Cultural Resource Technical Report

Haynes Generating Station Sewer Force Main Project

Los Angeles County, California

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Redaction statement:

The public-facing version of this report has been redacted to withhold sensitive information regarding the nature and location of archaeological sites and places of significance to Native American tribes. This information is exempt from public disclosure under the California Public Records Act pursuant to Government Code 6254.10, and under the Freedom of Information Act pursuant to the Archaeological Resources Protection Act of 1979 (16 U.S.C. § 470hh) and the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 307103).

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Appendix A. Known Cultural Resources Within a 0.25-Mile Buffer of the Study Area

Acronyms and Abbreviations

AB	Assembly Bill
BP	Before Present
CEQA	California Environmental Quality Act
cm	centimeter(s)
CRHR	California Register of Historical Resources
ft	foot/feet
g	gram(s)
GTIOC	Gabrielino Tongva Indians of California
LACSD	Los Angeles County Services District
LADWP	Los Angeles Department of Water and Power
LBUD	Long Beach Utilities Department
m	meter(s)
NRHP	National Register of Historic Places
PRC	Public Resources Code
Project	Haynes Generating Station Sewer Pipeline Project (SC-0442)
SCCIC	South Central Coastal Information Center
SHPO	State Historic Preservation Office
SR	State Route
TCR	tribal cultural resource
WRF	Water Reclamation Facility

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Management Summary

This report provides the results of a cultural resource technical study conducted for the Haynes Generating Station Sewer Pipeline Project (SC-0442) (Project) as proposed by the Los Angeles Department of Water and Power (LADWP) and Long Beach Utilities Department (LBUD). The Project would construct a new 12-inch diameter high density polyethylene sewer force main to convey existing sanitary sewer discharges from the LADWP Haynes Generating Station to the Los Angeles County Services District's Long Beach Water Reclamation Facility (WRF).

The project is linear, and primarily located within the City of Long Beach, in south Los Angeles County, California, A small southeastern portion of the Project is in the City of Seal Beach, California. The Project is roughly bounded by North Studebaker Road to the west, East Willow Street to the north, State Route (SR)-22 to the south, and Interstate 605 to the east.

The cultural resource technical study included a record search with the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System, a search of the Sacred Lands File (SLF) with the California Native American Heritage Commission (NAHC), archival research, and pedestrian survey of the Project footprint. No cultural resources were identified within the Project footprint as a result of the study. Based on the observation that much of the project footprint has been historically disturbed, the potential for encountering buried archaeological resources is considered to be low. Nevertheless, the potential for an unanticipated discovery does exist, and may represent a potentially significant impact to cultural resources. Mitigation measures CUL-1 through CUL-3 are proposed to address the inadvertent discovery of archaeological resources and human remains during Project construction. Implementation of these measures would reduce impacts to cultural resources to a less than significant level.

The Project is not anticipated to result in significant impacts to tribal cultural resources (TCRs). A search of the NAHC's SLF was negative for the presence of Native American TCRs in or near the Project study area. AB 52 consultation also did not result in the identification of any TCRs in or near the Project study area. Nevertheless, the potential for an unanticipated discovery does exist, and may represent a potentially significant impact to TCRs. The following mitigation measures were provided by consulting tribes and are proposed to minimize impacts that may occur from the unanticipated discovery of TCRs during Project construction: TCR-1, TCR-2, and TCR-3 were provided by the Gabrieleño Band of Mission Indians – Kizh Nation; TCR-4, TCR-5, and TCR-6 were provided by the Gabrielino Tongva Indians of California; and TCR-7 was agreed to by the Juaneño Band of Mission Indians, Acjachemen Nation – Belardes.

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1 Introduction

1.1 Project Description

This report provides the results of a cultural resource technical study conducted for the Haynes Generating Station Sewer Pipeline Project (SC-0442) (Project) as proposed by the Los Angeles Department of Water and Power (LADWP) and Long Beach Utilities Department (LBUD) (**Figure 1-1**). The Project would construct a new 12-inch diameter high density polyethylene sewer force main to convey existing industrial wastewater and stormwater discharges from the LADWP Haynes Generating Station to the Los Angeles County Sanitation District's (LACSD) Long Beach Water Reclamation Facility (WRF).

Under the Project, LBUD would construct a new 12-inch diameter sewer force main that would extend from LADWP's Haynes Generating Station to an existing LACSD 42-inch sewer main located at the LACSD's Long Beach WRF. The proposed 12-inch sewer force main pipeline would be installed within a combination of unpaved utility rights-of-way and paved roadways within the City of Long Beach and a small portion in the City of Seal Beach. At bridge crossings, the diameter of the sewer force main would be reduced to 8 inches with a 16-inch casing.

The Project would facilitate the beneficial reuse of industrial wastewater discharge and on-site storm water runoff from the Haynes Generating Station's to LACSD's Long Beach WRF. As part of the Project, LBUD and LADWP would install a flow control and pressure reducing station which would consist of an above-grade or partially buried structure north of the Long Beach WRF. The concrete structure would have a footprint of up to 30 feet by 30 feet, and less than 20 feet in height.

1.2 Project Study Area

The project is linear, and primarily located within the City of Long Beach, in south Los Angeles County, California, A small southeastern portion of the Project is in the City of Seal Beach, California. The Project study area is roughly bounded by North Studebaker Road to the west, East Willow Street to the north, State Route (SR)-22 to the south, and Interstate 605 to the east (**Figure 1-2**). The Project alignment follows the western bank of the San Gabriel River and is intersected by I-405. LADWP maintains an existing electrical transmission easement along the western portion of the San Gabriel River. The San Gabriel River Trail follows the eastern bank of the San Gabriel River and bisects the Project study area to the south.

The Project footprint includes the total length of the 17,000-foot sewer force main plus a staging area at the south end of the Project, and a construction area corridor following the length of the proposed sewer force main alignment.

Figure 1-1. Regional Location



Figure 1-2. Project Study Area and Proposed Sewer Force Main Alignment



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2 Regulatory Framework

The lead agency is responsible for complying with the California Environmental Quality Act (CEQA) of 1970 (California Public Resources Code [PRC] Section 21000 et seq.). Pursuant to this statute, it is necessary for the lead agency to determine if a proposed project has the potential to affect cultural resources. Relevant local regulations are provided for context.

2.1 State Regulations

2.1.1 California Environmental Quality Act

CEQA statutes are encoded in PRC Section 21000 et seq., with guidelines for implementation codified in the California Code of Regulations (CCR), Title 14, Division 6, Chapter 3. Pursuant to CEQA, it is necessary for the lead agency to determine whether a proposed project may have a significant effect on the environment (PRC Section 21082.2[a]). CEQA associates a significant effect on the environment with a substantial adverse change in the significance of a historical resource (PRC Section 21084.1).

For the purposes of CEQA review, a historical resource is defined as follows (14 CCR 15064.5[a]):

1. A resource listed in, or determined eligible by the State Historical Resources Commission for listing in, the CRHR
2. A resource included in a local register of historical resources
3. A resource identified as significant in a historical resource survey meeting the requirements specified in PRC 5024.1(g)
4. Any resource that the lead agency determines to be historically significant

Generally, a lead agency shall consider a resource to be historically significant if the resource retains sufficient integrity and meets the criteria for listing in the CRHR (PRC Section 5024.1). These include the following criteria (14 CCR Section 4852[b]):

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
2. It is associated with the lives of persons important to local, California, or national history.
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values.
4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

Determining the integrity of a resource involves evaluating the authenticity of that resource's physical identity: the survival of characteristics that were present during the resource's period of significance. In order to be listed on the CRHR, resources must "retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance" (14 CCR Section 4852[c]). Integrity is evaluated with regard to the retention of location, design setting, materials, workmanship, feeling, and association.

Any historical resource in California that is listed or determined eligible for listing on the National Register of Historic Places (NRHP) is included in the California Register of Historical Resources (CRHR) (PRC Section 5024.1[d][1]). Under CRHR regulations, "it is possible that historical resources may not retain sufficient integrity to meet the criteria for listing in the NRHP, but they may still be eligible for listing in the California Register" (14 CCR Section 4852[c]). The CRHR also includes properties that are:

- Registered State Historical Landmarks numbered 770 and above;
- Points of Historical Interest that have been reviewed and recommended to the State Historical Resources Commission for listing; or
- City- and county-designated landmarks or districts, if the criteria for designation are determined by the Office of Historic Preservation to be consistent with CRHR criteria.

A substantial adverse change in the significance of a historical resource includes "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (14 CCR Section 15064.5[b]). If the proposed project has the potential to cause a substantial adverse change in the significance of a historical resource, the lead agency would identify potentially feasible measures to mitigate such change.

CEQA also applies to effects on archaeological sites that do not meet the criteria for historical resources but do meet the definition of a unique archeological resource (PRC Section 21083.2[g]). A unique archaeological resource is an archaeological artifact, object, or site where 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:

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

If an archaeological resource is neither a historical resource nor a unique archaeological resource, the project's effects on the resource would not be considered significant under CEQA (14 CCR Section 15064.5[c][4]).

2.1.2 California Assembly Bill 52

Assembly Bill (AB) 52 amends PRC Section 5097.94 and adds eight new sections to CEQA relating to Native Americans. It was signed into law in 2014 and took effect on July 1, 2015. AB 52 seeks to recognize that California Native American prehistoric, historic, archaeological, cultural, and sacred places are essential elements in tribal cultural traditions, heritages, and identities.

In order to recognize tribal cultural values in addition to scientific and archaeological values when determining impacts and mitigation, AB 52 establishes a new category of resource under CEQA called tribal cultural resource (TCR). TCRs are "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" (PRC Section 21074). In order to qualify as a TCR, a resource must be either of the following:

1. A resource listed or determined eligible for listing on the national, state, or local register of historic resources
2. A resource that a lead agency chooses to treat as a TCR based on the CRHR criteria and the cultural value of the resource to a California Native American tribe

AB 52 recognizes that tribes may have expertise with regard to their tribal history and practices related to the TCRs with which they are traditionally and culturally affiliated. Tribal knowledge about the land and TCRs at issue should be included in environmental assessments for projects that may have a significant impact on those resources. AB 52 states that a project that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment (PRC Section 21084.2). If it is determined that a project may cause a substantial adverse change to a TCR, mitigation measures must be considered (PRC Section 21084.3).

AB 52 also establishes a process for consulting with Native American tribes regarding TCRs. AB 52 requires a lead agency to consult with any California Native American tribe that is traditionally and culturally affiliated with the geographic area of a proposed project and has requested notification of projects in its traditional cultural territory. Within 14 days of determining that a private project application is complete, or of undertaking a public agency project, the lead agency must provide formal notification, in writing, to the California Native American tribes that have requested notification of proposed projects. The 14-day notification must include a description of the project and its location and must state that the California Native American tribe has 30 days to request consultation. If a tribe wishes to engage in consultation on the project, the California Native American tribe must respond to the lead agency within 30 days of receipt of the formal project notification. The consultation process must be completed before a CEQA document can be certified (PRC Section 21080.3.1).

2.1.3 Confidentiality of Information on Archaeological Sites and Native American Places in California

Sections 6253, 6254, and 6254.10 of the California Government Code (GC) authorize state agencies to exclude information on archaeological sites from public disclosure under the Public Records Act. In addition, the California Public Records Act (GC Section 6250 et seq.) and California's open meeting laws (The Brown Act; GC Section 54950 et seq.) protect the confidentiality of information on Native American cultural places.

The California Public Records Act, as amended in 2005, contains two exemptions that aid in the protection of records relating to Native American cultural places and archaeological resources by allowing any state or local agency to deny a California Public Records Act request and withhold from public disclosure:

- Records of Native American graves, cemeteries, and sacred places and records of Native American places, features, and objects described in Sections 5097.9 and 5097.993 of the PRC maintained by, or in the possession of, the Native American Heritage Commission (NAHC), another state agency, or a local agency (GC Section 6254[r]).
- 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, 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 (GC Section 6254.10).

Additionally, the California Historic Resources Information System maintained by the Office of Historic Preservation prohibits public dissemination of records and information about site locations. In compliance with these requirements, and those contained in the codes of ethics of the Society for American Archaeology, Society for California Archaeology, and Register of Professional Archaeologists, information about the location and nature of cultural resources is considered confidential information with highly restricted distribution and is not publicly accessible.

2.1.4 Treatment of Human Remains

Any project in California located on land that is not federally owned is required to comply with state laws pertaining to the inadvertent discovery of Native American human remains. California Health and Safety Code Sections 7050.5, 7051, and 7054 address the illegality of interference with human burial remains as well as the disposition of Native American burials in archaeological sites. The law protects such remains from disturbance, vandalism, or inadvertent destruction, and establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during, and after evaluation, and reburial procedures.

The guidelines for implementation of CEQA contain additional provisions regarding human remains (CCR 15064.5[d-e]). When an initial study identifies the existence or the probable likelihood of Native American human remains within the project area, a lead agency would work with the appropriate Native Americans as identified by the NAHC, as provided in PRC Section 5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the NAHC. Action implementing such an agreement is exempt from:

1. The general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (Health and Safety Code Section 7050.5); and
2. The requirements of CEQA.

3 Natural Setting

The Project study area is situated within the Los Angeles Basin in the northwestern side of the Peninsular Ranges geomorphic province. The Peninsular Ranges province is characterized by a series of elongated northwest-southeast trending mountain ranges composed predominantly of plutonic igneous rocks (often granites and granitoids) of Cretaceous age and older metamorphic rocks of Jurassic to earliest Cretaceous age. The Project study area extends on either side of the San Gabriel River, which flows south/southwest from the San Gabriel Mountains into Los Alamitos Bay. Both the San Gabriel River and the Los Angeles River have been channelized into their current configurations but generally follow the contours of drainages that previously fed large estuaries and bays. A small remnant of the once-expansive wetlands that characterized the Long Beach coastline is preserved in the Seal Beach National Wildlife Refuge 5 miles to the southeast of the study area. Elevation is approximately 11 feet above mean sea level with minimal slope.

3.1 Climate

The climate within long beach can be described as a hot semi-arid climate or a hot-summer Mediterranean climate. In general, the city features hot summers and mild to warm winters with. Average annual precipitation measures around 12 inches, mostly falling in the winter months. Temperatures range from average highs of 84 degrees Fahrenheit in August to average lows of 46 degrees Fahrenheit in December and January (United States Climate Data 2023).

3.2 Geology and Soils

Soils in the Project study area are mapped as Young Alluvial Fan Deposit – unconsolidated to slightly consolidated, undissected to slightly dissected boulder, cobble, gravel, sand, and silt deposits issued from a confined valley or canyon (Roffers and Bedrossian 2010). Soil units include Urban land-Biscailuz-Hueneme, drained complex, Bolsa silt loam, drained, and Urban land, frequently flooded (USDA NRCS 2023). Typical soils consist of stratified horizons of fine sandy loam, silt loam, or loam. Most of the non-channelized area is covered by urban development.

3.3 Flora and Fauna

The area has historically included several ecological communities, with coastal sage scrub or chaparral communities dominating and riparian woodland species along the Los Angeles River and its tributaries (Rundel and Gustafson 2005). Coastal sage scrub and the closely related interior sage scrub are plant communities dominated by drought deciduous shrubs. Common coastal sage scrub communities include California sagebrush (*Artemisia californica*), California encelia (*Encelia californica*), California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia millefera*), and California poppy (*Eschscholzia californica*). Riparian woodland species include California laurel (*Umbellularia californica*), Western Sycamore (*Platanus racemose*), Black Willow (*Salix gooddingii*), and others. Since European arrival, many non-indigenous species have been introduced to the city. These include yellow mustard, eucalyptus, wild radish, and tumbleweed. Such plants now far outnumber the indigenous plants.

Native fauna of the region includes mammals such as mule deer (*Odcoileus hemionus*), bighorn sheep (*Ovis canadensis cremnobates*), bobcat (*Lynx rufus*), coyote (*Cants latrans*), antelope, white-tailed jackrabbit (*Lepus townsendii*), mountain lion (*Felis concolor*), desert woodrat (*Neotoma lepida*), and formerly, grizzly bears (*Ursus arctos*). Amphibian and reptile species include Monterey salamander (*Ensatina eschscholtzii*), sagebrush lizard (*Sceloporus graciosus*), and common kingsnake (*Lampeltis getulus*). Native bird species include California thrasher (*Toxostoma redivivum*), California towhee (*Piplio crissalis*), and great horned owl (*Bubo virginianus*). The Los Angeles River was once host to fresh-water species such as arroyo chub (*Gila orcuttii*), Santa Ana sucker (*Catostomus santaane*), and speckled dace (*Rhinichthys osculus*), which now survive only in the river's tributaries. Urban development has removed many of these species from the area.

3.4 Paleoenvironmental Change

Due to the combined effects of a rise in sea level and global climate fluctuation, dramatic environmental changes have occurred during the Holocene era (11,700 years ago to present) in the coastal portion of Southern California. The effects of post-glacial sea level changes (Shumway et al. 1961; Warren and Pavesic 1963) and periods of high climatic variability (Larson and Michaelson 1989; Raab and Larson 1997; Jones et al. 1999) on coastal ecosystems have been examined as possible causes of the broad scale changes observed in the cultural patterns of prehistoric groups during the late Holocene.

The climate of the early Holocene in coastal Southern California was marked by pronounced warming and increased aridity between approximately 7,800 and 5,000 years BP (Carbone 1991), during the climatic interval known as the Altithermal. Holocene climate shifts resulted in dynamic ecosystem changes. For coastal populations in the region, perhaps the most important of these was the evolution of the coastal lagoon/estuary systems at the mouths of the major drainages in this area. At the close of the Pleistocene, the coastal plain was crossed by a series of deeply incised drainages. As sea levels rose, these drainages began to flood, forming deep embayments that formed highly productive estuaries.

The warm and arid Altithermal period was followed by a cool, moist interval that persisted until about 2,000 BP in coastal Southern California. This period, known as the Mid-Holocene, is best documented by incursions of fresh water at San Joaquin Marsh at approximately 3800 BP, 2800 BP, and 2300 BP (Davis 1992). Climate changes in coastal Southern California during the last 2,000 years or the Late Holocene are better understood, due largely to the more recent and readily apparent nature of their impact on the local environment. Among the clearest of these more recent climatic records is a 1,600-year-old tree ring record reported by Larson and Michaelson (1989) for the transverse ranges, as well as the pollen record produced from samples at San Joaquin Marsh. The early period of the reconstructed climate produced by the tree ring study (AD 500 to 1000) documented a high degree of variability in yearly precipitation levels during this time period. Progressively lower yearly precipitation levels from AD 500 to 750 resulted in extreme drought conditions from AD 750 to 770. This drought period was followed by a 200-year period (AD 800 to 1000) that was characterized by the highest precipitation levels of the entire 1,600-year reconstruction (Larson and Michaelson 1989).

Paleoclimatic records from a wide variety of contexts consistently indicate that generally higher temperatures and extreme droughts characterized the period between AD 1000 and 1300. This event, known as the Medieval Warm period or the Medieval Climatic Anomaly, has interpretive importance because it coincides with important cultural changes observed in the archaeological

record throughout California (Raab and Larson 1997; Jones et al. 1999; Stine 1990, 1994). True and Waugh (1982) note that these dry conditions may have contributed to the seasonal settlement shift to upland summer camps. The winter camps positioned along the lower flats of the mountains would likely experience decreasing water supplies, forcing inhabitants to move to locales with a more reliable water supply.

These warm, dry conditions reversed sharply about 600 years ago, correlating with the beginning of the climatic event known as the Little Ice Age (Grove 1986). A variety of data from Southern California indicates both generally lower temperatures and increased precipitation during this interval. Engstrom (1996) provided evidence that the cold, wet climatic conditions characteristic of the Little Ice Age persisted into the early decades of the nineteenth century in coastal Southern California. Intense extra-tropical cyclones brought severe gales, high waves, and high levels of precipitation to the coastal region during the winter months of this period. For the Late Prehistoric and Early Historic occupants, this likely meant more frequent and severe floods than are seen today, as well as increased stream flow. Such climatic events may have reopened and kept some of the local estuaries open to the sea for sustained periods. Archaeological evidence for this phenomenon includes the presence of bay mollusks at several Late Prehistoric archaeological sites that are situated on what were the margins of several lagoons along the Southern California coast (Masters and Gallegos 1997) and the presence of habitation areas along more inland water courses, which date to the Late Prehistoric.

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4 Cultural Context

4.1 Prehistoric Setting

The earliest evidence for human occupations in Southern California dates to the Terminal Pleistocene/Early Holocene period. This interval is characterized by a long period of adaptation to environmental changes brought about by the transition from the Late Pleistocene to the early Holocene (12,000 to 7,500 BP). Early human remains dating to about 13,000 years ago were recovered from Santa Rosa Island, making them possibly the oldest skeletal remains found in North America (Arnold and Walsh 2010). These early inhabitants utilized seasonal migrations to exploit various marine resources and hunted large game on the mainland and throughout the Channel Islands. Evidence of early occupations on the Channel Islands 15 miles off the coast of Ventura County indicate a seafaring skill and technology developed at a very early date.

The earliest evidence of a more sustained presence on the mainland coastal zone is associated with the Millingstone Horizon of the Early Holocene, which began circa 9000 BP and lasted at least 2 millennia (Arnold and Walsh 2010). As the environment warmed and dried, large Ice Age fauna died out, requiring adaption by groups to survive. The coastal tool manifestation of Paleoindian people is the San Dieguito Complex and within a lifeway known as the Paleocoastal Tradition. Along the coast, rising sea levels created bays and estuaries. Following initial settlement along the coast, groups adopted marine subsistence including fish and shellfish Some 40 sites of this age, many yielding abundant metates, manos, hammerstones, and large core tools, have been discovered, mostly in near-coastal locations. Seeds, nuts, shellfish, and mammals were commonly consumed at coastal sites of this era.

During the Middle Holocene period (7500 to 5000 BP), general settlement-subsistence patterns were exemplified by a greater emphasis on seed gathering (Beedle et al. 2008). Mortars and pestles and large, side-notched projectile points were added to the tool repertoires, likely signaling an expansion of the diet, and highly favorable locations near estuaries may have become important residential bases for local populations (Arnold and Walsh 2010), although clearly a largely mobile hunter-gatherer lifeway prevailed. Adaptation to various ecological niches, further population growth, and an increasingly sedentary lifestyle typify the subsequent periods of cultural history in Southern California. The Topanga Complex, exemplified by sites in Topanga Canyon provide evidence of prehistoric occupation of the Los Angeles Basin during this interval. During the middle to late Holocene (5000 to 1500 BP), cultural patterns remained similar; however, artifacts at many coastal sites became more elaborate, reflecting an increase in sociopolitical complexity and efficiency in subsistence strategies (Beedle et al 2008).

Use of the bow and arrow, along with the use of bedrock mortars and milling slicks, occurred during the Late Holocene (after 1500 BP). Mainland sites in the broader region started to reflect a more balanced orientation in people's exploitation of terrestrial and marine resources, with signs of intensified fishing and marine mammal hunting, as well as new technologies such as circular shell fishhooks, stone net weights, refined mortars, and new projectile point types (Arnold and Walsh 2010). Settlement was strongly focused in coastal locations, and increased sedentary lifestyle is suggested by evidence of large clusters of houses, formal cemeteries, and high densities of artifacts and food refuse. These developments along the mainland coast and the gradual population growth that accompanied them laid the foundation for increasing elaboration in ritual life, intensification of regional exchange systems, and complexity in political organization that emerged later (Arnold and

Walsh 2010). By the time of European contact, the tribes of Southern California were among the world's most populous and densely settled hunter-gatherer populations, living in large, permanent villages and exhibiting considerable economic, ritual, and technological complexity throughout the region.

4.2 Ethnohistory

The Project study area is within the territory of the Gabrielino, or Tongva. The historical and ethnographical pre-contact record for many of California's Native American tribes is relatively sparse. It has been speculated that the Native American people known today as the *Gabrielino* (or *Gabrieleño*), *Tongva*, or *Kizh* (*Kitc*), whose Cupan language belongs to the Takic branch of the Uto-Aztecan language family (Bean and Smith 1978), migrated to the California region from the Great Basin area in successive waves beginning anywhere from 4000 to 1300 years ago (McCawley 2006). The traditional territory of the Gabrielino covers approximately 1,500 square miles and extends across most of modern-day Los Angeles and Orange Counties, from Topanga Creek in the north to Aliso Creek in the south, and includes the Santa Catalina, San Clemente, San Nicolas, and Santa Barbara Islands (Jurmain and McCawley 2009; Bean and Smith 1978). There were roughly 50 major Gabrielino villages spread throughout their traditional territory. Large Gabrielino villages in Long Beach include *Ahaungna*, *Suangn*a, *Puvungna* and *Tibahangna*.

While Gabrielinos living in the different villages across their traditional territory shared a collective identity and distinguished themselves from other surrounding tribes through linguistic, religious, kinship and cultural bonds; political identities were associated with home villages, and internal material, economic, linguistic, and metaphysical differences influenced by geography existed. Jurmain and McCawley (2009) explain:

> Although the Tongva shared a common language and culture, the land shaped and molded their villages in different ways. The character of the Los Angeles region—one of the most geographically diverse places in the world, with high mountains and foothills, broad valleys and prairies, seacoast and offshore islands—impressed upon them, engendering differences in lifestyle and wealth, especially between Indians living on the seacoast and those further inland. The coastal Indians benefited most from this diversity of resources. They had many of the same foods as their inland neighbors—game such as deer, antelope, rabbits, and squirrels as well as plant foods like acorns, seeds, and bulbs—but they also had fish, seals, sea lions, seabirds, and shellfish. By comparison, the Indians living in the valleys had a more restricted diet and were more likely to suffer from droughts and famines.

Jurmain and McCawley (2009) continue:

> These regional differences [among the Gabrieleños] went beyond material goods and economic wealth; there were cultural and even philosophical differences as well. The Tongva spoke at least three distinct dialects of their language, one on the Channel Islands and mainland coast, another in the San Gabriel Valley, and a third in the San Fernando Valley (a fourth dialect spoken on distant San Nicolas Island may have been related to the language of the Luiseño Indians to the south). They traded, and even intermarried, with different neighboring tribes like the Chumash, Serrano, and Cahuilla. And they had different religious beliefs about how the world was created and how Indians came into being.

The first contact between Gabrielinos and European newcomers took place when Juan Rodríguez Cabrillo arrived at Santa Catalina Island in 1542 (McCawley 2006; Bean and Smith 1978). While

subsequent and sporadic interactions with European explorers may have occurred over ensuing decades, it was not until the Gaspar de Portolá expedition in 1769 that the presence of Europeans would begin to fundamentally alter traditional Gabrielino ways of life (McCawley 2006).

It was common practice of the Spanish Catholics to impose the names of missions on local tribes in their proximity, and it is from Mission San Gabriel Arcángel—established in the heart of traditional Gabrielino territory on 8 September 1771—that the Gabrielino received their name. The coming of the Spanish and the construction of the missions, which "essentially [served as] coercive religious, labor camps organized primarily to benefit the colonizers" (Castillo 1998), had drastic social, cultural, and economic effects. Beginning in 1778, the Mission clergy begin mass conversions of Gabrielinos to Christianity, and—despite numerous acts of revolt, rebellion, and resistance (Jurmain and McCawley, 2009; McCawley 2006; Bean and Smith 1978)—by 1800 "[m]ost Gabrielinos [were] missionized, dead, or fled to other areas" (Bean and Smith 1978).

Following independence from Spain, Mexican authorities instituted a process of mission secularization, and by 1834, all missions in Southern California had been largely secularized and ranchos established on their lands. While historical records from the secularization period are scarce, it is known that many Native Americans in Southern California were exploited as forced labor during this time by Mexican rancheros (Shipek 1977).

The aftermath of the Mexican-American War (1846–1848) and establishment of the State of California in 1850 brought an increasing number of non-native settlers into the territory. A series of moves designed to displace and dispossess California Indians from their land soon followed (Castillo 1998; Shipek 1977). Shipek (1977) explains:

> Through a complex series of overlapping and contradictory events, inadequate instructions to local officials, and deliberate misrepresentations, legal titles to lands occupied and used by Indians were not acquired under proper procedures from the proper commission. Except for a few rancho grants to individual Indians, legal title was not confirmed to Indian pueblos or other villages.
>
> However, the primary reason used by Americans to justify taking the land from the Mission Indians was that Indians occupied the best watered lands and that Southern California could not develop until "industrious settlers" acquired them. Even those who advocated fair and humane treatment of Indians…advocated their removal to small reservations where they would still be available to provide farm and ranch labor for the region…

As the ranchos began to decline in the 1860s, the need for farm and ranch labor grew as farming, citrus production, and sheep ranching began to dominate the Southern California landscape (Jurmain and McCawley 2009). While many Gabrielinos filled these positions, the spread of disease also became more acute during this time, and from 1860 to 1900 a smallpox epidemic devastated the Gabrielino population. With the exception of a few "isolated families and Gabrielinos living in remote areas" Gabrielino traditional culture was nearly extinct by 1900 (Bean and Smith 1978).

Through the Indian Citizenship Act of 1924, the U.S. granted the opportunity for Native Americans to become U.S. citizens while retaining their tribal citizenship. This act was intended to both acknowledge the role many Native Americans played in World War I and "to further the government's goal of assimilating them into the general population" (Jurmain and McCawley 2009). Despite its underlying assimilationist goal, "as a landless urban tribe, the Tongva well understood the importance of citizenship" (Jurmain and McCawley 2009), as it offered them a more impactful and inclusive political voice. Today, they are still fighting for recognition from the U.S. federal government

of their shared and collective tribal identity, an identity which is firmly tied to their traditional territory and ancestral lands.

Some success has been achieved on this front, as the State of California officially recognized the Gabrielino ("Gabrielino-Tongva Tribe") as the aboriginal tribe of the Los Angeles Basin, their living ties to the land, and the perseverance of their community, in Assembly Joint Resolution 96, Chapter 146 of the Statutes of 1994. At present, no less than four groups represent Gabrielino interests in Southern California: the Gabrielino/Tongva Tribe; the Gabrielino-Tongva Tribe; the Gabrieleño/Tongva Tribal Council; and the Kizh Nation, or Gabrieleño Band of Mission Indians.

The ethnohistoric village of Puvunga, or Povuu'nga (CA-LAN-306), is located approximately 787 ft (240 m) west of the southwestern boundary of the Project study area, at what would have been the most important freshwater spring in the region (Dixon 1972). In 1784 the grazing rights to the land were assigned by the Spanish Governor Fages to Manuel Nieto, a corporal in the Spanish army. Baptismal records from the San Gabriel and San Juan Capistrano missions show that Puvunga remained inhabited another 20 years beyond this date (Dixon 1972). The entries from San Gabriel cover a period from 1771 to 1855, and Puvunga Indians were recorded as baptized from 1785 until 1805. After this time, the village was likely abandoned. The name Puvunga in the Tongva language possibly means "the place of the crowd" or the "gathering" (Dixon 1972). Ethnohistoric records show that Puvunga was the site of large gatherings for ceremonial observances.

4.3 Regional History

The history of Southern California can be broken down into three major periods: Spanish (1769–1822, Mexican (1822–1848), and American (1848–present). The Spanish colonization of California was achieved through a program of military-civilian-religious conquest. Under this system, soldiers secured areas for settlement by suppressing native and foreign resistance and established fortified structures (presidios) from which the colony would be governed. Civilians established towns (pueblos) and stock-grazing operations (ranchos) that supported the settlement and provided products for export. Ultimately, 4 presidios and 21 missions were established in Spanish California between 1769 and 1821. In 1784, the Spanish Governor Fages granted the grazing rights to the land around the project study to Manuel Nieto, a corporal in the Spanish army, as part of the 300,000-acre Los Coyotes land concession for Nieto's service on the Gaspar de Portola expedition to California. Nieto died in 1804 and by 1834 the land was subdivided into five separate ranchos. Approximately 28,500 acres around the terminus of the San Gabriel River in Los Angeles and Orange counties became Rancho Los Alamitos and includes the Project study area (Rancho Los Alamitos 2023; Sapphos Environmental, Inc. 2009). A small remnant of Rancho Los Alamitos is preserved at the Rancho Los Alamitos Historic Ranch and Gardens located approximately 0.7 miles west of the Project study area.

In 1821, after more than a decade of revolutionary struggle, Mexico achieved independence from Spain, and California became a distant outpost of the Mexican Republic. Under a law adopted by the Mexican congress in 1833, the mission lands were to be secularized and subdivided into land grants, or ranchos, to be sold to prominent military and politicians. The missions were given 10 years to complete their education of the Native Americans before the enactment of the Secularization Act of 1833. This act privatized the Franciscans' landholdings, redistributing the lands and holdings through land grants. Rancho Los Alamitos was inherited by Nieto's son, Juan Jose Nieto, in 1834 and subsequently sold to Mexican Governor Jose Figueroa (Sapphos Environmental,

Inc. 2009). In 1842, the property and its livestock were sold to an American named Abel Stearns (Spillane et al 2017; Duke et al 2019; Rancho Los Alamitos 2023).

Beginning in the early 1840s, Mexico's hold on California was threatened by the steady overland migration of American settlers into the region. War between the U.S. and Mexico commenced in May 1846. The U.S. eventually prevailed, and the American victory over Mexico was formalized in February 1848 with the Treaty of Guadalupe Hidalgo. Under the treaty, Mexico ceded to the U.S. the present states of California, Nevada, Utah, New Mexico, Arizona, and parts of Wyoming and Colorado. In January 1848, just a few days before the treaty was signed, James Marshall discovered gold on the American River. Marshall's discovery triggered the gold rush, a massive influx of fortune-seekers into California that led to the creation of major cities and numerous smaller settlements. The influx of settlers also caused a large increase in the demand for beef. This demand for cattle to feed the gold rush miners resulted in a search for easier access to the lands north of Los Angeles and east into the Mojave Desert (Wlodarski 1999). The sudden and enormous growth of California's population brought about by the gold rush resulted in a movement for statehood that culminated in the state constitutional convention at Monterey in 1849 and the establishment of California as a state in 1850. In 1862, President Lincoln signed the Homestead Act, further encouraging western migration by offering 160 acres in exchange for a small fee.

Beginning about 1855, the demand for beef began to decline due to imports of sheep from New Mexico and cattle from the Mississippi and Missouri Valleys (Cleland 1941). When the beef market collapsed, many California ranchers lost their ranchos through foreclosure. A series of disastrous floods in 1861–1862, followed by two years of extreme drought, which continued to some extent until 1876, altered ranching forever in the southern California area (Cleland 1941). As a result, Steams lost control of the ranch and in 1884 Rancho Los Alamitos was sold to J. Bixby and Co. (DeAtley 1988). During the 1880s, 5,000 acres of Rancho Los Alamitos was developed, and by the early twentieth century, oil subsidized the remaining ranch. In 1886, Bixby laid out a planned Alamitos Beach town site in what is now east Long Beach.

The first homes and schools were built by the developer William Wilmore in the 1880s, who owned the neighboring Rancho Los Cerritos and named the area Wilmore City. Soon after, the growing population voted to incorporate the city and renamed it "Long Beach" (Sapphos Environmental, Inc. 2009). Long Beach was laid out on a bluff that overlooks the Cerritos Slough and the Pacific Ocean. The 1896 USGS *Downey* 15-minute quadrangle shows early Long Beach, rail lines, roads, and the natural alignment of the L.A. River and wetlands. In 1897, the City of Long Beach incorporated and grew rapidly through the next few decades, annexing the neighboring Alamitos Beach into the city (Sapphos Environmental, Inc. 2009). New settlers continued to arrive, largely due to the establishment of the Santa Fe and Southern Pacific Railroads. The Southern Pacific trolley introduced in 1902, promoted expansion of the city as both a commercial hub and resort community. Between 1902 and 1910, Long Beach was the fastest growing city in the United States (City of Long Beach 2023). The following year, the Port of Long Beach was established and in 1919 the U.S. Navy designates Long Beach as the headquarters for the new Pacific Fleet, spurring further economic and population growth (Sapphos Environmental, Inc. 2009).

In 1921, oil was discovered on Signal Hill, resulting in intense development and industrial growth in the area. Signal Hill became dotted with pumps, towers, tanks, and industrial structures (DeAtley 1988). The Lomita Gasoline Company (later Lomita-Petrolane) was incorporated in 1923 by the Jergen Family, only two years after the discovery of oil, to process by-products, including natural gas, butane, and propane. Long Beach's economy flourished and the downtown witnessed one

million dollars per month in new construction. A major earthquake struck the City of Long Beach in 1933, destroying a large part of it. Additional oil was discovered in 1936 and, in response, the Port was expanded, and its facilities were upgraded to allow for improved oil transportation. During the 1920s and 1930s, Signal Hill was the world's richest oil field in terms of production per acre (DeAtley 1988). Signal Hill was an important historic industrial area of the City of Long Beach. It, together with its associated petroleum industries, contributed to the economic growth and prosperity of the city.

5 Archival Research

To identify previously recorded resources within and adjacent to the Project Study Area, HDR completed a record search with the South Central Coastal Information Center (SCCIC), a division of the California Historical Resources Information System, for all previous cultural resource studies and cultural resources within 0.25 miles of the Project study area. At the time of the record search, the exact location of the proposed sewer force main alignment was unknown; therefore, the records search utilized a 0.25-mile buffer of the study area. Record search results were received from the SCCIC on December 15, 2022. The record search identified of a total of 81 previously recorded resources, including 77 historic built environment resources, three historic archaeological isolates, and one ethnohistoric Native American village site within the buffered search area. Of these, nine cultural resources (a transmission tower, the Los Alamitos Channel, and seven single-family residential buildings) are within the Project study area. None of the previously recorded cultural resources are within the Project footprint. The locations of previous investigations and previously recorded cultural resources are shown on **Figure 5-1** through **Figure 5-4**.

5.1 Previous Cultural Resource Studies

The record search from the SCCIC identified 16 previous cultural resource studies within the Project study area (**Table 5-1**). Combined, previous cultural resource surveys carried out from 1975 to 2011 cover approximately one-third of the Project study area.

Table 5-1. Previous Cultural Resource Studies of the Project Study Area

Report Number	Author	Year	Title
LA-00083	Rosen, Martin D.	1975	Evaluation of the Archaeological Resources and Potential Impact of the Joint Outfall System's Improvements on Sewer Treatment Plants and Installation Routes for New Large Diameter Sewers, Los Angeles County
LA-02068	Dibble, Stephen D. and Marie G. Cottrell	1987	An Archaeological Assessment of a 26 Acre Parcel, Located in Long Beach, Los Angeles County, California
LA-03935	McLean, Deborah K.	1998	Archaeological Assessment for Pacific Bell Mobile Services Telecommunications Facility La262-01, 7170 Atherton Drive, City of Long Beach, County of Los Angeles, California
LA-05718	Demcak, Carol R.		Report of Second Phase of Archaeological Monitoring for Long Beach Reclaimed Water System Expansion Program City of Long Beach, California
LA-07176	Messick, Peter	2003	Selected Archaeological Investigations for the San Gabriel River Project Master Plan
LA-08747	Bonner, Wayne H.	2006	Cultural Resources Records Search and Site Visit Results for Cingular Wireless Candidate Lsanca3237d (605 & Willow), 7400 East Willow Street, Long Beach, Los Angeles County, California
LA-09210	Bonner, Wayne H.	2007	Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate LA23228B (M0-T2W) (SCE Studebaker Self Storage), 698 North Studebaker Road, Long Beach, Los Angeles County, California
LA-11477	Supernowicz, Dana	2010	Archaeological Cultural Resources Study of the Alamitos-Lightpipe M-1 T-2 1955 Project, AT&T Mobility Site No. LA0304A, South of Willow Street, Long Beach, Los Angeles County, California 90815

Report Number	Author	Year	Title
LA-11607	Chasteen, Carrie	2011	Historic Property Survey Report San Diego Freeway (I-405) Improvement Project, SR-73 to I-605, Orange and Los Angeles Counties
LA-12960	McKenna, Jeanette A.	2016	Cultural Resources Overview: The City of Long Beach Southeast Area Specific Plan, Los Angeles County, California
OR-01272	Stickel, Gary E.	1991	A Baseline Archaeological Study for the City of Seal Beach California
OR-02164	Duke, Curt	2000	Cultural Resource Assessment for AT&T Wireless Services Facility Number C437.1, County of Orange, California
OR-03402	Wlodarski, Robert J.	2006	Results of a Records Search and Archaeological Reconnaissance for Royal Street Communications Site La0663 (SCE Edison Park-seal Beach)
OR-03870	Mason, Roger	2009	Historic Property Survey Report for the West Orange County Connection, Phase II – I-405/I605 HOV Connector Project, Orange County, California
OR-04172	Chasteen, Carrie	2011	Historic Property Survey Report San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties
OR-04223	Flynn, Chris	2011	Notification of Finding of No Adverse Effect with Standard Conditions for the Bridge Deck Maintenance and Sealing at 30 Locations Throughout Orange County, California

5.2 Known Cultural Resources

Nine cultural resources are recorded within the Project study area (**Table 5-2**). This count includes a transmission tower, the Los Alamitos Channel, and seven single family residential buildings. None of these resources are within the Project footprint.

Resource P-19-18960 consists of a high-lead electrical transmission tower, built in 1955 and owned and operated by Southern California Edison. The tower was recommended ineligible for listing on the NRHP, both individually and as a contributing element to a potential historic district, by the recorder (Supernowicz 2010).

Resource P-30-177074, the Los Alamitos Channel, is a flood control channel that extends from SR-22 on the north to Westminster Avenue on the south and intersects the southeastern corner of the Project study area. South of Westminster Avenue, the channel empties into the Los Alamitos Basin and Pumping Plant. Expansion of the channel and formal use as a flood control channel occurred around 1958. The resource was first recorded by LSA Associates, Inc. in 2011 as part of the Los Alamitos Channel Maintenance Project. In 2013, FirstCarbon Solutions conducted a reconnaissance-level survey of the channel and concluded that it was not significant at the national, state, or local level.

The seven remaining resources within the Project study area are single-family residences constructed in the 1950s and recorded by Parsons in 2010 (P-19-189879, P-19-189880, P-19-189881, P-19-189886, P-19-189887, P-19-189888, and P-30-177310). All seven properties were recommended ineligible, both individually and as contributing elements to a potential historic district, for listing in the NRHP and the CRHR (status code 6Z).

Table 5-2. Known Cultural Resources in the Project Study Area

Resource Number	Recording Event	Site Description	Status Code
P-19-189860	2010 (Dana E. Supernowicz)	**Historic Built Environment Resource**. Southern California Edison Transmission Tower M-1 T-2. The resource consists of an approximately 122'-6" tall high-lead electrical transmission tower and power grid. This is a standard steel transmission tower built in 1955 of riveted steel with lattice braces, owned and operated by Southern California Edison.	6Z
P-19-189879	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1954.1627 Stevely Ave Long Beach (APN 7238-002-029)	6Z
P-19-189880	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1954.7037 E El Cedral St Long Beach (APN 7238-002-037)	6Z
P-19-189881	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource.** Single family property, built 1954.6979 E El Cedral St Long Beach (APN 7238-001-013)	6Z
P-19-189886	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1958.7140 E Atherton Dr Long Beach (APN 7238-029-017)	6Z
P-19-189887	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1958.7100 E Atherton Dr Long Beach (APN 7238-029-014)	6Z
P-19-189888	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1953.1819 Lees Ave Long Beach (APN 7235-021-011)	6Z
P-30-177074	2011 (Phil and Terri Fulton, LSA); 2013 (M. Dice, FirstCarbon Solutions)	**Historic Built Environment Resource**. Los Alamitos Channel. The resource consists of an engineered flood control channel, built ca. 1958, measuring appx. 5,300 ft in length, 60 ft across at the top, 15 ft across at the bottom, and 14 ft deep.	6Z
P-30-177310	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1967.321 Harvard Ln Seal Beach (APN 086-623-05)	6Z

Notes
6Z: Found ineligible for the NRHP, CRHR, or local listing through survey evaluation

Seventy-two additional resources are recorded within the 0.25-mile search buffer, outside the Project study area. These include 68 historic buildings, three historic isolates, and one ethnohistoric Native American village site. These 72 resources are listed in **Appendix A**.

Of particular significance, previously recorded archaeological site CA-LAN-306 is the ethnohistorically recorded Gabrielino village site of Puvunga (identified by J.P. Harrington's Gabrielino consultant Guorojos in 1933). CA-LAN-306, along with CA-LAN-234/235, makes up the Puvunga Indian Village Sites National Register District. Investigations at the site identified a remnant core area of shell midden approximately 40-50 cm deep, surrounded by a thinner apron of highly disturbed midden and shell, for a total extent of 150 m east-west by 220 m north-south. Surface collections and small-scale excavations in the 1960s yielded 25 historic ceramic sherds, 17 asphaltum lumps (some with fiber and basket impressions), 13 manos, 13 pieces of debitage, 8 pestles, 7 large stone bowls, 4 bifaces, and several other historic artifacts. Excavation of 26 cubic meters at the site by Jack Zahniser of California State University, Long Beach in 1973 yielded 7 projectile points (4 small leaf-shaped, 1 serrated triangular, and 2 larger points), a small amount of

debitage, 10 flake scrapers, 3 mortar/bowl/metate fragments and 3 pestle fragments, 1 stone disc bead, 3 possible shell pendants, 33 pieces of shell with chipped edges, 13 pieces of Cerritos Brown pottery, and faunal bone (Milliken et al 1997). Based on the artifacts, the site has both a prehistoric and historic component. The presence of brown ware and small projectile points suggests the prehistoric component was Late Period. CA-LAN-306 is listed on the NRHP and CRHR and is a contributing element to the Puvunga Indian Village Sites National Register District. The resource is approximately 787 ft (240 m) west and outside of the southwestern boundary of the Project study area.

5.3 Review of Historical Maps and Photographs

Historical USGS topo maps and aerial photography were reviewed to get a sense of the history of development (and disturbance) in the Project study area. Within the Project study area, early roads to Rancho Los Alamitos are seen on the 1896 USGS *Downey* 15-minute quadrangle and the current alignment of State Route 22 is first depicted on the 1925 USGS Long Beach, CA 1:24,000 7.5-minute topographic quadrangle. Levees along the San Gabriel River and Coyote Creek appear to be in place by 1949 and the Los Alamitos channel was completed in 1958. Interstates 405 and 605 were constructed by 1964. Historical aerial photographs show the current alignment of Stevely Avenue and intersecting residential streets in place by 1963. Development of the residential neighborhood around Stevely Avenue occurred during the 1950s and 1960s. Prior to the 1950s, the land appears to have been used primarily for farming/agriculture.

Review of the historical maps and photographs identified six potential historic built resources that intersect the Project study area. These include: the San Gabriel River Channel, the LADWP Transmission Line, Willow Street Bridge (53C0265), SR-22 Bridges over the San Gabriel River *(*53 0302L and 53 0302R), College Park Drive Bridge (53C0129), and the I-405 Bridge (53 1186). These are described in further detail in Section 6.2.

Figure 5-1. Project Study Area and Cultural Resources

FIGURE REDACTED FROM PUBLIC REVIEW VERSION

Note: Resources inside the project area are listed in Table 5-2; resources within the 0.25-mile record search buffer are listed in Appendix A.

Figure 5-2. Project Study Area and Cultural Resources (detail map 1 of 3)

FIGURE REDACTED FROM PUBLIC REVIEW VERSION

Note: Resources inside the project area are listed in Table 5-2; resources within the 0.25-mile record search buffer are listed in Appendix A.

Figure 5-3. Project Study Area and Cultural Resources (detail map 2 of 3)

FIGURE REDACTED FROM PUBLIC REVIEW VERSION

Note: Resources inside the project area are listed in Table 5-2; resources within the 0.25-mile record search buffer are listed in Appendix A.

Figure 5-4. Project Study Area and Cultural Resources (detail map 3 of 3)

FIGURE REDACTED FROM PUBLIC REVIEW VERSION

Note: Resources inside the project area are listed in Table 5-2; resources within the 0.25-mile record search buffer are listed in Appendix A.

5.4 Sacred Lands File Search

On September 7, 2022, HDR contacted the NAHC to request a review of the Sacred Lands File (SLF) for the Project study area. The NAHC responded on October 20, 2022, indicating that the results of the SLF search were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources. The NAHC also provided a list of Native American tribes who may also have knowledge of cultural resources in the Project study area.

5.5 Tribal Consultation

Pursuant to AB 52, California Native American tribes traditionally and culturally affiliated with the Project Study Area can request notification of projects in their traditional cultural territory. On April 6, 2023, the City of Long Beach contacted all persons and organizations on the NAHC contact list by to provide formal notification of the proposed project and to inquire whether they have any concerns regarding sacred sites or TCRs that might be affected by the proposed project. Responses requesting to consult were received from three tribes. A summary of consultation is provided below:

- Native American Consultation letters were mailed and emailed on April 6, 2023.
- A consultation meeting was requested on April 6, 2023, by the Gabrieleño Band of Mission Indians - Kizh Nation and held on July 12, 2023. The City was provided mitigation measures from the tribal representative on August 2, 2023, which are detailed in Section 8.2 and included in the environmental document.
- A consultation meeting was requested on April 11, 2023, by the Gabrielino Tongva Indians of California (GTIOC) and held on April 13, 2023. The City was provided mitigation measures from the tribal representative on April 14, 2023, which are detailed in Section 8.2 and included in the environmental document.
- Consultation and information was requested on April 28, 2023, by the Juaneño Band of Mission Indians Acjachemen Nation – Belardes. On July 18, 2023, the tribal representative concluded consultation and agreed to the mitigation measures included in the AB 52 consultation letter, which are detailed in Section 8.2 and included in the environmental document.

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6 Field Survey

6.1 Methods

An intensive pedestrian survey of the Project footprint was completed on April 19, 2023. The survey was performed under the direct supervision of HDR cultural resource staff who meet the Secretary of the Interior's Professional Qualification Standards for Archaeology (48 Federal Register 44739). The Project footprint measures approximately 17,000 feet in length and includes a 50-foot wide corridor. All areas within Project footprint were surveyed in parallel transects with 10-meter spacing and inspected for surface evidence of cultural materials and features. Photographs of existing conditions were taken, and the present condition of the project site was described in field notes. Any potential cultural resources noted were documented using a Global Positioning System collection unit with submeter accuracy, photographed, and described.

6.2 Results

The Project footprint at the north end starts at Katella Avenue/East Willow Street, runs parallel to the San Gabriel River Channel on the western side, and follows the western edge of the LADWP transmission line easement. From there, the line turns westward, passes under I-405 at East Atherton Street, and continues south along the existing Stevely Avenue ROW through residential a neighborhood until its southern terminus at SR 22. Except for within the transmission line easement, most of the survey area is paved road ROW. The proposed alignment crosses the San Gabriel River Channel at the East Willow Street bridge and at the College Park Drive bridge. Visibility in unpaved portions of the Project footprint ranged from 10 to 20 percent. Areas within the LADWP transmission line easement were covered with thick grass limiting ground visibility.

Based on review of historical information summarized in Section 5.3, the southern 70 percent of the Project footprint was assessed as being thoroughly disturbed during construction of roads, residential buildings, levees and river channels, and related infrastructure. Urban development along Stevely Avenue occurred by the 1950s and 1960s. Additionally, several bridges over the San Gabriel River within the Project study area were built between 1941 and 1964. Where possible, cultural resource staff targeted areas of bare ground for intensive visual surface inspection and examined rodent burrows to assess the potential for any intact deposits. The open area within the LADWP transmission line easement west of the river appears to consist of artificial fill built up from levee construction and/or sediments excavated from the channel.

No new cultural resources were identified as a result of the field survey. The following built environment resources identified in the Project study area from documentary sources were visited during the survey to record their condition:

- *LADWP transmission line* (Figure 6-1). The construction date of the LADWP transmission line on the western side of the San Gabriel River is unknown; however, the alignment can be seen on historic aerial photographs (the earliest available is from 1952) and may be depicted on the 1942 Downey, CA 1:125,000 Topographic map. At present, the alignment has four lines supported by lattice towers. Date of construction for the current towers is unknown.
- *San Gabriel River Channel* (Figure 6-2). This is a concrete-lined channel directing the route of the lower San Gabriel River. After several destructive floods in 1914, 1934, and 1938,

Federal assistance was requested and the Army Corps of Engineers took a lead role in building a system of dams and debris basins and channelizing much of the lower San Gabriel River with riprap or concrete banks. Channelizing began in 1938 and continued to the 1950s (Stein et al 2007).

- *Willow Street Bridge* (53C0265) *over the San Gabriel River*, built in 1962 (Figure 6-3). Per *Caltrans' March 2019 Structure Maintenance & Investigations – historical significance – local agency bridges* for District 7, the bridge has been determined not eligible for listing in the NRHP.
- *SR-22 Bridges over the San Gabriel River* (Figure 6-4). According to the National Bridge Inventory, the westbound bridge (53 0302L) was built in 1959 and the eastbound bridge (53 0302R) was built in 1941. Both bridges were reconstructed in 2000 and therefore are no longer of historic age.
- *College Park Drive Bridge* (53C0129) *over San Gabriel River*, built in 1964 (Figure 6-5). Per *Caltrans' March 2019 Structure Maintenance & Investigations – historical significance – local agency bridges* for District 7, the bridge has been determined not eligible for listing in the NRHP.
- *I-405 Bridge* (53 1186) *over Atherton Street*. According to the National Bridge Inventory, the bridge was built in 1964; however, it was reconstructed in 1992 and therefore is no longer of historic age (Figure 6-6).

The three bridges lacking eligibility determinations (two SR-22 bridges over the San Gabriel River and the I-405 bridge over Atherton Street) were found to be non-historic due to having been recently reconstructed. It was determined that additional documentation or evaluation were not warranted for the San Gabriel River Channel and the LADWP transmission line due to the resources being located outside the Project footprint and the lack of potential impacts to occur due to the Project, as discussed in Section 7.1.1.

Figure 6-1. LADWP transmission line, facing north



Figure 6-2. San Gabriel River Channel, facing northeast



Figure 6-3. Willow Street Bridge (53C0265) at San Gabriel Channel, facing northeast



Figure 6-4. Westbound SR-22 Bridge (53 0302L) at San Gabriel Channel, facing southwest



Figure 6-5. College Park Drive Bridge (53C0129), facing northwest



Figure 6-6. I-405 bridge (53 1186) over Atherton Street, facing east



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7 Impact Assessment

7.1 CEQA Thresholds of Significance

Appendix G of the CEQA Guidelines contains significance criteria for the evaluation of impacts of a project on cultural resources and TCRs.

7.1.1 Cultural Resources

Impacts to cultural resources would be considered significant if the project were to:

a. Cause a substantial adverse change in the significance of a historical resource as defined in 14 CCR Section 15064.5;

b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to 14 CCR Section 15064.5; or

c. Disturb any human remains, including those interred outside of dedicated cemeteries.

A substantial adverse change in the significance of a historical resource includes “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired” (14 CCR §15064.5[b]).

Threshold A: Would the project cause a substantial adverse change in the significance of a historical resource?

No Impact. No historical resources were identified in the Project footprint as a result of this study. All resources identified within the Project study area during archival research have been evaluated as not eligible. Two identified historic bridges were determined not eligible and the other three are non-historic due to having been reconstructed in recent years. The San Gabriel River Channel is a built environment resource of historic age that may potentially qualify as a historical resource under CEQA. However, the channel is outside of the Project footprint and there would be no physical impacts. The sewer force main alignment would cross the channel attached to one of the existing bridges, so there would be no visual impacts. The LADWP transmission line is a built environment resource of historic age that may potentially qualify as a historical resource under CEQA. There would be no physical impacts to the towers or transmission line from the Project. The sewer force main alignment would be buried and would cause no visual impacts. Therefore, the project would not cause a substantial adverse change in the significance of a historical resource pursuant to 14 CCR Section 15064.5.

Threshold B: Would the project cause a substantial adverse change in the significance of an archaeological resource?

Potentially Significant Unless Mitigation Incorporated. No archaeological resources were identified in the Project footprint as a result of this study. Due to the extent and depth of previous ground disturbance throughout the Project footprint, the potential for archaeological resources is limited. Based on available historical information, the LADWP transmission corridor is disturbed and consists either of imported fill or sediments removed from the San Gabriel River Channel. Field observations during the survey confirmed this assessment. The rest of the sewer force main

alignment would be installed within the existing road ROW, in areas that have been historically disturbed by road construction, utilities, and other urban development. Based on observations of the current conditions, the potential for encountering buried archaeological resources is considered to be low. Nevertheless, the potential for an unanticipated discovery does exist, and may represent a potentially significant impact. Mitigation measures CUL-1 and CUL-3 are proposed to address the inadvertent discovery of archaeological resources during construction. Implementation of these measures would reduce impacts to archaeological resources to a less than significant level.

Threshold C: Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Potentially Significant Unless Mitigation Incorporated. No evidence of human remains or cemeteries was identified in the Project footprint as a result of this study. As noted above, due to the extent and depth of previous ground disturbance throughout the Project footprint, the potential for buried cultural resources, including burials, is limited. Nevertheless, the potential for an unanticipated discovery of human remains does exist, which would represent a potentially significant impact. Mitigation measure CUL-2 is proposed to formalize compliance with California Health and Safety Code Section 7050.5 in the event that human remains are inadvertently discovered during project construction activities. Implementation of this measure would reduce impacts to inadvertently discovered human remains to a less than significant level.

7.1.2 Tribal Cultural Resources

Impacts to TCRs would be significant if the project were to cause a substantial adverse change in the significance of a TCR defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).

b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Threshold A: Would the project cause a substantial adverse change in the significance of a listed tribal cultural resource?

Less Than Significant Impact. A search of the NAHC's Sacred Lands File was negative for the presence of Native American TCRs in the Project study area. AB 52 consultation also did not result in the identification of any CRHR-listed or -eligible TCRs in the Project study area. Therefore, the Project is not anticipated to cause a substantial adverse change in the significance of a TCR that is listed or determined eligible for listing in the CRHR or local register. Nevertheless, several mitigation measures are proposed to minimize any impacts that may occur from the unanticipated discovery of TCRs during Project construction. TCR-1, TCR-2, and TCR-3 were provided by the Gabrieleño Band of Mission Indians – Kizh Nation; TCR-4, TCR-5, and TCR-6 were provided by the Gabrielino Tongva Indians of California; and TCR-7 was agreed to by the Juaneño Band of Mission Indians Acjachemen Nation – Belardes.

Threshold B: Would the project cause a substantial adverse change in the significance of a discretionary tribal cultural resource?

Less Than Significant Impact. A search of the NAHC's Sacred Lands File was negative for the presence of Native American TCRs in the Project study area. AB 52 consultation also did not result in the identification of any TCRs in the Project study area. Therefore, the Project is not anticipated to cause a substantial adverse change in the significance of a TCR determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to PRC 5024.1(c). Nevertheless, several mitigation measures are proposed to minimize any impacts that may occur from the unanticipated discovery of TCRs during Project construction. TCR-1, TCR-2, and TCR-3 were provided by the Gabrieleño Band of Mission Indians – Kizh Nation; TCR-4, TCR-5, and TCR-6 were provided by the Gabrielino Tongva Indians of California; and TCR-7 was agreed to by the Juaneño Band of Mission Indians Acjachemen Nation – Belardes.

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8 Mitigation Measures

Mitigation measures CUL-1 through CUL-3 are proposed to reduce potentially significant impacts related to the unanticipated discovery during construction of archaeological resources and human remains to a less than significant level per CEQA Guidelines Section 15162.4.

Mitigation measures TCR-1 through TCR-7 were provided or agreed to by tribes during AB 52 consultation and are proposed to minimize any impacts that may occur from the unanticipated discovery of TCRs during Project construction.

8.1 Cultural Resources

Mitigation Measure CUL-1: Retention of Qualified Archaeologist and Worker Training. Prior to the issuance of a grading permit by the City of Long Beach, evidence shall be provided to the City and responsible agencies that a qualified archaeologist meeting the Secretary of the Interior's Standards for professional archaeology (U.S. Secretary of the Interior 2008) has been retained by the Applicant to conduct any required training, evaluation, or treatment of archaeological resources that might be encountered during implementation of the project. As part of this, prior to the start of grading, the qualified archaeologist shall conduct cultural resources sensitivity training for all construction personnel. Construction personnel must be informed of the types of archaeological resources that may be encountered (both prehistoric and historical), and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains. The Applicant must ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance. This documentation shall be made available to the City upon request.

Mitigation Measure CUL-2: Treatment of Human Remains. In accordance with California Health and Safety Code Section 7050.5, if human remains are found, the Los Angeles County Coroner shall be immediately notified of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains (100 feet or as determined by the project archaeologist) shall occur until the procedures set forth in this measure have been implemented. If the County Coroner determines that the remains are, or are believed to be, Native American, the Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours. In accordance with California PRC Section 5097.98, the NAHC must immediately notify those persons it believes to be the Most Likely Descendant (MLD) from the deceased Native American. The MLD shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

Mitigation Measure CUL-3: Archaeological Resource and/or Tribal Cultural Resource Discovery and Treatment. In the event of the unanticipated discovery of archaeological or other cultural resources, whether discovered through Native American monitoring or not, all work activities in the area (within approximately 100 feet of the discovery) shall be halted or redirected until the discovery can be evaluated by a qualified archaeologist. Construction shall not resume until a qualified archaeologist has conferred with the City and responsible agencies and, in the case of prehistoric archaeological resources and tribal cultural resources, the Native American monitor, on the significance of the resource. If it is determined that the discovered archaeological resource and/or tribal cultural resource is significant under CEQA, avoidance and preservation in place shall be the preferred manner of mitigation, pursuant to PRC Section 21083.2(b) and Section 21084.3. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that preservation in place is demonstrated to be infeasible and data recovery through excavation is the only feasible mitigation available, a Treatment Plan shall be prepared and

implemented by a qualified archaeologist, in consultation with the City, that provides for the adequate recovery of the scientifically consequential information contained in the archaeological resource or cultural information in the event of a tribal cultural resource. The City shall also consult with appropriate Native American representatives in determining treatment for prehistoric or Native American resources to ensure cultural values ascribed to the resources, beyond those that are scientifically important, are considered. Any evaluation and treatment shall be supervised by an individual or individuals that meet the Secretary of the Interior's Professional Qualification Standards.

8.2 Tribal Cultural Resources

Mitigation measures TCR-1, TCR-2, and TCR-3 were provided by the Gabrieleño Band of Mission Indians – Kizh Nation and apply to the monitoring and treatment by this tribe.

Mitigation Measure TCR-1: Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities.

A. The project applicant/lead agency shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching.

B. A copy of the executed monitoring agreement shall be submitted to the lead agency prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity.

C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the project applicant/lead agency upon written request to the Tribe.

D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for the project applicant/lead agency that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to the project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs.

Mitigation Measure TCR-2: Unanticipated Discovery of Tribal Cultural Resource Objects (Non-Funerary/Non-Ceremonial). Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the Tribe's sole discretion, and for any purpose the Tribe deems appropriate, including for educational, cultural and/or historic purposes.

Mitigation Measure TCR-3: Unanticipated Discovery of Human Remains and Associated Funerary or Ceremonial Objects.

A. Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute.

B. If Native American human remains and/or grave goods are discovered or recognized on the project site, then Public Resource Code 5097.9 as well as Health and Safety Code Section 7050.5 shall be followed.

C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2).

D. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods.

E. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.

Mitigation measures TCR-4, TCR-5, and TCR-6 were provided by the Gabrielino Tongva Indians of California (GTIOC) and apply to the monitoring and treatment by this tribe.

Mitigation Measure TCR-4: Retain a Native American Monitor.

A. A qualified and certified indigenous tribal member of Gabrielino Tongva Indians of California (GTIOC) and direct lineal descendant of the project site (NAGPRA section 10.14) to provide the professional Native American Monitoring required for only the *ground disturbing activity* on the site. Ground disturbances including but not limited to the removal of asphalt/cement/slurry, trenching, boring, excavation, auguring, grubbing, tree removal, grading and drilling will be monitored. The Tribal Monitor will only be required on site when these ground disturbing activities occur.

B. The GTIOC monitor will be responsible for observing all mechanical and hand labor excavations to include paddle scrappers, blade machines, front-end loaders, backhoe, boring and drill operations as well as hydraulic and electric chisels. Associated work using tools such as picks and other non-electric or gasoline tools that are not regarded as mechanical will be monitored for their soil disturbances.

C. Soils that are removed from the work site are considered culturally sensitive and are subject to inspection. These soils whether placed in a dump truck or spots piles are to be inspected. The monitor will temporarily hold excavations until a determination is made on the sensitivity of the of the soil. If the soils are sensitive, an archeological monitor will verify the find and notify site supervisor.

D. If any archaeological or paleontological, or cultural deposits, are discovered, including but not limited grave related artifacts, artifacts of traditional cultural, religious, or spiritual sites, or any other artifacts relating to the use or habitation sites, all construction shall cease within at least 50 feet of the discovery and held until the proper authorities are contacted.

E. The GTIOC monitor may make recommendations during the course of the project when a cultural area has been impacted. The GTIOC monitor will be authorized to halt or redirect excavation activities to another area as an assessment is made. Both archeological and GTIOC will work together to ensure that the area is warranted as being culturally sensitive

before a determination is made. Avoidance and directing an alternative route from this culturally sensitive area is highly recommended.

F. Any artifacts associated within the site that are not associated with any burials are subject to collection by the designated archaeologist for purposes of data and information vital for their final report. The GTIOC monitor does not collect artifacts for any reason. Unauthorized removal of artifacts will jeopardize sites orientation and successful data recovery. Only a qualified archeologist will remove artifacts for their reports. The land owner will work with the GTIOC monitor to ensure that a proper repository is established. A final report will be issued to the cultural consultant by the archeological company.

G. It is the sole responsibility of the GTIOC monitor to provide the client with a written daily field report that includes photos of his/her accounting of the soil disturbances of the daily activities. This perspective of the daily activities by the GTIOC monitor will enhance the information gathered by the field archeologist. The daily report will include observations the GTIOC visually observed the project site at the beginning of each work day (i.e. weather conditions, overnight disturbances). Written daily monitoring reports will include daily observations on surface soil as well as disturbed soil. Photographic documentation is included in the daily reports. When project is completed, GTIOC will certify that work performed was done so within compliance of AB52 and SB18 within 5 days of completion of the Native American monitoring aspect of the project.

Mitigation Measure TCR-5: Procedures for the treatment and disposition of human remains and associated grave goods at Gabrielino Tongva ancestral sites.

A. **Treatment plan for human remain discovery.** The immediate cessation of work in the immediate vicinity will be implemented. The county coroner will be immediately contacted. *California Health and Safety Code Sec. 7050.5 (a) Every person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes any human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor, except as provided in Section 5097.99 of the Public Resources Code.*

B. The county corner and law enforcement, will evaluate and make a determination and a formal review of the find. The county coroner has the legal responsibility for determining whether or not the remains are native indigenous people.

C. If it is established that the remains are of native indigenous people, the coroner has 24 hours to contact the Native American Heritage Commission (NAHC).

D. A Most Likely Descendent (MLD) will be assigned by the NAHC to ensure the ancestor(s) will be treated with dignity and respect and *shall complete their inspection and make recommendations or preferences for treatment within 48 hours* (California Public Resources Code Sec. 5097.98).

   ****The MLD may not be a Native American Monitor assigned to monitor the site where human remains were unearthed. GTIOC deems that to be a conflict of interest.****

E. A certified osteologist will be retained to verify the human remains authenticity and work to help remove the ancestor(s) from the site area with the discretion and advise from the MLD. The GTIOC monitor(s) assigned to the project will assist the osteologist and archeological monitors in the recovery process. The MLD will determine where the ancestors will be housed pending a final decision for the reinterment of the ancestor(s).

F. **Confidentiality.** Any and all information provided about the location of an archeological or sacred site by our GTIOC cultural consultant will not be disclosed reproduced both digitally or on paper. Furthermore, the location must not be published for public viewing which

includes any reports either preliminary or final and must be kept confidential to maintain the integrity and compliance of the archeological or sacred site.

Mitigation Measure TCR-6: Recovery and Reburial Procedures.

A. The Gabrielino Tongva Indians of California (GTIOC) has a goal to ensure your project falls under the compliancy guidelines that have been established by Assembly Bill 52. GTIOC is recognized by the Native American Heritage Commission and is fully qualified for the intricacies of Recovery and Reburial. In addition, we want to preserve our family's human remains and associated grave goods at ancestral sites while engaging in a meaningful and productive relationship with your team. We appreciate the opportunity to work with you in accomplishing the aforementioned.

B. Specific methods of recovery and reburial procedures have been developed and adopted by the Gabrielino Tongva Indians of California and are required to adhere to when recovering Gabrielino Tongva remains. Conditions may arise where altering some of these guidelines will be considered. Consultation with the Most Likely Descendant (MLD) and the GTIOC monitor(s) assigned to the site should then be scheduled to determine other procedures that may be acceptable to the Gabrielino Tongva Indians of California Nation.

C. Excavation:

    1. Consultation between the MLD and the archeological firm must take place before the recovery of the remains and during the process of extraction.
    2. A 50 foot perimeter for each uncovered burial will be required to safeguard further destruction until the area is examined for additional remains and associated grave goods.
    3. In the event blade machines are operating in an adjacent area, a maximum of 2" cuts or less will be permitted in all cultural areas.
    4. If more than one area is being excavated for extraction of remains simultaneously, an additional GTIOC must be required. Each excavated burial will be monitored exclusively.
    5. Wooden tools are preferred for process of recovery; electric chisels and other power tools should be avoided.
    6. If remains are pedestaled, they will be placed on plywood for removal. If remains cannot be pedestaled due to soil conditions, remains just be carefully placed in cloth bags.
    7. Soils adjacent to burials will be saved for reburial in plastic containers.
    8. No photography (both film and digital) or video is allowed to be taken of the remains or the site. Drawings of remains are permitted to retain the orientation of the ancestors for reinterment purposes only. Coroner photographs of the remains may not be published for any purpose.

D. Testing:

    1. DNA testing cannot be undertaken.
    2. No invasive testing which would compromise the integrity of the remains is permitted.
    3. Macroscopic analysis is permitted.

4. Any associated grave goods (such as shell) may be used for dating purposes of each burial.
5. When remains are unearthed, the 1'X 1' test pits will be allowed to establish the extent of the burial area when necessary.
6. All windrows within a 50 foot area must be screened (either wet or dry).

E. Storage:

1. Natural cotton bags and sheeting or cotton drop cloths will be used to store remains until the time of reinterment. Deer or other native hides may be used to cover the bagged and wrapped remains until the reburial and may become the burial wrapping.
2. Bone fragments are also subject to be bagged in cotton.
3. Until the scope of the project is completed, storage of ancestors should be done in close proximity to location of excavation or protected area must be provided by landowner or archeologist.

F. Reburial:

1. Efforts should be made to keep the remains within the same location or in close proximity to the removal site as possible. It is preferable to repatriate the remains within a 1/2 mile radius of the original grave site. If it is not possible to identify a proper location within the 1/2 mile radius, a secure location will be valued over distance.
2. If the preponderance of remains is uncovered in or excavated from one area, the reinterment should be in that area.
3. The reburial site should offer the best long-term protection against any additional disturbances.
4. Each reburial requires approximately 4' X 51/2' when fully articulated and should be at a depth of 6-10 feet. The purpose of this depth is to ensure difficulty in disturbing the reburial and to allow adequate room for capping if necessary.
5. Any isolated bone fragments uncovered on site may be buried together in an individual burial pit with indigenous animal skins, sea weed, or the cotton cloth used for all bagged fragments.
6. All associated grave goods and artifacts along with soils will be buried together with the ancestors.
7. No drawings of any other images of ancestral remains may be used for publication without consultation and the approval of the GTIOC monitors and appointed MLD for the site.

G. Costs:

1. The landowner(s) will be responsible for all costs related to the proper storage and reburial of remains excavated on their property to include all burial materials as required in these procedure guidelines.
2. Landowner(s) will be financially responsible for providing reburial plots that are acceptable by the MLD.

Mitigation measure TCR-7 was agreed to by the Juaneño Band of Mission Indians Acjachemen Nation – Belardes and apply to the monitoring and treatment by this tribe.

Mitigation Measure TCR-7: Native American Monitoring. A Native American monitor from the tribe or tribes identified as a consulting party for the project under AB 52 shall be present during all earth-moving construction activities. The Native American monitor shall be given the opportunity to participate in the cultural resources sensitivity training described in the CUL-1 mitigation measure. At least 30 days prior to issuance of grading permits by the City of Long Beach for each of the individual sites and any off-site improvements, a Native American Monitoring Agreement (Monitoring Agreement) shall be developed between the City and responsible agency, as applicable, and the consulting party. The Monitoring Agreement shall pertain to prehistoric archaeological resources and Tribal cultural resources, respectively, and shall identify any monitoring requirements and treatment of cultural resources to meet both the requirements of CEQA and those of the Tribal representative. The Monitoring Agreement shall also address communication protocols in the event of an unanticipated discovery of cultural materials, and the roles, responsibilities, and authorities of the Native American Monitor. The Monitoring Agreement shall also detail the protocols for treatment and final disposition of any Native American cultural resources, sacred sites, and human remains discovered on the site that the Native American Monitor shall implement in consultation and coordination with the Native American Most Likely Descendant, as identified by the NAHC. In accordance with the mitigation measure below, discovery and treatment of human remains shall comply with State Health and Safety Code Section 7050.5 and PRC Section 5097.98.

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Appendix A. Known Cultural Resources Within a 0.25-Mile Buffer of the Study Area

Resource Number	Recording Event	Site Description	Status Code
P-19-000306 CA-LAN-306	1951; 1964 (K. Dixon, CSULB); 1972 (K. Dixon, CSULB); 1973 (K. Dixon, CSULB); 1997 (Milliken et al, Far Western)	**Ethnohistoric Site**. Puvunga Indian Village. This site, located on Rancho Los Alamitos just east of the campus of CSULB, is the site of the historically known Gabrielino village of Puvunga (identified by J.P. Harrington's Gabrielino consultant Guorojos in 1933). CA-Lan-306, along with CA-LAN-234/235 at CSULB, make up the Puvunga Indian Village Sites National Register District. Based on the artifacts, the site had both a prehistoric and historic component. The presence of brown ware and small projectile points suggests the prehistoric component was Late Period.	1D
P-19-101466	N/A	**Historic Archaeological Isolate**. The isolate consists of four fragments of brown bottle glass with bubbles and patination, likely part of a bottle manufactured prior to 1920.	N/A
P-19-101467	2019 (John McDermott, Natalie Lawson, PaleoWest Archaeology)	**Historic Archaeological Isolate**. The isolate consists of a clear glass medicine bottle embossed with the logo for the Owl Drug Company, which was based in San Francisco and in business between 1892 and 1937.	N/A
P-19-101468	2019 (Oliver Hegge, Natalie Lawson, PaleoWest Archaeology)	**Historic Archaeological Isolate**. The isolate consists of an aqua glass Worcestershire sauce bottle embossed with "LEA & PERRINS" on the side, "WORCESTERSHIRE SAUCE" on the shoulder, and "J103D / S" on the base. The bottle was likely manufactured in the late 19th century and no later than 1920.	N/A
P-19-189882	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1965. 1911 N Hidden Ln Long Beach (APN 7231-030-024)	6Z
P-19-189883	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1953. 1921 N Hidden Ln Long Beach (APN 7231-029-011)	6Z
P-19-189889	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1953. 1921 Lees Ave Long Beach (APN 7235-021-006)	6Z
P-19-189925	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1965. 1820 N Studebaker Rd Long Beach (APN 7231-031-010)	6Z
P-30-177292	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Multiple family property. 13100 Oak Hills Dr Seal Beach (APN 095-681-04)	3CD
P-30-177293	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Multiple family property. 13040 Oak Hills Dr Seal Beach (APN 095-681-03)	3CD
P-30-177294	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Multiple family property. 1040 Foxburg Rd Seal Beach (APN 095-681-25)	3CD

Resource Number	Recording Event	Site Description	Status Code
P-30-177295	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1965. 136 College Park Dr Seal Beach (APN 086-595-05)	6Z
P-30-177296	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1965. 156 College Park Dr Seal Beach (APN 086-605-16)	6Z
P-30-177297	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1965. 196 College Park Dr Seal Beach (APN 086-605-06)	6Z
P-30-177298	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1965. 200 College Park Dr Seal Beach (APN 86-605-05)	6Z
P-30-177299	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1965. 212 College Park Dr Seal Beach (APN 086-605-02)	6Z
P-30-177300	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1965. 216 College Park Dr Seal Beach (APN 086-605-01)	6Z
P-30-177301	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1965. 224 College Park Dr Seal Beach (APN 086-615-13)	6Z
P-30-177302	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1965. 232 College Park Dr Seal Beach (APN 086-615-11)	6Z
P-30-177303	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property. 244 College Park Dr Seal Beach (APN 086-615-08)	6Z
P-30-177304	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1965. 256 College Park Dr Seal Beach (APN 086-615-05)	6Z
P-30-177305	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1965. 268 College Park Dr Seal Beach (APN 086-615-02)	6Z
P-30-177306	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1965. 276 College Park Dr Seal Beach (APN 086-621-01)	6Z
P-30-177307	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1965. 296 College Park Dr Seal Beach (APN 086-621-06)	6Z
P-30-177308	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1965. 300 College Park Dr Seal Beach (APN 086-621-07)	6Z
P-30-177309	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1965. 108 Dartmouth Circle Seal Beach (APN 086-621-13)	6Z

Resource Number	Recording Event	Site Description	Status Code
P-30-177366	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1959. 12411 Martha Ann Dr Los Alamitos (APN 086-444-01)	6Z
P-30-177367	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1959. 12361 Martha Ann Dr Los Alamitos (APN 086-421-11)	6Z
P-30-177368	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1959. 12291 Martha Ann Dr Los Alamitos (APN 086-421-05)	6Z
P-30-177369	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built in 1957. 12271 Martha Ann Dr Los Alamitos (APN 086-421-03)	6Z
P-30-177370	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1959. 12241 Martha Ann Dr Los Alamitos (APN 086-421-01)	6Z
P-30-177371	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1959. 12201 Martha Ann Dr Los Alamitos (APN 086-411-08)	6Z
P-30-177372	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1957. 12131 Martha Ann Dr Los Alamitos (APN 086-411-03)	6Z
P-30-177373	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1957. 12081 Martha Ann Dr Los Alamitos (APN 086-401-07)	6Z
P-30-177374	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1957. 12071 Martha Ann Dr Los Alamitos (APN 086-401-06)	6Z
P-30-177375	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1958. 11971 Martha Ann Dr Los Alamitos (APN 086-393-18)	6Z
P-30-177376	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1962. 11901 Martha Ann Dr Los Alamitos (APN 086-393-12)	6Z
P-30-177377	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1957. 11871 Martha Ann Dr Los Alamitos (APN 086-393-09)	6Z
P-30-177378	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1961. 11831 Martha Ann Dr Los Alamitos (APN 086-393-06)	6Z
P-30-177379	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1957. 11801 Martha Ann Dr Los Alamitos (APN 086-393-04)	6Z
P-30-177380	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1957. 11771 Martha Ann Dr Los Alamitos (APN 086-393-02)	6Z
P-30-177381	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1957. 11761 Martha Ann Dr Los Alamitos (APN 086-393-01)	6Z

Resource Number	Recording Event	Site Description	Status Code
P-30-177382	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1957. 11741 Martha Ann Dr Los Alamitos (APN 086-364-16)	6Z
P-30-177383	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1957. 11701 Martha Ann Dr Los Alamitos (APN 086-364-13)	6Z
P-30-177384	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1958. 11671 Martha Ann Dr Los Alamitos (APN 086-364-11)	6Z
P-30-177385	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1957. 11641 Martha Ann Dr Los Alamitos (APN 086-364-09)	6Z
P-30-177386	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1957. 11621 Martha Ann Dr Los Alamitos (APN 086-364-07)	6Z
P-30-177387	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1957. 11611 Martha Ann Dr Los Alamitos (APN 086-364-06)	6Z
P-30-177388	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1959. 11591 Martha Ann Dr Los Alamitos (APN 086-36-04)	6Z
P-30-177389	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1957. 11541 Martha Ann Dr Los Alamitos (APN 086-364-01)	6Z
P-30-177390	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1959. 11531 Martha Ann Dr Los Alamitos (APN 086-355-22)	6Z
P-30-177391	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1960. 11525 Martha Ann Dr Los Alamitos (APN 086-355-21)	6Z
P-30-177392	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1959. 11501 Martha Ann Dr Los Alamitos (APN 086-355-18)	6Z
P-30-177393	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1957. 11491 Martha Ann Dr Los Alamitos (APN 086-355-17)	6Z
P-30-177394	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource.** Single family property, built 1959. 11471 Martha Ann Dr Los Alamitos (APN 086-355-15)	6Z
P-30-177395	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1959. 11431 Martha Ann Dr Los Alamitos (APN 086-355-11)	6Z
P-30-177396	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1959. 11381 Martha Ann Dr Los Alamitos (APN 086-355-06)	6Z
P-30-177397	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1959. 11351 Martha Ann Dr Los Alamitos (APN 086-355-04)	6Z

Resource Number	Recording Event	Site Description	Status Code
P-30-177398	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1959. 11331 Martha Ann Dr Los Alamitos (APN 086-355-03)	6Z
P-30-177399	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1960. 11291 Martha Ann Dr Los Alamitos (APN 086-561-10)	6Z
P-30-177400	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1960. 11271 Martha Ann Dr Los Alamitos (APN 086-561-08)	6Z
P-30-177401	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1960. 11251 Martha Ann Dr Los Alamitos (APN 086-561-06)	6Z
P-30-177402	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1960. 11211 Martha Ann Dr Los Alamitos (APN 086-561-02)	6Z
P-30-177403	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1960. 11207 Martha Ann Dr Los Alamitos (APN 086-561-01)	6Z
P-30-177404	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1960. 11181 Martha Ann Dr Los Alamitos (APN 086-551-02)	6Z
P-30-177405	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1960. 11171 Martha Ann Dr Los Alamitos (APN 086-551-01)	6Z
P-30-177406	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1960. 11161 Martha Ann Dr Los Alamitos (APN 086-541-01)	6Z
P-30-177407	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1960. 11151 Martha Ann Dr Los Alamitos (APN 086-541-02)	6Z
P-30-177408	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1960. 11111 Martha Ann Dr Rossmoor (APN 086-541-06)	6Z
P-30-177409	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1960. 3041 Ruth Elaine Dr Los Alamitos (APN 086-541-09)	6Z
P-30-177410	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Single family property, built 1962. 3091 Ruth Elaine Dr Los Alamitos (APN 086-541-13)	6Z
P-30-177412	2010 (Carrie Chasteen, Parsons)	**Historic Built Environment Resource**. Oak Middle School, built 1962. 10821 Oak St Los Alamitos 90277 (APN 7078-002-900)	6Z

Notes
1D: Contributor to a multi-component resource like a district listed in the NRHP by the Keeper. Listed in the CRHR.
3CD: Appears eligible for CR as a contributor to a CR eligible multi-component resource through survey evaluation.
6Z: Found ineligible for the NRHP, CRHR, or local listing through survey evaluation.