LAX MIDFIELD SATELLITE CONCOURSE PROJECT
DRAFT CULTURAL RESOURCES TECHNICAL REPORT

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EXECUTIVE SUMMARY

This Cultural Resources Technical Report documents the findings of a records search and Phase I survey of the proposed Midfield Satellite Concourse (MSC) North Project (project) site at Los Angeles International Airport (LAX) property in Los Angeles County, California.

- A paleontological records search found that no fossil localities have been recorded within the proposed project property.

- A cultural resources records search and literature review identified two archaeological sites and two buildings or structures that had previously been recorded in the cultural resources study area. Of these resources, the two buildings or structures are found in the proposed project property; the remaining resources are located within the 0.5-mile buffer that surrounds the project property.

- A total of nine new buildings or structures were recorded in the proposed project property as a result of the Phase I survey. None of these buildings or structures was determined to be historical resources under the California Environmental Quality Act (CEQA).

- No Native American sacred sites or traditional cultural places were identified within the project property as a result of the Phase I walkover surveys or consultation with the Native American Heritage Commission (NAHC) and tribal representatives.

- No formal cemeteries or known human remains are located within the proposed project area.

The proposed project is not expected to adversely affect significant cultural resources within the MSC North Facility project area. Moreover, the implementation of the mitigation measures outlined in the Mitigation Monitoring and Reporting Program[1] for the LAX Master Plan will ensure that any impacts associated with the unanticipated discoveries of paleontological or archaeological resources are reduced to below the level of significance.

[1] City of Los Angeles, Los Angeles World Airports. September 2004. *LAX Master Plan Alternative D, Mitigation Monitoring and Reporting Program*.

SECTION 1.0
INTRODUCTION

This Cultural Resources Technical Report was prepared to fully characterize the proposed Midfield Satellite Concourse (MSC) North Project (project) with respect to cultural resources and related planning and regulatory statutes and guidelines. The characterization and analysis contained in this report are intended to identify potential impacts to cultural resources based on information developed from literature reviews; agency coordination; consideration of applicable federal, state, and local statutes and guidelines; database searches; and a Phase I survey conducted on the project and three construction staging areas covering approximately 164.5 acres at Los Angeles International Airport (LAX), Los Angeles County, California.

The project would entail the creation of a new aircraft passenger concourse and associated elements at LAX. The MSC Program is a multiphase project. The project under study is the MSC North Project, which includes a four-level concourse facility with up to eleven gates, associated aircraft apron areas, taxilanes and taxiways, a ramp tower, connections to move passengers and goods through the airport, and utilities that support the project.

1.1 PURPOSE OF THE PROJECT

The purpose of the project is to upgrade the airport in a manner consistent with the LAX Master Plan. Approved by the Los Angeles City Council in December 2004, the LAX Master Plan is the strategic framework for future development at the airport. The principal components of the LAX Master Plan include modernization of the runway and taxiway system; redevelopment of the terminal area; improvement of access to the airport; and enhancement of passenger safety, security, and convenience. A joint Environmental Impact Statement (EIS) and Environmental Impact Report (EIR), completed in December 2004, analyzed potential environmental impacts associated with the LAX Master Plan.[1] The Los Angeles City Council certified the Final EIR as compliant with the California Environmental Quality Act (CEQA), and the Federal Aviation Administration (FAA) issued a Record of Decision on the Final EIS in compliance with the National Environmental Policy Act (NEPA). The LAX Master Plan EIS/EIR assessed the MSC (then called the "West Satellite Concourse") at a programmatic level under CEQA, requiring additional CEQA review before construction and operation of the MSC, of which this report is part.

1.2 PURPOSE OF THE CULTURAL RESOURCES TECHNICAL REPORT

This Cultural Resources Technical Report was prepared to characterize the cultural resources that would potentially be affected by construction, operation, and maintenance of the MSC. Land modifications required to accommodate MSC would be subject to discretionary approvals by Los Angeles World Airports (LAWA), and as such constitute a project pursuant to CEQA. Acting in its capacity as a lead agency under CEQA, LAWA would need to determine the potential for the project to result in significant impacts, consider mitigation measures and alternatives capable of avoiding significant impacts, and take the environmental effects of the proposed action into consideration as part of its decision-making process. This Cultural Resources Technical Report is intended to support a CEQA Initial Study for the project, and provides the substantial evidence on

[1] City of Los Angeles. April 2004. *Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements*. Los Angeles, CA.

which the required evaluation of feasibility, environmental analysis, and findings of fact in relation to cultural resources can be made.

1.3 INTENDED AUDIENCE

This Cultural Resources Technical Report summarizes the results of cultural resource investigations for consideration by the project applicant, the lead agency, trustee and responsible agencies, and the public. The information contained in this report has been an integral part of the effort to avoid and minimize impacts to cultural resources to the maximum extent practicable while attaining most of the basic objectives of the project. The report details the findings of paleontological, archaeological, and historic resources records searches undertaken at the South Central Coastal Information Center at California State University, Fullerton; the Native American Heritage Commission (NAHC); and the Natural History Museum of Los Angeles County. In addition, data obtained from a Phase I survey of the project area are also presented in this report. Finally, the report documents and summarizes the coordination and consultation that has been undertaken by Sapphos Environmental, Inc. with Native American representatives.

1.4 CONFIDENTIALITY OF ARCHAEOLOGICAL SITE INFORMATION

In order to protect potentially significant archaeological resources, location data for those resources are made available on a need-to-know basis only. Complete copies of this Cultural Resources Technical Report will be provided to state and federal lead agencies to support the decision-making process. The location data for the archaeological resources will not be circulated for public review. To protect the sites from unauthorized excavation, looting, or vandalism, these agencies have been notified of the need to keep confidential the location of known archaeological resources. Records housed in the Information Centers of the California Historical Resources Information System (CHRIS) are exempt from the California Public Records Act (Government Code Section 6250 *et seq.*). Government Code Section 6254.10 states,

> Nothing in this chapter requires disclosure of records that relate to archaeological site information and reports maintained by, or in the possession of, the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, the Native American Heritage Commission, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a California Native American tribe and a state or local agency.

Government Code Section 6254(r) explicitly authorizes public agencies to withhold information from the public relating to "Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission." Due to the sensitive nature of cultural resources described herein, the technical appendices to the report containing the archaeological site records and/or maps are confidential and meant for informative purposes for the project applicant and Los Angeles County only.

1.5 SCOPE OF THE CULTURAL RESOURCES ANALYSIS

The analysis of cultural resources consists of a summary of the regulatory framework that guides the decision-making process, a description of the methods employed to support the characterization and evaluation of cultural resources within the cultural resources study area, the results for baseline conditions for cultural resources, the potential for the project to affect cultural resources, and opportunities to avoid and minimize the potential effects of the project.

1.6 SOURCES OF RELEVANT INFORMATION

Information used in the preparation of this Cultural Resources Technical Report derives from a literature review, including published and unpublished literature, and informal consultation with cooperating agencies. In addition, information is also presented from the Phase I survey of the proposed project area by Sapphos Environmental, Inc. Sources of relevant information are cited in footnotes and compiled in Section 6, *References*.

1.7 WORKING DEFINITIONS

There are a number of technical terms used in the characterization of baseline conditions and assessment of the potential for the project to affect cultural resources.

Archaeological site is defined by the National Register of Historic Places (NRHP) as the place or places where the remnants of a past culture survive in a physical context that allows for the interpretation of these remains. Archaeological remains usually take the form of artifacts (e.g., fragments of tools, vestiges of utilitarian, or non-utilitarian objects), features (e.g., remnants of walls, cooking hearths, or midden deposits), and ecological evidence (e.g., pollen remaining from plants that were in the area when the activities occurred).[2] **Prehistoric archaeological sites** represent the material remains of Native American groups and their activities. These sites are generally thought to date to the period before European contact but, in some cases, may contain evidence of trade contact with Europeans. **Ethnohistoric archaeological sites** are defined as Native American settlements occupied after the arrival of European settlers in California. **Historic archaeological sites** reflect the activities of nonnative populations during the Historic period.

BP stands for "before present," which is defined as before 1950 and is used by archaeologists in conjunction with the commonly used term, AD.[3]

Cultural resources study area includes the total area that was evaluated for the presence of prehistoric and historic resources through record searches and consultation. For the purposes of this investigation the study area corresponds to the project property plus a 0.5-mile buffer, and the current survey area is contained within the study area.

Isolate is defined as an isolated artifact or small group of artifacts that appear to reflect a single event, loci, or activity. It may lack identifiable context but has the potential to add important information about a region, culture, or person. Isolates are not considered under CEQA to be significant and, thus, do not require avoidance or mitigation under CEQA. All isolates located during the field effort, however, are recorded, and the data are transmitted to the appropriate CHRIS Information Center.

Historic period is defined as the period that begins with the arrival of the first nonnative population and thus varies by area. Most Southern California archaeologists use AD 1782 as the date to mark the beginning of the historic period, following the beginning of the Spanish colonization of inland California.

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[2] U.S. Department of the Interior, National Park Service. 2000. *National Register Bulletin: Guidelines for Evaluating and Registering Archeological Properties*. Available at: http://www.cr.nps.gov/nr/publications/bulletins/arch

[3] Renfrew, Colin, and Paul Bahn. [1991] 2003. *Archaeology Theories, Methods, and Practice*. 3rd Edition. New York, NY: Thames and Hudson.

Historical resource is defined by CEQA as any object, building, structure, site (including archaeological sites), area, place, record, or manuscript that is listed in, or is eligible for listing in, the California Register of Historical Resources (CRHR); officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution; or identified as significant in a historic resource survey conducted in accordance with the requirements of the CRHR statute (Public Resources Code Section 5024.1(g)). Properties listed in, or determined eligible for listing in, the NRHP are automatically listed in the CRHR and are therefore historical resources under CEQA.

Native American sacred site is defined as an area that has been, and often continues to be, of religious significance to Native American peoples, such as an area where religious ceremonies are practiced or an area that is central to their origins as a people. They also include areas where Native Americans gather plants for food, medicinal, or economic purposes.[4]

Phase I cultural resources survey consists of a literature review (background research), consultation with the Native American Heritage Commission, and fieldwork. Fieldwork consists of a physical inspection of the cultural resources survey area, generally through pedestrian surveys, or by other means when appropriate. The purpose of the Phase I survey is to identify the cultural resources known or likely to be present in the project's impact area and in the immediate vicinity.

Prehistoric period is defined as the era prior to AD 1782. The later part of the prehistoric period (post–AD 1542) is also characterized as the protohistoric period in some areas, which marks a transitional period during which native populations began to be influenced by European presence, resulting in gradual changes to their lifeways.

Project property is the area to which the project applicant has acquired the rights, either through ownership or agreement, to construct a project. Not all portions of the project property will ultimately be used for the construction, operation, and maintenance of the project.

Unique archaeological resource is defined as 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 any of the following criteria:[5]

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

[4] Native American Heritage Commission. Accessed 21 July 2006. "Understanding Cultural Resources." Available at: www.nahc.ca.gov/understandingcr.html

[5] *California Public Resources Code*, Division 13, Section 21083.2(g).

Unique paleontological resource is defined as a fossil that meets one or more of the following criteria:[6]

- It provides information on the evolutionary relationships and developmental trends among organisms, living or extinct.
- It provides data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein.
- It provides data regarding the development of biological communities or interaction between plant and animal communities.
- It demonstrates unusual or spectacular circumstances in the history of life.
- The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

Unique geologic feature is defined as an important and irreplaceable geological formation. Such features may have scientific and/or cultural values.

[6] Scott, E., and K. Springer. Fall 2003. "CEQA and Fossil Preservation in Southern California." *The Environmental Monitor*, pp. 4–10, 17.

SECTION 2.0
PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The total project property consists of approximately 164.5 acres located within Los Angeles International Airport (LAX). The airport is located at the western edge of the City of Los Angeles (Figure 2.1-1, *Regional Vicinity Map*). The area is highly urbanized, consisting of transportation infrastructure (airport and interstate highways), commercial, and residential uses. To the north of LAX is the community of Westchester in the City of Los Angeles, to the east is the City of Inglewood, to the south is the City of El Segundo, and to the west is the Pacific Ocean. Highway access to LAX is provided by the San Diego Freeway (Interstate 405), which is a north-south freeway east of LAX; and the Century Freeway (Interstate 105), which is an east-west freeway south of LAX. Major roadways that serve LAX include Sepulveda Boulevard, Century Boulevard, Imperial Highway, and Lincoln Boulevard.

The project property includes the Midfield Satellite Concourse (MSC) North Project site and the three construction staging areas. The MSC North Project site (approximately 145. 5 acres) is located in the western portion of the airfield within the Air Operations Area west of the Tom Bradley International Terminal (Figure 2.1-2, *Project Location*). Three construction staging areas are situated along the perimeter of the airfield. Staging Area A (approximately 1.5 acres) is located southwest of the MSC, while Staging Areas B (approximately 4.7 acres) and C (approximately 12.8 acres) are located northwest of the MSC. The location of the Central Terminal Processor (CTP), which represents a future phase of the MSC Project, is situated east of the Bradley Terminal in the Central Terminal Area (CTA) now occupied by parking structures. The CTP, as part of a future phase of the MSC Program, is not part of the current project property. However, Sapphos Environmental, Inc. was asked by Ricondo & Associates, Inc. to evaluate the historic status of the extant parking structures as part of the site visit since the future phases of the MSC Program will be evaluated at a programmatic level in the MSC North Project Environmental Impact Report (EIR).

The project property is within the U.S. Geological Survey (USGS) 7.5-minute series, Venice, California, topographic quadrangle in un-sectioned portions of Township 2, South, Range 15 West; Township 2 South, Range 14 West; Township 3 South, Range 15 West; and Township 3 South, Range 14 West (Figure 2.1-2).[1] The elevation ranges from 108 feet above mean sea level (MSL) to 122 feet above MSL.

2.2 EXISTING CONDITIONS

The project property is a developed area of the airport. The current uses of the MSC North Project site include aircraft maintenance hangars, aircraft aprons, and aircraft parking areas. The current uses of the CTP site include parking garages and terminal roadway connectors. The MSC site is surrounded on the north, east, and south by taxiways and runways. Taxiways, U.S. Coast Guard facilities, support facilities, and airfield-related uses border the MSC site on the west. World Way and passenger terminals surround the CTP site on the north, west, and south, while parking garages and the Central Utility Plant lie to the east.

[1] U.S. Geological Survey. 1964. *7.5-Minute Series, Venice, California, Topographic Quadrangle*. Reston, VA.

FIGURE 2.1-1

Regional Vicinity Map

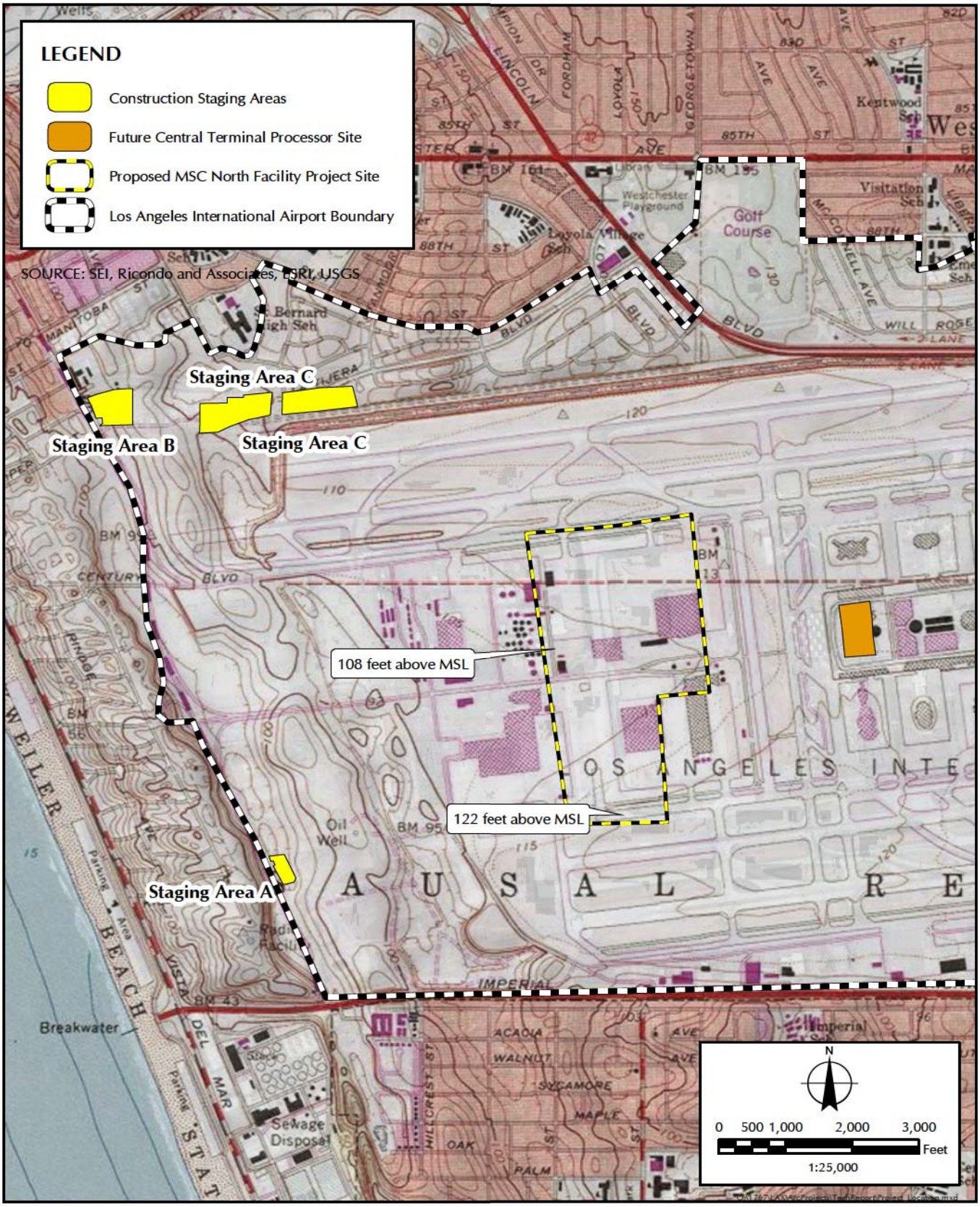

FIGURE 2.1-2

Project Location

2.3 PROJECT ELEMENTS

The project would entail the creation of a new aircraft passenger concourse and associated elements at LAX. The MSC Program is a multiphase project. The project under study is the MSC North Project, which includes a four-level concourse facility with up to 11 gates, associated aircraft apron areas, Taxilane C12, Taxiway C14, a ramp tower or airport traffic control tower, one or more new bus stations to be constructed as part of the MSC North building, connections for baggage and passenger conveyance, landside access from World Way West for employees and delivery of goods and services, and utilities that support the project. To enable the project, existing ancillary facilities will need to be demolished or relocated to allow construction and operation of the MSC North Project. The following facilities are slated for relocation and demolition: American Airlines maintenance (non-power) shop, American Airlines leasehold parking, electrical substation, US Airways maintenance facility, U.S. Coast Guard facility, a water deluge tank and pump station, electrical vault no. 2, FAA navigational aids (beacon and antenna array), and utility lines. Three staging areas on the perimeter of the airfield will be used for storage of equipment and temporary placement of construction debris.

Future phases of the MSC Program will be evaluated at the programmatic level in the CEQA documentation prepared for the MSC North Project and MSC Program. The CTP is part of a future phase of the MSC Program. The CTP will provide passenger processing facilities that cannot be fully accommodated in the existing CTA. The CTP would be centrally located within the CTA, in the location of current parking structures. Roadway modifications along World Way and the associated terminal roadway network would be required as part of the CTP configuration. The parking structures immediately east of the Tom Bradley International Terminal would be demolished as part of this phase.

This regulatory framework identifies the federal, state, and local statutes, ordinances, or policies that govern the conservation and protection of cultural resources that must be considered during the decision-making process for projects that have the potential to affect cultural resources.

3.1 FEDERAL

3.1.1 National Historic Preservation Act of 1966[1]

Enacted in 1966, the National Historic Preservation Act (NHPA) declared a national policy of historic preservation and instituted a multifaceted program, administered by the Secretary of the Interior, to encourage the achievement of preservation goals at the federal, state, and local levels. The NHPA authorized the expansion and maintenance of the National Register of Historic Places (NRHP), established the position of State Historic Preservation Officer and provided for the designation of State Review Boards, set up a mechanism to certify local governments to carry out the purposes of the NHPA, assisted Native American tribes to preserve their cultural heritage, and created the Advisory Council on Historic Preservation (ACHP). Section 106 of the NHPA states that federal agencies with direct or indirect jurisdiction over federally funded, assisted, or licensed undertakings must take into account the effect of the undertaking on any historic property that is included in, or eligible for inclusion in, the NRHP and that the ACHP must be afforded an opportunity to comment, through a process outlined in the ACHP regulations at 36 Code of Federal Regulations (CFR) Part 800, on such undertakings.

3.1.1.1 National Register of Historic Places

The NRHP was established by the NHPA of 1966 as "an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment."[2] The NRHP recognizes properties that are significant at the national, state, and local levels. To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:[3]

Criterion A: It is associated with events that have made a significant contribution to the broad patterns of our history.

Criterion B: It is associated with the lives of persons who are significant in our past.

[1] *United States Code*, 16 USC 470.

[2] *Code of Federal Regulations*, 36 CFR 60.2.

[3] *Code of Federal Regulations*, 36 CFR 60.4.

Criterion C: It embodies the distinctive characteristics of a type, period, or method of construction; represents the work of a master; possesses high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction.

Criterion D: It has yielded, or may be likely to yield, information important in prehistory or history.

Cemeteries, birthplaces, or graves of historic figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; and properties that are primarily commemorative in nature are not considered eligible for the NRHP unless they satisfy certain conditions. In general, a resource must be at least 50 years of age to be considered for the NRHP, unless it satisfies a standard of exceptional importance.

3.1.2 Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 sets provisions for the intentional removal and inadvertent discovery of human remains and other cultural items from federal and tribal lands. It clarifies the ownership of human remains and sets forth a process for repatriation of human remains and associated funerary objects and sacred religious objects to the Native American groups claiming to be lineal descendants or culturally affiliated with the remains or objects. It requires any federally funded institution housing Native American remains or artifacts to compile an inventory of all cultural items within the museum or with its agency and to provide a summary to any Native American tribe claiming affiliation.

3.2 STATE

3.2.1 California Environmental Quality Act[4]

Pursuant to the California Environmental Quality Act (CEQA), a *historical resource* is a resource listed in, or eligible for listing in, the California Register of Historical Resources (CRHR). In addition, resources included in a local register of historic resources or identified as significant in a local survey conducted in accordance with state guidelines are also considered historic resources under CEQA, unless a preponderance of the facts demonstrates otherwise. According to CEQA, the fact that a resource is not listed in or determined eligible for listing in the CRHR or is not included in a local register or survey shall not preclude a Lead Agency, as defined by CEQA, from determining that the resource may be a historic resource as defined in California Public Resources Code (PRC) Section 5024.1.[5]

CEQA applies to archaeological resources when (1) the archaeological resource satisfies the definition of a historical resource or (2) the archaeological resource satisfies the definition of a "unique archaeological resource." A *unique archaeological resource* is an archaeological artifact, object, or site that has a high probability of meeting any of the following criteria:[6]

[4] *California Public Resources Code*, Division 13, Sections 21083.2, 21084.1.

[5] *California Code of Regulations*, Title 14, Chapter 3. Amended 6 October 2005. *Guidelines for the Implementation of the California Environmental Quality Act*, Section 15064.5(a).

[6] *California Public Resources Code*, Division 13, Section 21083.2(g).

1. The archaeological resource contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.

2. The archaeological resource has a special and particular quality such as being the oldest of its type or the best available example of its type.

3. The archaeological resource is directly associated with a scientifically recognized important prehistoric or historic event or person.

Appendix G of the CEQA Guidelines provides a set of sample questions that guide the evaluation of potential impacts with regard to cultural resources.

Would the project:

a) Cause a substantial adverse change in the significance of an historical resource as defined in §15064.5?

b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

d) Disturb any human remains, including those interred outside of formal cemeteries?[7]

3.2.2 California Register of Historical Resources

Created in 1992 and implemented in 1998, the CRHR is "an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change."[8] Certain properties, including those listed in or formally determined eligible for listing in the NRHP and California Historical Landmarks (CHLs) numbered 770 and higher, are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historic resources surveys, or designated by local landmarks programs may be nominated for inclusion in the CRHR. A resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on NRHP criteria:[9]

Criterion 1: It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

Criterion 2: It is associated with the lives of persons important in our past.

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[7] *California Code of Regulations*, Title 14, Chapter 3. Amended 6 October 2005. *Guidelines for the Implementation of the California Environmental Quality Act*, Appendix G.

[8] *California Public Resources Code*, Section 5024.1(a).

[9] *California Public Resources Code*, Section 5024.1(c).

Criterion 3: It embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.

Criterion 4: It has yielded, or may be likely to yield, information important in history or prehistory.

Resources nominated to the CRHR must retain enough of their historic character or appearance to be recognizable as historic resources and to convey the reasons for their significance.[10] It is possible that a resource whose integrity does not satisfy NRHP criteria may still be eligible for listing in the CRHR. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data. Resources that have achieved significance within the past 50 years also may be eligible for inclusion in the CRHR, provided that enough time has lapsed to obtain a scholarly perspective on the events or individuals associated with the resource.[11]

3.2.3 Other State Statutes and Regulations

3.2.3.1 California Historical Landmarks[12]

CHLs are buildings, structures, sites, or places that have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value and that have been determined to have statewide historical significance by meeting at least one of the criteria listed below. The resource must also be approved for designation by the County Board of Supervisors (or the City or Town Council in whose jurisdiction it is located), be recommended by the State Historical Resources Commission, and be officially designated by the Director of California State Parks. The specific standards in use now were first applied in the designation of CHL No. 770. CHLs No. 770 and above are automatically listed in the CRHR.

To be eligible for designation as a Landmark, a resource must meet at least one of the following criteria:

- The first, last, only, or most significant of its type in the state or within a large geographic region (Northern, Central, or Southern California)
- Associated with an individual or group having a profound influence on the history of California
- A prototype of, or an outstanding example of, a period, style, architectural movement or construction or one of the more notable works or the best surviving work in a region of a pioneer architect, designer, or master builder

[10] Office of Historic Preservation. n.d. "Technical Assistance Bulletin 6: California Register and National Register, A Comparison (for Purposes of Determining Eligibility for the California Register)." Available at: www.ohp.parks.ca.gov

[11] Office of Historic Preservation. n.d. "Technical Assistance Bulletin 6: California Register and National Register, A Comparison (for Purposes of Determining Eligibility for the California Register)." Available at: www.ohp.parks.ca.gov

[12] Office of Historic Preservation, Department of Parks and Recreation, State of California. n.d. "California Historical Landmarks Registration Programs." Available at: www.ohp.parks.ca.gov

3.2.3.2 *California Points of Historical Interest*[13]

California Points of Historical Interest are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. Points of Historical Interest (Points) designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the CRHR. No historic resource may be designated as both a Landmark and a Point. If a Point is later granted status as a Landmark, the Point designation will be retired. In practice, the Point designation program is most often used in localities that do not have a locally enacted cultural heritage or preservation ordinance.

To be eligible for designation as a Point of Historical Interest, a resource must meet at least one of the following criteria:

- The first, last, only, or most significant of its type within the local geographic region (city or county)
- Associated with an individual or group having a profound influence on the history of the local area
- A prototype of, or an outstanding example of, a period, style, architectural movement or construction or one of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder

3.2.3.3 *Native American Heritage Commission, Public Resources Code Sections 5097.9–5097.991*

Section 5097.91 of the Public Resource Code (PRC) established the Native American Heritage Commission (NAHC), whose duties include the inventory of places of religious or social significance to Native Americans and the identification of known graves and cemeteries of Native Americans on private lands. Under Section 5097.9 of the PRC, a state policy of noninterference with the free expression or exercise of Native American religion was articulated along with a prohibition of severe or irreparable damage to Native American sanctified cemeteries, places of worship, religious or ceremonial sites, or sacred shrines located on public property. Section 5097.98 of the PRC specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner. Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historic, or paleontological resources located on public lands.

3.2.3.4 *California Native American Graves Protection and Repatriation Act of 2001*

Codified in the California Health and Safety Code Sections 8010–8030, the California Native American Graves Protection and Repatriation Act (Cal NAGPRA) is consistent with the federal NAGPRA. Intended to "provide a seamless and consistent state policy to ensure that all California Indian human remains and cultural items be treated with dignity and respect," Cal NAGPRA also encourages and provides a mechanism for the return of remains and cultural items to lineal descendants. Section 8025 established a Repatriation Oversight Commission to oversee this

[13] Office of Historic Preservation, Department of Parks and Recreation, State of California. n.d. "California Points of Historical Interest Registration Programs." Available at: www.ohp.parks.ca.gov

process. The Act also provides a process for non–federally recognized tribes to file claims with agencies and museums for repatriation of human remains and cultural items.

3.2.3.5 Health and Safety Code, Sections 7050 and 7052

Health and Safety Code Section 7050.5 declares that, in the event of the discovery of human remains outside a dedicated cemetery, all ground disturbance must cease and the county coroner must be notified. Section 7052 establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

3.2.3.6 Penal Code, Section 622.5

Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historic or archaeological interest located on public or private lands but specifically excludes the landowner.

3.3 LOCAL

3.3.1 LAX Master Plan[14]

Approved by the Los Angeles City Council in December 2004, the LAX Master Plan is the strategic framework for future development at the airport. The principal components of the LAX Master Plan include modernization of the runway and taxiway system; redevelopment of the terminal area; improvement of access to the airport; and enhancement of passenger safety, security, and convenience. A joint Environmental Impact Statement (EIS) and Environmental Impact Report (EIR), completed in December 2004, analyzed the LAX Master Plan.[15] The Los Angeles City Council certified the Final EIR as compliant with the California Environmental Quality Act (CEQA), and the Federal Aviation Administration (FAA) issued a Record of Decision on the Final EIS in compliance with the National Environmental Policy Act (NEPA). The LAX Master Plan EIS/EIR assessed the Midfield Satellite Concourse (MSC) at a programmatic level under CEQA, requiring additional review before construction and operation of the MSC, of which this report is part.

As part of the LAX Master Plan, Brian F. Smith and Associates created an Archaeological Treatment Plan[16] and a Paleontological Management Treatment Plan[17] to guide the protection of such resources at the airport.

[14] City of Los Angeles. 29 September 2004. *LAX Plan*. Available at: http://www.ourlax.org/docs/lax_plan/FinalLAXPlan_092904.pdf

[15] City of Los Angeles. April 2004. *Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements*. Los Angeles, CA.

[16] Brian F. Smith and Associates. June 2005. *LAX Master Plan Mitigation Monitoring and Reporting Program, Archaeological Treatment Plan*. San Diego, CA.

[17] Brian F. Smith and Associates. December 2005. *LAX Master Plan Mitigation Monitoring and Reporting Program, Paleontological Management Treatment Plan*. San Diego, CA.

3.3.2 City of Los Angeles Historic-Cultural Monuments[18]

The City of Los Angeles maintains a local register of historic resources identified as Historic-Cultural Monuments (HCMs), defined as "any site (including significant trees or other plant life located on the site), building or structure of particular historic or cultural significance to the City of Los Angeles." HCMs are sites (must meet at least one of the following):

- In which the broad cultural, economic, or social history of the nation, state, or community is reflected or exemplified
- Which are identified with historic personages or with important events in the main currents of national, state, or local history
- Which embody the distinguishing characteristics of an architectural-type specimen, inherently valuable for a study of a period, style, or method of construction
- Which are a notable work of a master builder, designer, or architect whose individual genius influenced his or her age

[18] Office of Historic Resources, Los Angeles Department of City Planning, City of Los Angeles. n.d. "What Makes a Resource Historically Significant?" Available at: http://www.preservation.lacity.org/node/42

SECTION 4.0
METHODS

This section of the Cultural Resources Technical Report describes the methods employed in the characterization and evaluation of cultural resources at the proposed Midfield Satellite Concourse (MSC) North Project (project) property. The study methods were designed to provide the substantial evidence required to address the scope of analysis recommended in Appendix G of the State of California Environmental Quality Act Guidelines (State CEQA Guidelines). The analysis of cultural resources in the proposed project area encompasses potential paleontological and archaeological resources, historical buildings and structures, human remains, and Native American sacred sites.

4.1 PALEONTOLOGICAL RESOURCES

The areas within the approximately 164.5-acre project site and three construction staging areas with the potential to yield paleontological resources were assessed in relation to a three-tier sensitivity classification:

- **High Potential:** Sedimentary geologic units and other geologic units that have yielded unique paleontological resources
- **Moderate Potential:** Older alluvial geologic units
- **Low to No Potential:** Metamorphic and igneous geologic units

The potential presence of recorded paleontological sites and other unique geologic units within the project property and in sedimentary geologic units in the vicinity of the project property was assessed through a records search at the Natural History Museum of Los Angeles County.[1] The results of the records search were also compared to the appropriate geologic maps to assess the potential for the geologic units that characterize the project property to yield unique paleontological resources.[2] No paleontological survey was completed of the project property, as previous work in the area have shown that vertebrate fossils are rarely visible in the alluvial deposits that characterizes the ground surface in this portion of the Los Angeles Basin.[3]

4.2 PREHISTORIC AND HISTORIC RESOURCES

4.2.1 Record Search and Literature Review

A literature review was undertaken to determine if the project would have the potential to adversely affect prehistoric and historic resources, thus requiring the consideration of avoidance and minimization, in accordance with Section 15063 of the State CEQA Guidelines. An archaeological records search was conducted at the South Central Coastal Information Center (SCCIC), housed at California State University, Fullerton, on November 20, 2012. The search included reviews of all known relevant cultural resource survey and excavation reports to ascertain

[1] McLeod, Samuel, Natural History Museum of Los Angeles County. 21 December 2012. Letter response to Tiffany Clark, Sapphos Environmental, Inc., Pasadena, CA.

[2] Jennings, C.W., and R.G. Strand. 1969. *Geologic Map of California, Los Angeles Sheet, 1:250,000*. Sacramento, CA: California Geological Survey, California Division of Mines and Geology.

[3] Raschke, R., and C. Stadum. 1995. *Paleontological and Archaeological Resources Reconnaissance of the Los Angeles International Airport Property, Los Angeles, California*. Mission Viejo, CA: RMW Paleo Associates.

the presence of known prehistoric and historic archaeological resources and historic buildings, structures, or objects within a 0.5-mile radius of the project site (Figure 4.2.1-1, *Cultural Resources Study Area*). In addition, the most recent edition of the Historical Resources Inventory (HRI)—which includes the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), California Historical Landmarks, and California Points of Historical Interest—was searched to determine whether known historical resources are located within the study area.

In addition, previous reports and historic photographs were used to date buildings and structures to aid in historic status assessment. Previous reports regarding LAX but not held at the SCCIC were reviewed for the history of the airport's development as well as specific buildings within the MSC project area.[4,5,6,7] Los Angeles World Airports (LAWA) supplied 1967 photographic aerials of LAX, which were compared with the airport's current (2012) footprint for buildings within the project area that are at least 45 years old.

The future Central Terminal Processor (CTP) site was not included in the records search. Sapphos Environmental, Inc. was asked to evaluate the current parking structures in the CTP's proposed location just before the site visit and after the records search. Since the CTP is not part of the project and falls within the study area, its exclusion from the search should not impact the results.

4.2.2 Phase I Cultural Resource Survey

The Phase I survey was conducted on December 11, 2012 by Ms. Stephanie Frank (architectural historian) and Mr. Karl Holland (archaeologist) of Sapphos Environmental, Inc. Mr. Robert Schultz and Mr. Greg Nagy, both of LAWA, served as escorts for the duration of the field visit.

4.2.2.1 Archaeological Survey

The goal of the archaeological survey was to examine the ground surface and document any identified cultural remains or deposits. The assessment of archaeological resources within the proposed project area was limited by the low degree of ground visibility that characterized the project property. Within the proposed MSC North Facility site, the vast majority of the ground surface was paved or contained standing structures or buildings. The ground surfaces of the three construction staging areas (Staging Areas A, B, and C) associated with the proposed project were not paved. However, a visual inspection of the two former areas by the archaeologist during the Phase I survey indicated little native sediment was exposed in these areas. Specifically, Staging Area A in the southwest corner of LAX contained a number of spoil heaps surrounded by laydown yards and parking areas. The soil that covered the ground surface in this area appeared to be redeposited fill and exhibited a dark, oily appearance with numerous pieces of concrete and unidentified metal debris. Staging Area B in the northwest portion of the LAX property was also unpaved but had loose, nonnative gravel that covered much of its surface. Finally, the third construction staging area (Staging Area C) was fenced off at the time of the field visit. While Staging Area C could not be thoroughly evaluated for the presence of cultural resources, the archaeologist

[4] PCR Services Corporation. January 2001. Appendix I, Section 106 Report. *LAX Master Plan EIS/EIR*. Santa Monica, CA.

[5] Los Angeles International Airport. July 2012. *LAX Specific Plan Amendment Study Draft EIR*. Los Angeles, CA.

[6] Los Angeles World Airports Environmental Management Division to Los Angeles World Airports Property Division. 4 May 2005. "Memorandum: LAX – US Airways (Lease No. LAA-8173), 7183 World Way West, Los Angeles International Airport – Environmental Site Review." Los Angeles, CA.

[7] AECOM. May 2011. "Environmental Due Diligence Audit, Phase I Liability Assessment of U.S. Coast Guard Air Station Los Angeles, 7159 World Way West, Los Angeles, California." Los Angeles, CA.

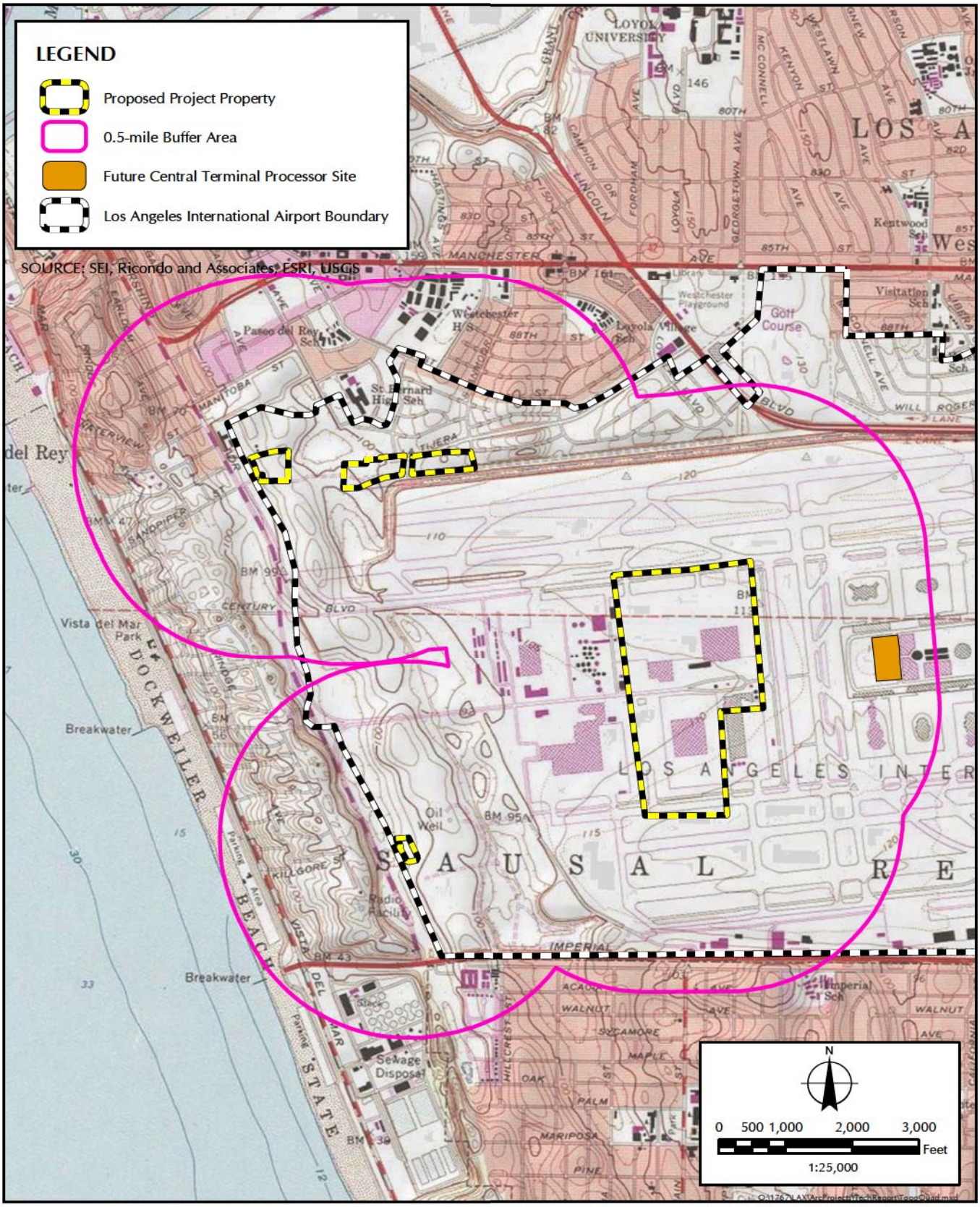

FIGURE 4.2.1-1

Cultural Resources Study Area

noted that the surface conditions around the fence perimeter appeared to be covered with layer of nonnative gravel.

4.2.2.2 Built Environment Survey

A reconnaissance-level historic resources survey was also conducted during the Phase I survey to assess and characterize the built environment within the proposed project area and to determine the impacts of the proposed project on historic properties. A total of seven (7) buildings and structures, were documented and evaluated during the field visit: the American Airlines Maintenance (non-power) Shop, the American Airlines High Bay Hangar, the Electrical Substation, the U.S. Airways Maintenance Facility, the U.S. Coast Guard Facility, the Water Deluge Tank and Pump Station, and electrical vault no. 2. The FAA Navigational Aids to be relocated as part of the MSC North Project were also evaluated. In addition, the American Airlines shed in the southern portion of the MSC Project Area, which would be affected as part of a future MSC Project phase, was assessed. As part of this work, any structure or building constructed over 50 years ago was recorded using Department of Parks and Recreation (DPR) 523 series form guidelines. Each cultural resource was also thoroughly documented with digital photographs in order to assist and illustrate the analysis.

As part of the current Phase I survey, Parking Structures 3 and 4 in the Central Terminal Area were also evaluated for historical significance. Although these structures are not part of the current project site, Ricondo & Associates requested that these two structures be analyzed during the field visit. Both of these parking structures may be affected by the construction of the CTP in a future MSC project phase.

4.3 NATIVE AMERICAN SACRED SITES AND HUMAN REMAINS

4.3.1 Records Search and Literature Review

Coordination was initiated with the Native American Heritage Commission (NAHC) in association with the project on November 26, 2012.[8] The NAHC was requested to conduct a records search from their Sacred Lands File for the presence of Native American sacred sites or human remains within the cultural resources study area. A written response was received by Sapphos Environmental, Inc. on November 27, 2012[9] advising that the Sacred Lands File did not indicate the presence of any sites within the cultural resources study area. On the recommendation of the NAHC, Sapphos Environmental, Inc. sent letters to nine Native American contacts classified by the NAHC as potential sources of information related to cultural resources in the vicinity of the study area. The letters advised the tribes and specific individuals of the project and its geographic area and requested information regarding cultural resources within the study area, as well as feedback or concerns related to the project. As of January 2013, one response has been received from Mr. John Tommy Rosas of the Tongva Ancestral Territorial Tribal Nation, who provided no information on Native American sacred sites or human remains within the project property.

[8] Clark, Tiffany, Sapphos Environmental, Inc., Pasadena, CA. 26 November 2012. Letter to Larry Myers, Native American Heritage Commission, Sacramento, CA.

[9] Singleton, Dave, Native American Heritage Commission, Sacramento, CA. 27 November 2012. Letter response to Tiffany Clark, Sapphos Environmental, Inc., Pasadena, CA

SECTION 5.0
RESULTS

This section of the Cultural Resources Technical Report details the results of the record searches and Phase I survey of the proposed Midfield Satellite Concourse (MSC) North Project (project) site at Los Angeles International Airport (LAX) property. In the discussion that follows, the paleontological, archaeological, and historical resources located within the study area are described. Potential direct, indirect, and cumulative impacts of the project are identified and feasible measures for avoiding and reducing these impacts are proposed. For clarity of presentation and analysis, the results of record searches and field efforts have been organized into three major sections that include paleontological resources, archaeological and historic resources, and Native American sacred sites and human remains.

5.1 PALEONTOLOGICAL RESOURCES AND GEOLOGIC RESOURCES

5.1.1 Paleontological Setting

The cultural resources study area is located in the northwestern portion of the Los Angeles Basin, a coastal sediment-filled plain located between the Peninsular and Transverse ranges in southern California. The confluence of the Los Angeles and Rio Hondo rivers mark the center of the basin, which is bounded on the north by the Santa Monica Mountains and the Puente Hills and on the east and south by the Santa Ana Mountains and San Joaquin Hills. The Palos Verdes Peninsula denotes the outer edge of the basin along the coast. Geologically, the basin is characterized by a broad structural syncline with a basement of older igneous and metamorphic rocks overlain by thick younger marine and terrestrial deposits.[2]

5.1.2 Paleontological Resources Characterization

The results of the map review and records searches at the Natural History Museum of Los Angeles County (LACM) indicate that the entire project property is characterized by surficial deposits of older Quaternary sand dunes.[3] These sand dunes are relatively shallow in depth and overlie older Quaternary Alluvium. The extant data indicate that both of these types of deposits typically do not contain significant vertebrate fossils in their uppermost layers.

No fossil localities have been recorded within the proposed project property. However, proboscidean (elephant) remains (LACM 3264) were found just east of the proposed MSC North Project site in what is now the Tom Bradley International Terminal; these remains were recovered approximately 25 feet below the modern ground surface.[4] Other recorded paleontological resources within 2 miles of the proposed project property include the remains of a fossilized mammoth (*Mammuthus*), rodents (Rodentia), horse (*Equus*), bison (*Bison*), rabbit (*Lepus*), and speckled sanddab (*Citharichthys stigmaeus*). All of these latter finds were found at depths between 13 and 40 feet below the modern ground surface.

[2] City of Los Angeles, Los Angeles World Airports. April 2004. Section 4.9.2 Paleontological Resources (CEQA). In *Master Plan Final Environmental Impact Statement/Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements*.

[3] McLeod, Samuel, Natural History Museum of Los Angeles County, Los Angeles, CA. 21 December 2012. Letter response to Tiffany Clark, Sapphos Environmental, Inc., Pasadena, CA

[4] McLeod, Samuel, Natural History Museum of Los Angeles County, Los Angeles, CA. 21 December 2012. Letter response to Tiffany Clark, Sapphos Environmental, Inc., Pasadena, CA

5.1.3 Impact Analysis

Surface grading or shallow excavations in the older Quaternary dune sands that underlie the proposed project area and associated staging areas have a relatively low potential to encounter significant fossil vertebrate remains. However, deeper excavations in the proposed project site, which extend down into the older Quaternary Alluvium, have a moderate potential of uncovering significant vertebrate fossils. Therefore, substantial excavation activities associated with the construction of the proposed project may result directly or indirectly in the destruction of unique paleontological resources. This finding concurs with an earlier paleontological study in support of the LAX Master Plan, which concluded that grading and excavations at depths greater than 6 feet are likely to expose and damage potentially important fossils.[5] The implementation of mitigation measures PA-1 through PA-7 (see Section 5.1.4, *Avoidance and Mitigation Measures*) would reduce impacts to paleontological resources to below the level of significance.

5.1.4 Avoidance and Minimization Measures

The implementation of the seven paleontological mitigation measures outlined in the Mitigation Monitoring and Reporting Program (MMRP)[6] and the Paleontological Management Treatment Plan (PMTP)[7] for the LAX Master Plan is expected to reduce the potential impacts of the proposed project to below the level of significance. These seven mitigation measures are presented below:

MM-PA-1 Paleontological Qualification and Treatment Plan

A qualified paleontologist shall be retained by LAWA to develop an acceptable monitoring and fossil remains treatment plan (that is, a PMTP) for construction-related activities that could disturb potential unique paleontological resources within the project area. This plan shall be implemented and enforced by the project proponent during the initial phase and full phase of construction development. The selection of the paleontologist and the development of the monitoring and treatment plan shall be subject to approval by the Vertebrate Paleontology Section of the LACM to comply with paleontological requirements as appropriate.

[5] Raschke, Rod, and Carol Stadium. 1995. *Paleontological and Archaeological Resources Reconnaissance of the Los Angeles International Airport (LAX) Property, Los Angeles County, California.* RMW Paleo Associates, Mission Viejo, CA.

[6] City of Los Angeles, Los Angeles World Airports. September 2004. *LAX Master Plan Alternative D, Mitigation Monitoring and Reporting Program.*

[7] Brian F. Smith and Associates. December 2005. *LAX Master Plan Mitigation Monitoring & Reporting Program, Paleontological Management Treatment Plan.* San Diego, CA.

MM-PA-2 Paleontological Authorization

The paleontologist shall be authorized by Los Angeles World Airports (LAWA) to halt, temporally divert, or redirect grading in the area of an exposed fossil to facilitate evaluation and, if necessary, salvage. No known or discovered fossils shall be destroyed without the written consent of the project paleontologist.

MM-PA-3 Paleontological Monitoring Specifications

Specifications for paleontological monitoring shall be included in construction contracts for all LAX projects involving excavation activities deeper than 6 feet.

MM-PA-4 Paleontological Resources Collection

Because some fossils are small, it will be necessary to collect sediment samples of promising horizons discovered during grading or excavation monitoring for processing through fine mesh screens. Once the samples have been screened, they shall be examined microscopically for small fossils.

MM-PA-5 Fossil Preparation

Fossils shall be prepared to the point of identification and catalogued before they are donated to their final repository.

MM-PA-6 Fossil Donation

All fossils collected shall be donated to a public, nonprofit institution with a research interest in the materials, such as the LACM.

MM-PA-7 Paleontological Reporting

A report detailing the results of these efforts, listing the fossils collected, and naming the repository shall be submitted to the lead agency at the completion of the project.

5.2 ARCHAEOLOGICAL AND HISTORIC RESOURCES

5.2.1 Cultural Setting

5.2.1.1 Prehistoric Context

Several prehistoric cultural chronologies have been proposed for the Southern California coast with two of the most frequently cited sequences developed by William Wallace[8] and Claude Warren.[9] The chronological sequence presented herein represents an updated synthesis of these schemes as

[8] Wallace, William J. 1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11:214-230.

[9] Warren, Claude M. 1968 Cultural Tradition and Ecological Adaptation on the Southern California Coast. In *Archaic Prehistory in the Western United States*, edited by Cynthia Irwin-Williams, pp. 1-14. Eastern New Mexico University Contributions in Anthropology No. 1. Portales.

compiled by Glassow and others[10] for the Northern California Bight. This geographic area consists of the coastal area from Vandenberg Air Force Base south to Palos Verdes, as well as the Channel Islands and adjacent inland areas, including the Los Angeles Basin.[11] The prehistoric sequence of the Los Angeles Basin can be divided into four broad temporal categories (Table 5.2.1.1-1, *California Coastal Regional Chronology*). It should be noted that the prehistoric chronology for the region is being refined on a continuing basis, with new discoveries and improvements in the accuracy of dating techniques.

TABLE 5.2.1.1-1
CALIFORNIA COASTAL REGIONAL CHRONOLOGY

Epoch	Coastal Region	Dates
Late Pleistocene / Early Holocene	Paleo-Coastal Period	Circa 9500 to 7000/6500 BC
Middle Holocene	Millingstone Period	Circa 7000/6500 to 1500/1000 BC
Late Holocene	Intermediate Period	1500/1000 BC to AD 750
Late Holocene	Late Period	AD 750 to Spanish contact

Terminal Pleistocene and Early Holocene: Paleo-Coastal Period (Circa 9500 to 7000/6500 BC)

Although data on early human occupation for the Southern California coast are limited, archaeological evidence from the northern Channel Islands suggests initial settlement within the region occurred at least 12,000 years before present (BP). At Daisy Cave (CA-SMI-261) on San Miguel Island, radiocarbon dates indicate an early period of use in the terminal Pleistocene, sometime between 9600 and 9000 calibrated (cal) BC.[12] Evidence of early human occupation in the Northern California Bight has also been found on nearby Santa Rosa Island, where human remains from the Arlington Springs Site (CA-SRI-1730) have been dated between 11,000 and 10,000 cal BC.[13] Archaeological data recovered from these and other coastal Paleoindian sites indicate a distinctively maritime cultural adaptation, termed the "Paleo-Coastal Tradition,"[14] which involved the use of seafaring technology and a subsistence regime focused on shellfish gathering and fishing.[15]

Relatively few sites have been identified in the Los Angeles Basin that date to the terminal Pleistocene and early Holocene. Currently, the earliest reliable date for human occupation in the area derives from the La Brea Tar Pits (CA-LAN-159), where human bone has been dated to 8520

[10] Glassow, Michael A., Lynn H. Gamble, Jennifer E. Perry, and Glenn S. Russell. 2007. Prehistory of the Northern California Bight and the Adjacent Transverse Ranges. In *California Prehistory, Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar, pp. 191-213. Altamira Press, New York.

[11] Glassow, Michael A., Lynn H. Gamble, Jennifer E. Perry, and Glenn S. Russell. 2007. Prehistory of the Northern California Bight and the Adjacent Transverse Ranges. In *California Prehistory, Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar, pp. 191. Altamira Press, New York.

[12] Erlandson, J.M., D.J. Kennett, B.L. Ingram, D.A. Guthrie, D.P. Morris, M.A. Tveshov, G.J. West, and P.L. Walker 1996. An Archaeological and Paleontological Chronology for Daisy Cave (CA-SMI-261), San Miguel Island, California. *Radiocarbon* 38: 355-373.

[13] Johnson, J.R., T.W. Stafford, Jr., H.O. Ajie and D.P. Morris. 2002. Arlington Springs Revisited. In *Proceedings of the Fifth California Islands Symposium*. Edited by Browne, D., K. Mitchell and H. Chaney, pp. Pages 541–545. USDI Minerals Management Service and The Santa Barbara Museum of Natural History, Santa Barbara, CA.

[14] Moratto, M.J. 1984. California Archaeology, pp. 103-113. Academic Press, New York.

[15] Rick, T.C., J.M. Erlandson, and R.L. Vellanoweth. 2001. Paleocoastal Fishing Along the Pacific Coast of the Americas: Evidence from Daisy Cave, San Miguel Island, California. *American Antiquity* 66:595-614.

cal BC.[16] Evidence of possible early human occupation has also been found at the sand dune bluff site of Malaga Cove (CA-LAN-138), located between Redondo Beach and Palos Verdes.[17] Researchers have proposed that archaeological remains recovered from the lowermost cultural stratum at the site, which include shell, animal bone, and chipped stone tools, may date as early as 8000 cal BC.[18,19]

Middle Holocene: Millingstone Period (Circa 7000/6500 to 1500/1000 BC)

The Millingstone Period or Horizon, also referred to as the "Encinitas Tradition,"[20,21] is the earliest well-established cultural occupation of the coastal areas of the region. The onset of this period, which began sometime between 7000 and 6500 cal BC, is marked by the expansion of populations throughout the Northern California Bight. Regional variations in technology, settlement patterns, and mortuary practices among Millingstone sites have led researchers to define several local manifestations or "patterns" of the tradition.[22] In coastal Los Angeles and Orange counties, the Encinitas Tradition is represented by the "Topanga Pattern." Topanga groups are thought to have been relatively small and highly mobile, with a general subsistence economy focused on the gathering of shellfish and plant foods, particularly hard seeds, with hunting being of less importance.[23]

Two temporal subdivisions have been defined for the portion of the Topanga Pattern falling within the Millingstone Period: Topanga I (circa 6500 to 3000 BC) and Topanga II (circa 3000 to 1000 BC).[24] Topanga I assemblages are characterized by abundant manos and metates, core tools and scrapers, charmstones, cogged stone, and discoidals; projectile points are quite rare with those present resembling earlier, large, leaf-shaped forms.[25] Secondary inhumations with associated cairns are the most common burial form at Millingstone sites with small numbers of extended inhumations also identified. The subsequent Topanga II phase largely represents a continuation of the Topanga pattern with site assemblages characterized by numerous manos and metates, charmstones, cogged stones, discoidals, and some stone balls. A significant technological change in ground stone occurs at this time with the appearance of mortars and pestles at Topanga II sites

[16] Berger, R., Protsch, R., Reynolds, R., Rozaire, C., Sackett, J.R., 1971. *New Radiocarbon Dates Based on Bone Collagen of California Indians*, pp. 43–49. Contributions to the University of California Archaeological Survey, Los Angeles.

[17] Walker, Edwin Francis. 1951. *Five Prehistoric Archaeological Sites in Los Angeles County, California*. Southwest Museum, F. W. Hodge Anniversary Publication Fund VI, Los Angeles.

[18] Moratto, M.J. 1984. California Archaeology, pp. 132. Academic Press, New York.

[19] Wallace, W.J. 1986. Archaeological Research at Malaga Cove. In *Symposium: A New Look at Some Old Sites*, edited by G.S. Breschini and T. Haversat. Coyote Press Archives of California Archaeology 6:21-27. Coyote Press, Salinas.

[20] Sutton, Mark Q. 2010. The Del Rey Tradition and Its Place in the Prehistory of Southern California. *Pacific Coast Archaeological Society Quarterly*, Volume 44(2): 1-54.

[21] Sutton, Mark Q., and Jill K. Gardner. 2010. Reconceptualizing the Encinitas Tradition of Southern California. *Pacific Coast Archaeological Society Quarterly*, Volume 42(4): 1-64.

[22]Sutton, Mark Q., and Jill K. Gardner. 2010. Reconceptualizing the Encinitas Tradition of Southern California. *Pacific Coast Archaeological Society Quarterly*, Volume 42(4): 1-64.

[23]Glassow, Michael A., Lynn H. Gamble, Jennifer E. Perry, and Glenn S. Russell. 2007. Prehistory of the Northern California Bight and the Adjacent Transverse Ranges. In *California Prehistory, Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar, pp. 196. Altamira Press, New York.

[24]Sutton, Mark Q., and Jill K. Gardner. 2010. Reconceptualizing the Encinitas Tradition of Southern California. *Pacific Coast Archaeological Society Quarterly*, Volume 42(4): 8.

[25]Glassow, Michael A., Lynn H. Gamble, Jennifer E. Perry, and Glenn S. Russell. 2007. Prehistory of the Northern California Bight and the Adjacent Transverse Ranges. In *California Prehistory, Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar, pp. 194. Altamira Press, New York.

suggesting the adoption of balanophagy by coastal populations.[26] The quantity of projectile points also notably increases in Topanga II site deposits indicating that the hunting of large game may have played a greater role in the subsistence economy than in earlier times. While secondary burials continue to be quite common, a few flexed inhumations have also been recovered from archaeological contexts dating to the Topanga II phase.

A number of Millingstone sites have been identified in the Los Angeles Basin. Within the vicinity of the current project area, evidence of long-term Topanga occupation has been found in the Ballona Lagoon near Marina del Rey. Data obtained from survey and excavation projects in the Ballona Lagoon indicate that during the Topanga I phase, the bluff tops overlooking the lagoon were used as temporary campsite locales by coastal groups who exploited marine and lagoonal fish and shellfish resources.[27] During the Topanga II phase, use of the area intensified with small, limited-use settlements established along the edges of the lagoon. Faunal remains from these latter sites suggest Topanga II groups practiced a more generalized subsistence strategy which emphasized the exploitation of small terrestrial mammals, in addition to fish and shellfish resources.[28]

Late Holocene: Intermediate Period (1500/1000 BC to AD 750)

The Intermediate Period, which encompasses the early portion of the "Del Rey Tradition" as defined by Sutton,[29] begins around 3500 BP. At this time, significant changes are seen throughout the coastal areas of Southern California in material culture, settlement systems, subsistence strategies, and mortuary practices. These new cultural traits have been attributed to the arrival of Takic speaking people from the southern San Joaquin Valley.[30] Biological, archaeological, and linguistic data indicate that the Takic groups who settled in the Los Angeles Basin were ethnically distinct from the preexisting Hokan-speaking Topanga populations and are believed to be ancestral to ethnographic Gabrielino groups.[31] While archaeological evidence indicates that "relic" Topanga III populations continued to survive in isolation in the Santa Monica Mountains, these indigenous groups appear to have been largely replaced or absorbed by the Gabrielino or Chumash by 2000 BP.[32]

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[26] Sutton, Mark Q., and Jill K. Gardner. 2010. Reconceptualizing the Encinitas Tradition of Southern California. *Pacific Coast Archaeological Society Quarterly*, Volume 42(4): 41.

[27] Altschul, Jeffrey H., John G. Douglass, Richard Ciolek-Torrello, Sarah Van Galder, Benjamin R. Vargas, Kathleen L. Hull, Donn R. Grenda, Jeffrey Homburg, Manual Palacios-Fest, Steven Shelley, Angela Keller, and David Maxwell. 2007. Life at the Nexus of the Wetlands and Coastal Prairie, West Los Angeles. *Proceedings for the Society for California Archaeology*, Volume 20:34-42.

[28] Altschul, Jeffrey H., John G. Douglass, Richard Ciolek-Torrello, Sarah Van Galder, Benjamin R. Vargas, Kathleen L. Hull, Donn R. Grenda, Jeffrey Homburg, Manual Palacios-Fest, Steven Shelley, Angela Keller, and David Maxwell. 2007. Life at the Nexus of the Wetlands and Coastal Prairie, West Los Angeles. *Proceedings for the Society for California Archaeology*, Volume 20:34-42.

[29] Sutton, Mark Q. 2006. The Del Rey Tradition and Its Place in the Prehistory of Southern California. *Pacific Coast Archaeological Society Quarterly*, Volume 44(2&3): 31-93.

[30] Sutton, Mark Q. 2009. People and Language: Defining the Takic Expansion in Southern California. *Pacific Coast Archaeological Society Quarterly*, Volume 41(2&3): 31-93.

[31] Sutton, Mark Q. 2009. People and Language: Defining the Takic Expansion in Southern California. *Pacific Coast Archaeological Society Quarterly*, Volume 41(2&3): 31-93.

[32] Sutton, Mark Q., and Jill K. Gardner. 2010. Reconceptualizing the Encinitas Tradition of Southern California. *Pacific Coast Archaeological Society Quarterly*, Volume 42(4): 17.

Intermediate Period sites within the Los Angeles Basin are represented by the "Angeles Pattern" of the Del Rey Tradition.[33] Three temporal subdivisions have been defined for the portion of the Angeles Pattern that falls within the Intermediate Period: Angeles I (1500 to 600 BC), Angeles II (600 BC to AD 400), and Angeles III (AD 400 to 750).[34] The onset of the Angeles I phase is characterized by the increase and aggregation of regional populations and the appearance of the first village settlements. The prevalence of projectile points, single-piece shell fishhooks, and bone harpoon points at Angeles I sites suggests a subsistence shift in the Intermediate Period with an increased emphasis on fishing and terrestrial hunting and less reliance on the gathering of shellfish resources. Regional trade or interaction networks also appeared to develop at this time with coastal populations in the Los Angeles Basin obtaining small steatite artifacts and *Olivella* shell beads from the southern Channel Islands and obsidian from the Coso Volcanic Field.[35] Finally, marked changes are seen in mortuary practices during the Angeles I phase with flexed primary inhumations and cremations replacing extended inhumations and cairns.

The Angeles II phase largely represents a continuation and elaboration of the Angeles I technology, settlement, and subsistence systems. One exception to this pattern is the introduction of a new funerary complex around 2600 BP consisting of large rock cairns or platforms which contain abundant broken tools, faunal remains, and cremated human bone. These mortuary features have generally been thought to represent the predecessor of the Southern California Mourning Ceremony.[36] Several important changes in the archaeological record mark the beginning of the Angeles III phase. At this time, larger seasonal villages characterized by well-developed middens and cemeteries were established along the coast or inland areas. Archaeological data from Angeles III sites indicate that residents of these settlements practiced a fairly diverse subsistence strategy which included the exploitation of both marine and terrestrial resources.[37] Notable technological changes occurred at this time with the introduction of the plank canoe and bow and arrow.[38] The appearance of new *Olivella* bead types at Angeles III sites indicates a reconfiguration of existing regional exchange networks with increased interaction with populations in the Gulf of California.[39] Finally, cremations increase slightly in frequency at this time with inhumations no longer placed in an extended position.[40]

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[33] Sutton, Mark Q. 2006. The Del Rey Tradition and Its Place in the Prehistory of Southern California. *Pacific Coast Archaeological Society Quarterly*, Volume 44(2&3): 31-93.

[34]Sutton, Mark Q., and Jill K. Gardner. 2010. Reconceptualizing the Encinitas Tradition of Southern California. *Pacific Coast Archaeological Society Quarterly*, Volume 42(4): 8.

[35] Koerper, Henry C., Roger D. Mason, and Mark L. Peterson. 2002. Complexity, Demography, and Change in Late Holocene Orange County. In *Catalysts to Complexity: Late Holocene Societies of the California Coast*, edited by on M. Erlandson and Terry L. Jones, pp. 63-81. University of California, Los Angeles, Institute of Archaeology, Perspectives in California Archaeology, Vol. 6. Los Angeles.

[36] Sutton, Mark Q. 2006. The Del Rey Tradition and Its Place in the Prehistory of Southern California. *Pacific Coast Archaeological Society Quarterly*, Volume 44(2&3): 14-16.

[37] Sutton, Mark Q. 2006. The Del Rey Tradition and Its Place in the Prehistory of Southern California. *Pacific Coast Archaeological Society Quarterly*, Volume 44(2&3): 18-20.

[38]Glassow, Michael A., Lynn H. Gamble, Jennifer E. Perry, and Glenn S. Russell. 2007. Prehistory of the Northern California Bight and the Adjacent Transverse Ranges. In *California Prehistory, Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar, pp. 203-204. Altamira Press, New York.

[39]Koerper, Henry C., Roger D. Mason, and Mark L. Peterson. 2002. Complexity, Demography, and Change in Late Holocene Orange County. In *Catalysts to Complexity: Late Holocene Societies of the California Coast*, edited by on M. Erlandson and Terry L. Jones, pp. 63-81. University of California, Los Angeles, Institute of Archaeology, Perspectives in California Archaeology, Vol. 6. Los Angeles.

[40] Sutton, Mark Q. 2006. The Del Rey Tradition and Its Place in the Prehistory of Southern California. *Pacific Coast Archaeological Society Quarterly*, Volume 44(2&3): 18.

In the Ballona Lagoon near Marina del Rey, several large residential sites (CA-LAN-63, CA-LAN-64, and CA-LAN-206A) were established within the wetlands and surrounding bluffs at the beginning of the Intermediate Period.[41] These sites contained a diversity of features including hearths, burials, and houses. Faunal remains indicate a broad-spectrum collecting strategy that included the exploitation of terrestrial mammals and birds, as well as fish and shellfish. The presence of particular species of migratory waterfowl in the faunal assemblage indicates primary occupation of these sites may have occurred in the late fall to early spring. These data suggest that while residential mobility in the Intermediate Period was greatly reduced from previous times, a fully sedentary occupation of the Ballona Lagoon locale is still not indicated.[42]

Late Holocene: Late Period (AD 750 to Spanish Contact)

The Late Period dates from approximately AD 750 until Spanish contact at AD 1542. Sutton[43] has divided this period, which falls within the larger Del Rey Tradition, into two phases: Angeles IV (AD 750-1200) and Angeles V (AD 1200-1550). The Angeles IV phase is characterized by the continued growth of regional populations and the development of large, sedentary villages. Recent archaeological research indicates that Late Period habitation sites within the Los Angeles Basin may have been hierarchically organized around estuarine locales with more productive locales supporting large residential populations.[44] Although chiefdoms appear to have developed in the northern Channel Islands and Santa Barbara region after 850 BP,[45,46] little direct evidence has been found to suggest this level of social complexity existed in the Los Angeles Basin during the late prehistoric period.[47]

Several new types of material culture appear during the Angeles IV phase including Cottonwood series points, birdstone and "spike" effigies, *Olivella* cupped beads, and *Mytilus* shell disk beads. The presence of Southwestern pottery, Patayan ceramic figurines, and Hohokam shell bracelets at Angeles IV sites suggests some interaction between groups in the Los Angeles Basin and the Southwest. Notable changes are seen in regional exchange networks after 800 BP with an increase in the number and size of steatite artifacts, including large vessels, elaborate effigies, and *comals*, recovered from Angeles V sites. The presence of these artifacts suggests a strengthening of trade ties

[41] Altschul, Jeffrey H., John G. Douglass, Richard Ciolek-Torrello, Sarah Van Galder, Benjamin R. Vargas, Kathleen L. Hull, Donn R. Grenda, Jeffrey Homburg, Manual Palacios-Fest, Steven Shelley, Angela Keller, and David Maxwell. 2007. Life at the Nexus of the Wetlands and Coastal Prairie, West Los Angeles. *Proceedings for the Society for California Archaeology*, Volume 20:37-38.

[42] Altschul, Jeffrey H., John G. Douglass, Richard Ciolek-Torrello, Sarah Van Galder, Benjamin R. Vargas, Kathleen L. Hull, Donn R. Grenda, Jeffrey Homburg, Manual Palacios-Fest, Steven Shelley, Angela Keller, and David Maxwell. 2007. Life at the Nexus of the Wetlands and Coastal Prairie, West Los Angeles. *Proceedings for the Society for California Archaeology*, Volume 20:38.

[43] Sutton, Mark Q. 2006. The Del Rey Tradition and Its Place in the Prehistory of Southern California. *Pacific Coast Archaeological Society Quarterly*, Volume 44(2&3): 26.

[44] Grenda, D.R., and J.A. Altschul. 2002. Complex Cultures, Complex Arguments: Sociopolitical Organization in the Blight. In *Islanders and Mainlanders, Prehistoric Context for the Southern California Blight*, edited by J.H. Altschul and D.R. Grenda, pp. 147-178. SRI Press, Tucson.

[45] Arnold, Jeanne E. 1992. Complex Hunter-Gatherer-Fishers of Prehistoric California: Chiefs, Specialists, and Maritime Adaptations of the Channel Islands. *American Antiquity* 57(1): 60-84.

[46] Gamble, Lynn H. 2005. Culture and Climate: Reconsidering the Effect of Palaeoclimatic Variability Among Southern California Hunter-Gatherer Societies. *World Archaeology* 37(1):92-108.

[47] Sutton, Mark Q. 2006. The Del Rey Tradition and Its Place in the Prehistory of Southern California. *Pacific Coast Archaeological Society Quarterly*, Volume 44(2&3): 26.

between populations in the Los Angeles Basin and the southern Channel Islands.[48] Finally, Late Period mortuary practices remain largely unchanged from the Intermediate Period with flexed primary inhumations continuing to be the preferred burial method.

Marked changes occurred in the occupation of the Ballona Lagoon during the Late Period. Paleoenvironmental reconstructions indicate that by 1000 BP, much of the lagoon had silted in and become a sediment-chocked estuary.[49] At this time, most of the Intermediate Period settlements in the area were abandoned as the local population aggregated into a few large settlements along lower Centinela Creek and at the edge of the lagoon.[50] Faunal remains recovered from these Late Period sites indicate a generalized subsistence strategy focused on a broad mix of terrestrial and marine resources with a shift from lagoon to sandy shoreline shellfish species as the estuary silted in.[51,52]

5.3.1.2 Regional Ethnography

At the time of contact, the Native Americans subsequently known as the Gabrielino Indians occupied nearly the entire basin comprising the Counties of Los Angeles and Orange. They belonged to the Takic family of the Uto-Aztecan linguistic stock. Named after the Mission San Gabriel, the Gabrielino are considered to have been one of the two wealthiest and largest ethnic groups in aboriginal Southern California,[53] the other being the Chumash. This was largely due to the many natural resources within the land base they controlled, primarily the rich coastal section from Topanga Canyon to Aliso Creek and the offshore islands of San Clemente, San Nicholas, and Santa Catalina.

The Gabrielino arrived in the Los Angeles basin around 500 BC and began to spread throughout the area, displacing a preexisting Hokan speaking population. The first Spanish contact with the Gabrielino took place in 1520, when Juan Rodriguez Cabrillo arrived in Santa Catalina Island. In 1602, the Spanish returned to Santa Catalina under Sebastián Vizcaíno, and in 1769, Gaspar de Portolá made the first attempt to colonize Gabrielino territory. By 1771, the Spanish had built four

[48] Koerper, Henry C., Roger D. Mason, and Mark L. Peterson. 2002. Complexity, Demography, and Change in Late Holocene Orange County. In *Catalysts to Complexity: Late Holocene Societies of the California Coast*, edited by on M. Erlandson and Terry L. Jones, pp. 69. University of California, Los Angeles, Institute of Archaeology, Perspectives in California Archaeology, Vol. 6. Los Angeles.

[49] Altschul, Jeffrey H., John G. Douglass, Richard Ciolek-Torrello, Sarah Van Galder, Benjamin R. Vargas, Kathleen L. Hull, Donn R. Grenda, Jeffrey Homburg, Manual Palacios-Fest, Steven Shelley, Angela Keller, and David Maxwell. 2007. Life at the Nexus of the Wetlands and Coastal Prairie, West Los Angeles. *Proceedings for the Society for California Archaeology*, Volume 20:39.

[50] Altschul, Jeffrey H., John G. Douglass, Richard Ciolek-Torrello, Sarah Van Galder, Benjamin R. Vargas, Kathleen L. Hull, Donn R. Grenda, Jeffrey Homburg, Manual Palacios-Fest, Steven Shelley, Angela Keller, and David Maxwell. 2007. Life at the Nexus of the Wetlands and Coastal Prairie, West Los Angeles. *Proceedings for the Society for California Archaeology*, Volume 20:39.

[51] Maxwell, D. 2003. Vertebrate Faunal Remains. In *At the Base of the Bluff, Archaeological Inventory and Evaluation along Lower Centinela Creek, Marina del Rey, California*. Playa Vista Monograph Series Test Excavation Report 4, edited by J.H. Altschul, A.Q. Stoll, D.R. Grenda, and R. Ciolek-Torrello, pp. 145-177. Statistical Research, Tucson, Arizona.

[52] Becker, K.M. 2003. Invertebrate Faunal Remains.In *At the Base of the Bluff, Archaeological Inventory and Evaluation along Lower Centinela Creek, Marina del Rey, California*. Playa Vista Monograph Series Test Excavation Report 4, edited by J.H. Altschul, A.Q. Stoll, D.R. Grenda, and R. Ciolek-Torrello, pp. 179-200. Statistical Research, Tucson, Arizona.

[53] Bean, L.J., and C.R. Smith. 1978. "Gabrielino." In *Handbook of North American Indians, Vol. 8*, ed. R.F. Heizer. Washington, DC: Smithsonian Institution, 538.

missions, and the decimation of the Gabrielino had already begun.[54] European diseases and conflicts among the Gabrielino population, as well as conversion to Christianity, carried a toll in their numbers, traditions, and beliefs.

Although determining an accurate account of the population numbers is difficult, Bean and Smith[55] state that by AD 500, the Gabrielino established permanent settlements and their population continued to grow. Early Spanish accounts indicate that the Gabrielino lived in permanent villages with a population ranging from 50 to 200 individuals. The Gabrielino population surpassed 5,000 people by around 1770.

Several types of structures characterized the Gabrielino villages. They lived in domed circular structures covered with tule, ferm, or carrizo. Communal structures measured over 60 feet in diameter and could house three or four families. Sweathouses, menstrual huts, and a ceremonial enclosure were also part of the village arrangements.[56]

The Gabrielino practiced different subsistence strategies that included hunting, fishing, and gathering. Hunting activities in land were carried out with the use of bow and arrow, deadfalls, snares, and traps. Smoke and throwing clubs also were used to assist with the hunt of burrowing animals. Aquatic animals were hunted with harpoons, spear-throwers, and clubs. Although most fishing activities took place along rivers and from shore, open water fishing trips between mainland and the islands also took place using boats made from wood planks and asphaltum. The Gabrielino fishing equipment included fishhooks made of shells, nets, basketry traps, and poison substances obtained from plants.[57]

The Gabrielino diet included a large number of animals, such as deer, rabbit, squirrel, snake, and rats, as well as a wide variety of insects. However, some meat taboos also existed. The meat of bears, rattlesnakes, stingrays, and ravens were not consumed; these animals were believed to be messengers of the god Chengiichngech. Aquatic animals such as fish, whales, seals, sea otters, and shellfish were also an important part of the diet, mainly among the coastal population.[58]

A variety of plant foods were consumed by the Gabrielino, the main one being acorns. These nuts are rich in nutrients and have a high content of fiber and fat. Other plants used for consumption by the Gabrielino include the seeds of the Islay (*Prunus ilicifolia*), which were ground into a meal, and the seeds and shoots of the Chía (*Salvia columbariae*), which were eaten raw, made into loaves, or mixed with water to make a beverage. Roots and bulbs were also part of the diet among the mainland and island groups, as well as clover, wild sunflower seeds, and cholla seeds. Wild tobacco was used for medicinal purposes and as a sedative and narcotic.[59]

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[54] Bean, L.J., and C.R. Smith. 1978. "Gabrielino." In *Handbook of North American Indians, Vol. 8*, ed. R.F. Heizer. Washington, DC: Smithsonian Institution, 540–541.

[55] Bean, L.J., and C.R. Smith. 1978. "Gabrielino." In *Handbook of North American Indians, Vol. 8*, ed. R.F. Heizer. Washington, DC: Smithsonian Institution, 540.

[56] Bean, L.J., and C.R. Smith. 1978. "Gabrielino." In *Handbook of North American Indians, Vol. 8*, ed. R.F. Heizer. Washington, DC: Smithsonian Institution, 542.

[57] Bean, L.J., and C.R. Smith. 1978. "Gabrielino." In *Handbook of North American Indians, Vol. 8*, ed. R.F. Heizer. Washington, DC: Smithsonian Institution, 546.

[58] McCawley, W. 1996. The First Angelinos: The Gabrielino Indians of Los Angeles. Banning, CA: Malki Museum Press, 116–117, 121, 126.

[59] McCawley, W. 1996. The First Angelinos: The Gabrielino Indians of Los Angeles. Banning, CA: Malki Museum Press, 128–131.

The Gabrielinos were involved in trade among themselves and with other groups. Coastal Gabrielinos exchanged steatite, shell and shell beads, dried fish, sea otter pelts, and salt with inland groups for acorns, seeds, obsidian, and deerskins.[60] During the late prehistoric period, the principal trade item, both among the Gabrielino and for export to other groups, was steatite. Also known as soapstone or soaprock, major outcroppings of steatite are found on Santa Catalina Island. Steatite was widely used among the Gabrielino to make arrow straighteners and artistic or ritualistic objects. In addition, this rock was used in the making of functional objects for food preparation such as bowls, mortars, pestles, and comals.[61] Archaeological data indicate that a steatite "industry" developed prehistorically on the island that involved the large-scale trade of both raw materials and finished artifacts to mainland communities.[62]

5.3.1.3 Historic Context[63]

The land occupied by LAWA comprised part of Rancho Sausal Redondo, which had been granted to Antonio Ygnacio Avila by the Mexican government in 1837. The land was used for cattle ranching and sheep grazing. Later, known as the Bennett Rancho, the land held fields of lima beans, barley, and wheat until the late 1920s. By the mid-1920s, pilots utilized the flat farmland of the Bennett Rancho near the current intersection of Imperial and Aviation Boulevards as a safe location for practice and emergency landings. Around this time, industrial and business leaders of Los Angeles recognized the need for a municipal airport with facilities that exceeded those of the existing airports in Burbank, Glendale, and Santa Monica. Meanwhile, the Bennett Rancho was promoted as a location for a Los Angeles municipal airport by realtor William W. Mines, earning the site the moniker "Mines Field." After Mines Field was selected as the location for the 1928 National Air Races, the City of Los Angeles (City) leased 640 acres of the field for the Los Angeles Municipal Airport in August 1928.

To administer the airport, the City created the Department of Airports on October 1, 1928. With little infrastructure and no office space at the airport, most employees worked at City Hall. Airport attendants stayed at the field working out of a small shed. Flagmen signaled to pilots with red and white cloth banners when it was safe for takeoff and landing. Air traffic was light.

The first permanent building at the airport, Hangar One, opened in 1929 on the south side of the airfield. The Curtiss-Wright Company, one of the largest firms of the fledgling industry, commissioned the $65,000 Spanish Colonial Revival building by architects Gable & Wyant to house the Curtiss Flying Service's flying school and fleet of Robin aircraft. Hangar One was designated City of Los Angeles Historic-Cultural Monument #44 in 1966 and listed on the National Register of Historic Places (NRHP) in 1992.

The City expanded the airport in 1929 and 1930, including the construction of administrative offices, an all-weather runway, and additional hangars. Despite the city's hopes and intentions, the airport served private pilots and flying schools rather than commercial airlines. After a 1934 study

[60] Bean, L.J., and C.R. Smith. 1978. "Gabrielino." In Handbook of North American Indians, Vol. 8, ed. R.F. Heizer. Washington, DC: Smithsonian Institution, 547.

[62] Bean, L.J., and C.R. Smith. 1978. "Gabrielino." In Handbook of North American Indians, Vol. 8, ed. R.F. Heizer. Washington, DC: Smithsonian Institution, 547

[63] This section is drawn from the EIS/EIR: PCR Services Corporation. January 2001. Appendix I, Section 106 Report. LAX Master Plan EIS/EIR, 16-35.

of the aviation benefits of the Los Angeles Municipal Airport, the airport successively convinced Trans World Airways (TWA) and American Airlines to relocate their services if the facility was upgraded to accommodate passenger service. Subsequently, in 1935, under the direction of the Emergency Relief Administration, the airport was upgraded with grading, runway construction, and the installation of a new sewer line. In 1937, the Works Progress Administration approved major improvements to the north side of the airfield, including a new east-west runway and sewer, water line, grading, and drainage construction. Meanwhile, the City funded runway light and field light installation.

In the early 1940s, architects Sumner Spaulding and John Austin with city engineer Lloyd Aldrich prepared plans for the airport to attract modern commercial airline services. However, these plans were shelved with the onset of World War II. During the war, the airport served the military effort after the federal government took control of it in January 1942.

The Los Angeles City Department of Airports created a master plan for the airport in early 1943, including eastward expansion of the airfield and construction of new terminals and administration buildings. The plan garnered the commitment of United Airlines, TWA, Western Air, American Airlines, and Pan American Airways to relocate to the airport after the war and the completion of the proposed upgrades. A revised master plan, released in August 1944, proposed two phases of development: (1) immediate accommodations for commercial operations and (2) long-range westward expansion of the airfield. In 1945, Los Angeles voters approved a $12.5 million bond measure to fund these improvements. Soon after, construction began on temporary accommodations for the airlines called the Intermediate Facilities, including four buildings, three of which served as terminals. Airlines then constructed their own hangars. In December 1946, four of the five major airlines began operations at Los Angeles Municipal Airport and Pan American Airways followed in January 1947.

On October 11, 1949, the airport received a new name, Los Angeles International Airport (LAX), after the Civil Aeronautics Administration declared the facility sufficient for international, intercontinental, and long-haul nonstop domestic flights and classified it as an "international-express-class" port.

Meanwhile, the temporary Intermediate Facilities were overwhelmed by passenger and cargo traffic. In the first 5 years of operation, passenger traffic increased 80 percent and freight traffic increased nearly 400 percent. Even after the completion of an air freight building in 1951 alleviated some of the constrained space and opened it to passenger services, the facilities were still cramped. In 1951, architects William L. Pereira and Charles Luckman developed a master plan for the airport in order to expand its facilities. The bond issue that would have paid for these improvements failed in May 1953. However, the airport continued with some upgrades with its own revenue and federal funds, including terminal expansions, parking facility expansion, construction of maintenance facilities, and runway expansions including a tunnel for vehicle traffic in order to accommodate larger planes on expanded runways.

The innovation of long-range commercial jet planes, particularly the Boeing 707 and DC-8 in 1958 and 1959, dramatically shaped the national system of airports, ushering in the era of the Jet Age. These new larger, more efficient jets precipitated a rapid rise in air travel. Between 1960 and 1970, air travel nearly tripled and many airports were not equipped to handle the new jets or the amount of traffic they generated.

Recognizing the limitations of the existing infrastructure, LAX airport officials again hired Pereira and Luckman to master plan its Jet Age facilities. Pereira and Luckman teamed with Welton Becket & Associates and Paul R. Williams for the proposed improvements funded by a $60 million bond approved by voters in June 1956. The innovative design distributed passengers through six ticketing buildings facing onto a U-shaped access road around a sunken half-mile long mall containing parking for 5,000 cars, a restaurant, an employee cafeteria, electrical and heating plants, and the airport administration building. The ticketing buildings connected via underground passageways to satellites—large concourses that housed waiting areas, cocktail lounges, dining facilities, gift shops, and newsstands. Each of the seven oval-shaped satellite concourses was larger than a football field and contained ten gates with bridges to connect to planes.

The first phase of construction began in 1957, which included field improvements and runway extensions, and was followed by excavations for the underground components. The final phase included the construction of the terminal buildings and the control tower. Completed in 1961, the control tower was the highest in the world at 172 feet and it sat above the administration offices. On June 25, 1961, Vice President Lyndon B. Johnson dedicated the new airport facilities, although only the United Airlines ticketing terminal and its two satellites were open at the time. United began passenger service from the new facility in August, and American, Western, Continental, Delta, Pacific, and Pacific Southwest Airlines followed suit in the following months in their new buildings on the south side of the access road. Meanwhile, TWA and Bonanza Airlines began operating from new buildings on the north side of the access road. The last passenger terminal and satellite complex completed was the $5 million international facility in 1962, which included the usual ticketing, boarding, and baggage areas as well as customs, immigration, and agriculture and public health inspectors.

On January 13, 1962, the Theme Building, the centerpiece of the new airport design, opened to the public. Reminiscent of Pereira and Luckman's earlier schemes for the airport and reflecting the Jet Age mentality, the modern-styled parabolic arch's four legs rise 135 feet from the ground and 340 feet across the base in the center of the terminal area. At the top of the structure is an observation deck and restaurant with a view 70 feet above the parking lot. The central kitchen and commissary is at ground level. The Theme Building was designated City of Los Angeles Historic-Cultural Monument #570 in 1992.

In response to the 1964 air freight boom where freight traffic increased nearly 400 percent, the airport built a new air cargo center. Cargo City was built on a 96-acre site that had been the Intermediate Facilities, which was demolished to make way for Flying Tigers Airlines, TWA, and Atlantic Transfer's cargo terminals.

As the airport expanded, it faced increasing complaints from its residential neighbors who had moved into suburban tract homes surrounding the airport following World War II. In order to expand a noise buffer zone around the airport, the Department of Airports spent more than $145 million between 1965 and 1985 purchasing homes and property in Palisades del Rey, West Westchester, Emerson Manor, North Westchester, and North Playa del Rey.

In 1967, the Department of Airports released a new master plan authored by William Pereira & Associates. The plan focused on alleviating traffic at the airport by proposing new roadway construction to serve up to 48 million passengers annually, a new terminal at the west end of the airport, and construction of small localized metroports throughout the Los Angeles metropolis. While the metroports did not materialize, a new terminal for commuter traffic and air taxis at the western edge of World Way opened in 1970. In 1968, the World Way Postal Center, designed by

Cesar Pelli and Anthony Lumsden of Daniel, Mann, Johnson, and Mendenhall (DMJM) opened on Century Boulevard. In 1974, a $410,000 sound barrier was installed along a 1,500-foot portion of the northern airport boundary.

By the late 1970s, demands on the airport had exceeded its facilities' operation capacity. Expectations of the 1984 Summer Olympic Games in Los Angeles also added to the urgency. In 1981, ground was broken on an expansion, which included a new double-deck roadway, an addition of more than one million square feet of terminal space, remodeling of existing terminal buildings, 8,800 new parking spaces, runway reconstruction, and reconstruction of the central utility plant. Gin Wong was the supervising architect and Bechtel Civil & Minerals, Inc. and DMJM oversaw construction. At the same time, the new Tom Bradley International Terminal was designed by a joint venture of William Pereira & Associates, Daniel Dworsky and Associates, Bonito A. Sinclair and Associates, and John Williams and Associates. Deleuw, Cather and Company and the Ralph M. Parsons Company designed the 2.8-mile elevated roadway as part of the expansion.

The airport has continued expansion. In the 1980s, the Gateway Cargo Center and several other cargo terminals and buildings replaced the airport's original hangars and control tower in the southeast corner of the airport. A new airport traffic control tower, designed by Kate Diamond of Siegel Diamond Architects and Adrianna Levinescu of Holmes & Narver, opened in 1996. The $26 million, 289-foot tall tower compliments the neighboring Theme Building.

5.3.2 Cultural Resources Characterization

5.3.2.1 Previous Cultural Resources Surveys in the Project Study Area

The Phase I existing information inventory indicates that 10 cultural resources surveys have been previously conducted within the cultural resources study area. Three previous surveys occurred within the project area: LA 3673, LA 4910, and LA 1085577. Brief descriptions of the surveys are provided below (Table 5.3.2.1-1, *Previously Surveyed Areas in Phase I Cultural Resources Study Area*), with locations shown in Figure 5.3.2.1-1, *Previously Surveyed Areas in Phase I Cultural Resources Study Area*.

TABLE 5.3.2.1-1
PREVIOUSLY SURVEYED AREAS IN PHASE I CULTURAL RESOURCES STUDY AREA

Report No.	Year	Report Title	Author
LA 96	1974	Archaeological Study of LAX	Nelson Leonard
LA 2904	1993	Phase I Cultural Resources Literature Search for the West Basin Reclamation Project	Environmental Research Archaeologists: A Scientific Consortium
LA 3673	1987	Historic Property Survey Report, North Outfall Relief Sewer (NORS)	Myra L. Frank & Associates

TABLE 5.3.2.1-1
PREVIOUSLY SURVEYED AREAS IN CLASS I CULTURAL RESOURCES STUDY AREA,
Continued

Report No.	Year	Report Title	Author
LA 4910	1995	Paleontological and Archaeological Resources Reconnaissance of LAX Property, Los Angeles County, California.	Raschke, Rod, RMW Paleo Associates, Inc.
LA 7851 & LA 11560	2006	Archaeological and Historic Evaluations for the Proposed Airport Surveillance Detection Equipment, Model 3X (ASDE-3X), to Serve LAX, Los Angeles, Los Angeles County, California	PAST, Inc.
LA 9925	2009	A Report of the Monitoring During Trench Excavation, Light Grading, and Planting for the Imperial Highway Stormwater Best Management Practices Project, near LAX in the City of Los Angeles, Los Angeles County, California.	ASM Affiliates, Inc.
LA 10857	2005	The Final LAX Master Plan Mitigation Monitoring & Reporting Program	Brian F. Smith and Associates
LA 11347	2011	Cultural Resources Monitoring Report for Taxilane S and Bradley West, Los Angeles World Airports, Los Angeles, California	CH2M HILL
LA 11561	2005	Proposed Federal Aviation Administration (FAA) Airport Surface Detection Equipment, Model X (ASDE-3X) to serve LAX Los Angeles, CA – Case # FAA040625A	SRI International

LA 96. This report provides the results of an archaeological study of LAX and determined that the expansion of the airport would have a significant impact upon prehistoric cultural resources. The report detailed an important archaeological site at the western end of Runway 25L-7R, which was threatened by proposed construction and recommended careful burial of the deposit to insure the long-term protection of the site.

LA 2904. This report is of a literature review of cultural resources in the area of the West Basin Water Reclamation Project, which includes LAX. Based on the literature review, the consulting archaeologist recommended a formal archaeological site survey for three areas within the project area that contained undeveloped ground.

LA 4910. This project involved a paleontological and archaeological resources reconnaissance survey of undeveloped areas of the LAX property. The study included a pedestrian survey of the entire LAX property, with the exception of a few restricted areas. Several newly identified prehistoric and historic sites were identified during the survey with a small number of previously recorded resources relocated and updated.

LA 3673. This is a Historic Properties Survey Report prepared as part of a Supplemental EIS for the proposed North Outfall Replacement Sewer project that would run through the airport and surrounding areas. The survey found no archaeological or built-environment resources eligible for listing on the National Register of Historic Places within the project area.

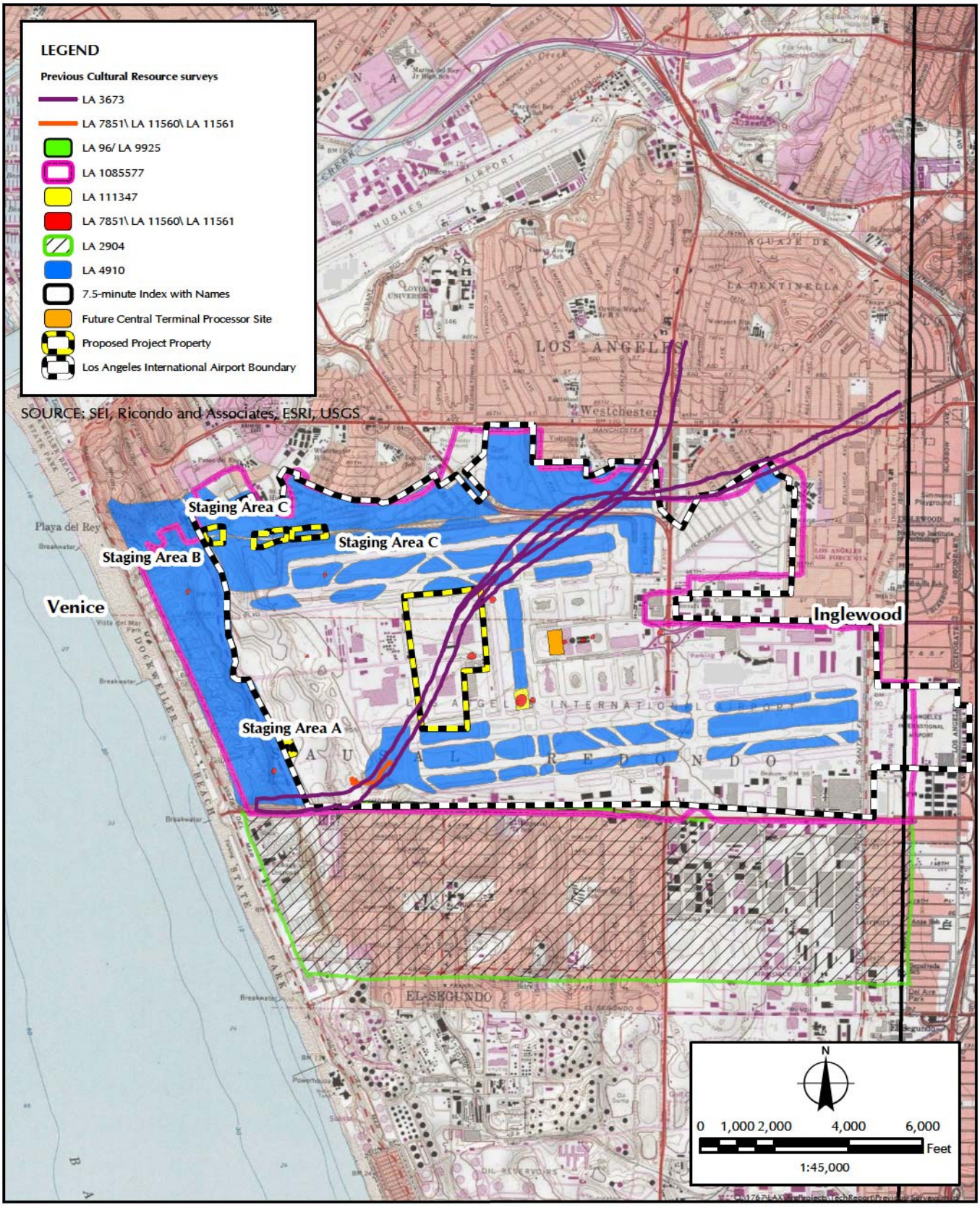

FIGURE 5.3.2.1-1

Previously Surveyed Areas in
Phase I Cultural Resources Study Area

LA 7851 & LA 11560. In support of a proposed project to install airport surveillance detection equipment, archaeological and historical evaluations were undertaken. The evaluations included a records search and field surveys in three separate sites.

LA 9925. This report provided results of archaeological monitoring of a trench excavation, light grading, and planting project for the Imperial Highway Stormwater Best Management Practices Project in the median of Imperial Highway between Pershing Drive and California Street (outside the airport). The project site had been determined to be located in an area of moderate sensitivity for archaeological resources. The monitoring project did not observe or identify any prehistoric or historic cultural resources.

LA 10857. This report provides the Archaeological Treatment Plan as part of the LAX Master Plan MMRP in compliance with federal and state laws and guidelines for the protection of archaeological resources discovered at the airport.

LA 11347. This report provides the results of cultural resources monitoring during the Taxilane S and Bradley West construction projects at LAX. No previously recorded archaeological resources were in the project areas. The monitoring discovered one historic resource, the remnants of a brick and mortar storm drain, which were determined as ineligible for listing in the California Register of Historic Resources.

LA 11561. This memo provides an analysis of potential effect of a project to install airport surveillance detection equipment. On behalf of the FAA, the consultants requested the California Office of Historic Preservation concur with a finding that the project was not likely to adversely affect historic resources.

5.3.2.2 Previously Recorded Cultural Resources in the Study Area

Archaeological Resources

Two previously recorded archaeological resources are located within the project study area, CA-LAN-691 and CA-LAN-4278H. Neither resource is located within the proposed project site. A summary of these cultural resources is provided below. Locations of these archaeological sites are shown in Figure 5.3.2.2-1, *Previously Recorded Cultural Resources in Phase I Cultural Resources Study Area*.

CA-LAN-691 (P-19-691) is a prehistoric shell scatter situated along the base of a steep hill at the southern end of the LAX property. The site measured approximately 91 meters by 12 meters in size with a depth estimated at least 0.3 meter. The site was first recorded in 1974 by N. Farrell during an archaeological survey of LAX. During a subsequent survey of the airport by RMW Paleo Associates in 1995, the site could not be relocated.[64] Extensive disturbance in the area led researchers to conclude that CA-LAN-691 had likely been destroyed and was therefore ineligible for federal, state, or local designation.[65]

[64] California Department of Parks and Recreation. 2010. Update to Primary Record for CA-LAN-691. Site form on file at the South Central Coastal Information Center, California State University, Fullerton.

[65] City of Los Angeles, Los Angeles World Airports. April 2004. Section 4.9.1 Historic/Architectural and Archaeological/Cultural Resources. In *Final Environmental Impact Statement/Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements*, pp. 4-588.

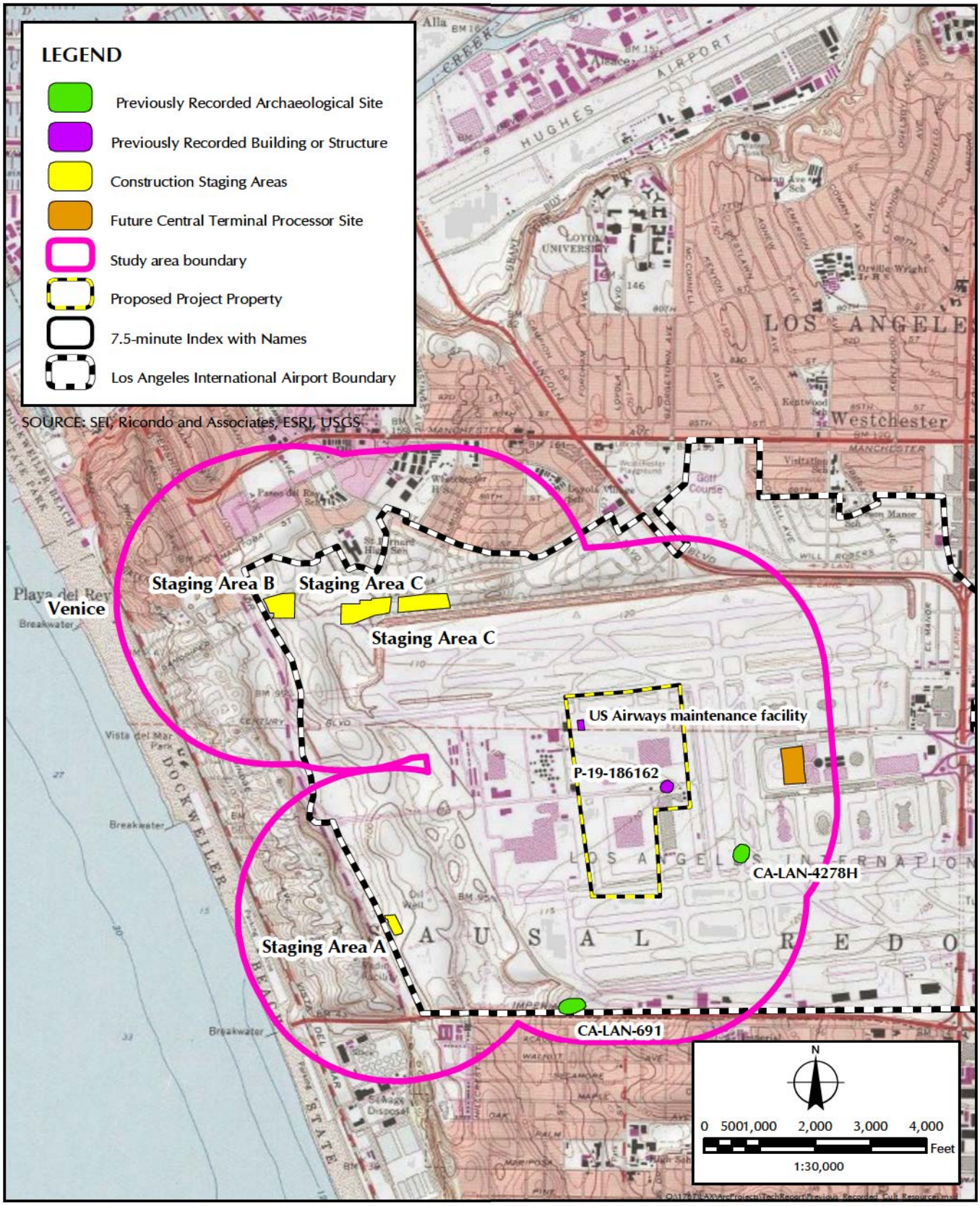

FIGURE 5.3.2.2-1

Previously Recorded Cultural Resources
in Phase I Cultural Resources Study Area

CA-LAN-4278H (P-19-004278) is a historic period brick and mortar storm drain remnant that dates to the 1940s or earlier. The site was discovered approximately 40 feet below the modern ground surface in 2011 by CH2M HILL during the construction of the Taxilane S modernization project for the LAX Master Plan.[66] The storm drain appears to have been largely dismantled sometime after its abandonment in the 1960s. Due to its lack of structural integrity, CA-LAN-4278H was determined to be ineligible for listing in the California Register of Historical Resources (CRHR).[67]

Built-Environment Resources

Two known built-environment resources are located within the project study area, including one structure and one building. Both resources are located within the area associated with the proposed MSC North Project site. A summary of these cultural resources is provided below. Locations of these resources are shown in Figure 5.3.2.2-1.

The structure, known as the Beacon Tower (P-19-186162; Image 5.3.2.2-1), was used as the LAX's Control Tower from 1951 to 1961.[68] It is a steel rectangular-shaped center tower with an open steel girder support system with an observation room and platform at the top. It was evaluated in 2006 and found ineligible for listing on the National Register of Historic Places. The tower is part of the FAA navigational aids to be relocated as part of the MSC North Project. The tower was revaluated as part of the field survey and found not to qualify as a historical resource under CEQA.

[66] Cardenas, Gloriella. 2011. *Cultural Resources Monitoring Report for Taxilane S and Bradley West, Los Angeles World Airports, Los Angeles*. Report prepared by CH2M Hill, Santa Ana.

[67] California Department of Parks and Recreation. 2010. Primary Record for CA-LAN-4278H/P-19-4278. Site form on file at the South Central Coastal Information Center, California State University, Fullerton.

[68] California Department of Parks and Recreation. 2010. Update to Primary Record for P-19-186162. Site form on file at the South Central Coastal Information Center, California State University, Fullerton.

Image 5.3.2.2-1. Beacon Tower, looking south

The building is the U.S. Airways Maintenance Facility (Image 5.3.2.2-2). It is a utilitarian maintenance and office building clad in corrugated metal siding with a flat roof. It was evaluated in January 2012 as part of the LAX Specific Plan Amendment Study Draft EIR and found to have been altered since the 1967 aerial used to provide an approximate date for the construction of the building. During this evaluation, it was determined that the building lacked integrity and failed to meet the architectural or historic criteria that would qualify it as a historical resource under CEQA.

Image 5.3.2.2-2. U.S. Airways Maintenance Facility, looking northwest

5.3.2.3 Newly Recorded Cultural Resources in the Study Area

Archaeological Resources

No archaeological resources were identified during the Phase I survey. However, as previously stated, a low degree of ground visibility characterized much of the proposed project area. Paving and standing structures and buildings covered most of the ground surface in the proposed MSC North Facility site. In Staging Areas A and B, which were largely unpaved, the ground surface was covered with re-deposited sediments and non-native gravels, respectively. While Staging Area C could not be accessed during the Phase I survey, a cursory examination of the area by the archaeologist indicated that much of the ground surface in this area was also covered with non-native gravel.

Built-Environment Resources

Nine newly recorded buildings and structures were documented during the Phase I survey. These include six resources in the current project area and three resources in areas slated for future development (two in the future CTP site and one within the MSC). In addition, one previously recorded built environment resource, the U.S. Airways Maintenance Facility (Resource No. 8), was re-evaluated as part of the field survey. The location of each of these historic properties, along with other buildings surveyed, is shown in Figure 5.3.2.3-1, *Buildings and Structures Assessed in Phase I Cultural Resources Survey*; a summary of each newly recorded building and structure is provided in Table 5.3.2.3-1, *Newly Recorded Buildings or Structures*.

TABLE 5.3.2.3-1
NEWLY RECORDED BUILDINGS AND STRUCTURES

Resource No.[1]	Name	Construction Date	Building or Structure?	MSC Project Phase
1	American Airlines Maintenance (non-power) Shop	c. early 1960s	Building	MSC North Project
2	Electrical Substation	Post-1967	Structure	MSC North Project
4	U.S. Coast Guard Facility	1981	Building	MSC North Project
5	Water Deluge Tank and Pump Station	2012	Structure	MSC North Project
6	Electrical Vault No. 2	Post-1967	Building	MSC North Project
8	American Airlines High Bay Hangar	Post-1967	Building	MSC Project Future Phase
9	American Airlines Shed	Post-1967	Building	MSC Project Future Phase
10	Parking Structure 3 (Central Terminal Area)	Post-1967	Structure	MSC Project Future Phase
11	Parking Structure 4 (Central Terminal Area)	Post-1967	Structure	MSC Project Future Phase

NOTE: Resource Nos. 3 and 7 are not included in the table as these cultural resources have previously been recorded.

Data collected during the Phase I survey indicate that the nine newly recorded built environment resources located within the current and future MSC project areas are utilitarian, industrial buildings or structures associated with the operation of the airport facility. None of these cultural resources were determined to be significant for the purposes of CEQA. Eight of the resources that were surveyed are less than 50 years old and do not qualify for special consideration for historic status. The ninth resource, the American Airlines Maintenance (non-power) Shop, may date from the early 1960s based on 1964 topographic map[69] and 1967 aerial photograph.[70] However, this latter building lacks any architectural or historical merit and as such, does not meet the criteria for inclusion on the NRHP or CRHR. Finally, a re-evaluation of the U.S. Airways Maintenance Facility resulted in a concurrence with the earlier finding that the building lacks the integrity and architectural or historical merit needed for federal, state, and local designation.

[69] Los Angeles World Airports. 1967. Aerial Photography of LAX. On file at the offices of Ricondo & Associates, Inc. and Sapphos Environmental, Inc.

[70] U.S. Geological Survey. 1964. 7.5-Minute Series, Venice, California, Topographic Quadrangle. Reston, VA.

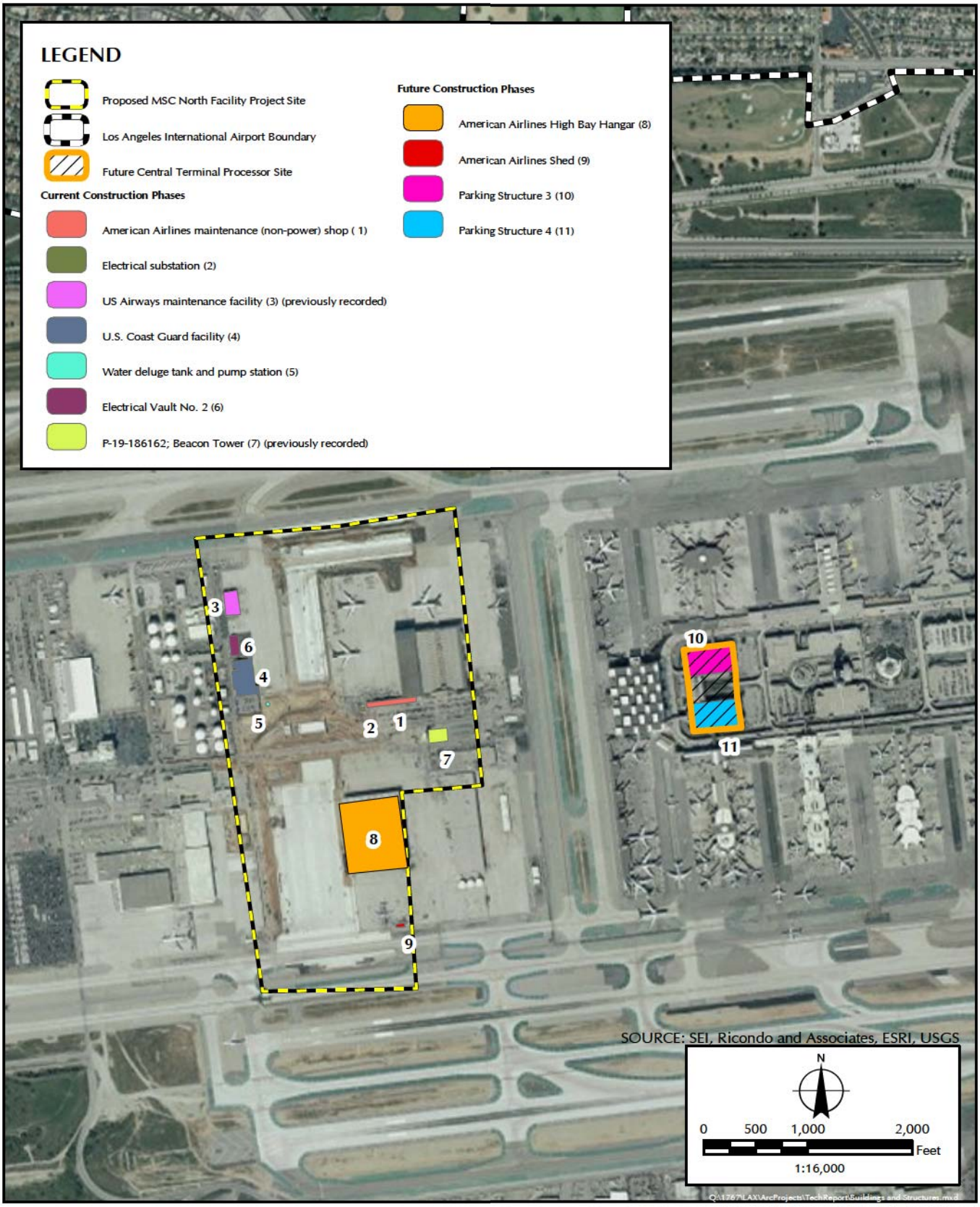

FIGURE 5.3.2.3-1

Buildings and Structures Assessed in Phase I Cultural Resources Survey

Image 5.3.2.3-1. American Airlines Maintenance (non-power) Shop, looking southwest

5.3.3 Assessment of Impacts to Cultural Resources

Although no archaeological resources have been documented in the proposed project area, a thorough examination of the native sediments within the MSC Project site and associated staging areas was not possible during the Phase I survey due to the low visibility of the ground surface. Results from the records search and archival research indicate that a small number of archaeological resources are located within the larger cultural resources study area. The presence of these archaeological sites suggests a potential for the unanticipated discovery of archaeological resources during construction activities within the proposed project area. The implementation of Mitigation Measures (MMs) HA-4 through HA-10 (see Section 5.3.4, *Avoidance and Minimization Measures*) would reduce impacts to prehistoric or historic archaeological resources to below the level of significance.

The cultural resources records search, archival research and Phase I survey have shown that none of the built-environment resources located within the proposed MSC Project site, staging areas, or future CTP site meet the criteria for listing in the CRHR. As such, the proposed project is not expected to cause a substantial adverse change in the significance of any historical resources.

5.3.4 Avoidance and Minimization Measures

The implementation of the seven cultural MMs outlined in the MMRP[71] and the Archaeological Treatment Plan (ATP)[72] for the LAX Master Plan is expected to reduce the potential impacts of the project to below the level of significance. These seven MMs are presented below.

MM-HA-4 Discovery

The FAA shall prepare an archaeological treatment plan (ATP), in consultation with SHPO, that ensures the long-term protection and proper treatment of those unexpected archaeological discoveries of federal, state, and/or local significance found within the area of potential effect (APE) of the selected alternative. The ATP should include a monitoring plan, research design, and data recovery plan. The ATP should be consistent with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation;[73] California Office of Historic Preservation (OHP) *Archaeological Resources Management Report*; Recommended Contents and Format (1989), and the *Guidelines for Archaeological Research Design* (1991); and shall also take into account the ACHP's publication *Treatment of Archaeological Properties: A Handbook*. The ATP shall also be consistent with the Department of the Interior's Guidelines for Federal Agency Responsibility under Section 110 of the NHPA. In addition, those steps outlined in Section 21083.2(l) of CEQA and Section 15064.5(f) of the CEQA Guidelines shall be implemented, if necessary.

MM-HA-5 Monitoring

Any grading and excavation activities within LAX proper or the acquisition areas that have not been identified as containing redeposited fill material or as having been previously disturbed shall be monitored by a qualified archaeologist. The archaeologist shall be retained by LAWA and shall meet the Secretary of the Interior's Professional Qualifications Standards.[74] The project archaeologist shall be empowered to halt construction activities in the immediate area if potentially significant resources are identified. Test excavations may be necessary to reveal whether such findings are significant or insignificant. In the event of notification by the project archaeologist that a potentially significant or unique archaeological/cultural find has been unearthed, LAWA shall be notified and grading operations shall cease immediately in the affected area until the geographic extent and scientific value of the resource can be reasonably verified. Upon discovery of an archaeological resource or Native American remains, LAWA shall retain a Native American monitor from a list of suitable candidates obtained from the Native American Heritage Commission (NAHC).

[71] City of Los Angeles, Los Angeles World Airports. September 2004. *LAX Master Plan Alternative D, Mitigation Monitoring and Reporting Program*.

[72] Brian F. Smith and Associates. June 2005. *LAX Master Plan Mitigation Monitoring & Reporting Program, Archaeological Treatment Plan*. San Diego, CA.

[73] 48 FR 44634-37.

[74] 48 FR 22716, September 1983.

MM-HA-6 Excavation and Recovery

Any excavation and recovery of identified resources (features) shall be performed using standard archaeological techniques and the requirements stipulated in the ATP. Any excavations, testing, and/or recovery of resources shall be conducted by a qualified[75] archaeologist selected by LAWA.

MM-HA-7 Administration

Where known resources are present, all grading and construction plans shall be clearly imprinted with all of the archaeological/cultural mitigation measures. All site workers shall be informed in writing by the on-site archaeologist of the restrictions regarding disturbance and removal, as well as procedures to follow should a resource deposit be detected.

MM-HA-8 Archaeological/Cultural Monitor Report

Upon completion of grading and excavation activities in the vicinity of known archaeological resources, the Archaeological/Cultural monitor shall prepare a written report. The report shall include the results of the fieldwork and all appropriate laboratory and analytical studies that were performed in conjunction with the excavation. The report shall be submitted in draft form to the FAA, LAWA, and City of Los Angeles Cultural Affairs Department. City representatives shall have 30 days to comment on the report. All comments and concerns shall be addressed in a final report issued within 30 days of receipt of city comments.

MM-HA-9 Artifact Curation

All artifacts, notes, photographs, and other project-related materials recovered during the monitoring program shall be curated at a facility meeting federal and state standards.

MM-HA-10 Archaeological Notification

If human remains are found, all grading and excavation activities in the vicinity shall cease immediately and the appropriate LAWA authority shall be notified; compliance with those procedures outlined in Section 7050.5(b) and (c) of the State Health and Safety Code, Section 5097.94(k) and (i) and Section 5097.98(a) and (b) of the Public Resources Code shall be required. In addition, those steps outlined in Section 15064.5(e) of the CEQA Guidelines shall be implemented.

5.4 NATIVE AMERICAN SACRED SITES AND HUMAN REMAINS

5.4.1 Resource Characterization

A Native American sacred site is defined by the NAHC as an area that has been, and often continues to be, of religious significance to Native American peoples, such as an area where religious ceremonies are practiced or an area that is central to their origins as a people.[76] Results of a record search of the Sacred Lands File for the proposed project site by the NAHC failed to

[75] The Secretary of the Interior's Professional Qualifications Standards (48 FR 22716, September 1983).

[76] Native American Heritage Commission. Accessed 27 July 2006. "Understanding Cultural Resources." Available at: www.nahc.ca.gov/understandingcr.html

indicate the presence of any sacred sites in the cultural resources study area.[77] However, the NAHC recommended that additional coordination be undertaken with local Native American groups and individuals on the matter. As a result of this recommendation, Sapphos Environmental, Inc. sent letters to nine Native American contacts classified by the NAHC as potential sources of information related to cultural resources in the vicinity of the project area. This outreach resulted in a response from Mr. John Tommy Rosas of the Tongva Ancestral Territorial Tribal Nation, who did not identify any sacred sites in the cultural resources study area.[78]

The records searches, supplemental research, field surveys, and consultation did not reveal any known cemeteries or burial sites within the area of potential impact.

5.4.2 Impact Analysis

There are no known Native American sacred sites or burial sites within the project property. The project would not be expected to directly or indirectly affect or destroy a Native American sacred site or human remains.

5.4.3 Avoidance and Minimization Measures

No sensitive Native American resources have been reported in the vicinity of the project property. However, if unanticipated Native American resources are discovered during construction activities, the implementation of MMs MM-HA-5 and MM-HA-10 is expected to reduce the potential impacts of the project to below the level of significance (see Section 5.3.3, *Assessment of Impacts to Cultural Resources*).

5.5 SUMMARY OF FINDINGS

The results of the Phase I survey presented in this Cultural Resources Technical Report demonstrate that the proposed project will not adversely affect significant paleontological or cultural resources within the proposed MSC North Project area. As such, a finding of no adverse effect is appropriate for the proposed project.

[77] Singleton, Dave, Native American Heritage Commission, Sacramento, CA. 27 November 2012. Letter response to Tiffany Clark, Sapphos Environmental, Inc., Pasadena, CA

[78] Rosas, John Tommy. 5 December 2012. Email response to Tiffany Clark, Sapphos Environmental, Inc., Pasadena, CA.

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