain passes associated with fossil lakes. The lithic assemblage typically contains chipped stone crescents, graters, scrapers, choppers, perforators, and various fluted points.

The Witt site, situated along the paleo-shores of Lake Tulare in the San Joaquin Valley, has produced numerous fluted chert points, scrapers, chipped crescents, Lake Mojave-type points and other artifacts associated with the so-called Fluted-Point Tradition. The Witt site (surface dimensions measuring 2.4 km long and 0.8 km wide) has also yielded numerous specimens of extinct Early Holocene fauna in contemporaneous contexts with the cultural materials. If these finds are generally coincident, the area could have fluted point cultural connections earlier than 11,000 B.P. (Moratto 1984: 82). With regards to connections with the Los Angeles Basin, it is tantalizing to note a lone fluted point found in the Tehachapi Mountains (Glennan n.d., in Moratto 1984: 87), to the south of the San Joaquin Valley and in the direction of the Los Angeles.

Fredrickson (1964), while working on the paleo-shoreline of Buena Vista Lake at site Ker-116, discovered a stratum deeper than those previously excavated. Artifacts and apparently associated freshwater shell were discovered below the strata excavated in the 1930s. Results of radiocarbon dating on the shell suggest that the site, and hence region, were initially occupied at least 8000 years before present. If the Buena Vista Lake shell dates - and their association with cultural materials - is valid, the site may be a manifestation of the Western Pluvial Lakes Tradition (WPLT). Although the WPLT was originally described by Bedwell (1970) as a subsistence-settlement pattern singularly adapted and focused on post-Pleistocene pluvial lakes, Great Basin investigations suggest a more complex response to changing environmental conditions.

The earliest evidence in the immediate project area comes from the Del Rey bluffs (Lambert 1983) along the southern fringes of the Ballona Lagoon and creek (the ancient outlet of the Los Angeles River) and situated only a few miles north of the El Segundo plant site. This evidence, mainly in the form of non-fluted points with a few crescents, appears to have typological connections with early desert sites to east. Points collected by Lambert include Lake Mohave types (Campbell *et al.* 1937), San Dieguito types (Rogers 1939), and Borax Lake points (Harrington 1948). Based on the chronologies established at these inland regions, many of the Del Rey bluff artifacts might date as far back as 9000 B.P. (Dillon 1990: 7).

1.5.1.4 The Millingstone Horizon

In Southern California, the Millingstone Period, also called the Millingstone Culture, extends to at least 6000 B.P. and probably as far back to 8500 + B.P. (*cf.* Warren 1968; Wallace 1955). Hard seed processing became one of the major components of subsistence during this period. Overall, the economy was based on plant collecting, but was supplemented by fishing and hunting. Initial in the near-shore and coastal locations, there also appears to have been infrequent exploitation of marine and estuarine resources (Wallace 1955).

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

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

Meighan indicated that the Topanga Culture sites may date as far back as 8000 B.C. (1959: 289), and excavations at CA-LAn-1, also known as the 'Tank Site', have revealed a multi-phase evolution of the Millingstone Culture probably going back to the aforementioned date (Treganza and Bierman 1958: 75). Based on the excavations at the Tank Site, it appears that Phase I ranges from roughly 8000 and 4000 B.C., while Phase II ranges roughly between 5000 B.C. and 2500 B.C. Excavations at the nearby LAn-2 site indicate that the Millingstone cultural tradition may have prevailed until 1000 B.C. - much later than previously thought - but it is important to note that pestles and mortars, as opposed to mano/metates, prevail in the assemblage (Johnson 1966).

1.5.1.5 The Intermediate Period

This period has also been called the 'Hunting Period' or 'Middle Horizon.' About 5000 years ago, the Millingstone traditions, with their heavy reliance on vegetal food sources, began to gravitate more towards animal proteins and marine resources. Procurement of plants for caloric intake was not necessarily replaced in kind by game hunting, but rather the local Millingstone dietary regimen began to transition towards other/alternate resources. In the Los Angeles Basin, a higher percentage of projectile points and smaller chipped stone tools appear. Marine

resources such as estuarine and saltwater shellfish, marine mammals, and fish are now abundant in the diets of the local inhabitants.

However, as excavations at sites such as the Little Sycamore shellmound in coastal Ventura County (Wallace *et. al.* 1956), the LAn-2 site in Topanga (Johnson 1966), and the Gilmore Ranch site in eastern Ventura County (Wallace 1955) indicate, there appears to be a rather vague transition in the archaeological record from the typical Millingstone assemblage to the Intermediate mortar/pestle and hunting tool kit. Specifically, manos and pestles appear in some instances as being contemporaneous, while at other sites, there is an adherence to the traditional Millingstone lifestyle. At Gilmore Ranch, more refined stemmed projectile points are present - unlike those in the Millingstone Horizon - and yet not necessarily akin to refined points typical of the Late Prehistoric Period.

On the Del Rey bluffs, the presence of desert-related features such as cremation burials, a lack of shell ornamentation, and an apparent distaste for marine resources indicate that some of the later Intermediate Period inhabitants of the Los Angeles Basin may have come from the desert (Van Horn 1987). In summary, within the Los Angeles Basin there appears to be a lack of uniform change, at any specific time or place, from the later Millingstone Horizon through to the later Intermediate Period.

1.5.1.6 The Late Prehistoric Period

Meighan (1954) originally characterized the Late Prehistoric Period in Southern California. The period probably began sometime around the B.C./A.D. transition, but probably expanded culturally around 500 A.D. with the introduction of the bow and arrow. The end of the period is recognized as the end of the 18th Century, when full implementation of the Spanish mission system took effect on the native populations. The Chumash, with a Hokan linguistic stock, and their neighbors to the east, the Gabrieliño with a language derivative from Shoshonean stock, lived in large villages along the coastal bay and the wide valleys leading into the California interior. The western Los Angeles Basin was occupied by the so-called 'Canalino' culture (Rogers 1929). This was an ethnohistoric boundary group situated between the Chumash to the northwest and the Gabrieliño to the south and east. In the archaeological record, the Gabrieliño material culture (Johnston 1962; Blackburn 1963; Bean and Smith 1978) can be indistinguishable from the Chumash (Landberg 1965; Grant 1965; 1978a; 1978b).

Both groups interacted and traded with each other, with intermarriage also occurring between the groups. Kroeber (1925) originally indicated that the territorial division between the Gabrieliño and Chumash was at Topanga Canyon, although this is certainly an arbitrary division as there is no clear indication of this in the archaeological record. As Dillon has indicated (1990: 14-15), the coastal and inland areas were a more or less permeable ethnic frontier, continually in flux between the two groups at varying times in the archaeological record. Indeed, it is only in the later part of the Late Prehistoric - and even then only in certain marginal areas - that researchers can assume, with any confidence, which areas were typically Gabrieliño or Chumash. So, even though the rich Malibu site (CA-LAn-264) was a Chumash locus at the time of its abandonment

(roughly 1825 A.D.), this should not imply that the site was always affiliated exclusively with the Chumash.

The coastal sites typically contain an abundance of shellfish and other marine resources. However, the presence of similar materials at inland sites suggests both trade and reliance, at least partially, on marine resources. Some of the coastal sites such as CA-LAn-114 in Malibu indicate a dietary transition over time from clams (during the Intermediate Period) to mussels (in the Late Prehistoric Period) (Dillon 1990: 14).

Certain indicators such as diagnostic shell beads and finely worked projectile points help identify many Late Prehistoric sites in Southern California. Both the Gabrieliño and Chumash were highly sea oriented and, given the presence of earlier sites on the offshore islands, this suggests that there was a maritime tradition at least partially carried over from the Millingstone and Intermediate Period cultures (Harrington 1978). By 1000 B.P the Canalino/Chumash/Gabrieliño maritime traditions were using blue-water vessels in an exploitation strategy partially based on deep-sea fishing and marine mammal hunting.

In the project vicinity, site CA-LAn-47, a Late Prehistoric Gabrieliño village locus, has yielded human burials, stone bowls, projectile points, bone tools, glass and shell beads, antler harpoons, choppers, hammerstones, scrapers and pestles (Dillon *et al* 1988; Wlodarski 1997). This site was probably a seasonal village occupied during resource procurement near the Ballona Lagoon. The Gabrieliño language derives from Shoshonean stock and suggests that that group may have originated from the east, perhaps from the eastern California deserts or the southern Great Basin (Kroeber 1925: 578-580). Unfortunately, there is not much archaeological evidence for the Gabrieliño from the Los Angeles Basin due to the rapid development that has occurred throughout the area, specifically within the last century.

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

1.5.2 Ethnography

The project area is located within the ethnographic boundaries of the coastal Chumash and the Gabrieliño (see Figure J-3). The following discussion has been synthesized from Dillon (1990), Bean and Smith (1978), Moratto (1984) and Grant (1978a; 1978b).

Anthropologists and linguists note that the Hokan language stock of the Chumash appears to be one of the oldest language groups in California. Linguistic evidence suggests that the Chumash ancestors must have been present in the area for at least several thousand years prior to European contact. The Gabrieliño, speakers of a Shoshonean-based language from the eastern Californian deserts, probably arrived into the Los Angeles Basin at a much later date. The project area lies almost exclusively within traditional Gabrieliño territory, but certain areas might, at one time,

have been considered ethnographic territory of the Ventureño Chumash. The pre-European contact Chumash population of this area was probably between 10,000 and 15,000 individuals. To the south, the Gabrieliño, who occupied the San Fernando Valley and the Los Angeles basin as far east as San Bernardino, may have numbered 5,000.

The Chumash had a high level of material culture and craftsmanship, including intricate basketry, woodcarving, fine stone objects, well-developed rock art, and excellent canoes that highly impressed Spanish explorers. Most Chumash lived in permanent villages, composed of large round houses up to 50 feet in diameter, which might be home to as many as 10 families. Families were monogamous. The dietary staple for all Chumash groups was the acorn, though the addition of pine nuts, soaproot, berries, mushrooms, seeds, mollusks, fish, and game varied the diet. The material culture of the Gabrieliño appears to have been similar to that of the Chumash, including permanent villages and a subsistence strategy like that mentioned above.

During the Late Period, mainly *circa* 900 to 200 years ago, a highly advanced fishing and hunting strategy developed that included the exploitation of a wider variety of fish and shellfish. These new subsistence strategies, coupled with the appearance of the bow and arrow, enabled a substantial increase in local populations, the development of permanent settlements, and a ‘money’ economy based on the shell trade.

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

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

Hugo Reid, an immigrant from Scotland who became a Mexican citizen of Los Angeles and married a Gabrieliño woman, is considered to be an important source for Gabrieliño village names and locations (Dillon 1990: 22). He noted 28 Gabrieliño villages or place names known to him from the 1830s and 1840s (Dakin 1978: 220-221). Reid noted the aforementioned Yang’na, as well as Maug’na (Rancho de los Veliz), and Cahueg’na (now near Cahuenga Boulevard).

In 1771, two years after Portola’s expedition, Mission San Gabriel was founded. It was at this time that the Native Americans from the Los Angeles Plain were encouraged to move from their

old habitation sites to the mission area. The Gabrieliño name is derived from the mission at which they congregated. It was standard practice during the Spanish and Mexican periods to name the local inhabitants after the local Catholic Mission (Johnston 1962, La Lone 1980). The mission became the center of Gabrieliño culture during this earlier part of the historic period. It was during the 1800s that the Chinigchinich cult, reliant on the use of the psychotropic plant *Datura*, or “Jimson weed,” by its practitioners, became known to Europeans (Boscana 1983). Boscana’s informants were from the San Juan Capistrano Mission, who were either Gabrieliño or Luiseño (Juaneño). Kroeber (1959), through Luiseño informants at San Juan Capistrano, maintains that the Chinigchinich cult had come over from Santa Catalina Island (hence, Gabrieliño).

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

1.5.3 Historic Setting

The project lies in the County of Los Angeles, and has components in the incorporated cities of El Segundo, Manhattan Beach, and the communities of Playa del Rey and Marina del Rey. The sections below are synthesized from an excellent summary by Dillon (1990), and general common knowledge of the Los Angeles city area.

As mentioned in the previous section, the Spanish initially focused their settlements on the coast and in nearby valleys, leaving the interior largely to its original inhabitants. Los Angeles was eventually founded as a small settlement on September 4, 1781, and the pueblo was known by the original name given by Portola, El Pueblo de Nuestra Señora de la Reina de los Angeles de Porciuncula. The pueblo’s original lands equated some four square leagues with the northwest corner boundary just north of Santa Monica Boulevard and the western limit at Hoover Street. The early pueblo did not follow the traditional Spanish grid system, but rather it expanded in a random manner from the original central plaza. The first streets were nothing more than mule tracks and horse trails.

In 1786, the villagers of Los Angeles received formal titles for their settled plots, but apparently none of the inhabitants were literate. By 1800, the town had some 30 adobe houses and had become an important stop for trade along the Santa Fe Trail. In 1800, a flood from the Los Angeles River caught the town unaware, and the town had to be relocated onto higher elevations. The new plaza was built on Wine Street, since renamed after the first judge of Los Angeles, Agustin Olvera, as Olvera Street.

After successfully throwing off Spanish rule in the war of 1820-24, the Mexicans continued the general pattern of settlement in California established by their former government. Late in the 1830s, the Mexican government began to grant ranchos to Mexican and foreign settlers. The ranchos tended to be clustered in the vicinity of formerly Spanish coastal settlements, with a few

were located in the interior. All across California, settlements established under Spanish and later Mexican rule as ranchos formed the basis for many emerging towns and cities (Hoover, Rensch and Rensch, 1966: 76-82). Los Angeles received a new influx of Anglo-Americans, and the town center became known as Sonora Town. By the end of the 19th Century, the old town had been absorbed into Chinatown, and after the 1960s, the only standing adobe was (and still is) the Avila Adobe at 14 Olvera Street.

Secularization of the missions in 1833-34 led to the break up of the various mission holdings. The San Gabriel Mission lands were parceled off, and the Native Americans living there were dispersed. Some of these Native Americans moved to the town limits of Los Angeles and lived in brush houses. In 1836, citizens of Los Angeles put these Native Americans into a barrio known as the Rancheria de los Poblanos (near the southeast corner of Commercial and Alameda Streets). This somewhat suburban rancheria was in place until 1845, when a naturalized German with the assumed name Juan Domingo bought it and moved the Native Americans to the east. In the 1830s, according to Hugo Reid (Dakin 1978: 200), Los Angeles had roughly 1500 inhabitants. In 1835, Los Angeles was raised from pueblo status to that of a city, and was promptly made California's capitol.

During the Mexican War of 1846-1848, Los Angeles was the most important city on the Mexican-held Pacific Coast. On August 6, 1846, American Commodore Stockton captured San Pedro, and on August 13, John Charles Fremont and Stockton captured the city of Los Angeles. The American garrison was quite small, and on September 23, 1846, the local inhabitants revolted against the occupying force. About 300 Angeleños surrounded the hilltop garrison of Captain Gillespie and, trapped, Gillespie negotiated an agreement to withdraw to the San Pedro area. Three hundred and fifty reinforcement troops, sent from San Francisco, arrived at San Pedro on October 7, 1846 and joined Gillespie's troops. The battle of San Gabriel was lost by the Mexican forces on January 8, 1847. The Mexican forces retreated to the Los Angeles area, and were again defeated by the Americans on January 10, 1847. On January 13, 1847, the formal surrender document was signed at Campo de Cahuenga, ending California's role in the Mexican War. Finally, on February 2, 1848, the Treaty of Guadalupe Hidalgo was signed, confirming that California was now a Euro-American possession.

The Gold Rush of 1848 shifted attention away from Los Angeles, and by the time California became a state in 1850, the Los Angeles area was something of a backwater. Los Angeles slowly began to develop as a trading and transport center during the 1860s and 1870s, and there was a minor boom when gold was discovered in the Inyo Mountains. The silver strike at Cerro Gordo near Owens Lake also funneled many prospectors to and through Los Angeles. However, by the close of the 1860s, Los Angeles still had a population of only 5000 or so inhabitants.

By 1880, Los Angeles had over 10,000 people. Trash collection was instituted in 1867, gas lamps for the streets were installed in 1866, only to be replaced by electricity in 1882 due to a dispute with the gas company. In 1882, telephone service started, with the first Los Angeles phone book a mere three pages in length (Weaver 1973: 84). In 1887, the Santa Fe Railroad completed its link to Los Angeles. This rail connection helped to facilitate the big citrus boom in

the Los Angeles Basin, and the population began to rise. Towards the end of the 1800s, the petroleum industry had picked up significantly in Los Angeles, especially after the formation of the Union Oil Company in 1880. One thing led to another, and on May 30, 1897, a Mr. J. Philip Erie drove the first car through the streets of Los Angeles. By 1915, Los Angeles County had 750,000 inhabitants and 55,217 automobiles. By 1924, California was the largest oil producer in the United States, with most of that being pumped back into the cars of Angelenos.

Finally, movie making came to Los Angeles in 1903, in the form of the Electric Theater at 262 S. Main Street. This was the first theater in the country to exclusively play moving pictures, and had no accompanying burlesque or vaudevillian sideshows. The first dedicated film studio was opened in 1911, in Hollywood, at the corner of Sunset and Gower, and the rest is history.

The following historical information was referenced from the City of El Segundo web site: www.elsegundo.org/html/history/htm.

The City of El Segundo began as a melon patch, and grew a major international business community. It all started in 1911 when five men stood on a sand dune and looked out over a vast melon patch. The five men were from Standard Oil Company. They were surveying the area as a potential site for their next oil refinery. What they required was an area adjacent to the seashore, so their tankers could have appropriate access. The undeveloped nature of the site appealed to them because they had to keep land costs down. And lastly, the site had to be close enough to populated areas so they could attract enough employees. The melon patch was perfect.

Of course, this new site needed a name. El Segundo, Spanish for “the second,” was the name given to the area because the site was to be Standard Oil’s second oil refinery. Six years after construction began, on January 18, 1917, the City of El Segundo was incorporated.

The city remained a one-industry town until the 1920s, when Mine’s Field, a landing strip used by early barnstormers, was chosen as the site for the new Los Angeles Municipal Airport. Then, in the mid-1950s, Southern California Edison purchased a 43-acre site for a major electrical generating station.

Naturally, the addition of the Los Angeles International Airport, which officially opened in 1930, had a major role in turning El Segundo into an aerospace center. The likes of Douglas Aircraft, Hughes Aircraft, Northrop and North American Aviation (Rockwell) all located in El Segundo during the 1940s and 1950s. Most of these aircraft-related companies would eventually transition into the aerospace/defense industry. In 1960, the creation of The Aerospace Corporation and Los Angeles Air Force Base once and for all gave El Segundo the esteemed title of “The Aerospace Capital of the World.”

Today, the city encompasses over five square miles, spanning from the Los Angeles International Airport on the north, to the Chevron Refinery on the south, to the Pacific Ocean on the west and Aviation Boulevard on the east. The city’s population has leveled off at approximately 16,500 residents, which has enabled the community to preserve the small town intimacy and charm.

CITY OF EL SEGUNDO TIMELINE

1917	City incorporates January 18, 1917
1919	Library moved to City Hall
1920	General Chemical Co. (now Allied) builds plant in El Segundo
1923	Standard Oil Company spends \$10-15 million on equipment program, making plant one of the largest of its kind in the world; Police and Water Departments established
1927	El Segundo High School opens with enrollment of 124
1929	ESHS graduates first class
1930	El Segundo Library opens with 1400 books
1933	Earthquake damages plunge, city hall and school buildings; Converse Building becomes second home for Library
1936	Mrs. H.E. Merritt becomes first female School Board member; elementary and high school districts combine to form El Segundo Unified School District
1938	City builds water treatment plant
1941	U.S. enters WWII December 7; City turns 25
1946	Nash-Kelvinator builds factory in El Segundo; West Basin Water District formed; Library construction resumes
1947	Fire Department established November 24 with 6 members
1948	West Basin Water District joins Metropolitan District; Library completed at a cost \$76,000; two-way radios installed in fire and police departments; City buys Maxim fire truck
1949	California - and El Segundo - celebrate Centennial; Center Street School opens
1956	City adopts Council-Manager form of government; Recreation Department formed; Imperial Street School opens; El Segundo becomes Aerospace Capital of the World
1957	Contract awarded to Marion Varner & Associates for \$80,000 to build Fire Station No. 2 at El Segundo Blvd. & Nash Street
1963	Library is expanded
1965	Junior High School completed
1966	Joslyn Center dedicated in Recreation Park
1967	City joins in week-long celebration of its 50 th anniversary; 1967 dedication of City Hall at 350 Main Street
1983	Raiders come to town; El Segundo Education Foundation founded

1986	Park Vista home for seniors opens its doors
1991	Library expands
1996	City mural program begins with 5 murals completed; Heritage Walk begins on Main Street
1997	City of El Segundo turns 80

2.1 BIBLIOGRAPHIC SURVEY

Prior to initiation of the cultural resources inventory, pre-field research was conducted to identify the extent of prior archaeological surveys and known cultural resources within or adjacent to the project areas. Bibliographic references, previous survey reports, and archaeological site records were compiled through multiple records searches at the SCCIC of the CHRIS, at California State University, Fullerton. A total of three records searches were conducted at the Information Center (October 9, 2000, Invoice #8898; November 1, 2000, Invoice #8974, November 8, 2000, Invoice #9001). The plant site and linear project areas were searched with a one-half mile-wide study area (i.e. one-half mile each side of the APE). Proposed temporary staging and parking areas were searched with a one-quarter-mile-wide study area (i.e. one-quarter-mile each side of the APE). The one-quarter-mile-wide search radius was employed in these areas because no ground-breaking activities are planned for these temporary staging and parking areas, thus reducing the possibility of adverse effects to cultural resources.

The SCCIC searches included a review of all recorded sites, surveys, historical listings, and historical maps within the project areas and specified study areas. Review of the existing archaeological survey information indicated that only limited portions of the project area had previously undergone archaeological survey. Access to some project components was limited in the field. Wherever possible, pedestrian survey was conducted. However, in areas of limited access, the subject lands were visually inspected from the perimeter.

It is important to note that a significant backlog of unprocessed reports exists at the SCCIC. Due to limited resources and increasing workload, the SCCIC is unable to process new cultural resources studies and field surveys immediately upon receipt of the report. A study that has not been processed has not been assigned a formal number, nor has the extent of the related survey coverage been plotted on the master maps at the SCCIC. Furthermore, the SCCIC does not always receive a copy of the reports generated for studies within their jurisdiction. The SCCIC's current backlog of reports received - but not yet entered - extends as far as the 1970s in some cases, and most studies conducted within one year have not been processed (Lopez 2000). Therefore, recently conducted archaeological research may not be included in the results of a records search.

Data relating to all previous archaeological surveys and previously recorded archaeological sites within or adjacent to the project APE were compiled. All sites were checked against the National Register of Historic Places (NRHP) (National Association of State Historic Preservation Officers *et al.* 1988), quarterly updates to the Historic Resources Inventory (Office of Historic Preservation 2000), California Historical Landmarks (Office of Historic Preservation 1997), and Points of Historic Interest (Office of Historic Preservation 1992), for any listed and eligible properties and locally listed historic properties and structures within the specified search radius for each project component. None of the previously recorded archaeological sites identified during the CHRIS records search had been formally evaluated for National Register eligibility.

SECTION TWO

Bibliographic Survey Methods and Results (Records and Literature Search)

Pages 19-21 and Figure J-2 are confidential and are not appropriate for public distribution. Copies have been provided to the California Energy Commission under separate cover.

3.1 INTRODUCTION

As noted in the last section, preparation for the cultural resources field survey consisted of an inventory and overview of all known cultural resources within the project APE and adjacent study areas. This study provided the basis for evaluating project impacts and assessing current survey requirements and cultural resources likely to be present in the project area. The bibliographic survey, coupled with the project field survey, facilitates an accurate assessment of the cultural resources possibly affected by project implementation. Review of the existing archaeological survey information indicated that only limited portions of the project area had previously undergone archaeological survey, indicating the need for field inventory. Due to the highly industrialized character of the project vicinity, ground surface visibility was limited in the field. Wherever possible, pedestrian survey was conducted. However, in areas of limited access, the subject lands were visually inspected from the perimeter. Essentially, the bibliographic survey, coupled with the project field survey, facilitates an accurate assessment of the cultural resources possibly affected by project implementation.

3.2 FIELD SURVEY METHODOLOGY

Figure J-2 illustrates the project components and the areas surveyed for cultural resources, and Table J-4 gives the specific coverage details and field conditions encountered at each project component. On November 3, 2000 Bryon Bass of URS Corporation conducted the field inventory for archaeological resources. The existing El Segundo plant site and proposed linear project areas were surveyed on foot. Systematic, regularly-spaced transects were not employed, as the environment is nearly all built, which precluded the observation of native surfaces in most cases. There was limited access at certain properties such as the Chevron Marine Terminal and Refinery (Aqueous Ammonia Line), Kramer Staging Area, and the FedEx Staging/Parking Area. The aqueous ammonia line crosses the Chevron Refinery. This linear component is slated to be put into existing Chevron pipes and established utility corridors. The client was not able to secure access to the proposed LAX Imperial Staging Area or the proposed FedEx Staging/Parking Area; these areas were visually assessed from the perimeter. Total access was not secured at the proposed Kramer Staging Area; portions of this area were subjected to pedestrian inspection, other portions were visually assessed from the perimeter. The various parking lots proposed for project use were inspected. However, since these are all on existing paved lots, only a cursory field inspection was made at these locations.

A second field visit was made on November 29, 2000 by Bryon Bass, in order to inspect areas not accessed during the first visit. The Kramer Staging Area and the Federal Express Staging Area were both surveyed for cultural resources, utilizing pedestrian inspection. Visibility was limited at both areas, as the Kramer Staging Area is paved and the Federal Express Staging Area is covered in opportunistic grass and shrubs. No cultural resources were detected within the APE at either area (See Table J-5). However, concrete foundations of a 1951 foundry, located within the study area adjacent to the Kramer Staging Area but outside the project APE, were recorded on a primary record form (See Table J -6).

3.3 FIELD SURVEY RESULTS

No new archaeological sites or isolates were recorded during the survey (See Tables J-5). The following discussion provides the results of the survey of the plant site, proposed routes, and temporary staging and/or parking areas. Overviews of the survey coverage and conditions, and the associated ESPR project component are described below, and can also be consulted in Table J-4.

POWER PLANT SITE

3.3.1 Power Plant Site

3.3.1.1 Topography, Soils, and Existing Conditions

The power plant site is located on an existing 32.8 acre power plant site at the edge of Santa Monica Bay, in the City of El Segundo, just north of the City of Manhattan Beach. The power plant site is bounded by 45th Street to the south, Dockweiler State Beach to the west, the Chevron Marine Terminal to the north, and Vista Del Mar Avenue to the east. The existing electric generating station is currently comprised of four gas-fired conventional, electric power generating units. Several other existing ancillary structures are also present on the site.

3.3.1.2 Previous Work

No prior cultural resource surveys have been conducted on the power plant site and no previously recorded sites are located on the subject lands. The northernmost extent of survey LA-01625 (Woodward 1987) is located immediately to the southwest, at the border of Manhattan State Beach. Several structures, dating to the mid- to late-twentieth century, exist on the power plant site. No known previous historic evaluations have been conducted on these structures.

3.3.1.3 Current Survey Results

The proposed plant site was surveyed utilizing pedestrian inspection. No archaeological sites were detected within the plant site.

PIPELINE ROUTES

3.3.2 Route 1 - Water Supply Lines

3.3.2.1 Topography, soils, and existing conditions

The entire route of the potable and reclaimed water lines (including alternatives) lies within paved city street in an existing, disturbed utility corridor. This area was afforded a brief visual inspection, but due to the lack of ground visibility (0%), the area was not systematically surveyed for archaeological resources. The proposed route (and alternatives) was systematically surveyed by the project architectural historian, due to the presence of numerous residential and

commercial structures adjacent to the proposed alternative routes for the potable and reclaimed water lines within the City of El Segundo (See Appendix K of the AFC).

3.3.2.2 Previous Work

No cultural resources have been recorded along this route (and alternatives), and only a small portion of the potable and reclaimed water line route (and alternatives) has been surveyed previously. The portion of the route on Grand Avenue, from Vista Del Mar to just west of Loma Vista Street has been covered by two different surveys of the Hyperion Treatment Plant. Due to the submission of a handwritten copy and a typed copy of the report to the SCCIC, the first survey has erroneously been assigned two distinct numbers and authors (LA-125 (Leonard 1975) and LA-4051 (D'Altroy 1975)). The text in both of these copies is identical, and as such, the two reports are considered to represent one survey. The other survey conducted at the Hyperion Treatment Plant is LA-3494 (Briuer 1976). Neither of these surveys revealed the presence of cultural resources. No known previous historic evaluations have been conducted along the proposed potable and reclaimed water line route (and alternatives).

3.3.2.3 Current Survey Results

The proposed potable and reclaimed water line route (and alternatives) lies within a highly disturbed utility corridor, within paved city streets. The potable and reclaimed water line route (and alternatives) was afforded a cursory visual assessment, but the total lack of ground surface visibility precluded the need for systematic pedestrian survey.

3.3.3 Route 2 - Sanitary Discharge Line

3.3.3.1 Topography, Soils, and Existing Conditions

The sanitary discharge line exits the ESPR Power Plant near the southwest corner of the plant. The discharge line will extend south for approximately 150 feet, crossing over a riprap barrier for the edge of the bicycle path. The area to the west is a combination of the sandy beach fill and low Holocene dunes of Manhattan Beach. To the east are apartments and the city bike path. There were no exposures of native surfaces in the survey corridor.

3.3.3.2 Previous Work

This area may have been surveyed during Woodward's 1987 survey of Manhattan State Beach (LA-1625), however the eastern extent of the survey coverage is unclear. No archaeological sites were recorded during that survey. No known previous historic evaluations have been conducted on structures near the proposed sanitary discharge line.

3.3.3.3 Current Survey Results

The proposed sanitary discharge line was surveyed by pedestrian inspection. No sites were detected within the survey corridor

3.3.4 Route 3 - Aqueous Ammonia Supply Line

3.3.4.1 Topography, Soils, and Existing Conditions

The aqueous ammonia supply line will exit the ESPR Power Plant site near the northeastern portion of the plant. The aqueous ammonia supply line will be bundled with existing utilities, crossing Vista Del Mar, and entering the west side of the Chevron Refinery. Once inside the refinery boundary, the aqueous ammonia supply line continues to follow an existing, disturbed utility corridor to the east. The existing utility corridor follows a paved driveway and then a railroad track, into a switchyard, where it ends. The component runs from the El Segundo Power Plant across the Chevron El Segundo Refinery property. The entire Chevron property is essentially a built refinery environment with nearly all open spaces covered by asphalt and/or imported gravels. Most of the natural sand dunes have been covered with the asphalt to prevent creep and subsidence. There are almost no surface exposures throughout the entire length on the Aqueous Ammonia Line. No cultural resources were observed in the exposures.

3.3.4.2 Previous Work

No prior cultural resource surveys have been conducted along proposed aqueous ammonia supply line route, nor are there any previously recorded sites located within or adjacent to this linear route. Survey LA-2950 (Peak and Associates 1992), which surveyed a linear route for a proposed pipeline stretching from Santa Barbara to the Chevron Refinery, was terminated approximately 700 feet to the east of the eastern end of the proposed aqueous ammonia supply line. This survey documented many sites, but did not discover any cultural resources within the USGS 7.5 minute quadrangle of Venice. No known previous historic evaluations have been conducted on structures within the Chevron Refinery.

3.3.4.3 Current Survey Results

Survey along the proposed Aqueous Ammonia Supply Line detected no archaeological sites.

AREAS

3.3.5 Area 1 - Kramer Staging Area

3.3.5.1 Topography, Soils, and Existing Conditions

This is a highly disturbed, industrialized area located between two alignments of railroad track. The proposed equipment staging area is paved with asphalt, and features an integral rainwater drainage system encompassing the blacktop. The asphalt covers a deposit of slag and debris from the former H. Kramer Company foundry that was determined to be hazardous, and hence capped. There are no soils visible in the area. The area is generally flat. The foundations of the former H. Kramer Company foundry are located to the southwest of the Kramer Staging Area. The foundations are in situ, but there are no remaining walls. Weeds have grown through cracks in the ground across the foundry, and it appears that most of the foundry site has been used for

illegal concrete/ brick/ glass dumping. A stripped modern motorcycle frame was noted along the western fence line at the edge of the former H. Kramer Company foundry.

3.3.5.2 Previous Work

Survey LA-2950 (Peak and Associates 1992), was conducted along the Southern Pacific railway alignment which forms the northwest boundary of the proposed Kramer Staging Area. As stated above, this survey did not result in the recordation of any cultural resources within the USGS 7.5 minute quadrangle of Venice. No known previous historic evaluations have been conducted within the proposed Kramer Staging Area.

3.3.5.3 Current Survey Results

The area was surveyed by pedestrian inspection across the property tarmac. Native ground visibility was 0% across the entire proposed Kramer Staging Area. To the northwest, a rail spur noted on USGS maps as 'Old Railroad Grade' is situated adjacent to, but not on, the Kramer Staging Area. This railroad grade may have passed southwest of the proposed Kramer Staging Area at one time, however there is no trace of the alignment or berm visible between the two existing railways (See Figure 5.7-5). No archaeological resources were detected during the pedestrian survey, however the foundry foundations located to the southwest of the proposed staging area were recorded on a primary record form (See Table J-6 and Appendix C).

3.3.6 Area 2 - Federal Express Staging/Parking Area

3.3.6.1 Topography, soils, and existing conditions

The property is an open, plowed field that is covered in opportunistic grasses and scrub vegetation. The entire area appears to have been bulldozed and plowed with a heavy equipment rake. There was only 0% to 5 % native ground visibility. These areas were strictly limited to random geomorphologic windows created through bioturbation across the property.

3.3.6.2 Previous Work

Two documents, an environmental impact report for a proposed Federal Express Facility (PCR Environmental Services 1998) and an initial study for a proposed media center (RBF 2000) both concluded that there would be no impact to cultural resources. There is no indication that records searches or field surveys were conducted.

Current records search results show that no previous surveys have been conducted within the proposed Federal Express Staging Area. There are no previously recorded cultural resources located within or adjacent to this area. No known prior historical evaluations have been conducted within the proposed Federal Express Staging Area.

3.3.6.3 Current Survey Results

Due to the lack of ground visibility, survey strategy was confined to random pedestrian field survey and inspection of disturbed areas. No cultural resources were noted on the property.

3.3.7 Area 3 - LAX Pershing Staging/Parking Area

3.3.7.1 Topography, Soils, and Existing Conditions

This component consists of an existing asphalt-paved parking lot located at the southwest end of the LAX runways. No exposures of native surfaces were visible in the area.

3.3.7.2 Previous Work

No known prior historic evaluations have been conducted within this area. Although not plotted by the SCCIC, this area was surveyed in 1995 by Bissell, during his 1995 survey of the entire LAX property (no number). The proposed LAX Pershing Staging/Parking Area may have been surveyed during Leonard's 1974 study of LAX (LA-96), however no map showing the extent of his survey coverage is available. No previously recorded cultural resources are located on the subject lands. However, two previously recorded cultural resources are located within one-quarter-mile of the proposed LAX Pershing Staging/Parking Area. A large prehistoric site (CA-LAN-2345) is located to the southeast and a historic concrete bunker (CA-LAN-2386/H) is situated to the west. In addition to Bissell's 1995 survey of the LAX property and LA-96, which probably covered the proposed LAX Pershing Staging/Parking Area, four cultural resources surveys have been conducted within one-quarter-mile. Surveys LA-3673 and LA-309 covered portions of Imperial Highway (approximately 500 feet to the south). Survey LA-3673 also covered a curvilinear swath within LAX property, running roughly northeast to southwest, which runs as close as roughly 100 feet near the southwest corner of the proposed LAX Pershing Staging Area. In addition, two studies of the Hyperion Treatment Plant (LA-125/4051 and LA-3494) were conducted south of Imperial Highway, approximately 250 feet to the south of the proposed LAX Pershing Staging Area.

3.3.7.3 Current Survey Results

The proposed component was surveyed by pedestrian inspection. No sites were detected within the proposed project component.

3.3.8 Area 4 - Marina Del Rey Boat Launch Parking Area

3.3.8.1 Topography, Soils, and Existing Conditions

This component consists of an existing asphalt-paved parking lot located at the northeast end of the Marina del Rey boat launch. There were no exposures of native surfaces in the area.

3.3.8.2 Previous Work

No prior cultural resource surveys have been conducted within the proposed Marina Del Rey Boat Launch Parking Area, however nine studies have been conducted within one-quarter-mile. No known prior historic evaluations have been conducted within the area. No previously recorded cultural resources exist within the area itself, however, two prehistoric archaeological sites (CA-LAn-47 and CA-LAn-1698) are located within one-quarter-mile. The prehistoric Coastal Gabrieliño village of Sa'anga, also known as CA-LAn-47 or "The Admiralty Site," is located to the northwest. This major occupation and burial site has been investigated several times, and was declared a Historic-Cultural Monument (No. 490) by the City of Los Angeles in 1990. Another prehistoric site (CA-LAn-1698) is located to the east of the proposed Marina Del Rey Boat Launch Parking Area, adjacent to Lincoln Boulevard (Highway 1).

Several cultural resources studies have been conducted within one-quarter-mile of the proposed Marina Del Rey Boat Launch Parking Area. Five studies have been conducted on CA-LAn-47, located to the northeast (LA-3495, LA-2673, LA-3583, LA-2669, LA-2558). In addition, survey LA-1975 was conducted along portions of Mindanao Way and Lincoln Boulevard (Highway 1), approximately 400 feet east of the proposed Marina Del Rey Boat Launch Parking Area. Study LA-3898 addressed the area of Hammock Street and Port Drive in Marina Del Rey, referring to cultural materials that have been uncovered in the area between these two streets. However, no specific sites are mentioned, and it does not appear that any formal records searches or field inventories were conducted. Study LA-2445 conducted a program of shovel testing at CA-LAn-1698, located to the southeast of the proposed Marina Del Rey Boat Launch Parking Area.

3.3.8.3 Current Survey Results

The area is covered by an existing asphalt surface. No cultural resources were detected.

3.3.9 Area 5 - Dockweiler State Beach Parking Area

3.3.9.1 Topography, Soils, and Existing Conditions

This component consists of an existing asphalt-paved parking lot located atop Dockweiler State Beach, east of Vista Del Mar, north of the western extent of Imperial Highway, northwest of the proposed Grand Avenue Parking Area, and west of the proposed LAX Pershing Staging Area.

3.3.9.2 Previous Work

No known previous cultural resources studies or historical evaluations have been conducted within the proposed Dockweiler State Beach Parking Area. However, four previous cultural resource surveys have been conducted within one-quarter-mile (LA-3673, LA-3494, LA-125/4051, and Bissell 1995). Surveys LA-125/4051 and LA-3494 were conducted for the Hyperion Treatment Plant, located across Vista Del Mar to the southeast, with negative results. Survey LA-3673 was conducted along Imperial Highway to the southeast, also with negative results. Bissell's 1995 survey of the LAX property resulted in the recordation of numerous sites, including prehistoric site CA-LAn-2345 and historic site CA-LAn-2386/H, both located within

one-quarter-mile of the proposed Dockweiler State Beach Parking Area. There are no previously recorded cultural resources located within the proposed Dockweiler State Beach Parking Area.

3.3.9.3 Current Survey Results

The proposed Dockweiler State Beach Parking Area was surveyed by pedestrian inspection. No sites were detected within the proposed project component.

3.3.10 Area 6 - Hyperion Parking Area

3.3.10.1 Topography, Soils, and Existing Conditions

This component consists of an existing asphalt-paved parking lot located atop Dockweiler State Beach, east of Vista Del Mar, and northwest of the Grand Avenue Parking Area. The Hyperion Treatment Plant is located directly across Vista Del Mar to the east.

3.3.10.2 Previous Work

No known previous cultural resources studies or historical evaluations have been conducted within the proposed Hyperion Parking Area. However, four previous cultural resource surveys have been conducted within one-quarter-mile (LA-3673, LA-3494, LA-125/4051, and Bissell 1995). Surveys LA-125/4051 and LA-3494 were conducted for the Hyperion Treatment Plant, located across Vista Del Mar to the southeast, with negative results. Survey LA-3673 was conducted along Imperial Highway to the east, also with negative results. Bissell's 1995 survey of the LAX property resulted in the recordation of numerous sites, including prehistoric site CA-LAn-2345, located within one-quarter-mile of the proposed Hyperion Parking Area. There are no previously recorded cultural resources located within the proposed Hyperion Parking Area.

3.3.10.3 Current Survey Results

The proposed Hyperion Parking Area was surveyed by pedestrian inspection. No cultural resources were detected within the proposed project component.

3.3.11 Area 7 - Grand Avenue Parking Area

3.3.11.1 Topography, Soils, and Existing Conditions

This is an existing asphalt-paved parking lot located atop Dockweiler State Beach, east of Vista Del Mar, at the western extent of Grand Avenue, and northwest of the proposed Chevron Marine Terminal Staging Area. No exposures of native surfaces were visible.

3.3.11.2 Previous Work

No known prior cultural resources studies have been conducted, nor are there any previously recorded cultural resources located within the proposed Grand Avenue Parking Area. However, surveys LA-125/4051 and LA-3494 were conducted for the Hyperion Treatment Plant, located directly across Vista Del Mar to the east. The results of these surveys were negative. No known

prior historical evaluations have been conducted within the proposed Grand Avenue Parking Area.

3.3.11.3 *Current Survey Results*

The proposed Grand Avenue Parking Area was surveyed by pedestrian inspection. No cultural resources were detected within or adjacent to the proposed project component.

3.3.12 Area 8 - Chevron Marine Terminal Staging Area

3.3.12.1 *Topography, Soils, and Existing Conditions*

The Chevron Marine Terminal Staging Area is located adjacent to the El Segundo Power Plant. The entire area is paved, except for one small ditch (10 m x 10 m diameter) that had been previously been excavated by Chevron. The area is flat, and there were no other exposures to examine, except for the open ditch.

3.3.12.2 *Previous Work*

No prior cultural resource surveys have been conducted within the Chevron Marine Terminal, nor are any previously recorded sites located within this area. No known previous historic evaluations have been conducted within the Chevron Marine Terminal, although the El Segundo Steam Generating Station to the south has been evaluated as part of the ESPR Project.

3.3.12.3 *Current Survey Results*

The survey did not detect any new sites on the property. One fragment of fire affected rock was noted in the ditch backfill, but the origins of this are completely uncertain. There is a chance that it is cultural in origin, possibly prehistoric. However, the find was in a secondary deposit and it is not clear if it was produced from a modern beach campfire, Chevron refinery activities, or an unknown Native American locality.

4.1 STATE LEVEL MANDATES

Cultural resources include archaeological and historical objects, sites and districts, historic buildings and structures, cultural landscapes, and sites and resources of concern to local Native American and other ethnic groups. The ESPR Project Cultural Resources Technical Report is consistent with compliance procedures set forth in the California Environmental Quality Act (CEQA), Sections 15064.5 and 15126.4, and, in the case of Federal involvement, Section 106 of the National Historic Preservation Act (NHPA), set forth at 36 Code of Federal Regulations (CFR) 800.

In considering impact significance under CEQA or NHPA, the significance of the resource itself must first be determined. At the State level, consideration of significance as an “...important archaeological resource” is measured by cultural resource provisions considered under CEQA Sections 15064.5 and 15126.4, and the draft criteria regarding resource eligibility to the California Register of Historic Resources (CRHR).

Generally, under CEQA an historical resource (these include built-environment historic and prehistoric archaeological resources) is considered significant if it meets the criteria for listing on the CRHR. These criteria are set forth in Section 15064.5, and defined as any resource that:

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

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

Impacts to “unique archaeological resources” and “unique paleontological 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 following criteria:

- 1. the archaeological artifact, object, or site contains information needed to answer important scientific questions and there is a demonstrable public interest in that information; or
- 2. 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; or
- 3. 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. Impacts to non-unique archaeological resources and resources which do not qualify for listing on the CRHR receive no further consideration under CEQA.

Under CEQA Section 15064.5, a project potentially would have significant impacts if it would cause substantial adverse change in the significance of:

- an historical resource (i.e. a cultural resource eligible to the CRHR), or
- an archaeological resource (defined as a unique archaeological resource which does not meet CRHR criteria),
- a unique paleontological resource or unique geologic feature (i.e. would directly or indirectly destroy a site)
- human remains (i.e. would disturb or destroy burials).

A non-unique archaeological or paleontological resource is given no further consideration, other than the simple recording of its existence by the lead agency.

Criteria for eligibility for the CRHR are very similar to those which qualify a property for the NRHP, which is the significance assessment tool used under the NHPA. The criteria of the NRHP apply when a project has federal involvement. Note that a property that is eligible for the NRHP is also eligible to the CRHR. On projects with federal involvement, impacts to significant resources are assessed and addressed under the procedures of Section 106 of the NHPA, set forth at 36 CFR 800.

All resources encountered during the mitigation and monitoring phases of the ESPR Project, with the exception of isolate artifacts and isolate features that appear to lack integrity or data potential, will be evaluated for significance vis-à-vis CRHR and CEQA criteria described above. If a resource is found to be significant, then it will be subject to avoidance through alterations in project design when feasible. In the event that avoidance of cultural resources is not possible via project design modifications, appropriate mitigation data recovery, in accordance with this report and the CEC, will be conducted.

4.2 FEDERAL LEVEL MANDATES

The legal frameworks for addressing cultural resources at the federal and state level are generally equivalent. The four criteria for evaluation established by the NRHP, listed below, are identified at 36 CFR 60.4 and are in accordance with the regulations outlined in 36 CFR 800 established by the Advisory Council on Historic Preservation (ACHP).

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- a) Resources that are associated with events that have made a significant contribution to the broad patterns of our history; or -
- b) Resources that are associated with the lives of persons significant in our past; or -
- c) Resources that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or

that represent a significant and distinguishable entity whose components may lack individual distinction, or –

- d) Resources that have yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

Hence, these evaluating criteria are used help determine what properties should be considered for protection from destruction or impairment (36 CFR 60.2).

Although the project is not considered a Federal undertaking at this time, the legal framework for addressing cultural resources at the Federal and State level are generally equivalent and are used somewhat interchangeably herein. If a USACE 404 permit is required, compliance with Section 106 of the NHPA may be invoked for those portions of the project subject to such a permit.

4.3 ENVIRONMENTAL CONSEQUENCES

As noted above, impacts to identified cultural resources need to be considered only if the resource is an “important” or “unique archaeological resources”, under the provisions of CEQA Sections 15064.5 and 15126.4 and the eligibility criteria, or a “historic property” as defined in the NHPA and its implementing regulations.. In many cases, determination of a resource’s eligibility can be made only through extensive research and archaeological testing. For the client to avoid the these costly and time-consuming methods, it is recommended that whenever possible, all cultural resources be avoided to the maximum extent feasible.

POWER PLANT SITE

4.3.1 Power Plant Site

No impacts to archaeological resources are anticipated at the Power Plant Site. The plant has been evaluated by the project architectural historian as a non-significant built environment resource. Therefore, the modifications and partial destruction of the plant are not considered significant impacts.

PIPELINES ROUTES

4.3.2 Route 1 - Water Supply Lines

No impacts to archaeological resources are anticipated along the potable and reclaimed water line routes (and alternatives), however unidentified buried cultural resources could potentially be present. No impacts to built environment resources are anticipated by construction of this project component other than temporary noise and visual impacts.

4.3.3 Route 2 - Sanitary Discharge Line

No impacts to archaeological resources are anticipated along the sanitary discharge line, however unidentified buried cultural resources could potentially be present. No impacts to built environment resources are anticipated.

4.3.4 Route 3 - Aqueous Ammonia Supply Line

No impacts to archaeological or built environment resources are anticipated along the aqueous ammonia supply line, however unidentified buried cultural resources could potentially be present.

AREAS**4.3.5 Area 1 - Kramer Staging Area**

The area was subjected to pedestrian archaeological survey, with negative results. The proposed equipment staging area will be confined to the existing paved area. The historic foundry foundations recorded in the field are located outside of the project APE. There is no potential for disturbance of archaeological resources. However, should subsurface disturbance be required below the asphalt, such activity could result in disturbance to previously unidentified buried cultural resources. No impacts to built environment resources are anticipated.

4.3.6 Area 2 - Federal Express Staging/Parking Area

The area was subjected to pedestrian archaeological survey, with negative results. The area has been extensively disturbed. There is a low potential for disturbance of known archaeological resources. However, should subsurface disturbance be required below the asphalt, such activity could result in disturbance to previously unidentified buried cultural resources. No impacts to built environment resources are anticipated.

4.3.7 Area 3 - LAX Pershing Staging/Parking Area

No impacts to archaeological or built environment resources are anticipated.

4.3.8 Area 4 - Marina Del Rey Boat Launch Parking Area

This proposed project component (an existing paved parking lot) is located adjacent to a known Native American site that has yielded an abundance of *in situ* artifacts and related Native American village remains, including burials. If there is no subsurface disturbance at this location, then there should be no effect on cultural resources.

4.3.9 Area 5 - Dockweiler State Beach Parking Area

No impacts to archaeological or built environment resources are anticipated.

4.3.10 Area 6 - Hyperion Parking Area

No impacts to archaeological or built environment resources are anticipated.

4.3.11 Area 7 - Grand Avenue Parking Area

No impacts to archaeological or built environment resources are anticipated.

4.3.12 Area 8 - Chevron Marine Terminal Staging Area

The fire-affected rock discovered in this area was not recorded as an isolated archaeological find due to the secondary nature of the deposit. It is also not clear whether it was archaeological or modern. Normally, isolate finds do not qualify as significant under CEQA or the NRHP. However, this does not preclude the potential for *in situ* unknown cultural resources to be located within the limits of this project component. No impacts to built environment resources are anticipated.

4.4 MITIGATION OF CONSTRUCTION RELATED IMPACTS

Mitigation under CEQA Sections 15064.5 and 15126.4 must address impacts *to the values* for which a cultural resource is considered important. To mitigate adequately, it must therefore be determined what elements make a site eligible for the CRHR and/or NRHP. As noted previously and detailed below, the first line of mitigation is complete avoidance of all cultural resources when feasible.

4.4.1 Impacts and Mitigation Measures

Measures to ensure avoidance of sites within the corridors, and measures to avoid indirect impacts to nearby sites are described below. The mitigation measures and procedures described would apply to any cultural resources in the project corridor, other than isolates, or sites recommended as not significant and concurred with by the CEC, regardless of facility component.

Mitigation under CEQA Sections 15064.5 and 15126.4 must address impacts *to the values* for which a cultural resource is considered important. To mitigate adequately, it must therefore be determined what elements make a site eligible for the CRHR and/or NRHP. As noted previously and detailed below, the first line of mitigation is complete avoidance of all cultural resources when feasible.

4.4.1.1 Avoidance

Project facilities will be located at the greatest possible distance from any recorded cultural resource not previously found to be ineligible for inclusion on the CRHR. As needed, an archaeologist will accompany the project engineer to the field to demarcate site boundaries on the ground and to ensure that proposed facility placement will not impinge on a site. Routes of any access roads or other temporary use areas that must be built or graded outside areas not already surveyed for cultural resources will be subjected to archaeological survey prior to construction. If a potentially significant cultural resource is discovered, the road route/temporary use area will be modified to avoid those resources. If there is no feasible means to avoid the resource, the site will be tested and if found to be significant, the measures for mitigation described below will be applied. These will be done in consultation with the California Energy Commission, which is the lead regulatory agency.

4.4.1.2 Physical Demarcation and Protection

In instances where a project facility must be placed within 100 feet of a known site not previously found to be ineligible for inclusion on the CRHR, the site 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 site, and construction personnel will be directed to avoid entering the area. Where site 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 site, in order to ascertain whether the site can be avoided.

4.4.1.3 Crew Education

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

4.4.1.4 Archaeological Monitoring

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

4.4.1.5 Native American Monitoring

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

4.4.1.6 Formal Compliance with CEQA Sections 15064.5 and 15126.4

In the event that a resource cannot be avoided during the placement of any project facility, further archaeological work will be undertaken as appropriate to assess the significance/importance of the resource prior to project implementation.

4.5 MITIGATION FOR RESOURCES DISCOVERED DURING CONSTRUCTION

If unanticipated resources are discovered during construction, they will be addressed under the procedures set forth at CEQA Section 15064.5. If possible, the resource will be avoided through design modification, or protective measures as described above. If the resource cannot be avoided, the project archaeologist will consult with the California Energy Commission and the

lead federal agency (if there is Federal involvement) with regard to resource significance. If it is determined that the resource is significant, then measures to mitigate impacts will be devised in consultation with the CEC (and possibly the SHPO) and will be carried out by the Proponent.

4.6 PROTECTION OF RESOURCES DURING ESPR OPERATION AND MAINTENANCE: SPECIFIC MITIGATION MEASURES

General mitigation measures are described above. Specific actions recommended at each project facility are described in the current section. Table J-7 is a summary table that describes by project component the results of the records search, survey and an assessment of potential impacts and mitigation.

POWER PLANT SITE

4.6.1 Power Plant Site

It is recommended that an archaeological monitor be present to inspect initial grading and excavation activity. No additional mitigation measures are required in this location unless previously undiscovered cultural resources are detected during construction.

PIPELINE ROUTES

4.6.2 Route 1 - Water Supply Lines

It is recommended that an archaeological monitor be present to inspect trenching and excavation activity. No additional mitigation measures are required for this component unless previously undiscovered cultural resources are detected during construction. No mitigation measures will be required for built environment resources, as the APE will be confined to a 50-foot-wide construction corridor within existing city streets.

4.6.3 Route 2 - Sanitary Discharge Line

It is recommended that an archaeological monitor be present to inspect trenching and excavation activity. No additional mitigation measures are required in this location unless previously undiscovered cultural resources are detected during construction.

4.6.4 Route 3 - Aqueous Ammonia Supply Line

It is recommended that an archaeological monitor be present to inspect trenching and excavation activity. No additional mitigation measures are required in this location unless previously undiscovered cultural resources are detected during construction.

AREAS**4.6.5 Area 1 - Kramer Staging Area**

If utilization of this location will require subsurface disturbance, it is recommended that an archaeological monitor be present to inspect initial grading and excavation. No additional mitigation measures are required in this location unless previously undiscovered cultural resources are detected during construction.

The foundry foundations located to the southwest of the proposed Kramer Staging Area (outside the project APE) have been recorded but not formally evaluated. Absent formal evaluation, these resources will be considered to be potentially significant. If it is determined by the Applicant, prior to use, that the area containing the foundry foundations is required for additional equipment staging space, this resource would be subjected to formal evaluation pursuant to the NRHP and CRHR. If found to be a significant resource, appropriate mitigation measures will be developed in concert with the CEC and the Applicant prior to use.

4.6.6 Area 2 - Federal Express Staging/Parking Area

If utilization of this location will require subsurface disturbance, it is recommended that an archaeological monitor be present to inspect initial grading and excavation. No additional mitigation measures are required in this location unless previously undiscovered cultural resources are detected during construction.

4.6.7 Area 3 - LAX Pershing Staging/Parking Area

It is recommended that an archaeological monitor be present to inspect initial grading and excavation, if such construction activities are required at this location. No additional mitigation measures are required in this location unless previously undiscovered cultural resources are detected during construction.

4.6.8 Area 4 - Marina Del Rey Boat Launch Parking Area

An archaeological monitor is recommended to inspect any subsurface disturbance, should such construction activity be required at this location. Furthermore, it is recommended that a Native American monitor be present during such activity. If there is subsurface disturbance, and cultural resources are detected, then the following approach is recommended:

1. A focused archaeological testing program should be undertaken to determine the nature and extent of subsurface cultural deposits within the project APE.
2. If subsurface deposits are present within the APE and found to be significant and cannot be avoided then the site should be subject to a targeted data recovery program developed in concert with the CEC and implemented to reduce significant impacts to a less than significant level.
3. A Native American monitor should be present during the testing and possible data recovery program.

4.6.9 Area 5 - Dockweiler State Beach Parking Area

It is recommended that an archaeological monitor be present to inspect initial grading and excavation, if such construction activities are required at this location. No additional mitigation measures are required in this location unless previously undiscovered cultural resources are detected during construction.

4.6.10 Area 6 - Hyperion Parking Area

It is recommended that an archaeological monitor be present to inspect initial grading and excavation, if such construction activities are required at this location. No additional mitigation measures are required in this location unless previously undiscovered cultural resources are detected during construction.

4.6.11 Area 7 - Grand Avenue Parking Area

It is recommended that an archaeological monitor be present to inspect initial grading and excavation, if such construction activities are required at this location. No additional mitigation measures are required in this location unless previously undiscovered cultural resources are detected during construction.

4.6.12 Area 8 - Chevron Marine Terminal Staging Area

It is recommended that an archaeological monitor be present to inspect all grading and excavation activities in the Marine Terminal Facility, especially near the previously exposed ditch. No additional mitigation measures are required in this location unless previously undiscovered cultural resources are detected during construction.

References Cited in the Text

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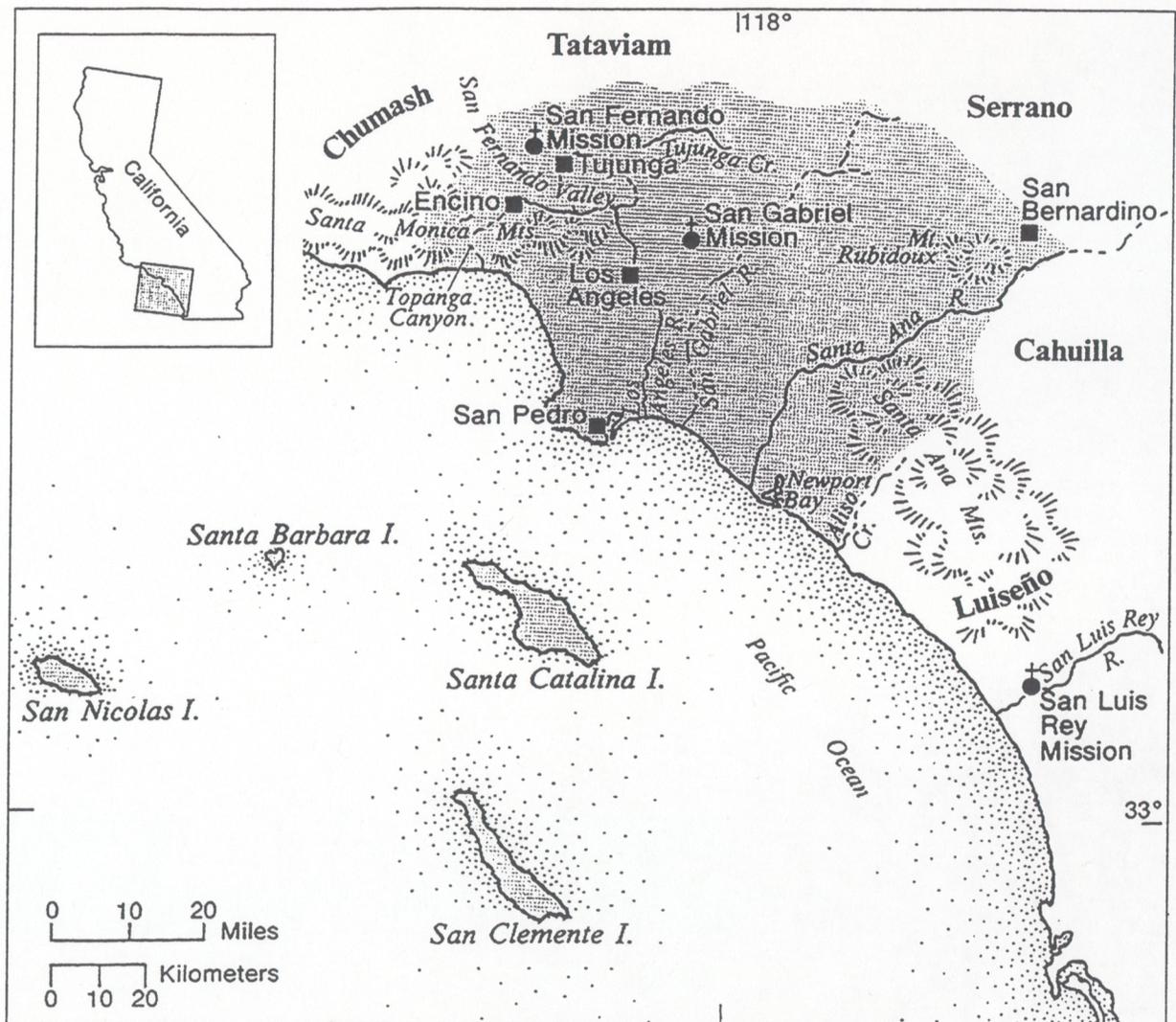
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LEGEND

- Modern City
- ⊕ Spanish Mission

Adapted from: Bean and Smith in Wallace, 1978

El Segundo Power Redevelopment Project	Source: Base Map from U.S.G.S. 7.5 minute Topographic Venice, CA, 1964. (Photorevised 1981)	Figure J-1. AREA OF GABRIELIÑO ETHNOGRAPHIC OCCUPATION	December 2000
El Segundo Power II LLC			



**Proposed
Equipment
Staging
Area
(Project APE)**

**Foundry
Foundations
(Outside
Project APE)**



**TABLE J-1
PREVIOUS CULTURAL RESOURCE STUDIES WITHIN THE PROJECT APE OR ADJACENT STUDY AREA**

Reference/Survey Number	Reference Summary
Leonard (1975) [LA-0125]	This letter report documents an archaeological field survey conducted for the Hyperion Treatment Plant. No sites were documented within the project study area. (Note: This study is identical to LA-4051, see below.)
Woodward (1987) [LA-1625]	This report documents an archaeological field survey of all 44 acres of Manhattan State Beach. Almost all structures within the State Beach were photodocumented, including the previously recorded Manhattan Beach Pier. No other cultural resources or archaeological sites were documented during this project.
Wlodarski (1986) [LA-1543]	A cultural resources inventory for a proposed highway widening project along Sepulveda Boulevard. No cultural resources were documented during this project.
Peak and Associates (1992) [LA-2950]	A cultural resource study for the Pacific Pipeline Project, which involved the survey of a linear route extending from Santa Barbara to the Chevron Refinery in El Segundo. Numerous cultural resources were documented during this survey, however none of these were located within or adjacent to the ESPR Project components. The survey corridor ran directly adjacent to the proposed Kramer Staging Area and extended into the Chevron refinery, ending east of the proposed alignment for the proposed Aqueous Ammonia Supply Line.
Wlodarski (1987) [LA-0309]	An archaeological reconnaissance report for a sewer outfall replacement project. No cultural resources were documented during this project.
Briuer (1976) [LA-3494]	An archaeological impact statement for the Hyperion Treatment Plant Secondary Treatment Facility. No archaeological resources were detected within the survey area.
Frank, Myra L. & Associates (1987) [LA-3673]	An historic property survey report conducted for an outfall relief sewer. The survey did not detect any archaeological resources, however, several historic structures were recommended as eligible for listing in the National Register of Historic Places. None of these structures are located within or adjacent to the ESPR Project components.
D'Altroy (1975) [LA-4051]	An evaluation of potential impacts on archaeological resources for the Hyperion Treatment Plant Interim Sludge Processing and Disposal System. No sites were documented within the project study area. (Note: This study is identical to LA-125, see above.)
Leonard (1974) [LA-96]	An archaeological study of Los Angeles International Airport (LAX). This study included field survey of LAX and adjacent areas (although no survey coverage map is available), involving the "ground-truthing" of previously recorded sites and the documentation of one prehistoric site. This site (CA-LAN-691) consists of a shell scatter and soil discoloration, located at the base of a graded hill, at the west end of LAX runway 25L-7R, just north of Imperial Highway. Leonard recommended limited testing of the site and complete burial, to insure preservation. This survey presumably covered the proposed Pershing Staging/Parking Area.
Neunenschwander (1989) [LA-1975]	A cultural resource survey and clearance report for a proposed AT&T fiber optic line. Portions of Redwood Avenue, Mindanao Way, and Lincoln Boulevard within one-quarter-mile of the proposed Marina Del Rey Boat Launch Parking Area were surveyed. The survey resulted in the discovery and recordation of one prehistoric site, and the identification of a previously recorded site; no update was made to the site record.

**TABLE J-1
PREVIOUS CULTURAL RESOURCE STUDIES WITHIN THE PROJECT APE OR ADJACENT STUDY AREA**

Reference/Survey Number	Reference Summary
Dillon (1988) [LA-253]	A report on preliminary archaeological investigations at “The Admiralty Site” (CA-LAn-47) in Marina Del Rey. These investigations included reconnaissance, surface collection, and test excavation. CA-LAn-47 was concluded to have been a large village site occupied during the Late Prehistoric Period, probably by the Coastal Gabrieliño. Test excavation in a disturbed area adjacent to Admiralty Way yielded fragmentary human remains. Dillon recommended a range of mitigation measures, tailored to the different areas of the site. The site itself spans several different parcels with different ownership. Varying degrees of disturbance are also present on these different parcels. Dillon recommended further data recovery, as well as preservation and monitoring.
Altschul (1990) [LA-2558]	This letter report is a technical appendix to the Channel Gateway EIR, presenting results of another archaeological testing program conducted at CA-LAn-47. This study, conducted by Statistical Research, employed a program of backhoe trenching to determine the extent of the cultural deposit, with similar results to that of LA-253. In addition to CA-LAn-47, a historic site was discovered and recorded immediately to the north of the prehistoric deposit. This site (CA-LAn-1596/H) featured a concrete footing, 2 trash pits, and a wood-lined well shaft with historic debris. This site was determined to be associated with an historic Japanese farm labor camp. Altschul recommended complete analysis of the cultural material recovered during the testing program, deed of all cultural material to the Gabrieliño Tribe, and archaeological and Native American monitoring of construction.
Gervais (1978) [LA-2669]	A draft background and environmental impact report for the Venice District, completed by the Department of City Planning. This document provides an excellent historical background section on the development of the Venice area, however, it does not address cultural resources issues in any meaningful way. This gross omission is detailed in two letter responses to the draft, which have been attached by the SCCIC. The historical background section does not mention prehistoric occupation of the area or Native Americans at all. No records search was conducted to determine the extent of previous archaeological work and the location of known cultural resources within or adjacent to the project area. No field inventory was conducted. It is not known whether the recommendations to remedy the situation, made by Louis Tartaglia of the Northridge Archaeological Research Center and by Nancy Walter, were ever acted upon.
Altschul, et al. (1992) [LA-2673]	This is an extensive document detailing the history of Statistical Research’s work at CA-LAn-47 and CA-LAn-1596/H, including testing, data recovery, and laboratory analysis of the cultural material. Although the City of Los Angeles had declared the Admiralty site an historic landmark, this designation was limited to a small portion of the site within the city limits. Altschul, et al. recommended that the landmark include the larger portion of the site which lies on property owned by the County of Los Angeles. The document also recommends that much more research, and excavation be carried out in the Ballona Creek area, to further pursue research questions about prehistoric, protohistoric and historic use of the area.
Levine (1969) [LA-3495]	A non-technical review of Indian burial findings at Marina Del Rey, written by an employee of the County of Los Angeles Department of Small Craft Harbors. This article in the Marina Del Rey Reporter discusses three different discoveries of Native American human remains. The first instance discussed occurred in 1961, when trenching for a sewer line exposed human remains. Several skeletons and associated grave goods were excavated by Kieth Johnson of the University of California, Los Angeles. In 1965, several burials were discovered during construction of the basement for Surety National Bank. Two burials were removed scientifically by the U.C.L.A Archaeological Survey; several other burials were uncovered by pot-hunters, amateur archaeologists and workmen. In late 1968 and early 1969, two individual skeletons were uncovered during construction of the Warehouse Restaurant. These were also scientifically excavated by the Archaeological Survey from U.C..L.A
Bucknam (1974) [LA-3583]	A gazetteer and compilation of archaeological site information from the Los Angeles Basin and vicinity. This compilation of data was derived primarily from an extensive literature review conducted at the repository located at that time at U.C.L.A.. The document provides a quick-reference fact-sheet for each site included. It appears that only prehistoric and/or Native American sites were included. No pedestrian or field research was conducted. A fact sheet for CA-LAn-47, also known as the Admiralty site, is included in the document.

**TABLE J-1
PREVIOUS CULTURAL RESOURCE STUDIES WITHIN THE PROJECT APE OR ADJACENT STUDY AREA**

Reference/Survey Number	Reference Summary
Anonymous (n.d.) [LA-3898]	A proposal for archaeological investigations in the area of Hammock Street and Port Drive in Marina Del Rey. This brief document refers to cultural materials that have been uncovered in the area between these two streets. However, no specific sites are mentioned. This is a vague document, and it does not appear that any formal records searches or field inventories were conducted.
Raschke & Bissell (1995) [no number]	A paleontological and archaeological resources reconnaissance of the LAX property. This study included a pedestrian survey of the entire LAX property, with the exception of a few restricted areas. Several prehistoric and historic sites were recorded and several previously recorded resources were updated. The survey covered the two proposed LAX Pershing Staging/Parking Area.
Peak (1990) [LA-2445]	A shovel testing program conducted at two archaeological sites (CA-LAn-1698 and CA-LAn-1018) for an AT&T fiber optic line. Two shovel test pits (STPs) were excavated at CA-LAn-1698, and four STPs were excavated at CA-LAn-1018. Investigations at CA-LAn-1698 revealed shell fragments from a variety of marine invertebrate species and assorted historic and modern debris. It was concluded that the site was disturbed. The testing program at CA-LAn-1018 revealed similar results, with the notable exception of a possible pestle fragment. It was concluded that this deposit may have represented a secondary deposit of cultural material washed down from the primary deposit, located on the terrace above. Monitoring of the fiber optic line construction was recommended.
Woodward-Clyde Consultants (1993) [no number]	An environmental impact report for the Chevron Refinery Reformulated Gas Project. The report addressed cultural resources briefly, stating that the refinery was highly disturbed and that no impacts to cultural resources were anticipated.

**TABLE J-2
PREVIOUSLY RECORDED ARCHAEOLOGICAL SITES WITHIN PROJECT APE**

Survey No.	Site No.	USGS 7.5' Quad/ Project Segment	Site Type	Primary Reference	Type of Investigation	Status
NO PREVIOUSLY RECORDED ARCHAEOLOGICAL SITES EXIST WITHIN THE PROJECT APE						

**TABLE J-3
PREVIOUSLY RECORDED ARCHAEOLOGICAL SITES WITHIN ADJACENT STUDY AREAS (OUTSIDE PROJECT APE)**

Survey No.	Site No.	USGS 7.5' Quad/ Project Segment	Site Type	Primary Reference	Type of Investigation	Status
LA-253, 3495, 2673, 3583, 2669, 2558	CA-LAn-47 (P-19-000047)	Venice/ Marina Del Rey Boat Launch Parking Area	prehistoric	Dillon, Brian (1988); Johnson, Kieth (1961); Burnham and Romoli (1965); Altschul, Jeffrey (1990); Altschul, et al. (1992)	surveys, excavations	5- Not Evaluated
LA-2445	CA-LAn-1698 (P-19-001698)	Venice/ Marina Del Rey Boat Launch Parking Area	prehistoric	Neuenschwander 1989 (site record only); Peak 1990	shovel testing program	5- Not Evaluated
Raschke and Bissell 1995	CA-LAn-2386/H (P-19-002386)	Venice/ LAX Pershing Staging/Parking Area	historic	Raschke, Rod and Ron Bissell (1995))	survey	5- Not Evaluated
Raschke and Bissell 1995	CA-LAn-2345 (P-19-002345)	Venice/ LAX Pershing Staging/Parking Area	prehistoric	Raschke, Rod and Ron Bissell (1995))	survey	5- Not Evaluated

TABLE J-4
ARCHAEOLOGICAL SURVEY COVERAGE BY PROJECT COMPONENT AND FIELD CONDITIONS

Project Component	Field Conditions	Comments
Power Plant Site	0 percent ground visibility; entire facility is built environment.	Pedestrian field inspection, no visibility and no exposures.
Water Supply Lines (Potable & Reclaimed) – Route 1	0 percent ground visibility; entire linear component is built environment.	Cursory visual inspection, no visibility and no exposures.
Sanitary Discharge Line – Route 2	0 percent ground visibility; entirely built underneath sand and rip-rap.	Pedestrian field inspection, no ground visibility and no exposures.
Aqueous Ammonia Supply Line – Route 3	0-2 percent ground visibility; The Aqueous Ammonia Line component runs from the El Segundo Power Plant across the Chevron El Segundo Refinery property. The entire Chevron property is essentially a built refinery environment with nearly all open spaces covered by asphalt and/or imported gravels. Most of the natural sand dunes have been covered with the asphalt to prevent creep and subsidence. There are almost no surface exposures throughout the entire length on the Aqueous Ammonia Line. Chevron indicated that the aqueous ammonia line will, in most instances, run through existing refinery pipes. Survey occurred in areas deemed safe and appropriate by Chevron staff. The survey required a Chevron staff member to serve as escort across the refinery. No cultural resources were observed in the exposures.	Survey of the entire linear component via pedestrian walking (non-transect). Limited access to the Chevron areas due to safety concerns.
Kramer Staging Area – Area 1	0 percent ground visibility; area is paved.	Pedestrian field inspection, no ground visibility and no exposures.
Federal Express Staging/Parking Area – Area 2	0-5 percent ground visibility. Field is covered in grass and scrub brush.	Pedestrian field inspection, no ground visibility and no exposures.
LAX Pershing Staging/Parking Area – Area 3	0 percent ground visibility. Entire area is an existing parking lot.	Pedestrian field inspection, no ground visibility and no exposures.
Marina Del Rey Boat Launch Parking Area – Area 4	0 percent ground visibility. Entire area is an existing parking lot.	Pedestrian field inspection, no ground visibility and no exposures.
Dockweiler State Beach Parking Area – Area 5	0 percent ground visibility. Entire area is an existing parking lot.	Pedestrian field inspection, no ground visibility and no exposures.
Hyperion Parking Area – Area 6	0 percent ground visibility. Entire area is an existing parking lot.	Pedestrian field inspection, no ground visibility and no exposures.
Grand Avenue Parking Area – Area 7	0 percent ground visibility. Entire area is an existing parking lot.	Pedestrian field inspection, no ground visibility and no exposures.
Chevron Marine Terminal Staging Area – Area 8	0-5 percent ground visibility; area mostly covered in asphalt, with some minor surface exposures.	Pedestrian field inspection, minimal ground visibility, one exposure at location where Chevron had previously excavated.

**TABLE J-5
NEWLY RECORDED SITES OR ISOLATES WITHIN THE PROJECT APE**

Site No.	USGS 7.5' Quad	Project Component	Site Type	Resources present	Status
NO ARCHAEOLOGICAL SITES OR ISOLATES WERE RECORDED DURING THE FIELD INVENTORY					

**TABLE J-6
NEWLY RECORDED SITES WITHIN ADJACENT STUDY AREAS (OUTSIDE PROJECT APE)**

Site No.	USGS 7.5' Quad	Project Component	Site Type	Resources present	Status
N/A	Venice	Kramer Staging Area	historic	Concrete foundations from 1951 foundry	5- Not Evaluated

**TABLE J-7
CULTURAL RESOURCES BY PROJECT COMPONENT:
RECORDS SEARCH RESULTS, SURVEY RESULTS, IMPACTS AND MITIGATION**

Project Component	Previous Studies Conducted Within or Adjacent to APE	Previously Recorded Cultural Resources Within APE.	Previously Recorded Cultural Resources Within Adjacent Study Areas (Outside APE)	Current Survey Results: Archaeological Resources	Current Survey Results: Historic Built Environment Resources	Potential Impacts to Cultural Resources (Direct, Indirect, or Cumulative)	Mitigation Recommendations
Power Plant Site	LA-1625	None	None	Negative	All structures evaluated: recommended ineligible for listing in NRHP and not an important historic resource under CEQA.	None anticipated	Archaeological monitoring of all subsurface disturbance. No mitigation for built environment.
Route 1 – Water Supply Lines	LA-125/4051, LA-3494	None	None	Negative (entire route paved)	58 buildings identified within zone of alternative water line routes that appear to be 50+ years old.	None anticipated (pipeline construction will occur within existing street, buildings are outside APE).	Archaeological monitoring of all subsurface disturbance. No mitigation for built environment.
Route2 – Sanitary Discharge Line	LA-1625	None	None	Negative	Negative	None anticipated	Archaeological monitoring of all subsurface disturbance. No mitigation for built environment.
Route 3 – Aqueous Ammonia Supply Line	LA-2950	None	None	Negative	Negative	None anticipated	Archaeological monitoring of all subsurface disturbance. No mitigation for built environment.

TABLE J-7 (continued)
CULTURAL RESOURCES BY PROJECT COMPONENT:
RECORDS SEARCH RESULTS, SURVEY RESULTS, IMPACTS AND MITIGATION

Project Component	Previous Studies Conducted Within or Adjacent to APE	Previously Recorded Cultural Resources Within APE.	Previously Recorded Cultural Resources Within Adjacent Study Areas (Outside APE)	Current Survey Results: Archaeological Resources	Current Survey Results: Historic Built Environment Resources	Potential Impacts to Cultural Resources (Direct, Indirect, or Cumulative)	Mitigation Recommendations
Area 1 – Kramer Staging Area	LA-2950	None	None	Negative (No resources within APE, however adjacent foundry foundations outside APE recorded.)	Negative	None anticipated	Archaeological monitoring of all subsurface disturbance. No mitigation for built environment.
Area 2 – Federal Express Staging/Parking Area	None	None	None	Pending	Negative	None anticipated	Archaeological monitoring of all subsurface disturbance. No mitigation for built environment.
Area 3 – LAX Pershing Staging/Parking Area	LA-96, Raschke & Bissell 1995, LA-309, LA-3673, LA-125/4051, LA-3494	None	CA-LAn-2345 (P-19-002345), CA-LAn-2386/H (P-19-002386)	Negative	Negative	None anticipated	Archaeological monitoring of all subsurface disturbance. No mitigation for built environment.
Area 4 – Marina Del Rey Boat Launch Parking Area	LA-3495, LA-2673, LA-3583, LA-2669, LA-2558, LA-1975, LA-3898, LA-2445	None	CA-LAn-47 (P-19-000047), CA-LAn-1698 (P-19-001698)	Negative	Negative	None anticipated	Archaeological monitoring of all subsurface disturbance. No mitigation for built environment.

TABLE J-7 (continued)
CULTURAL RESOURCES BY PROJECT COMPONENT:
RECORDS SEARCH RESULTS, SURVEY RESULTS, IMPACTS AND MITIGATION

Project Component	Previous Studies Conducted Within or Adjacent to APE	Previously Recorded Cultural Resources Within APE.	Previously Recorded Cultural Resources Within Adjacent Study Areas (Outside APE)	Current Survey Results: Archaeological Resources	Current Survey Results: Historic Built Environment Resources	Potential Impacts to Cultural Resources (Direct, Indirect, or Cumulative)	Mitigation Recommendations
Area 5 - Dockweiler State Beach Parking Area	LA-3673, LA-3494, LA-125/4051, Raschke & Bissell 1995	None	CA-LAn-2345 (P-19-002345), CA-LAn-2386/H (P-19-002386)	Negative	Negative	None anticipated	Archaeological monitoring of all subsurface disturbance. No mitigation for built environment.
Area 6 - Hyperion Parking Area	LA-3673, LA-3494, LA-125/4051, Raschke & Bissell 1995	None	CA-LAn-2345 (P-19-002345),	Negative	Negative	None anticipated	Archaeological monitoring of all subsurface disturbance. No mitigation for built environment.
Area 7 – Grand Avenue Parking Area	LA-3494, LA-125/4051	None	None	Negative	Negative	None anticipated	Archaeological monitoring of all subsurface disturbance. No mitigation for built environment.
Area 8 – Chevron Marine Terminal Staging Area	JRP 2000	None	None	Negative	Negative	None anticipated	Archaeological monitoring of all subsurface disturbance. No mitigation for built environment.

Attacment A
Key Personnel Resumes

AREAS OF EXPERTISE

- Cultural Resource Management
- American, European, and Near Eastern Archaeology
- Archaeological Data Recovery, Sampling, & Survey
- Coastal Marine, Alpine, Desert Environments

EDUCATION

University of Edinburgh, Scotland: Ph.D., Archaeology, 1997

San Diego State University: B.A., Anthropology, 1991

PROFESSIONAL HISTORY

URS Corporation, Archaeologist; 1999-present

University of Zurich, Switzerland, Research Associate; 1998-Present

Sušac Expedition, Korcula Archaeological Research Group (Croatia), Research Director; 1992-Present

FOREIGN LANGUAGES

German

Croatian

Spanish

REPRESENTATIVE EXPERIENCE

Dr. Bass has experience in numerous areas of archaeological science. These include prehistoric and protohistoric research in North America, Europe, Mediterranean Basin, and the Near East. Practical field experience includes environmental sampling, excavation, monitoring, field survey and documentation, expeditionary/ remote insular archaeological research, bibliographic survey, underwater archaeology, GIS, specialised data base applications, GPS survey and data logging applications, cultural resource/ heritage management, and public and private museum studies. Current academic research centers on multi-disciplinary coastal marine/ insular research along the eastern shores of the Adriatic Sea.

URS Corporation experience includes, but is not limited to:

- 05/1999 – Present: Pastoria Energy Facility. Supervision of the field survey, pre-field bibliographical record search, and preparation of the Technical Report and Cultural Resources section of the Application for Certification (AFC), on behalf of the client, for submittal to the California Energy Commission; preparation of record forms for regional archaeological information center. Mr. Brian Hatoff, brian_hatoff@urscorp.com
- 05/1999 – Present: Pittsburg Energy Facility. Preparation of project Cultural Resources Monitoring and Mitigation Plan, Paleontological Resources Monitoring and Mitigation Plan, preparation of the Crew Education Plan, and on-site cultural resources monitoring, and preparation of record forms for regional archaeological information center. Mr. Brian Hatoff, brian_hatoff@urscorp.com
- 05/1999 – Present: La Paloma Energy Facility. Project Cultural Resources Monitoring and Mitigation Plan, Paleontological Resources Monitoring and Mitigation Plan, preparation of the Crew Education Plan, field survey, BLM coordination, and preparation of documentation for regional archaeological information center. Mr. Brian Hatoff, brian_hatoff@urscorp.com
- 08/00 – 09/00: Sunrise Energy Facility. Field survey, BLM coordination, and preparation of documentation for BLM and regional archaeological information center. Mr. Brian Hatoff, brian_hatoff@urscorp.com
- 05/1999 – 07/1999: Emeryville Shellmound (CA-ALA-309). Staff Archaeologist during Phase I sampling, profile drawing, field recordation. Phase 2 recovery of cultural

PROFESSIONAL AFFILIATIONS

Society of American Archaeology (SAA)

European Association of Archaeology (EAA)

Croatian Archaeological Society (HAD)

The Prehistoric Society – London

materials and documentary/excavation of human burials. Mrs. Sally Morgan, sally_morgan@urscorp.com

- 05/1999 – Present: Bay Bridge Project; Yerba Buena Island (CA-SFr-04/H). Staff Archaeologist during Extended Phase 1 work. Responsibilities included historical report preparation, construction of a data recovery research design, and cultural resources monitoring during geologic coring and seismic testing program. Mr. Vance Bente, vance_bente@urscorp.com
- Port of Oakland. Preparation of a stand-alone CEQA/NEPA Plan of Action protocol for the Port Authority, in the event of discovery of archaeological materials during submarine dredging for Berths 55-58 Project.
- Hanford Energy Facility. Supervision of the field survey, pre-field bibliographical record search, preparation of the Technical Report and Cultural Resources section of the Application for Certification (AFC), on behalf of the client, for submittal to the California Energy Commission; Mr. Brian Hatoff, brian_hatoff@urscorp.com
- Elliot Road Bridge Survey. Historical bridge survey for the County of San Joaquin, Publics Work Department.
- Stanford Stockpile Area. Preparation of historical record search with the Northwest Information Center (NWIC), and initial liaison with the NWIC for the project.
- 06/1999 – Present: Merced Campus Parkway. Preparation of Cultural Resources surveys, technical reports; Area of Potential Effect (APE) corridors for multiple option right-of-way, preparation of time, distance, and cost requirements. Mr. Brian Hatoff, brian_hatoff@urscorp.com
- Chevron Spill Response Program – Cultural Resources Locator Tool and Global Emergency Response. Program provides locator tools to facilitate rapid response to upsets or other unexpected events that could have adverse effects on local, regional or global cultural resources. Project will integrate a network of cultural resource management specialists and scientists worldwide. Mr. Vance Bente, vance_bente@urscorp.com
- Benicia Waste Water Treatment Plant. Work consisted of cultural resource monitoring during constructions and excavations on the plant grounds, and final report

PREVIOUS EXPERIENCE

- preparation and submission.
- 09/1999 – Present: San Francisco International Airport. Pre-field survey bibliographic record search, coordination of various Cultural Resource- related project requirements, preparation of reports for clients and federal agencies. Mr. Vance Bente, vance_bente@urscorp.com
 - Artship. Cultural Resources record search for the ‘Artship’ floating art gallery.
 - 11/1988 – 01/1992: Contract Field Archaeologist, California Department of Transportation (CALTRANS), District 11. Archaeological resource mitigation, field survey and documentation, cultural resource sampling, and monitoring in conjunction with various historic and prehistoric compliance projects.
 - 01/1990 – 12/ 1991: Contract Field Archaeologist, compliance work in conjunction with numerous archaeological surveys, field documentation requests, and preparation of documentation for regional archaeological information centers for the California Department of Forestry (CDF), prior to controlled forest burn projects; San Diego County. Dr. Brad Bartel, University of North Carolina, Greensboro –bartelb@dawson.uncg.edu
 - 01/1990 – 04/1992: Contract Field Archaeologist, Ogden Environmental and Energy Services, LTD. Work throughout San Diego County involved archaeological surveys, field recordation, excavations (historic and prehistoric), and site record/documentation preparation for regional archaeological information center. Mrs. Danielle Huey, U.S. Navy Facility Engineering Cmd., S.W. Div. – dmhuey@efdswest.navy.mil
 - 07/1992 - San Clemente Island; Field Archaeologist on the ‘Aboriginal houses in the California Bight’ project. Excavated and documented Native American house structures fabricated from whale bone. Mrs. Danielle Huey, U.S. Navy Facility Engineering Cmd., S.W. Div. – dmhuey@efdswest.navy.mil
 - 09/1988 – 12/1990: San Diego Royal Presidio. Excavations, sampling, artifact illustration, documentation of prehistoric and historic artifacts from the Presidio officer’s quarters. Dr. Brad Bartel, University of North Carolina, Greensboro –bartelb@dawson.uncg.edu
 - 04/1997 – 08/1997: Aargau, Switzerland. Archaeological Technician at the Roman Legionnaire encampment,

CURRENT RESEARCH
PROJECTS

Vindonissa (Windische), Switzerland. Work consisted of rescue excavations, section profile illustration, floor plan illustration, documentation, and environmental sampling at the historic site.

- 01/1995 – 12/1997: Grisons Alpine Valley Survey, Switzerland. Field Supervisor. Evaluating previously documented prehistoric sites and direction of: survey, excavation and sampling on alpine valley and high altitude sites, informant interviews, final publications. Dr. Philippe Della Casa, University of Zurich, phildc@access.unizh.ch

1992-Present Research Director, Korcula Archaeological Research Group (KARG). Director of a multi-national team that conducts archaeological, anthropological, historical, and related inter-disciplinary research including cultural resource management, field surveys, resource recovery and testing, field and bibliographic documentation and museum-based studies, on the island of Korcula, Croatia. KARG maintains a permanent facility at the Arheološki Muzej, Vela Luka, Korcula.

1997-Present Project Co-Director, The Sušac Expedition. Director and project graduate student supervisor for multi-disciplinary studies the island of Sušac, Croatia. Oversight of logistics, and all archaeological, historical, cultural, and environmental research related to remote insular studies in the Adriatic Sea. Particular emphasis on prehistoric and protohistoric trans-Adriatic Sea cultural connections/ resource exploitations within a coastal marine environment.

1993-Present Author, “*Anthrophotography I: Croatia, Bosnia, Slovenia*”. Anthropological project is focused on cultural elements of Croatia’s Dalmatian Coast and regions of Slovenia and Bosnia. Documentation is conducted via photographic record, supported by informant interviews, participant observation, and cartographic illustration.

PUBLICATIONS

Bass, B. 1999. Review of V. Gaffney, B. Kirigin, M. Petric, and N. Vujnovic (eds.), *The Archaeological Heritage of Hvar, Croatia: Volume 1. BAR International Series S660*. (Oxford:

British Archaeological Reports, 1997). *American Journal of Archaeology* 103: 131-133.

Bass, B. 1998. Early Neolithic offshore accounts: remote islands, maritime exploitations, and the trans-Adriatic cultural network. *Journal of Mediterranean Archaeology* 11 (2): 37-62.

Radic, D., B. Bass and P. Della Casa. 1998. Arheološka istraživanja na otoku Sušcu: sezona 1998. *Obavijesti, Hrvatsko Arheološko Društva* 30 (3): 55-59.

Bass, B., D. Radic and B. Kirigin. 1997. Sušac 1997. *Obavijesti, Hrvatsko Arheološko Društva* 29 (3): 70-72.

Bass, B., 1998. Early Neolithic evidence from the island of Sušac, Croatia: preliminary report I. Unpublished project interim report, Universität Zürich, Abteilung Ur- und Frühgeschichte (Department of Prehistory).

Radic, D. and B. Bass. 1999. Back to the current Greek reality on Korcula: the ground situation reviewed, new evidence, and future investigations. In B. Kirigin and N. Cambi (eds.), *Greek Influence in the East Adriatic Coast: Split, Croatia, 24-27 September 1998*. Split: Knjizevni Krug (in press).

Della Casa, P., B. Bass and F. Fedele. 1999. The Grisons Alpine Valleys Survey 1995-97: methods, results, and prospects of an interdisciplinary research program. In P. Della Casa (ed.), *Prehistoric Alpine Environment, Society, and Economy. Papers of the international colloquium PAESE '97 in Zurich (September 3-6, 1997):151-172*.

Universitätsforschungen zur prähistorischen Archäologie 55. Bonn: Habelt.

Radic, D. and B. Bass. (in press) Current archaeological research on the island of Korcula, Croatia: part I. *Vjesnik za arheologiju i historiju dalmatinsku* 87 (1994).

AREAS OF EXPERTISE

- Cultural Resource Management
- Section 106, NHPA Compliance
- Prehistoric Archaeology

EDUCATION

University of California,
Davis: M.A.,
Anthropology, 1974

University of California,
Davis: B.A.,
Anthropology, 1971

CERTIFICATION

Register of Professional
Archaeologists

PROFESSIONAL HISTORY

URS Greiner Woodward
Clyde, Senior Project
Archaeologist, 1991-date

U.S. Department of
Interior, Bureau of Land
Management - District
Archaeologist, 1975-1991

REPRESENTATIVE EXPERIENCE

Mr. Hatoff has 25 years of experience in the management of cultural resources with specialized expertise in the prehistoric archaeology and ecology of California and the Great Basin. He held sole responsibility for the management of cultural resources on 5.5 million acres of public lands in western Nevada and eastern California. In this role, he handled a wide array of undertakings including preparation of EIS/EA documentation, Section 106 compliance/evaluation/ review, Native American consultations pursuant to provisions of the American Indian Religious Freedom Act, cultural resource permitting, contract development and administration, preparation of cultural resource management plans for cultural and paleontological resources, and technical document preparation.

As a Senior Project Archaeologist in URS's cultural resources group Mr. Hatoff has recently managed several major cultural resource studies in support of NEPA and CEQA-driven projects. Most recently he completed preparation of the cultural resources technical report and cultural resources and paleontology environmental report sections for California Energy Commission Applications for Certification in Buttonwillow, CA; Tejon Ranch, CA; and San Diego, CA.

Representative project experience includes the following:

- Otay Mesa Generating Project, San Diego, California – Otay Mesa Generating Company, LLC: Directed cultural and paleontological resources components of California Energy Commission Application for Certification (AFC). Provided oversight for field surveys and prepared cultural resources technical report and cultural resources and paleontology AFC sections.
- La Paloma Generating Project, Buttonwillow, California - La Paloma Generating Company, LLC: Directed cultural and paleontological resources components of California Energy Commission Application for Certification (AFC). Conducted field surveys and prepared cultural resources technical report and cultural resources and paleontology AFC sections.
- Pastoria Energy Facility Project, Tejon Ranch, California Pastoria Energy Facility, LLC: Directed cultural and paleontological resources components of California Energy Commission Application for Certification (AFC). Conducted field surveys and prepared cultural resources

technical report and cultural resources and paleontology AFC sections.

- Lower Guadalupe Flood Control Project, Santa Clara County, California - Santa Clara Valley Water District: Cultural resources program manager for levee enhancement project; directed archaeological survey program and identified testing requirements for project.
- Tasman Light Rail Corridor Project, Santa Clara County, California - Santa Clara Valley Transportation Authority: Directed archaeological excavations at archaeological site SCL-12; wrote 66 page interpretive book on archaeology and ethnohistory in Santa Clara County; direct archaeological monitoring program during Tasman Corridor construction.
- Malin, Oregon to Round Mountain California Transmission Line and Access Road Maintenance Program, northeastern California - Western Area Power Administration (Western): Directed cultural resources program for comprehensive Class I overview and Class III survey for over 100 miles of western-maintained facilities to ensure Section 106 compliance.
- Otay Mesa Generating Project, San Diego County, California - U.S. Generating Company: Directed cultural and paleontological resources components of California Energy Commission Application for Certification (AFC). Prepared AFC sections and directed subcontractors on complex, multi-component project.
- Mojave Pipeline Northward Expansion, California - Mojave Pipeline Company; Comprehensive Class I Cultural Resources Overview for proposed 560-mile natural gas pipeline (documents prepared for FERC, BLM, and responsible for preparation and implementation of Class III technical report, California State Lands Commission, and California OHP).
- Topock Interconnect, Arizona - Enron Corporation; Preparation (and successful implementation) of Treatment and Monitoring Program for natural gas pipeline pursuant to FERC, BLM and Arizona SHPO requirements; Native American consultation with Colorado River Indian Tribes and Fort Mohave Indian Tribe.
- Alturas Transmission Line Project - CPUC and BLM;

Cultural resources task leader for Class III surveys of 270 miles of transmission line ROW in northeastern California and western Nevada and preparation of cultural resource sections of CEQA/NEPA documents.

- Presidio of San Francisco - U.S. Army Corps of Engineers and National Park Service; Implementation of comprehensive archaeological monitoring program in hazmat setting, exploratory archaeological excavations in conjunction with a ground-penetrating-radar study, extensive on-going agency consultation/coordination.
- Assistant Task Manager for the McClellan AFB National Register District Revision, USACE, Sacramento District. Provided technical oversight and coordination for review of McClellan AFB to incorporate WW II-era structures into a revised Historic District. Effort culminated in Final Report with recommendations to USACE.
- Project Archaeologist, Fallon NAS Cultural Resource Management Plan, Department of the Navy, 1994. Provided oversight for preparation of cultural resources management plan for Fallon NAS to guide their inventory and Section 106 compliance procedures.
- Cortez Gold Project, Nevada - Placer Dome, U.S.; EIS and Cumulative Effects Study - Cultural resources task leader, technical review, permitting and Section 106 compliance/evaluation, and Native American consultation oversight.
- Littlerock Dam and Reservoir Restoration Project, Los Angeles County, California - EIS/EIR interim project manager, cultural resources task manager - responsible for all environmental permitting aspects of project including coordination of Section 404 requirements.
- Los Vaqueros Reservoir Project, Contra Costa County, California (special assistant to prime contractor, J.M. Montgomery Engineers) - Assisted in successful preparation of multi-component document submitted to SHPO containing research design, site evaluations and findings of effect, and provide client technical guidance with Section 106 compliance issues.

PUBLICATIONS

Figures for Explanation: Scratched Petroglyphs at the Pistone

Site in Western Nevada, with Eric. W. Ritter, In Archives of Great Basin Prehistory, No. 1, 1998. Coyote Press, Salinas, CA.

Archaeology and Ethnohistory in Santa Clara County, California: Cultural Resources Mitigation for the Tasman Corridor Light Rail Project, with Sally S. Morgan. Prepared for Santa Clara Valley Transportation Authority. 1998.

Book Review, Protecting the Past. George S. Smith and John Ehrenhard editors. CRC Press, Boca Raton, Florida, 1991. In, American Antiquity, Vol. 59, No. 2, 1994.

Archaeology and the Public: Future Directions, In Journal of California and Great Basin Anthropology, Vol. 14, No. 1, 1992.

A Prehistoric Bighorn Sheep Drive Complex, Clan Alpine Mountains, Central Nevada, with Kelly R. McGuire, In Journal of California and Great Basin Anthropology, Vol. 13, No. 1, 1991.

Archaeological Research in Churchill County. A Tale of Changing Perspectives, In Focus Vol. 1, No. 1. Churchill County Museum, Fallon. 1987.

The People of the Past/The Hidden Cave Experience with David Hurst Thomas, in Native American Annual, Vol. 1, No. 1. 1985a.

Management Objectives of the Hidden Cave Project, In Anthropological Papers of the American Museum of Natural History, Vol. 60. 1985b.

The Hidden Cave Archaeological Project: A Case Study in Creative Funding, In Contract Abstracts and CRM Archaeology, Vol. 2, No. 3. 1982.

Cultural Resources Management and the Public: A Case History, In American Society for Conservation Archaeology Report, Vol. 8, Nos. 5 and 6. 1981.

Sedimentological Analysis, In Guitarrero Cave, ed. Thomas Lynch, Academic Press, London, New York, San Francisco. 1980.

Cultural Resource Management at Grimes Point, in Nevada Archaeological Survey Reporter, Vol. 10, No. 2. 1977.

Late Pleistocene Pollen and Sediments: An Analysis of a Central California Locality, with Eric W. Ritter in The Texas Journal of Science, Vol. XXIX, Nos. 3 and 4.

**PAPERS PRESENTED AT
PROFESSIONAL
MEETINGS AND
CONFERENCES**

The Mateo Ridge Site, with David Hurst Thomas, In
Anthropological Papers of the America Museum of Natural
History, Vol. 53, Part 3. 1976.

Chronological Placement of the Farmington Complex in
Central California, with Eric W. Ritter and Louis A. Payen, In
American Antiquity, Vol. 41, No. 3.

Archaeological Investigations in the BLM Battle Mountain
District, in Nevada Archaeological Survey Reporter, Vol. 8,
No. 1. 1975.

Geomorphology and Archaeology, with Eric W. Ritter, In
Center for Archaeological Research at Davis Publication No.
4. 1974.

Archaeology and the Public: Future Directions, Plenary
Session paper presented at the Twenty-Second Great Basin
Anthropological Conference, Reno, Nevada. 1990a.

With Eric W. Ritter, "Symbols For Explanation: Scratched
Petroglyphs at the Pistone Site in Western Nevada."
Presented at the Twenty-Second Great Basin Anthropological
Conference, Reno, Nevada. 1990b.

"Wetlands Archaeology and the Public," Conference on the
Nevada State Historic Preservation Plan, sponsored by the
Nevada Division of Historic Preservation and Archaeology,
Reno, Nevada. 1989.

"Cultural Resources Interpretive Techniques," Western
Interpreters Association - National Park Service Annual
Conference, Yosemite, CA. 1986a

Co-Chairman for Symposium on Western Great Basin
Prehistory and Co-Presenter "Archaeology on Black
Mountain: 26Mn2001" at the 20th Great Basin
Anthropological Conference, Las Vegas. 1986b.

"Seventy Years of Archaeology in Western Nevada,"
Churchill County Museum Association, Fallon. NB. 1985

Organizer and symposium chairman at 1981 SAA Annual
Meeting, San Diego, CA. Symposium entitled, "The Interface
of Federal Cultural Resource Management Programs and the
Public." 1981.

"Cultural Resource Management and the Public: A Case

History" paper presented in above symposium.

"The Hidden Cave Project" with David Hurst Thomas, Great Basin Anthropological Conference, Salt Lake City. 1980a.

"Hidden Cave: From Excavation to Interpretation," Churchill County Museum, Fallon, NV. 1980b.

"Federal Employment Opportunities in Anthropology," Hamilton College, Clinton, New York. 1979.

"Cultural Resource Management at the Grimes Point Area," Society for California Archaeology, San Diego. 1977.

"Cultural Resource Contracts and the BLM: Reconciling the Needs of a Multiple Resource Planning Agency and Research-Oriented Contractors," Great Basin Anthropological Conference, Las Vegas, NV. 1976.

"The Gatecliff Excavation and Central Nevada Archaeology," Southern Nevada Historical Society - Archaeo-Nevada Meeting. 1976.

"Strategy Report: The Pine Valley Archaeological project," Great Basin Anthropological Conference, Carson City, NV. 1974.

"Temporal and Cultural Placement of the Farmington Complex in Central California," Society for California Archaeology, Riverside, California. 1974.

"Palynology of a Central California Bog," Society of California Archaeology, Sacramento, CA. 1970.

**SPECIAL
PRESENTATIONS**

Guest of Shaanxi Institute of Archaeology, Xian, People's Republic of China, to lead Seminar on History of Archaeology in the Western U.S. 1986.

AREAS OF EXPERTISE

- Archaeology
- Cultural Resource Management
- Human Osteology

EDUCATION

University of Hawai'i:
Graduate program in
Anthropology

Hampshire College: B.A.,
Anthropology, 1995

PROFESSIONAL HISTORY

URS Corporation,
Archaeologist, 2000-
Present

Archaeological Resource
Management, Staff
Archaeologist, 1999-2000

Holman and Associates,
Laboratory Technician,
1999

Foster Wheeler
Environmental
Corporation, Field
Technician, 1999

B. F. Smith and
Associates, Field
Technician, 1999

Engineering-
Environmental
Management, Field
Technician, 1999

ASM Affiliates, Inc., Field
Technician, 1998

Archaeological Research
Unit, U.C. Riverside, Field

REPRESENTATIVE EXPERIENCE

Mr. Wesson has 6 years experience in cultural resource management, primarily working with archaeological resources. His professional experience encompasses a wide range of activities in the field, laboratory, and office, dealing with precontact, protohistoric, and historic resources. Mr. Wesson's field experience includes: survey, mapping, recording, photography, testing, data recovery, on-site analysis of human remains, burial excavation and relocation, and monitoring of mechanized excavation. In the laboratory, Mr. Wesson's professional experience includes: analysis of precontact lithic, ceramic, bone, and shell artifacts, as well as historic glass, ceramic, and metal artifacts; analysis of terrestrial and marine faunal remains; osteological analysis of human skeletal remains, in both archaeological and forensic contexts; preparation of C14 samples; cataloguing, preservation, and curation; artifact illustration; computer coding, data-entry, and statistical analysis. Mr. Wesson's office experience in the field of cultural resource management includes: Writing, layout and formatting of NEPA and CEQA level P/A and site reports, as well as technical reports for linear projects; computer-aided mapping and graphics production; coordination of maps for records searches; records searches at California Historical Resources Information System (CHRIS) Information Centers; communication with the Native American Heritage Commission (NAHC) and NAHC listed Native American contacts throughout the State of California.

Representative projects include:

- Writing of Archaeological Survey Report (ASR) and Historic Properties Survey Report (HPSR) for Old Canyon Road Bridge Seismic Retrofit, for California Department of Transportation (Caltrans District 4), Federal Highways Administration (FHWA), and City of Fremont, CA. Archaeological field survey and coordination with Historical Resources subcontractor. Formulation of Area of Potential Effects (APE). Consultation with NAHC and Native American contacts.
- Writing of CEQA Initial Study for Stanford University Clark Center Project, for County of Santa Clara, Department of Planning and Development. Writing of detailed project description and discussion of impacts and mitigation for the following sections: Aesthetics, Agricultural Resources, Biological Resources, Cultural

Technician, 1998

International
Archaeological Research
Institute, Inc., Field
Technician, 1997

SWCA, Inc.,
Environmental
Consultants, Field
Technician, 1996

Western Cultural Resource
Management, Inc., Field
Technician, 1995

Mesa Verde National Park,
Laboratory Osteologist,
1995

Hampshire College/
University of
Massachusetts, Teaching
Assistant, 1995

Anthropology Department,
National Museum of
Natural History,
Smithsonian Institution,
Intern, 1994

Anthropology Department,
National Museum of
Natural History,
Smithsonian Institution,
Primary Osteological
Research, 1994

Fort Lewis College,
Archaeological Field
Training, 1993

Resources, Geology and Soils, Hazards and Hazardous
Materials, Hydrology and Water Quality, Land Use,
Noise, Population and Housing, Public Services,
Resources and Recreation, Utilities and Service Systems.
Coordination with applicant and County planners and
subcontractors.

- Writing of Cultural Resources Technical Report for
Texaco Sunrise Power Project natural gas pipeline, Kern
County, California. Coordination and production of final
Cultural Resources and Paleontological Resources
documents, submitted to California Energy Commission
(CEC) and Bureau of Land Management (BLM). Field
survey, GPS-aided documentation of historic resources
related to petroleum industry. Coordination with
subcontractors and project engineers.
- Coordination of cultural resource research for Qwest
Communications Fiber Optic projects throughout the State
of California (approx. 1,500 linear miles). Research at
California Historical Information System (CHRIS)
Information Centers. Consultation with NAHC and
Native American contacts and monitors. Close
communication with client. Writing, formatting, editing
of summary documents for all records searches. LORS
searches. Computer aided mapping of project areas and
resource locations. Coordination of field monitors and
supervision of project assistants. Monitoring of
mechanized excavation.
- Writing of Section 106 Compliance Report for Merced
County Juvenile Justice Correctional Complex, for County
of Merced Department of Public Works, on behalf of
Office of Justice Programs/Corrections Program Office
(OJP/CPO) of the U.S. Department of Justice (DOJ),
submitted to Office of Historic Preservation (OHP),
California Department of Parks and Recreation (DPR).
Records search at Central California Information Center
(CCIC). Consultation with Native American Heritage
Commission (NAHC) and Native American contacts.
Communication with client. Archaeological survey.
Complete federal compliance with Section 106 of the
National Historic Preservation Act (NHPA).
- Cultural resources research for U.S. Marine Corps Air
Station (MCAS) Miramar, San Diego County, on behalf of
U.S. Navy (Southwest Division) for Environmental
Baseline Survey for land transfer to U.S. Fish and Wildlife

Service (USFWS). Records searches at South Coastal Information Center (SCIC) and San Diego Museum of Man.

- Writing, layout, formatting of NEPA and CEQA compliance reports. Computer aided mapping and graphics production. Artifact analysis, illustration, cataloging, sorting, and data entry. Background research, survey, mapping, excavation, recording, and monitoring of precontact and historic resources. Northern California: Santa Clara, San Mateo, Santa Cruz, San Benito, Alameda and Monterrey Counties.
- Processing of historic artifacts, including cataloging, sorting, curation at the Presidio, Golden Gate National Park, San Francisco, California.
- Survey, mapping, recording of precontact and historic resources for fiber optic cable corridor in Sacramento, Yolo, Sutter, Colusa, and Tehama Counties, California.
- Survey, mapping, excavation, recording, and monitoring of precontact and historic resources in Southern California: Del Mar, Chula Vista, Anza-Borrego Desert State Park, and Camp Pendleton U.S.M.C. Base in San Diego County; Death Valley National Park in Inyo County.
- Survey, mapping, monitoring, excavation, sampling, recording of precontact, protohistoric, and WW II era historic resources for U.S. Army Corps of Engineers project, Babeldaob Island, Republic of Palau, Micronesia.
- Writing of Historic Properties Management Plan, survey, recording of precontact and historic resources for Bureau of Reclamation Animas-La Plata Water Project in Redmesa and Durango, Colorado.
- Relocation and reassessment of precontact sites using GPS. Survey, recording of precontact and historic resources in western Colorado.
- Survey, mapping, excavation and recording of Archaic sites. El Paso Natural Gas pipeline impact corridor, Bisti, New Mexico.
- NAGPRA compliant analysis and write-up of precontact human skeletal remains. Inventory, measurement, and computer coding of osteological data at Mesa Verde National Park Research Center, Colorado.

- Inventory, analysis, and catalogue of human skeletal remains. Detailed write-up of cases of trauma and occupational stress. Excavation of Woodland and historic burials in DC area.
- Excavation of prehistoric site, Pleasant View, CO. Survey, mapping using transit, theodolite, Total Station EDM. Laboratory analysis of ceramic and lithic artifacts, data entry.

PRESENTATIONS AND PUBLICATIONS

1997 Invited Lecture at The Royal University of Fine Arts, Department of Archaeology, Phnom Penh, Kingdom of Cambodia "CRM in Cambodia: Challenges and Potential Strategies"

1997 Paper published in Explorations in Southeast Asian Studies "Indigenous Cambodian Archaeology: Development, Motivations, and Directions" Volume 2, Number 1: 2-11 1995

1995 Paper Presentation at 65th Annual Meeting of American Association of Physical Anthropologists, Oakland, California "Women carried heavy loads while men were weaving: precontact sexual division of labor at Black Mesa, Arizona"

1995 Abstract published in American Journal of Physical Anthropology Annual Meeting Issue, Supplement 20, 1995

Attachment B
Previous Site Records from the Project Area

Attachment B
Previous Site Records from the Project Area

APPENDIX J

CULTURAL RESOURCE TECHNICAL REPORT

Appendix B to the Cultural Resources Technical Report (Appendix J – Archaeological Resources), Cultural Resources Literature Review, Field Survey, and Site Records prepared for the El Segundo Power Redevelopment (ESPR) Project is confidential and is not appropriate for public distribution. Copies have been provided to the California Energy Commission under separate cover.

Attachment C

New Sites Recorded during the ESPR PROJECT Survey

Attachment C
New Sites Recorded during the ESPR Project Survey

APPENDIX J

CULTURAL RESOURCE TECHNICAL REPORT

No new archaeological sites were observed during the current survey.

Attachment D
Native American Contact and Communications

