Appendix K. Cultural Resources Appendices

Appendix K1. Historic Property Survey Report (HPSR), Archaeological Survey Report (ASR), Historical Resources Evaluation Report (HRER), Extended Phase One Report (XPI), Post-Review and Discovery Plan (PRDP), and

HISTORIC PROPERTY SURVEY REPORT

1. UNDERTAKING DESCRIPTION AND LOCATION

District	County	Route	Post Mile(s)	EA	E-FIS Project Number
7	LA	1	30.16 to 30.74 PM	07-33880	0717000061

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S.C. 327 and the Memorandum of Understanding dated May 27, 2022 and executed by FHWA and Caltrans.

The studies for this undertaking were carried out in a manner consistent with Caltrans' regulatory responsibilities under Section 106 of the National Historic Preservation Act (36 CFR Part 800) and pursuant to the January 2014 *First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act* (Section 106 PA), as well as under Public Resources Code 5024 and pursuant to the January 2015 *Memorandum of Understanding Between the California Department of Transportation and the California State Historic Preservation Office Regarding Compliance with Public Resources Code Section 5024 and Governor's Executive Order W-26-92, addended 2019* (5024 MOU) as applicable.

Project Description:

City of Los Angeles, in cooperation with Caltrans, proposes to improve circulation and safety along Lincoln Boulevard by constructing an additional southbound lane, installing sidewalks and protected bicycle lanes, and implementing complete streets and other related improvements along an approximate 0.61-mile segment of Lincoln Boulevard (State Route 1) between Jefferson Boulevard (Post Mile [PM] 30.16) and just south of Fiji Way (PM 30.74). The Project is located in the City and County of Los Angeles and within the community of Marina del Rey, with potential temporary construction easements and partial right-of-way acquisitions needed in the north and northwest within parcels that are within unincorporated parts of Los Angeles County (Attachment 1 of this HPSR).

The Project purpose is to achieve a consistent roadway design, while also enhancing safety and mobility for pedestrians, bicyclists, automobiles, and transit vehicles on Lincoln Boulevard in the vicinity of Ballona Creek. The Project purpose is also to increase southbound roadway capacity along Lincoln Boulevard within the Project limits at a location where Lincoln Boulevard bottlenecks from three lanes to two lanes in the southbound direction.

The Project's build alternative includes: realignment of the Lincoln Boulevard centerline approximately 50 feet to the east; addition of one southbound lane along Lincoln Boulevard for a length of approximately 1,800 feet; demolition, replacement, and widening of the Lincoln Boulevard Bridge over Ballona Creek; demolition, replacement, and widening of the Culver Boulevard Bridge over Lincoln Boulevard; demolition, replacement, and realignment of the connector ramps between Lincoln Boulevard and Culver Boulevard; construction of active transportation improvements including sidewalks, Class IV protected bicycle lanes on both sides of Lincoln Boulevard, ADA-compliant curb ramps, and signal upgrades at intersections within the Project limits.

The Project would also include utility relocation; landscaping; low-intensity street lighting, striping, signage, drainage, and water quality improvements. The Project would install a striped center median that would allow space to accommodate a future center-running transit facility within the Project limits, which is not included as part of the Project. Construction of the Project build alternative would result in three through lanes in the northbound and southbound directions of

Lincoln Boulevard between Fiji Way and Jefferson Boulevard, with additional turning lanes at intersections. Project right-of-way needs are still being refined for the build alternative, but it is likely that partial right-of-way acquisition and/or temporary construction easements would be required from approximately 20 parcels. No full right-of-way takes, residential displacements, or business displacements would be required under the build alternative; however, local parking and driveways may need to be reconfigured for parcels where partial right-of-way acquisition occur to accommodate the Project.

Under the build alternative, the replacement Lincoln Boulevard Bridge over Ballona Creek would include three 12-foot travel lanes in each direction, a 12-foot center median, and 2-foot lane buffers, 8-foot shoulders including 6-foot-wide, Class IV protected bicycle lanes, 6-foot sidewalks, and 1-foot edge barriers on both sides of the roadway.

Under the build alternative, the replacement Culver Boulevard Bridge would include one 12-foot travel lane in each direction as well as 5-foot shoulders, 6-foot sidewalks, and 1-foot bridge barriers on both sides of the roadway.

2. AREA OF POTENTIAL EFFECTS

In accordance with Section 106 PA Stipulation VIII.A, the Area of Potential Effects (APE) for the project was established in consultation with Mariam Dahdul, PI, Prehistoric Archaeology, Joshua Knudson, Principal Architectural Historian, and Shabbir Ahmed, Project Manager, on January 17, 2023. The APE maps are located as Attachment 1 of this HPSR.

The APE was established as the limits of Project disturbance/direct impact area plus a 200-foot buffer to allow for construction vehicles and equipment movement. The architectural APE are those areas outside of the direct impacts that suffer indirect impacts (e.g., vibration, noise) because of the Project and generally include the adjacent built environment. The buffer areas in the APE are primarily open space adjacent to Lincoln Boulevard. In addition, the vertical APE accounts for depths of excavations ranging from 2 to 100 feet below the existing ground surface.

3. CONSULTING PARTIES / PUBLIC PARTICIPATION

☒ Local Government

JRP Historical Consulting sent a notification letter on June 24, 2019, to the Los Angeles Office of Historic Resources. (LA OHR). JRP conducted follow up communications with LA OHR on July 11, 2019, via e-mail (Attachment 2 of this HPSR).

☒ Native American Heritage Commission

Native American outreach for the project included a request to the Native American Heritage Commission (NAHC) on February 23, 2018, for a Sacred Lands File search (see Attachment 5 of this HPSR).

The results of the 2018 Sacred Lands File database search were negative for sacred lands, although it was indicated by the NAHC that the area is sensitive for cultural resources and

that the absence of specific site information in the Sacred Lands File does not indicate the absence of Native American cultural resources in the APE. The following individuals listed in the table below were contacted in 2019 by certified letter and invited to share any cultural resource information that they may have regarding the project area.

NAHC List of Tribal Representatives

Tribal Organization	Ethnographic Affiliation	Contact
Fernandeño Tataviam Band of Mission Indians	Tataviam	Alan Salazar
Fernandeño Tataviam Band of Mission Indians	Tataviam	Jairo Avila
Fernandeño Tataviam Band of Mission Indians	Tataviam	Rudy Ortega
Fernandeño Tataviam Band of Mission Indians	Tataviam	Beverly Salazar Folkes
Gabrieleno Band of Mission Indians – Kizh Nation	Gabrielino	Andrew Salas
Gabrieleno/Tongva San Gabriel Band of Mission Indians	Gabrieleno	Anthony Morales
Gabrieleno/Tongva San Gabriel Band of Mission Indians	Gabrielino	Sandonne Goad
Gabrielino Tongva Indians of California Tribal Council	Gabrielino	Robert Dorame
Gabrielino-Tongva Tribe	Gabrielino	Charles Alvarez
San Fernando Band of Mission Indians	Kitanemuk; Serrano; Tataviam	John Valenzuela

☒ Native American Tribes, Groups and Individuals

The following text summarizes the on-going outreach efforts and correspondence with the NAHC and tribal representatives. More detailed information on the Native American consultation efforts is provided in Attachment 5 of this HPSR.

- On February 23, 2018, Psomas submitted a request to the NAHC to determine whether any known cultural resources important to local Native American groups were present within or adjacent to the Project APE.
- The NAHC responded on February 26, 2018, stating that no Native American cultural resources are known to exist within or adjacent to the Project APE; however, the NAHC noted that the area is sensitive for cultural resources and that the absence of specific site information in the Sacred Lands Files does not indicate the absence of Native American cultural resources in the APE. The NAHC also recommended that 10 Native American representatives and organizations be contacted to solicit any information or concerns regarding cultural resources issues related to the Project. These 10 representatives and organizations were contacted on June 21, 2019, by certified mail. On July 2, 2019, the 10 representatives and organizations were contacted by email inquiring if they had received the letters describing the project. Two tribal representatives responded to the July 2, 2019 emails (see below). The remaining eight tribal representatives received follow-up phone calls on July 9, 2019.
- On July 2, 2019, Jairo Avila, on behalf of the Tribal Historic and Cultural Preservation Department of the Fernandeño Tataviam Band of Mission Indians identified the project as being located outside of their ancestral boundaries and

deferred consultation for the project to tribal representatives and organizations representing the Gabrielino tribes.

- On July 3, 2019, Robert Dorame, on behalf of the Gabrielino Tongva Indians of California Tribal Council via teleconference identified the Project APE as within a highly sensitive area for prehistoric cultural resources, and requested a tribal representative be onsite during all excavations. Mr. Dorame also mentioned that his organization had prepared and submitted a treatment for this area to Caltrans several years ago and suggested the plan be reexamined and updated for this project. Mr. Dorame is referring to information he provided during a consultation meeting with Caltrans on October 17, 2018, for a project situated at the intersection of State Route 90 (SR-90) and Culver Boulevard (approximately 1,500 feet north-northeast of this project's APE). This information is detailed in the attached Archaeological Survey Report (Attachment 3 of this HPSR).
- A teleconference between Alan Salazar from the Fernandeño Tataviam Band of Mission Indians and Psomas occurred on July 9, 2019. Mr. Salazar identified the APE as being located out of the territorial boundaries of the Fernandeño Tataviam Band of Mission Indians and deferred consultation for this Project to the tribal representatives and organizations representing the Gabrielino tribes.
- A teleconference between Ms. Salazar Folkes and Psomas occurred on July 9, 2019. Ms. Salazar Folkes identified the APE as extremely sensitive for prehistoric cultural resources and that a Native American Monitor should be present during excavations. She also mentioned that she has monitors available to provide support if needed. Ms. Salazar Folkes also suggested implementing a rotating schedule of monitors from different tribal organizations. She is available to discuss the project in more detail with Caltrans as needed. She would also like to be included in any future discussions related to the project (e.g., revisions to APE and/or discovery of cultural resources).
- A teleconference call between Mr. Salas and Psomas occurred on July 9, 2019. Mr. Salas stated that he would follow up with Psomas to discuss comments/suggestions after he has had an opportunity to review the project details. Mr. Salas followed up with Caltrans during a coordination meeting held on July 9, 2019. During the meeting, Mr. Salas and Mr. Teutimez stated that the project location is highly sensitive for Tribal cultural resources and shared information from SRI's technical report titled *People in a Changing Land: The Archaeology and History of the Ballona in Los Angeles, California*, as well as a map showing locations of archaeological sites in the vicinity of the project location. They also expressed interest in participating in any archaeological investigations (e.g., Extended Phase I) as well as archaeological monitoring. Caltrans explained that the Tribe will have this opportunity, and that the Tribe will be able to review any and all documents prepared for the project, including proposals for archaeological excavations and/or monitoring.
- A teleconference call between Mr. Morales and Psomas occurred on July 9, 2019. Mr. Morales identified the APE as extremely sensitive for prehistoric archaeology, including human remains. He also believes the area has significant spiritual value to the Gabrieleno. Mr. Morales is requesting an archaeologist and Tribal Representative be onsite during ground disturbance.

- On November 9, 2021, an Extended Phase I (XPI) proposal was sent to each of the tribal representatives and organizations included in the table above. The proposal provided the study goals, relevant archaeological information, and archaeological field methods. Mr. Robert Dorame responded in an email to Psomas on the same day, requesting to monitor the XPI fieldwork. On the same day, Caltrans discussed the XPI proposal with Mr. Andrew Salas during a virtual meeting. Mr. Salas identified the area as highly sensitive and agreed with the approach of testing to determine the presence/absence of cultural deposits within the project footprint.
- Caltrans followed up with Mr. Dorame and Mr. Salas in an email dated December 15, 2021, that the XPI fieldwork was tentatively scheduled for February 2022 and to confirm their participation. Mr. Dorame replied on the same day confirming his availability to monitor. Mr. Salas responded on December 22, 2021, with comments to the XPI proposal but did not ask to monitor the fieldwork. Caltrans addressed Mr. Salas' comments and emailed the revised XPI proposal on January 3, 2022. Caltrans also informed Mr. Salas of the intent to move forward with the upcoming fieldwork while keeping the tribe appraised of any findings.
- The XPI fieldwork was conducted between October 5 and October 24, 2022, and Mr. Robert Dorame participated in the entirety of the work. Mr. Dorame believes both an archaeologist and Native American of Gabrielino/Tongva descent should monitor construction occurring in native sediments/soils despite no cultural resource deposits being identified as a result of the XPI study.
- In February 2023, Psomas sent each tribal representative and organizations copies of the Archaeological Survey Report (ASR) and XPI Report with the results of the cultural resources identification efforts. Only one comment was received from the group of tribal representatives. Sarah Brunzell from the Fernandeno Tataviam Band of Mission Indians responded on February 21, 2023, with the Fernandeno Tataviam Band of Mission Indians has no comments.

☒ Local Historical Society / Historic Preservation Group

- JRP Historical Consulting identified potential local interested parties for this project and Caltrans sent notification letters on June 24, 2019. Recipients of the letter were the Marina Del Rey Historical Society, Los Angeles Railroad Heritage Foundation, Pacific Electric Railway Historical Society, Loyola Marymount University Department of Archives and Special Collections, The Bay Foundation, and the Los Angeles Conservancy. Michael Patris of the Pacific Electric Railway Historical Society Archives responded via e-mail on June 28, 2019, that they did not have any comments on the proposed project. The letter to the Marina Del Rey Historical Society was returned as non-deliverable. JRP conducted follow up communications with recipients of the letters on July 11, 2019, via e-mail (Attachment 2 of this HPSR).

4. SUMMARY OF IDENTIFICATION EFFORTS

- ☒ National Register of Historic Places (NRHP)
- ☒ California Register of Historical Resources (CRHR)
- ☒ National Historic Landmark (NHL)
- ☒ California Historical Landmarks (CHL)
- ☒ California Points of Historical Interest
- ☒ California Historical Resources Information System (CHRIS)
- ☒ Caltrans Historic Bridge Inventory
- ☒ Caltrans Cultural Resources Database (CCRD)
- ☒ Other Sources consulted:
- ☒ Results:

South Central Coastal Information Center

An archaeological and historical resources records search for the Project APE and the surrounding one-mile radius was conducted on January 9, 2018 (see Attachment 3 of this HPSR) at the South-Central Coastal Information Center (SCCIC), housed at the Department of Anthropology at California State University, Fullerton. The SCCIC is the designated regional repository of the California Historical Resources Information System (CHRIS) for records regarding archaeological and historical resources and associated studies in Los Angeles County. The CHRIS system provides data on the NRHP, California Register of Historic Resources (CRHR), California Historical Landmarks (CHL), California Points of Historical Interest (CPHI), and Historical Landmarks of Los Angeles County, plus historical maps and photographs as needed.

The results of the 2018 records search identified 68 studies within a 1-mile search radius of the APE for the Project. Of the 68 studies, six occur within the boundary of the APE. The studies date from 1936 to 2016 and consist primarily of block archaeological field studies and literature reviews, archaeological excavations and monitoring, and general overviews of the region.

The 2018 records search at the SCCIC showed that 32 cultural resources have been recorded within a 1-mile radius of the APE.

Of these 32, five are located within the APE; however, one of the cultural resources previously identified in [1981] as a prehistoric shell scatter—CA-LAN-1698—was updated in 1990 by Statistical Research Incorporated (SRI). SRI determined that the shell scatter was the result of redeposited fill and not cultural in origin. The remaining four cultural resources shown within the boundaries of the APE consist of built environment resources and include P-19-176733 (Culver Blvd Overcrossing), P-19-176734 (Lincoln Blvd over Ballona Channel), P-19-187805 (Ballona Creek Flood Control Channel), and P-19-192324 (Railroad Grade). For a more detailed description of the built environment resources see the attached 2019 Historic Resources Evaluation Report (HRER) prepared by JRP Historical Consulting (Attachment 2 of this HPSR).

The resources outside of the APE include prehistoric/Native American lithic scatters, habitation debris, shell middens, and burials as well as historical sites consisting of refuse scatters, remnants of railroads, and built environment resources such as bridges.

Additionally, a number of the prehistoric archaeological sites within the one-mile radius of the APE are part of the Ballona Lagoon Archaeological District (BLAD), a National Register of Historic Places (NRHP) eligible district. The BLAD establishes the conceptual fabric for examining the archaeological resources in the greater Ballona Lagoon area collectively, as parts of the region's prehistoric hunter-gatherer populations' adaptive settlement and subsistence system centered on the lagoon environment.

The establishment of the BLAD allows for a more standardized procedure for assessing the significance of sites as contributors to the district. Specifically, each archaeological site identified within the Ballona Lagoon region should be evaluated to determine whether it is a contributing element of the BLAD.

Archaeological Pedestrian Survey

On June 14, 2019, Psomas Senior Archaeologist Charles Cisneros conducted an archaeological survey of the Project APE (Attachment 3 of this HPSR). However, portions of the APE within the Ballona Wetlands were not surveyed as no permission was provided by the California Department of Fish and Wildlife (CDFW) for right of entry. When feasible the survey was conducted in parallel transects that were spaced no farther than 2 to 4 meters. Most of the Project APE consists of active roadway, with much of the ground surface covered in asphalt or concrete. No prehistoric or historical archaeological resources were identified within the accessible portions of the Project APE.

Extended Phase I Investigation

Psomas conducted the Extended Phase I (XPI) investigation between October day and October 24, 2022. The fieldwork included excavation of four shovel test pits and three trenches. The excavations did not uncover any cultural resources within the APE. The extent of ground disturbance varies across the APE. Results of shovel testing to the south indicate ground disturbance in this area extended at least 0.5 meter below the modern ground surface. Portions of the APE in the former alignment of the Pacific Electric Railroad, which was constructed during the end of the 19th century, appear to exhibit minimal disturbance as construction practices at that time were less intrusive. Other features, such as the channelization of Ballona Creek, had a significant effect both in depth of excavation and distribution of spoils. Several meters of material appear to have been deposited to bring up the grade of the baseball fields and on-ramp. Coring done for the Project indicates 4 to 7 feet of fill west of Lincoln Highway. The results of the XPI investigation indicate that the potential to uncover buried intact cultural deposits within the project APE is low due to past disturbances and the area once being a freshwater marsh.

Caltrans Historic Highway Bridge Inventory

Two Caltrans bridges are in the APE for the project. Both the Lincoln Boulevard (SR-1) bridge over Ballona Creek Channel (Bridge No. 53 0118) and the Culver Boulevard Overcrossing (Bridge No. 53 0089) are listed as Category 5 bridges in the Caltrans Historic Bridges Survey, i.e., are not NRHP eligible. See **Appendix C** of the HRER (Attachment 2 of this HPSR) for the Caltrans Bridge Logs for these structures.

Built Environment Resources

The Ballona Creek Channel (P-19-187805) has been the subject of two evaluations and was determined not eligible for the NRHP and CRHR in 2017.

In addition to the Ballona Creek Flood Control Channel the report addressed the Pacific Electric berm and alignment (P-19-192324), and what Pam Daly termed bridge "abutments" for the Pacific Electric adjacent to Culver Boulevard over Lincoln Boulevard (SR 1) (P-19-192326). Those abutments are actually the remaining approach spans of the bridge. Contradicting findings in the letter from the Corps to SHPO and the conclusion in the report by Daly & Associates, resulted in no consensus determination for the Pacific Electric bridge remains (P19-192326). Daly concluded that the Pacific Electric bridge components were eligible for listing in the NRHP under Criterion C.

In the consultation letter to SHPO for the Ballona Wetlands Ecological Reserve Restoration Project, the Corps merged the findings for the bridge remnants and the Pacific Electric alignment and berm. SHPO concurred with the findings regarding the berm (P-19-192324) but indicated that the report did not present sufficient information for the eligibility of the bridge elements. However, because the bridge remnants would not be affected by the Ballona Wetlands Ecological Reserve Restoration Project, no further action was required regarding those remnants.

No properties in the APE are included in the Office of Historic Preservation Historic Property Data File. JRP also reviewed the City of Los Angeles's cultural heritage ordinance (Municipal Code Chapter 9) and list of Cultural Heritage Monuments. No Cultural Heritage Monuments are located within a half mile of the APE.

Historic Resource Field Survey

JRP staff conducted a field survey of the APE on March 29, 2018 and recorded the historic Pacific Electric Railway bridge approach spans on the DPR 523 form provided in Appendix B of the HRER (Attachment 2 of this HPSR).

5. PROPERTIES IDENTIFIED

☒ Caltrans, in accordance with Section 106 PA Stipulation VIII.C.5 has determined there are cultural resources within the APE that were **previously determined not eligible** for inclusion in the NRHP with SHPO concurrence and those determinations remain valid. Copy of SHPO/Keeper correspondence is attached (HRER Appendix B).

Name	Address/Location	Community	OHP Status Code	Map Reference #
Ballona Creek Flood Control Channel	Vic west of SR 1 and Culver Blvd	Los Angeles	6Y	MR-4

☒ Bridges listed as **Category 5** (previously determined not eligible for listing in the NRHP) in the Caltrans Historic Bridge Inventory are present within the APE and those determinations remain valid. Appropriate pages from the Caltrans Historic Bridge Inventory are attached. (Attachment 2 of this HPSR).

Name	Address/Location	Community	OHP Status Code	Map Reference #
Ballona Creek Channel Bridge (No. 53 0118)	Vic west of SR-1 and Culver Blvd.	Los Angeles	6Y	MR 3
Culver Blvd. Overcrossing Bridge (No. 53 0089)	Culver Blvd. over Lincoln Blvd. (SR-1)	Los Angeles	6Y	MR 2

☒ Caltrans has determined there are cultural resources within the APE that were evaluated as a result of this project and are **not eligible** for inclusion in the NRHP. Under Section 106 PA Stipulation VIII.C.6, Caltrans requests SHPO's concurrence in this determination.

See HRER provided in Attachment 2:

Name	Address/Location	Community	OHP Status Code	Map Reference #
Pacific Electric Railway (P-19-192326)	Culver Blvd and Lincoln Blvd	Los Angeles	6Y, 6Z	MR 1

6. FINDING FOR THE UNDERTAKING

☒ Caltrans, pursuant to Section 106 PA Stipulation IX.A, has determined a Finding of **No Historic Properties Affected** is appropriate for this undertaking because there are no historic properties within the APE.

7. CEQA CONSIDERATIONS

☒ Caltrans PQS has determined there are **No Historical Resources** present, as outlined in CEQA Guidelines 15064.5(a).

8. LIST OF ATTACHED DOCUMENTATION

☒ Project Vicinity, Location, and APE Maps (**Attachment 1** – Project Vicinity/Project Location Map, APE Map)

☒ Historical Resources Evaluation Report (HRER) - (**Attachment 2**) Historical Resources Evaluation Report for the State Route 1 (Lincoln Boulevard), Multimodal Improvement Project, City of Los Angeles, Los Angeles County, California (JRP Historical Consulting 2019)

☒ Archaeological Survey Report (ASR) Archaeological Survey Report (ASR) – (**Attachment 3**)

☒ Extended Phase One Report (XPI) Extended Phase I (XPI) – (**Attachment 4**)

☒ Other

Native American Consultation – (**Attachment 5**)

Post-Review & Discovery Plan (PRDP) – (**Attachment 6**)

9. HPSR PREPARATION AND CALTRANS APPROVAL

Prepared by: _____ 3/30/2023

Charles W. Cisneros, RPA (PI – Prehistoric Archaeology) Date
Psomas
225 S. Lake Avenue, Suite 1000
Pasadena, California 91101

Reviewed for
Approval by: Joshua Knudson 4/18/2023

District 7 Caltrans PQS Joshua Knudson, Principal Architectural Historian Date

Approval by: Claudia Harbert 4/24/2023

District 7 EBC Claudia Harbert Date

ATTACHMENT 1

PROJECT VICINITY/LOCATION MAPS

Project Location Map

State Route 1 (Lincoln Boulevard)
Multimodal Improvement Project

07-LA-1, PM30.16/30.74

EA 33880

Source: Psomas; Aerial: Esri, Maxar 2022

Caltrans

Figure 1-2

Short Elementary School
McConnell Ave
Lyceum Ave
Alley
Alla Rd
Beethoven St
Unnamed Street
Tivoli Ave
Glen Alla Park
Marina Expy
Culver Blvd
90
La Villa Marina
Admiral Ave
Del Rey Ave
Centinela Hospital Medical Center
Carter Ave
Stanford Ave
Yale Ave
Thatcher Ave
Princeton Dr
Marina Pointe Dr
Admiralty Park
Admiralty Way
Connecting Road
Via Regatta
Promenade Way
Palawan Way
Burton Chace Park
Marina Del Rey Harbor
Fiji Way
Ballona Creek
South Cal Inst of Architecture
Jefferson Blvd
Coral Tree Pl
Dawn Crk
Celedon Crk
Alla Rd
Abrazin Pl
Runway Rd
Seabluff Dr
Discovery Crk
Para Way
Bay St
Playa Vista Dr
Sea Walk Dr
Klyot Way
Pacific Promenade
Villosa Pl
Fountain Park Dr
Brisa Way
Bay Park Dr
Crescent Park
Teale St
Sewell Rd
Loyola Marymount University
Ignatius Cir
Fordham Rd
Leavey Rd
Hughes Ter
78th St
Nordhoff Way
Batton Dr
Gonzaga Ave
Loyola Blvd
80th St
Lincoln Blvd
Attavan Ave
Campion Dr
Alley
84th St
Colegio Dr
Reyford Dr
Unnamed Street
Bluff Trail Rd
Coastal View Dr
Ocean Bluff Dr
Shore Cliff Dr
Crenshaw Dr
81st St
80th St
Hastings Ave
83rd St
Berger Ave
82nd St
Berger Pl
85th St
Hulbert Ave
Versaille Dr
Manchester Ave
Stanmoor Dr
87th St
87th Pl
Saint Anastasia School

Project Limits

N
500 250 0 500
Feet

Project Vicinity Map

State Route 1 (Lincoln Boulevard)
Multimodal Improvement Project

07-LA-1, PM30.16/30.74

EA 33880

Source: Psomas

Caltrans

Figure 1-1

Area of Potential Effects
State Route 1 (Lincoln Boulevard) Multimodal Improvement

Mariam Dahdul — 1/10/23
Caltrans PQS - Mariam Dahdul, PI Prehistoric Archaeology — Date

Joshua Knudson — 1/10/23
Caltrans PQS - Joshua Knudson, Principal Architectural Historian — Date

1/17/2023
Shabbir Ahmed – Project Manager — Date

A

B

Archaeological APE
Architectural APE
Waters of the US - ACOE Jurisdiction

550 275 0 550 Feet

N

Area of Potential Effects

State Route 1 (Lincoln Boulevard)
Multimodal Improvement Project

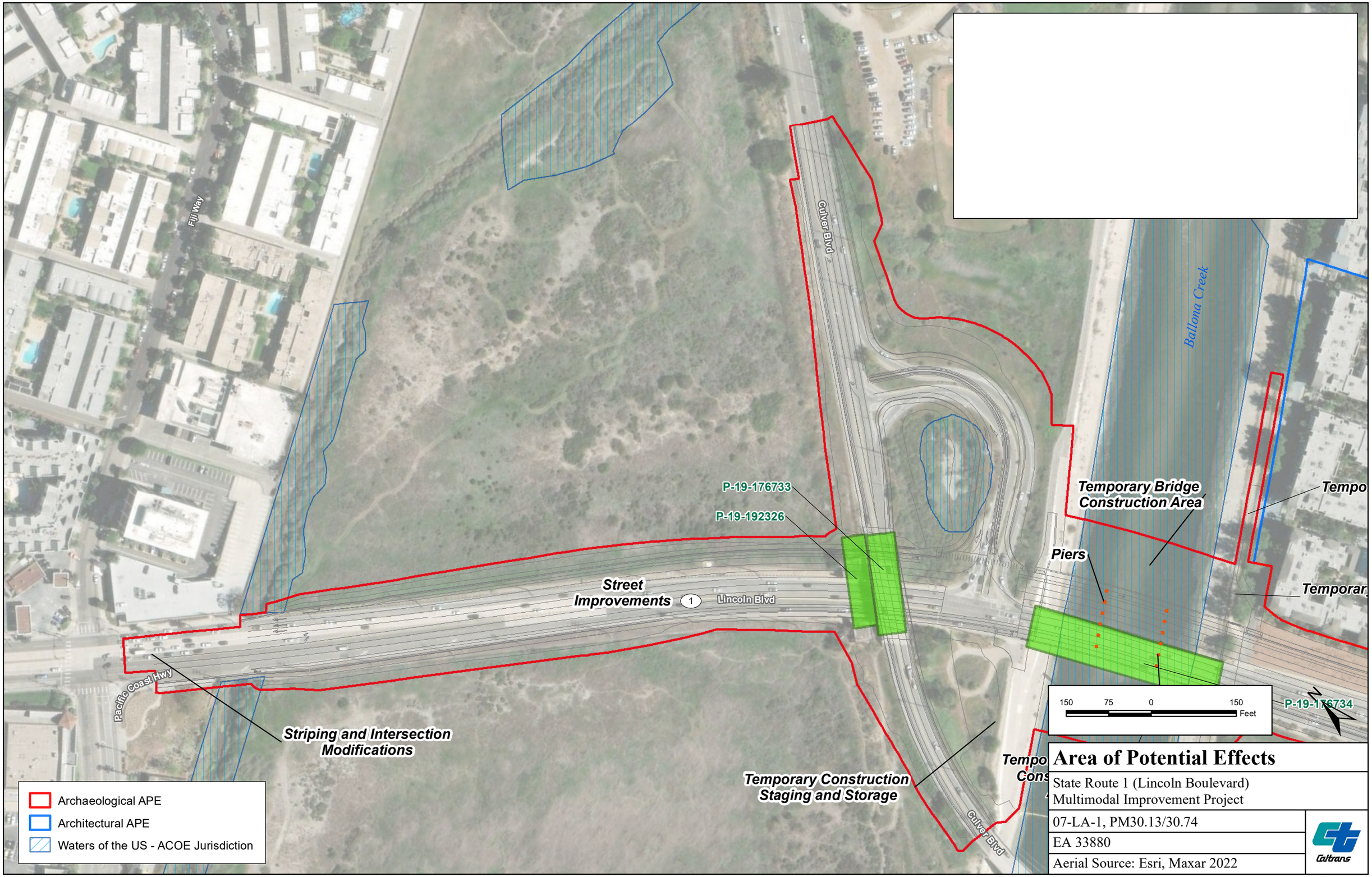
07-LA-1, PM30.13/30.74

EA 33880

Aerial Source: Esri, Maxar 2022

Caltrans

Index



Area of Potential Effects

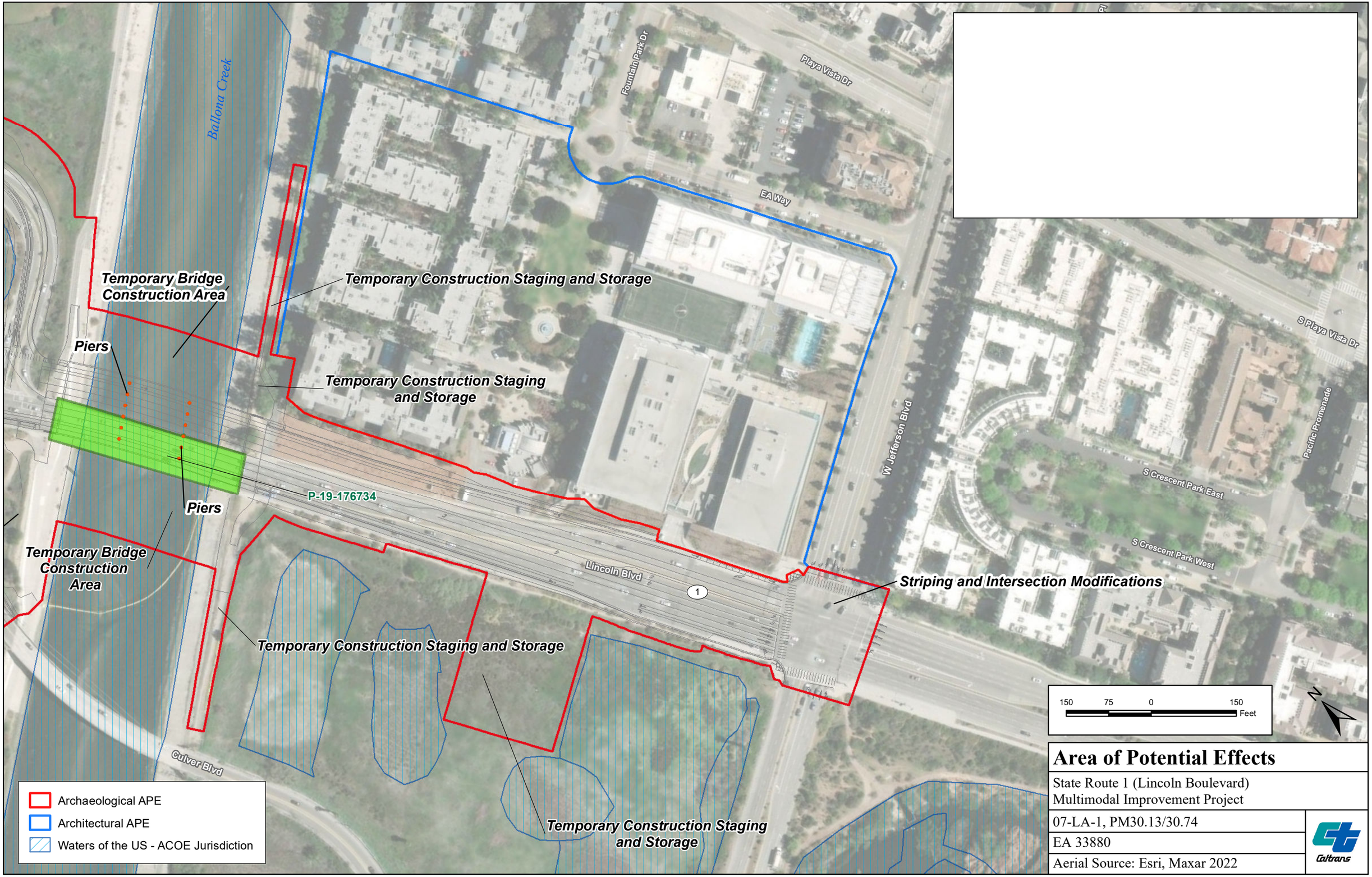
State Route 1 (Lincoln Boulevard)
Multimodal Improvement Project

07-LA-1, PM30.13/30.74

EA 33880

Aerial Source: Esri, Maxar 2022

Caltrans



Area of Potential Effects

State Route 1 (Lincoln Boulevard)
Multimodal Improvement Project

07-LA-1, PM30.13/30.74

EA 33880

Aerial Source: Esri, Maxar 2022

Caltrans

ATTACHMENT 2

HISTORICAL RESOURCES EVALUATION REPORT (HRER)

HISTORICAL RESOURCES EVALUATION REPORT

SR-1 (Lincoln Boulevard) Multimodal Improvement Project

State Route 1 Los Angeles, California
(07-LA- 1 PM 30.16/30.74)

EA 07-33880 / EFIS 0717000061

Prepared For:

Joshua Knudson
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Los Angeles, CA 90012

Approved By:

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Prepared by:

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Cheryl Brookshear, Staff Architectural Historian
JRP Historical Consulting, LLC
2850 Spafford Street
Davis, CA 95618

September 2019

SUMMARY OF FINDINGS

The California Department of Transportation (Caltrans), in cooperation with the City of Los Angeles, proposes to improve circulation and safety along State Route 1 (SR 1), locally known as Lincoln Boulevard, by constructing an additional southbound lane, installing sidewalks and protected bicycle lanes, and implementing complete streets and other related improvements along an approximate 0.61-mile segment of Lincoln Boulevard between Jefferson Boulevard (PM 30.16) and just south of Fiji Way (PM 30.74). Creation of the multimodal corridor will necessitate the replacement of the Lincoln Boulevard Bridge over the Ballona Creek Channel (Bridge Number 53 0118) and the Culver Boulevard Overcrossing over Lincoln Boulevard (Bridge Number 53 0089). The project vicinity and location are illustrated in **Figures 1** and **2** in **Appendix A**. The Area of Potential Effect (APE) for this project includes the existing right-of-way for Lincoln Boulevard and Culver Boulevard and adjacent land required for the road widening. See **Appendix A**, **Figure 3** for a map of the APE.

The studies for this undertaking were carried out in a manner consistent with Caltrans' regulatory responsibilities under Section 106 of the National Historic Preservation Act (36 CFR Part 800) and pursuant to the January 2014 *First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act* (Section 106 PA), as well as under Public Resources Code 5024 and pursuant to the January 2015 *Memorandum of Understanding Between the California Department of Transportation and the California State Historic Preservation Office Regarding Compliance with Public Resources Code Section 5024 and Governor's Executive Order W-26-92* (5024 MOU) as applicable.

JRP Historical Consulting, LLC (JRP) prepared this Historical Resources Evaluation Report (HRER). Three properties within the APE were previously determined not eligible for listing in the NRHP. These are the Ballona Creek Channel, the Lincoln Boulevard Bridge over Ballona Creek Channel (Bridge No. 53 0118), and the Culver Boulevard Overcrossing (Bridge No. 53 0089). One property in the APE required formal evaluation. This is the remnants of a Pacific Electric Railway bridge that are immediately north of the Culver Boulevard overcrossing and flank Lincoln Boulevard. Pamela Daly previously recorded these as "abutments," although they are actually the approach spans and bents of the former bridge. This HRER concludes that the structure is not eligible for listing in the National Register of Historic Properties (NRHP). This conclusion is pursuant with Stipulation VIII.C of the Section 106 PA. Additionally, pursuant to Section 15064.5(a)(2)-(3) of the California Environmental Quality Act (CEQA), using criteria outlined in Section 5024.1 of the California Public Resources Code (PRC), no properties within the APE are historical resources for the purposes of CEQA. The structure evaluated for this HRER is documented on a California Department of Parks and Recreation (DPR) 532 form provided in **Appendix B**.

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APPENDICES

1 PROJECT DESCRIPTION[1]

The California Department of Transportation (Caltrans), in cooperation with the City of Los Angeles, proposes to improve circulation and safety along Lincoln Boulevard by constructing an additional southbound lane, installing sidewalks and protected bicycle lanes, and implementing complete streets and other related improvements along an approximate 0.61-mile segment of Lincoln Boulevard between Jefferson Boulevard (PM 30.16) and just south of Fiji Way (PM 30.74). The project primarily occurs in the City of Los Angeles, with potential temporary construction easements and partial right-of-way acquisitions needed in the north and northwest within parcels that are within unincorporated Los Angeles County.

The project purpose is to achieve a consistent roadway design, while also enhancing safety and mobility for pedestrians, bicyclists, automobiles, and transit vehicles on Lincoln Boulevard in the vicinity of Ballona Creek. The project purpose is also to increase southbound roadway capacity along Lincoln Boulevard within the project limits at a location where southbound Lincoln bottlenecks from three lanes to two lanes in the southbound direction.

The project's build alternative includes: realignment of the Lincoln Boulevard centerline approximately 50 feet to the east; addition of one southbound lane along Lincoln Boulevard for a length of approximately 1,800 feet; demolition, replacement, and widening of the Lincoln Boulevard Bridge over Ballona Creek; demolition, replacement, and widening of the Culver Boulevard Bridge over Lincoln Boulevard; demolition, replacement, and realignment of the connector ramps between Lincoln Boulevard and Culver Boulevard; construction of active transportation improvements including sidewalks, Class IV protected bicycle lanes on both sides of Lincoln Boulevard, ADA-compliant curb ramps, and signal upgrades at intersections within the project limits. The project would also include: utility relocation; landscaping; low-intensity street lighting, striping, signage, drainage, and water quality improvements. The project would install a striped center median that would allow space to accommodate a future center-running transit facility within the project limits, which is not included as part of the project. Construction of the project build alternative would result in three through lanes in the northbound and southbound directions of Lincoln Boulevard between Fiji Way and Jefferson Boulevard, with additional turning lanes at intersections. Project right-of-way needs are still being refined for the build alternative, but it is likely that partial right-of-way acquisition and/or temporary construction easements would be required from approximately 20 parcels. No full right-of-way takes, residential displacements, or business displacements would be required under the build alternative; however, local parking and driveways may need to be reconfigured for parcels where partial right-of-way acquisition occur to accommodate the project.

Under the build alternative, the replacement Lincoln Boulevard Bridge over Ballona Creek would include three 12-foot travel lanes in each direction, a 12-foot center median, and 2-foot lane

[1] PSOMAS provided this project description.

buffers, 8-foot shoulders including 6-foot-wide, Class IV protected bicycle lanes, 6-foot sidewalks, and 1-foot edge barriers on both sides of the roadway.

Under the build alternative, the replacement Culver Boulevard Bridge would include one 12-foot travel lane in each direction as well as 5-foot shoulders, 6-foot sidewalks, and 1-foot bridge barriers on both sides of the roadway.

Area of Potential Effects

The APE includes the areas that the project may directly or indirectly affect. This includes the area that will, or may be, impacted within the current right of way for Lincoln Boulevard and Culver Boulevard, along with some adjacent areas. The Architectural APE includes the parcel where a small property acquisition is required along the north side of Lincoln Boulevard/ SR1 between Jefferson Boulevard and the Ballona Creek Channel. The APE also includes temporary construction staging and storage located along the Ballona Creek Channel and in the wetlands. For areas without buildings only the area to be used for staging and storage are in the APE. The corridor expands to approximately 200 feet wide starting from the western edge of the road's right-of-way. The project is located within the Ballona Wetlands Ecological Reserve, which is largely unoccupied by built environment resources and was surveyed in 2015 for cultural resources. The only potentially eligible property identified in that study is included within the current APE. None of the features outside the current APE were found eligible.[2] Along Lincoln Boulevard the APE encompasses the route from Fiji Way to the intersection with Jefferson Boulevard. Along Culver Boulevard the APE begins at the Culver Marina Little League fields approximately 840 feet northeast of the intersection with Lincoln Boulevard and continues southwest to the north side of the Ballona Creek Channel. The project vicinity and location are illustrated in Figures 1 and 2 in **Appendix A**. The APE for this project is Figure 3 in **Appendix A**.

[2] Pamela Daly, *Historic Resources Evaluation Report of Ballona Wetlands Ecological Reserve Restoration Project, Los Angeles, Los Angeles County, California*, for BonTerra Psomas and US Army Corps of Engineers, 2015; Julianne Polanco, SHPO to Daniel P. Swenson, US Army Corps of Engineers, letter, Section 106 consultation regarding the Ballona Wetlands Ecological Reserve Restoration Project, City of Los Angeles, Los Angeles County, California (SPL-2010-1155) In reply to COE_2017_0421_001, November 20, 2017.

2 RESEARCH AND FIELD METHODS

Survey and evaluation for the SR-1 (Lincoln Boulevard) Multimodal Improvement Project included research for developing a general historic context for the development of transportation in the Ballona wetlands, as well as resource-specific research to confirm the dates of construction of properties in the APE, establish the physical history of the properties, and to place them in their appropriate historic context. JRP conducted research at California State Library, Sacramento; online databases; and in JRP's in-house library. JRP consulted the California State Railroad Museum, California Department of Transportation, and Huntington Library to identify possible source material, but did not visit those institutions. In addition, JRP examined standard sources of information that identify known and potential historic resources to determine whether any buildings, structures, objects, districts, or sites had been previously recorded or evaluated in or near the APE. This included reviewing the California Historical Landmarks and Points of Interest publications and updates, NRHP, California Register of Historical Resources (CRHR), and the results of a California Historical Resources Information System records search through the South-Central California Information Center (SCCIC File No. 14531, January 2018) performed by Psomas. The SCCIC records search identified ten historic architectural / built environment resources previously recorded within a half mile radius of the project. Four are located within the APE. Of those, three have been previously determined not eligible for listing in the NRHP or CRHR.[3] The SCCIC records center search results for built environment are summarized in the following table:

Primary No.	Name	Location	Date Built	OHP Status Code	Report
19-176733	Bridge 53 89 Culver Blvd Overcrossing	Culver Blvd		6Z	LA12757
19-176734	Bridge 53 118 Lincoln Blvd over Ballona Channel	Lincoln Blvd		6Z	LA11819; LA12757
19-187805	Ballona Creek Flood Control Channel and Drainage System			6Z	LA12677; LA12722; LA12757

[3] US Department of the Interior, National Park Service, National Register Information System, online database, available at http://nrhp.focus.nps.gov/natreghome.do?searchtype=natreghome (accessed March 2018); California Department of Parks and Recreation, *California Inventory of Historic Resources* (Sacramento: California Department of Parks and Recreation, March 1976); California Office of Historic Preservation, *California Historical Landmarks* (Sacramento: California State Parks, 1996); and California Office of Historic Preservation, *California Points of Historical Interest* (Sacramento: California State Parks, May 1992).

Primary No.	Name	Location	Date Built	OHP Status Code	Report
19-188837	Westgate Building	3403 Pershing Drive	1962	6Z	LA10733
19-190938	The Boat Yard Marina Del Rey	13555 Fiji Way	1966	6Z	LA-12757
19-192300	Teledyne Microelectronics/ Woodbury R W Sprague Products	12870 Panama St	1955	6Z	LA12863
19-192323	Utility Poles	Culver Blvd west of Jefferson		7	
19-192324	Railroad grade	Parallel to Culver Blvd south of Ballona Creek		7	
19-192325	Canal	Fiji Way		7	
19-192326	Pacific Electric Railway Bridge Approach Spans	Culver Blvd at Lincoln Blvd			

Shaded properties are outside of the APE.

Two Caltrans bridges are in the APE for the project. Both the Lincoln Boulevard (SR 1) bridge over Ballona Creek Channel (Bridge No. 53 0118) and the Culver Boulevard Overcrossing (Bridge No. 53 0089) are listed as Category 5 bridges in the Caltrans Historic Bridges Survey, i.e. are not NRHP eligible.[4] See **Appendix C** for the Caltrans Bridge Logs for these structures.

The Ballona Creek Channel (P-19-187805) has been the subject of two prior evaluations, and was determined not eligible for listing in the NRHP and CRHR in 2017. Diane Kane first evaluated it in 2000 for the *Historic Property Survey Report for the LA-1 Widening Project (K.P. 48.9/49.4) EA 166061* for Caltrans. She found possible significance for post-World War II reclamation and development of Marina del Rey and neighboring Ballona wetlands areas and concluded it could be a contributor to a discontiguous and thematic historic district of ten Los Angeles County dams. As this development, and much of the construction of the full flood control system, occurred within 50 years of the evaluation, Kane indicated that the property was not then currently eligible, but should be re-evaluated in the future. The Ballona Creek Flood Control Channel was again evaluated in 2015 for the *Historic Resource Evaluation Report of Ballona Wetlands Ecological Reserve Restoration Project, Los Angeles County, California* prepared by Daly and Associates for

[4] Andrew Hope, *Caltrans Statewide Historic Bridge Inventory Update Survey and Evaluation of Common Bridge Types*, California Department of Transportation, 2004.

Bon Terra Psomas and the Los Angeles Division of the Army Corps of Engineers (Corps).[5] In this report, Pamela Daly directly addressed Kane's previous conclusions and found that reclamation and activities had occurred within the Ballona wetlands early within the twentieth century, and the post-World War II rapid development of Marina del Rey and neighboring areas were not directly associated with the construction of the flood control channel. Daly also noted that the previous 1999 determination for the discontiguous thematic historic district of ten Los Angeles County dams did not include any other types of structure associated with the flood control project. Daly concluded that the Ballona Flood Control Channel did not have any significant historical associations and was not eligible for listing in the NRHP and CRHR. The State Historic Preservation Officer (SHPO) concurred that the Ballona Creek Channel within the APE and west of a point approximately 400 feet west of Lincoln Boulevard is not eligible for the NRHP in 2017.[6]

The *Historic Resources Evaluation Report of Ballona Wetlands Ecological Reserve Restoration Project, Los Angeles, Los Angeles County, California* contains much of the APE for the current project. In addition to the Ballona Creek Flood Control Channel the report addressed the Pacific Electric berm and alignment (P-19-192324), and what Daly termed bridge "abutments" for the Pacific Electric adjacent to Culver Boulevard over Lincoln Boulevard (SR 1) (P-19-192326). Those abutments are actually the remaining approach spans of the bridge. Contradicting findings in the letter from the Corps to SHPO and the conclusion in the report by Daly & Associates, resulted in no consensus determination for the Pacific Electric bridge remains (P19-192326). Daly concluded that the Pacific Electric bridge components were eligible for listing in the NRHP under Criterion C.

In the consultation letter to SHPO for the Ballona Wetlands Ecological Reserve Restoration Project, the Corps merged the findings for the bridge remnants and the Pacific Electric alignment and berm. SHPO concurred with the findings regarding the berm (P-19-192324), but indicated that the report did not present sufficient information for the eligibility of the bridge elements. However, because the bridge remnants would not be affected by the Ballona Wetlands Ecological Reserve Restoration Project, no further action was required regarding those remnants.[7] As a result of the inconclusive consultation regarding the Pacific Electric bridge remains, the bridge approach spans were re-evaluated for the current Lincoln Boulevard Multimodal Improvement Project.

No properties in the APE are included in the Office of Historic Preservation Historic Property Data File. There are various resources associated with the Pacific Electric Railway (Pacific Electric) in

[5] Pamela Daly, *Historic Resources Evaluation Report of Ballona Wetlands Ecological Reserve Restoration Project, Los Angeles, Los Angeles County, California,* for BonTerra Psomas and US Army Corps of Engineers, 2015.

[6] Julianne Polanco, SHPO to Daniel P. Swenson, US Army Corps of Engineers, letter, Section 106 consultation regarding the Ballona Wetlands Ecological Reserve Restoration Project, City of Los Angeles, Los Angeles County, California (SPL-2010-1155) In reply to COE_2017_0421_001, November 20, 2017.

[7] Julianne Polanco, SHPO to Daniel P. Swenson, US Army Corps of Engineers, letter, Section 106 consultation regarding the Ballona Wetlands Ecological Reserve Restoration Project, City of Los Angeles, Los Angeles County, California (SPL-2010-1155) In reply to COE_2017_0421_001, November 20, 2017.

the Historic Property Data File for Los Angeles. Previously evaluated properties associated with the Pacific Electric include four resources, three of which appear eligible, are determined eligible, or are listed in the NRHP. None of these resources are located within the APE and range from four to eleven miles from the proposed project.[8]

JRP also reviewed the City of Los Angeles's cultural heritage ordinance (Municipal Code Chapter 9) and list of Historic Cultural Monuments (HCM). No HCMs are located within a half mile of the APE.[9]

JRP staff conducted a field survey of the APE on March 29, 2018, and recorded the historic Pacific Electric bridge approach spans on the DPR 523 form provided in **Appendix B**.

JRP identified potential local interested parties for this project and Caltrans sent notification letters on June 24, 2019. Recipients of the letter were the Marina Del Rey Historical Society, Los Angles Railroad Heritage Foundation, Pacific Electric Railway Historical Society, Loyola Marymount University Department of Archives and Special Collections, The Bay Foundation, Los Angeles Conservancy, and the City of Los Angeles Office of Historic Resources. Michael Patris of the Pacific Electric Railway Historical Society Archives responded via e-mail on June 28, 2019 that they did not have any comments upon the proposed project. The letter to the Marina Del Rey Historical Society was returned as non-deliverable. JRP conducted follow up communications with recipients of the letters on July 11, 2019 via e-mail. See **Appendix D** for a copy of the letter to interested parties and responses, along with a communications log.

[8] California Office of Historic Preservation, Historic Property Database: Los Angeles County, April 5, 2012; 246, 323, 348, 503, and 551 Leslie T. Rogers FWHA Regional Administrator to Milford Wayne Donaldson, SHPO, Letter RE: Historical Resources Exposition Light Rail Transit Project, December 8, 2004; Los Angeles Historic Resources Inventory, Los Angeles Pacific Railroad Substation, http://www.historicplacesla.org/reports/628991f5-48f0-4626-8da0-05f61b1444a4 Accessed March 2018; David G. Cameron, NRHP Nomination Los Angeles Pacific Ivy Park Substation, January 1981, https://npgallery.nps.gov/NRHP/AssetDetail?assetID=4b95f7ba-ffa8-4799-b6b9-b19ea3b27233, Accessed March 2018. Other Pacific Electric Railway related resources include the Huntington Building at 610 Main Street; Pacific Electric Terminal at 1859 E. 25th Street; Los Angeles Pacific Railway Substation at 1147 Venice Boulevard; and Pacific Electric Santa Monica Air Line, which includes a trestle bridge next to Exposition Boulevard over Ballona Creek.

[9] City of Los Angeles, Preservation Ordinance, https://preservation.lacity.org/sites/default/files/Cultural%20Heritage%20Ordinance.pdf Accessed March 2018; City of Los Angeles Historic-Cultural Monument (HCM) List, November 2017, https://preservation.lacity.org/sites/default/files/HCMDatabase%23110717.pdf, Accessed March 2018.

3 HISTORICAL OVERVIEW

The following historic context focuses on the intersection of SR 1 (locally known as Lincoln Boulevard) and Culver Boulevard, which is the location of the remnants of the Pacific Electric Railway Bridge that are evaluated in this HRER. This intersection is the result of various transportation developments in Los Angeles. The Pacific Electric Railway (Pacific Electric) grew from small companies often associated with the development of streetcar suburbs scattered around Los Angeles. The Pacific Electric linked these communities and provided easy access to and from downtown Los Angeles. The advent of the automobile resulted in the construction of additional roads throughout the Los Angeles basin. Concentrated highway construction following World War I resulted in the development of a statewide highway system. Among the primary north south routes was SR 1. Developed over several decades, the route linked many coastal communities and provided access to the ocean shore. The co-existence of rail travel and automotive travel often resulted in accidents. Grade separations became one safety measure from both rail and automotive transportation. Construction of SR 1 across the Ballona estuary crossed an active boulevard and interurban rail line. The Department of Highways constructed a grade separation to avoid potential accidents at the location. The remnant bridge approach spans are part of that construction. This context discusses the development of local communities and their association with the development of interurban electric rail, the arrival of automotive transport, and the construction and use of the SR 1, Culver Boulevard/ Pacific Electric grade separation.

3.1 Pacific Electric Railway and the Western Suburbs

The Los Angeles basin had been settled during the Spanish era and contained numerous ranchos through the Mexican era. While the gold rush of 1849 brought hordes of American settlers to California, they largely settled the northern portion of the state. Los Angeles remained a small town through the first decades of American occupation. Construction of the Southern Pacific Railroad south through California's Central Valley to Los Angeles completed in 1876, and the construction of the rival Atchison, Topeka & Santa Fe (ATSF) transcontinental line to San Diego and then north to Los Angeles completed in 1885 set off a fare war and the population in southern California boomed. Real estate dealers attempted to profit from the surging population and established numerous developments and various residential and commercial centers reaching a peak in 1887.[10]

Various housing developments and planned tract communities sprung up in the Los Angeles basin during the 1880s. A few survived the initial excitement, while others quickly fizzled. To the west of Los Angeles, the communities of Hollywood, Santa Monica, Palms, and Redondo became stable communities. Among the failed ventures was Port Ballona at the mouth of Ballona Creek just west of the APE. Railroad subsidiary companies had sought to create a deep-water port for the ATSF

[10] William A. Myers and Ira L. Swett, *Trolleys to the Surf* (Glendale, CA: Interurbans Publications, Inc., 1976) 34; Andrew Rolle, *Los Angeles: from Pueblo to City of the Future* (San Francisco: MTL, Inc., 1995) 11, 13, 23, 35-37.

at this location. Work dredging the wetlands and constructing a rail line north commenced in 1887, but ground to a halt in 1889 following litigation. The selection of San Pedro for the Los Angeles port in 1896 halted any further port development on Ballona Creek.[11]

While this wave of development did not result in the construction of permanent transportation routes through the Ballona area, it did lay the foundations for the development of interurban railway development in the Los Angeles area. Small feeder lines were constructed to the outlying developments. Developers saw the construction of rail lines as a marketing tool to show the promise of various tracts in the form of existing transportation. Additionally, the feeder lines offered easy transport from the bucolic tracts to the burgeoning city. These feeders became the foundation upon which the interurban rail system was built.[12]

The interurban system developed as larger firms bought out the small single route feeder lines. The lines west of Los Angeles were the domain of the Los Angeles Pacific Railway (LAPR). The railway was associated with the development of oceanside communities from Santa Monica to Redondo Beach, and was merged into the Pacific Electric Railway (Pacific Electric) in 1911. Moses H. Sherman and Eli P. Clark were the motivating forces behind the development of the LAPR. Sherman had been a part of the territorial government in Arizona and had built a successful electric streetcar system in Phoenix in partnership with his brother-in-law Clark. Sherman and Clark arrived in Los Angeles in 1890. Sherman led the way, purchasing a small electric railroad in the city and developing it over the next five years as the Los Angeles Consolidated Electric Railway. At the tail end of this development, Sherman and Clark began developing interurban lines under the name of the Pasadena and Pacific Railroad and the Pasadena and Los Angeles Electric Railway Company, which they incorporated in 1894. The rapid expansion overextended the two and they separated the interurban development and city line development in 1895. Bond holders from their previous venture took over the city routes while Sherman and Clark retained the interurban routes.[13]

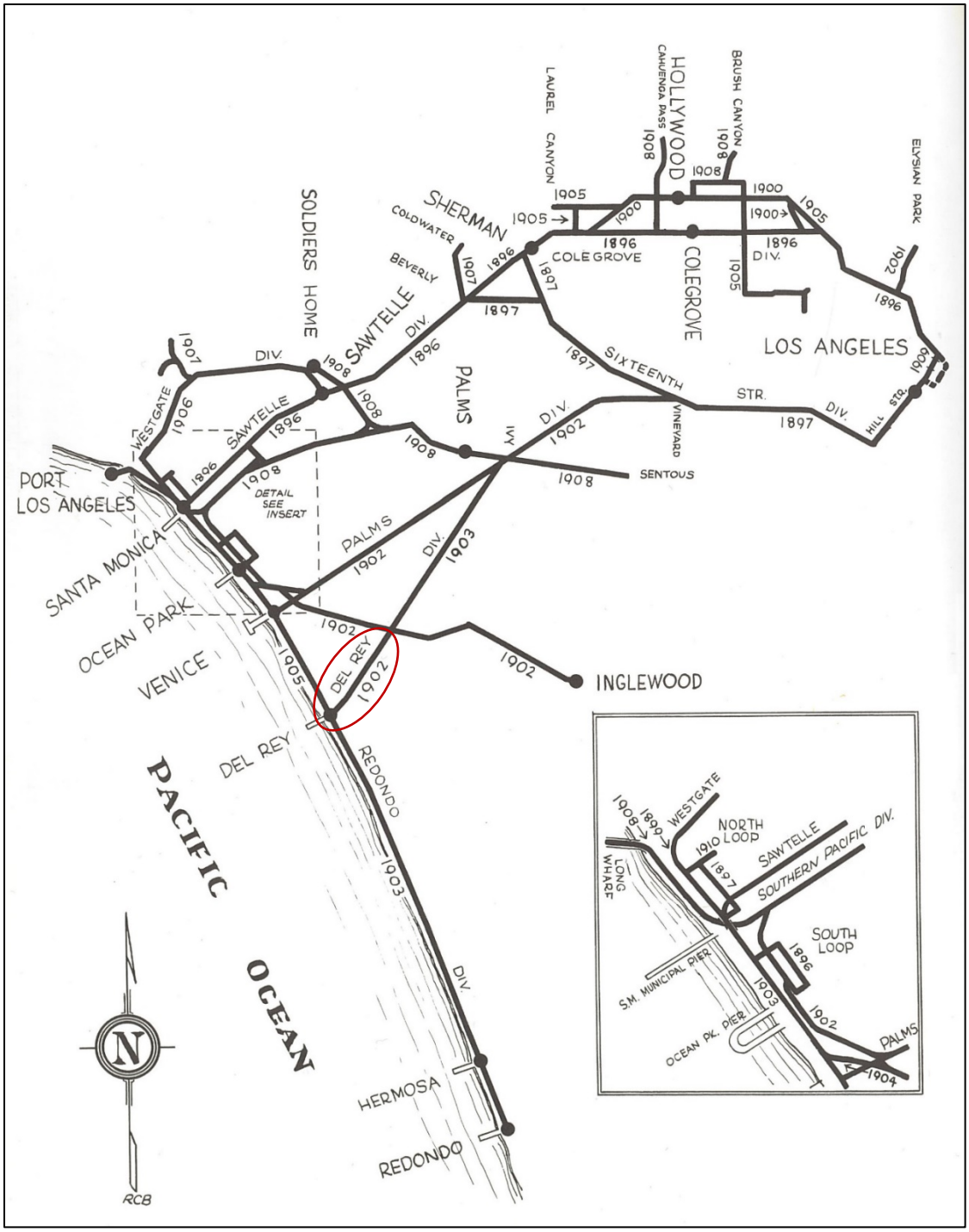
In under a decade Sherman and Clark came to own and operate an extensive electric interurban system spreading west from Los Angeles and ranging along the coast from Santa Monica to Redondo Beach (**Map 1**). Acquiring defunct railroads and right of ways, they first expanded westward in an arc northwest from Los Angeles traversing Hollywood and Beverly Hills on the way to Santa Monica. Sherman and Clark acquired land in the vicinity of Beverly during development of the system, but then sold the land to other developers. Previously established

[11] Myers and Swett, *Trolleys to the Surf*, 33; Pamela Daly, *Historic Resources Evaluation Report of Ballona Wetlands Ecological Reserve Restoration Project, Los Angeles, Los Angeles County, California*, for BonTerra Psomas and US Army Corps of Engineers, 2015, 19-21

[12] Myers and Swett, *Trolleys to the Surf*, 34; Rolle, *Los Angeles: from Pueblo to City of the Future*, 36.

[13] Myers and Swett, *Trolleys to the Surf*, 7-8, 11-15; Spencer Crump, *Ride the Big Red Cars* (Costa Mesa, California: Trans-Anglo Books, 1970) 35.

developments along the line were able to grow and develop steadily with access to the electric railroad.[14]



Map 1. Development of the Los Angeles Pacific interurban routes. Section to Playa del Rey where project is located is circled.[15]

[14] Myers and Swett, *Trolleys to the Surf*, 16, 21, 33-40, 49,52; Crump, *Ride the Big Red Cars*, 109, 115.
[15] Myers and Swett, *Trolleys to the Surf*, 16. Annotated by JRP.

Economic issues again forced Sherman and Clark to reorganize into the first of the Los Angeles Pacific companies. Sherman and Clark regularly formed new companies to construct new lines and multiple holding companies to link them together. The result was several variations of the Los Angeles Pacific name. The Santa Monica line was so successful that the company began to invest in other tracks to the shoreline. The company opened three more lines to the sea, including a second line to Santa Monica, the Palms line, and the del Rey Division. Santa Monica, Ocean Park, and Venice were developed by others with LAPR providing a transportation route to these resort communities. The del Rey line from Ivy Junction (current Culver City) to the coast at Playa del Rey and then further south to Redondo Beach, served several coast line developments organized and laid out by Sherman and Clark. Pacific Electric constructed the first portion of the railroad northeast from Playa del Rey in 1902 to the Santa Monica Inglewood line and on to Ivy in 1903. The western portion of the line crossed the Ballona wetlands to Playa del Rey where Sherman and Clark subdivided land and built a hotel and pleasure pavilion. The hotel and pavilion were frequent stops for the excursion runs along the coast called "Balloon Routes." Sherman and Clark, under several incorporated entities, also developed Shakespeare Beach and Hermosa along the shore to the south. As with many interurban lines, road development paralleled the rail line. Culver Boulevard soon ran along the line to Playa del Rey.[16]

While the LAPR had operated independently from the large steam railroads, Southern Pacific had maintained an interest in interurban rail transportation and began gaining control of Los Angeles' system in 1906. That year Sherman and Clark accepted Southern Pacific's president E. H. Harriman's purchase of a controlling interest in LAPR. Sherman and Clark soon retired from the interurban business. Sherman and Clark had already begun to reconstruct the existing narrow-gauge rails to the standard width to facilitate freight operations, which had been a significant component of the LAPR's income. Southern Pacific completed the program facilitating interaction between the systems. Southern Pacific also gained control of the other large interurban company in Los Angeles, Henry E. Huntington's Pacific Electric Railway. Pacific Electric had begun from an early Pasadena – Los Angeles route Sherman and Clark had been forced to give up and expanded interurban lines to the north, east, and south of Los Angeles. As a vice-president and director of Southern Pacific while at the same time competing with Southern Pacific, Huntington had allowed the railroad giant to become a part owner early in the development of the interurban line. Beginning in 1908 and culminating in 1910, Huntington sold Southern Pacific controlling shares in the Pacific Electric. Like Sherman and Clark, Huntington's interurban system included a labyrinth of company holdings resulting in lines that operated independently of each other.[17]

[16] Myers and Swett, *Trolleys to the Surf*, 16, 21, 33-40, 49,52; Crump, *Ride the Big Red Cars*, 109, 115. For a full description of the Sherman and Clark companies that make up the LAPR system see Meyers and Swett Appendix.
[17] Myers and Swett, *Trolleys to the Surf*, 149; Crump, *Ride the Big Red Cars*, 39-45, 90-91.

By 1910 Southern Pacific had control of the interurban rail traffic in the Los Angeles area. The following year Southern Pacific merged eight Los Angeles interurban companies into a new iteration of the Pacific Electric Railway Company. The newly reformed Pacific Electric expected the interurban lines to remain profitable and envisioned further development of the system. The newly merged company began to construct additional new tracks extending further south to Torrance, and east to Yorba Linda, Pomona, and San Bernardino in 1914. Construction of the San Bernardino line, however, portended coming changes. This line included grade separations for all roads the route crossed between Pomona and San Bernardino.[18]

3.2 Arrival of the Automobile

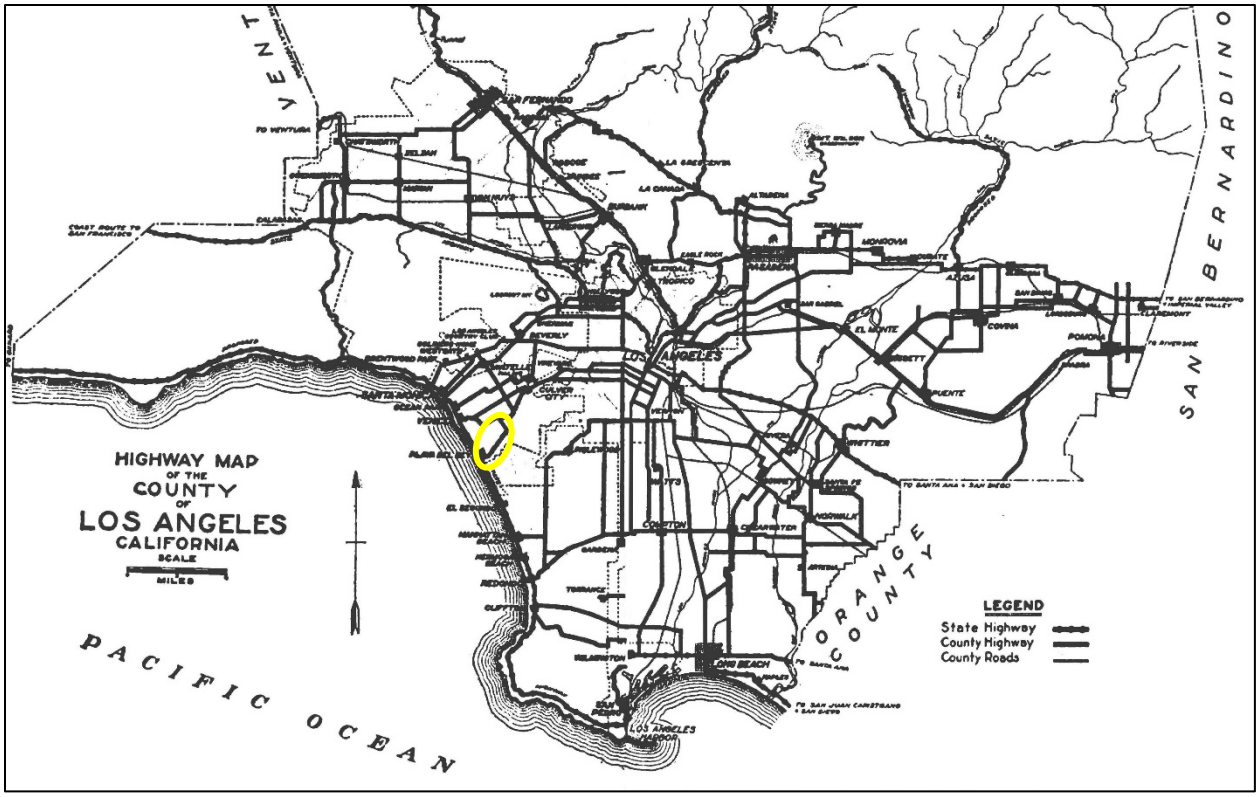
The advent of the automobile's wide spread use, starting in the 1910s, eventually led the interurbans to falter. Automotive traffic and interurban lines coexisted for the first decades of the twentieth century. Following World War I much of the country experienced a period of economic growth. Los Angeles expanded its sprawling plan. The early introduction of the street car and interurbans had spread development across the entire basin and the city grew out across the basin rather than "up" with towering buildings in a single commercial district. Associated urban development began to spread north into the San Fernando Valley by 1912.[19]

Poor road conditions hampered early automotive enthusiasts. Banding together in automobile clubs these enthusiasts brought new life to the "Good Roads" movement that had been instigated by bicyclists. The first state bond for roads was issued in 1910. The California Highway Commission, however, suffered from insufficient funds to support the work envisioned. Finally, in 1919 a substantial bond for the construction of state highways was issued, and the highway system began steady progress.[20]

While Los Angeles had a rich interurban and local trolley service, it rapidly adapted to the automobile. In 1907, there were only 14,000 motor vehicles registered in California. By 1914 that number had risen to over 123,000 and by the end of the 1920s there were nearly two million motor vehicles registered in the state. The Los Angeles area had the most cars and other motor vehicles in the state (some forty percent of those in the state by the mid-1930s). Between 1914 and 1928 the number of automobiles in the county expanded from 43,000 to 689,900. As the number of vehicles in the county grew so did the demand for suitable roads. County roads grew from 383 miles of oiled roads in 1898 to 601 miles of paved highway and 3,350 miles of oiled roads in 1919. This was further supplemented by the number of roads in the sprawling city of Los Angeles adding another 511 miles of paved streets and 724 miles of oiled roads. Road building had been given a

[18] Crump, *Ride the Big Red Cars*, 92, 103-105, 107.
[19] Crump, *Ride the Big Red Cars*, 116-119.
[20] California Highway Commission, *Second Biennial Report of the California Highway Commission* (Sacramento: California State Printing Office, 1921) 65, 69-70.

boost when the county had issued $3.5 million in bonds in 1909. By 1920 the county system was extensive and included Culver Boulevard among several routes to the ocean (**Map 2**).[21]



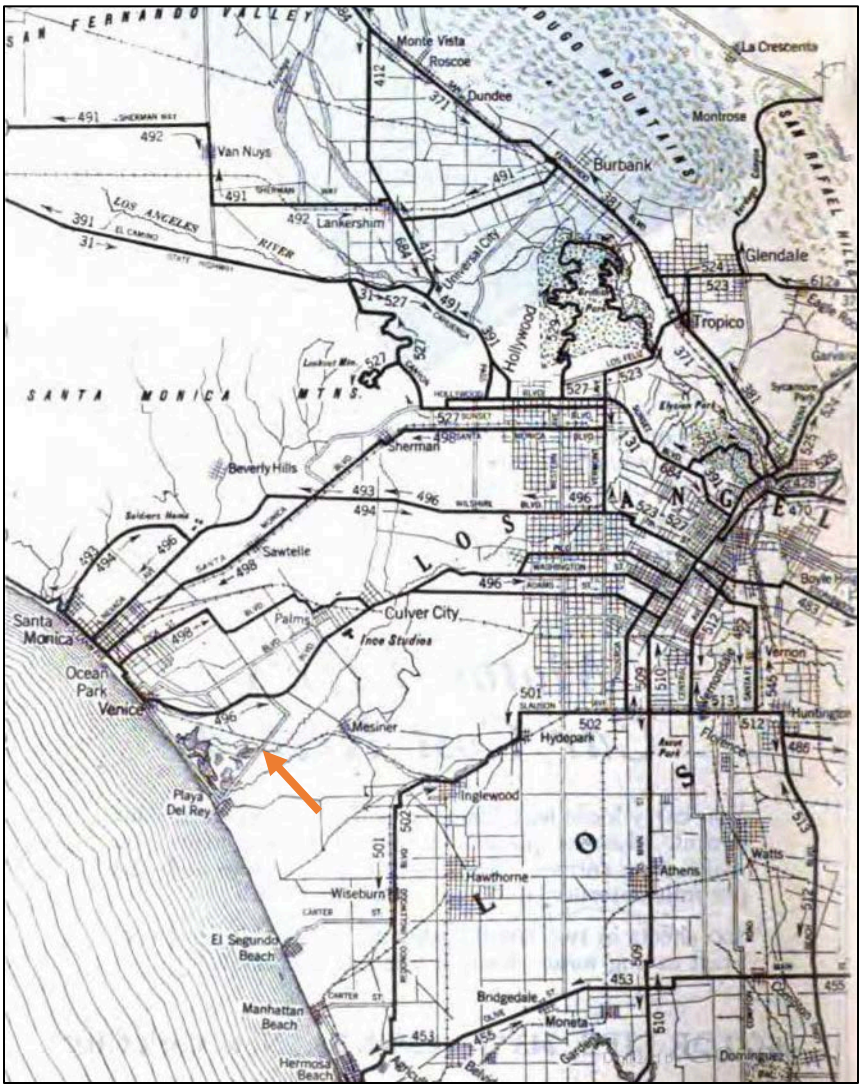
Map 2. County of Los Angeles highways 1920. Culver Boulevard circled. Map shows planned coast route.[22]

When California's Highway Commissioners issued their first plan for a state highway system in 1896, the plan called for a coastal route along the ocean the length of the state. This route would become SR 1. While a necessary component of a comprehensive automotive transportation system, such a route had already been developed. The Camino Real had linked California missions along the coast since the establishment of Mission Dolores at San Francisco in 1776. Counties had managed to keep some type of north-south linkage near the coast over the decades of American rule. The state highway adopted in Los Angeles by 1919 followed the general path of US 101 today, entering from Cahuenga Pass to Hollywood and then southeast to Los Angeles (**Map 3**). Over the next several decades progress was steadily made to create a true costal route. One of the notable barriers was *Rancho Topanga Malibu Sequit* northwest of Los Angeles. Frederick Rindge had purchased the rancho along the coast between Santa Monica and Laguna Point in 1891. He

[21] *California Highways and Public Works*, "California as 5.68 per cent of World's Motor Vehicles," 3 no.1 (February 1926), 15; *California Highways and Public Works*, "County Figures Show Increase in Motor Vehicle Registration" 5 no. 5-6 (May-June 1928): 31; Marshall A. Page, "The Growth of Motoring in California," *California Highways and Public Works* 7 no. 10 (October 1929) 2-4, 23; Engineering Department of the Automobile Club of Southern California, "Traffic Survey Los Angeles Metropolitan Area," 1937; Ben Blow, *California Highways* (San Francisco: H.S. Crocker Co., Inc, 1920) 162-163.

[22] Blow, *California Highways*, 164-165. Annotated by JRP.

and his wife May were able to prevent construction of rail routes through the Rancho, but after a lengthy court battle the U.S. Supreme Court upheld the county's right to appropriate land for the new coast highway in 1923. The section was the last to open on the route between Mexico and Canada when it was opened in 1929.[23]



Map 3. California route map from 1919. The road shown north of Santa Monica ends at the edge of Rancho Malibu. Note that the project area, indicated by the arrow, is not near any significant through street and only Culver Boulevard crosses the wet lands.[24]

[23] Blow, *California Highways,* 99; Automobile Blue Book Publishing Co., *Official Automobile Blue Book 1919 Volume 8* (New York: Automobile Blue Book Publishing Co., 1919) 740; Caltrans, *A Historical Context and Methodology for Evaluating Trails, Roads, and Highways in California*, Caltrans, 2016, 86; Nathan Masters, "From Roosevelt Highway to the 1: A Brief History of Pacific Coast Highway," Lost LA, KCET, https://www.kcet.org/shows/lost-la/from-roosevelt-highway-to-the-1-a-brief-history-of-pacific-coast-highway accessed March 2018.

[24] Automobile Blue Book Publishing Co., *Official Automobile Blue Book 1919 Volume 8,* 740.

While SR 1 officially opened in 1929, segments were regularly realigned to bring them closer to the proposed ideal of a completely coastal route. In Los Angeles county, the route meandered along inadequate county roads beginning in Santa Monica. The various beach communities were not connected without having to first drive further inland (**Map 3**). In 1932 the Division of Highways (precursor of Caltrans) developed plans for a new coastal segment of SR 1 in Los Angeles. The planned route followed closer to the coast from Santa Monica to Seal Beach and was known as the Wilmington link. The first segment constructed was from Venice to El Segundo in 1932. This route crossed the Ballona wetlands and Culver Boulevard in 1933, where a grade separation was constructed. Work to El Segundo was open by 1934, and the Division of Highways opened the full link to Seal Beach in 1937 completing SR 1 in Los Angeles County.[25]

The inclusion of a grade separation on the new segment was part of a continuing program of the Division of Highways to create safer railroad crossings. The hazardous conditions associated with at-grade railroad crossings were recognized early on. As early as 1903, Southern Pacific constructed grade separations along the new Bayshore Cutoff along the San Francisco Peninsula, for example. However, it took many years to address what were referred to in 1921 as "some of the worst death traps" in California. From 1916 onward the California Railroad Commission, and later, the Public Utilities Commission, studied and rated grade crossings.[26]

The statistics illustrate the danger. In 1924, there were 102 fatal motor vehicle accidents at grade crossings state-wide.[27] By 1927, that number had risen to nearly 200. Los Angeles had the largest number of accidents, fatalities, and injuries at grade crossings in the state in 1928. These statistics were alarming to many at the time, including automobile supporters, railroad representatives, and government officials. The figures are even more striking when compared with more recent figures. In 1928, there were roughly 1,822,000 vehicles registered in California, and there were 165 persons killed and 732 injured at grade crossings that year. In 2017 well over 34 million vehicles were registered in California and only 123 fatalities and 91 injuries occurred at railroad crossings statewide. While improved safety devices at crossings, increased education, grade crossing closures, and abandonment of branch lines and spurs contributed to this decrease, construction of grade separations significantly reduced death and injury where motor vehicles and trains intersected.[28]

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[25] S.V. Cortelyou, "Numerous Highway Improvements Under Way in Four Southern Counties," *California Highways and Public Works*, 10 no. 1 (January 1932): 16; P.A. McDonald, "Governor Dedicates Link of Roosevelt Highway in South," *California Highways and Public Works*, 15 no. 6 (June 1937): 8.

[26] Howe & Peters Consulting Engineers, "Engineer's Report to California State Automobile Association Covering the Work of the California Highway Commission for the Period 1911-1920," July 1920-January 1921, 106.

[27] *Biennial Report of the California Highway Commission*, 87.

[28] California Department of Motor Vehicles, "Statistics for Publication," online at https://www.dmv.ca.gov/portal/wcm/connect/5aa16cd3-39a5-402f-9453-0d353706cc9a/official.pdf?MOD=AJPERES. Accessed March 2018; Operation Lifesaver, "Trespassing Casualties by State," https://oli.org/about-us/news/statistics/trespassing-fatalities-by-state. Accessed April 2018.

As motor vehicle traffic grew from the 1910s through the 1930s, several factors made grade crossing safety improvements and construction difficult. Not only was there much debate over which entities had control over construction of grade separations, the various parties (railroads, the state, and local municipalities) argued bitterly about how the cost of such projects should be apportioned. The Public Utilities Act of 1915 (amended in 1917 and 1927) conferred specific powers to the California Railroad Commission regarding grade separations, including the authority to choose which were to be built and the authority to apportion the funding of grade separations to the various interested parties. In theory, the commission was the controlling agency for the state's grade separations. The Public Utilities Act, however, led to considerable litigation, and the railroads continued to wrangle with the commission and local communities over placement of safety devices, construction of grade separations, and responsibility for funding.[29]

How much the railroad paid for grade crossing upgrades was further complicated by how the Highway Department and the counties themselves handled road and bridge funding. The state largely paid for paving roads during the 1920s and the counties were responsible for constructing bridges and other structures, including grade separations. Railroad grade separations were not only very expensive, costing up to several hundreds of thousands of dollars each, but each required enormous coordination and negotiation between the railroads, state agencies, and local property owners to obtain new right-of-way, to detour rail and road traffic during construction, and to complete the various phases of construction. This often proved to be too much for most California counties to bear. Furthermore, there were few design standards for grade separations until the state placed bridge and railroad grade separation design under the Highway Commission's Bridge Department in 1924. It was at this point that the state began to set uniform standards for grade separations, as did the California Railroad Commission.[30]

Local improvement groups saw the consolidation of lines and the introduction of grade separations as the logical solution. Los Angeles, with the largest number of automobile registrations in the state, was well aware of the problem. The extensive railroad facilities for the steam rail lines and the number of interurban and local lines created a significant impediment to traffic, and traffic posed an impediment for expeditious trolley operation. Los Angeles had three interstate railroad lines entering the city from the north, south, and east. Also scattered throughout the entire network were the interurban electric and steam lines, and also local street car systems. Addition of streets and their traffic; pedestrian, horse drawn, and automotive, created a dangerous situation at intersections. The frequency of rail traffic could severely constrain additional traffic at such

[29] JRP Historical Consulting, *Inventory and Evaluation of Historic Resources Caltrans-Electrification Project, San Francisco to Gilroy (MP 0.0 to 77.4)*, Prepared for Parsons Transportation Group, 2001, 24.

[30] Biennial Report of the California Highway Commission (1926), 85-87; and F.W. Panhorst, "Sixty-Eight Grade Separation Projects Aggregate $11,000,000," *California Highway and Public Works* 17 no. 5 (May 1939), 13-14; J.G. Hunter and Steward Mitchell, "Report of the Grade Crossing Situation of Public Streets, Roads and Highways with Steam and Electric Interurban Railroads in the State of California," State of California Railroad Commission and Department of Public Works Division of Highways, Pursuant to Assembly Concurrent Resolution No. 23, Chapter 45, Laws of 1931, December 1, 1932, 47.

intersections. Studies in 1918 showed that one railroad intersection was closed to non-rail traffic 15% of the day. Los Angeles groups were aroused by a 1916 collision between an ATSF train and a Pacific Electric trolley that killed five. To force action, the Municipal League of Los Angeles filed a formal complaint with the Railroad Commission, additional organizations including the Central Development Association, Los Angeles Chamber of Commerce, cities of South Pasadena, Pasadena, and San Gabriel added their voices to the complaint. The commission promptly opened hearings that year, but a question of jurisdiction remained. The commission pushed the question to the California Supreme Court, which clarified the commission's jurisdiction over the matter. In 1921, the Commission mandated the city, county, railroads, and transit lines to construct grade separations at major intersections.[31]

During the first decades of the twentieth century Los Angeles was developing a strong city planning ethic that became visible in its bridges. The City Beautiful movement of the late nineteenth century resulted in formation of the Los Angeles Municipal Art Commission in 1903. The Commission was tasked with making suggestions for the improvement of city's appearance. By 1911 it held approval powers for buildings and structures erected under city approval or upon city land. At the same time the city also established a Traffic Commission in 1923. The Traffic Commission developed a street plan with boulevards and bridges.[32]

The interest in aesthetics combined with Los Angeles' attempts to solve its traffic issues resulted in construction of numerous bridges. Bonds totaling five million dollars passed between 1923 and 1926 supported the construction of bridges and grade separations mandated by the Railroad Commission. The involvement of the Municipal Art Commission insured that many of these embodied architectural styles of the period. The most significant of these bridges were located along the Los Angeles River and the railroads entering the city alongside the river. The intricate design of the Glendale Boulevard – Hyperion Avenue Viaduct, for example, originally included a Pacific Electric grade separation on Glendale Boulevard when it was completed in 1927 (the grade separation is now gone). The Los Angeles Bureau of Engineering also funded construction of grade separations at dangerous intersections. Beginning in the 1930s the Los Angeles area would constitute the area of California with the greatest number of new bridges through the 1950s.[33]

In addition to the city's projects, Pacific Electric also sought to separate its lines from local traffic. Cross traffic impeded and slowed the operations of the railroad making it less attractive and driving

[31] Mikesell, Stephen D. "The Los Angeles River Bridges: A Study in the Bridge as a Civic Monument," *Southern California Historical Society Quarterly* (Summer 1986):269-271; Jeanette K. Schulz, NRHP Nomination Davis Subway, Yolo County, Davis, California, 1997, 8; Crump, *Ride the Big Red Cars*, 158.

[32] JRP Historical Consulting, *City of Los Angeles Monumental Bridges 1900-1950*, Prepared for California Department of Transportation, 2004, 8-10, 18; Mikesell, "The Los Angeles River Bridges: A Study in the Bridge as a Civic Monument," 372-373.

[33] JRP Historical Consulting, *City of Los Angeles Monumental Bridges 1900-1950*, 18-19; Mikesell, "The Los Angeles River Bridges: A Study in the Bridge as a Civic Monument," 371; JRP Historical Consulting, *Historic Context Statement Roadway Bridges of California: 1936-1959*, Prepared for California Department of Transportation, 2003, 6.

more attractive. Pacific Electric combated this with several projects. The Pacific Electric line to San Bernardino in 1914 contained grade separations for the few intersections along the 25 miles from Pomona to San Bernardino, but new roads were soon crossing the tracks. Pacific Electric undertook its largest project to separate itself from automotive traffic beginning in 1924. The company constructed the Hollywood Subway from between Fourth Street and Fifth Street on Hill Street in downtown Los Angeles to a location near the intersection of First Street and Glendale Boulevard. This allowed the interurban trolleys to avoid the downtown traffic. Completed in 1925 the project was highly successful and hailed as a civic benefit. Shortly after, however, a proposal of elevated lines was rejected.[34]

During this period of bridge development in and around Los Angeles, there also occurred a change in architectural styles. During the 1930s bridge designers moved to the sleeker less ornamented early Moderne styles such as Art Deco and Streamline Moderne. The move was in part due to the growing popularity of the styles, but also 1930s depression economics. The newer modern styles relied less upon applied ornament aesthetic appeal. The Art Deco style, named for the Parisian exposition in 1925 that brought the style to wide audiences, stylized and highly simplified earlier classical elements. The result was more geometric forms mixed with flowing organic lines. The style was adopted in numerous buildings in Los Angeles. The Los Angeles Bureau of Engineering utilized the style in multiple examples of bridges built during this time period.[35] At least six examples are extant in the Los Angeles area (**Table 1**). These rich examples of Los Angeles Art Deco bridges make use of concrete's plasticity to include geometric ornament on bents and railing supports. Street lights supported on pillars supporting the railings create additional interest. Even side walls are textured to create additional geographic patterns (**Photographs 1-3**). The Gaffey Street Overcrossing (Bridge No. 53 0597Y) even has built in benches with geometric ornament. While not separations between rail and road traffic, several of the bridges either carried or crossed Pacific Electric lines which ran along the associated streets, including the Pacific Electric trestle by Exposition Boulevard over Ballona Creek listed in Table 1.[36]

[34] Crump, *Ride the Big Red Cars*, 158-161, 170. The Pacific Electric Subway Building at 417 Hill Street still stands.
[35] JRP Historical Consulting Services, *Historic Context Statement Roadway Bridge of California: 1936 to 1959*, for California Department of Transportation, 2003, 29
[36] Andrew Hope, *Caltrans Statewide Historic Bridge Inventory Update Survey and Evaluation of Common Bridge Types*, California Department of Transportation, 2004, 15; JRP Historical Consulting, *City of Los Angeles Monumental Bridges 1900-1950*, California Department of Transportation, 2004; 21, 24

Table 1. Comparative bridges in the Los Angeles area.

Bridge No.	Name	Type	Year Built[37]	Carried or Crossed Pacific Electric?
53 0597Y	Gaffey Street overcrossing	Concrete T beam	1935	No
53C1298	Riverside Drive over Los Angeles River	Concrete T beam	1938	No
53C1380	West Boulevard over Venice Boulevard	Concrete Slab	1933	Yes
53C0045	Beverley Boulevard over Glendale Boulevard	Concrete T-beam	1942	Yes
53C0134	Sunset Boulevard over Glendale Boulevard	Concrete Arch	1934	Yes
Off system bridge	Exposition Boulevard over Ballona Creek	Trestle	1925[38]	Yes

[37] Dates for numbered bridges from Caltrans Historic Bridge Inventory.
[38] California Office of Historic Preservation, Historic Property Database: Los Angeles County, April 5, 2012, 246.

Photograph 1. Gaffey Street Bridge, note the detailing on the supporting piers, the zig zag across the bottom of the rails, and the light posts (Bridge No. 53 0397Y).[39]

Photograph 2. Riverside Boulevard over Los Angeles River (Bridge No. 53C1298), note chevron detailing above each pier, detail at bottom of rail, and street lights.[40]

[39] Hope, *Caltrans Statewide Historic Bridge Inventory Update Survey and Evaluation of Common Bridge Types,* Cover.

[40] Hope, *Caltrans Statewide Historic Bridge Inventory Update Survey and Evaluation of Common Bridge Types,* Cover.

Photograph 3. West Boulevard over Venice Boulevard (Bridge No. 53C1380) note decoration at end pier.[41]

3.3 The Pacific Electric Railway Grade Separation

The Division of Highways considered and included construction of grade separations for its new route for SR 1 between Santa Monica and Seal Beach. As the Division of Highways developed the section of SR 1 from Washington Boulevard in Venice to El Segundo, a grade separation was planned for both Culver Boulevard and the parallel Pacific Electric line. The project was planned so that the undercrossing would be completed at the same time as the paving contract.[42]

The main consideration in the construction of the grade separation was the amount of traffic that would need to be accommodated. The coastal highway near Santa Monica was among the most popular and congested highways. The Division of Highways estimated five million vehicles would use the highway each year. In the same time period 18,250 trains would cross and a million vehicles would traverse Culver Boulevard. During its review, the Railroad Commission rejected any at-grade crossing at the intersection. The sheer volume, potential for accidents, and the various traffic delays made the agencies involved view the cost of construction less than the potential harms. The distribution of costs for the construction reflected the mix of traffic accommodated by the grade separation. The state, Los Angeles County, and Pacific Electric shared the estimated $120,000 cost.[43]

[41] JRP photo 2004.
[42] S.V. Cortelyou, "Numerous Highway Improvements Under Way in Four Southern Counties," *California Highways and Public Works* 10 no. 2 (January 1932) 16. At the time of construction SR 1 was commonly called the Roosevelt Highway, it is also known as the Pacific Coast Highway, and locally as Lincoln Boulevard.
[43] Charles West Jones, "Building Safety Into Super-Highway by Double Bridge Grade Separation," *California Highways and Public Works* 10 no. 2 (January 1932) 22-23; Department of Public Works, Division of Highways, *Eighth Biennial Report of the Division of Highways of the Department of Public Works 1931-1932* (Sacramento, California: State Printing Office, 1932) 172.

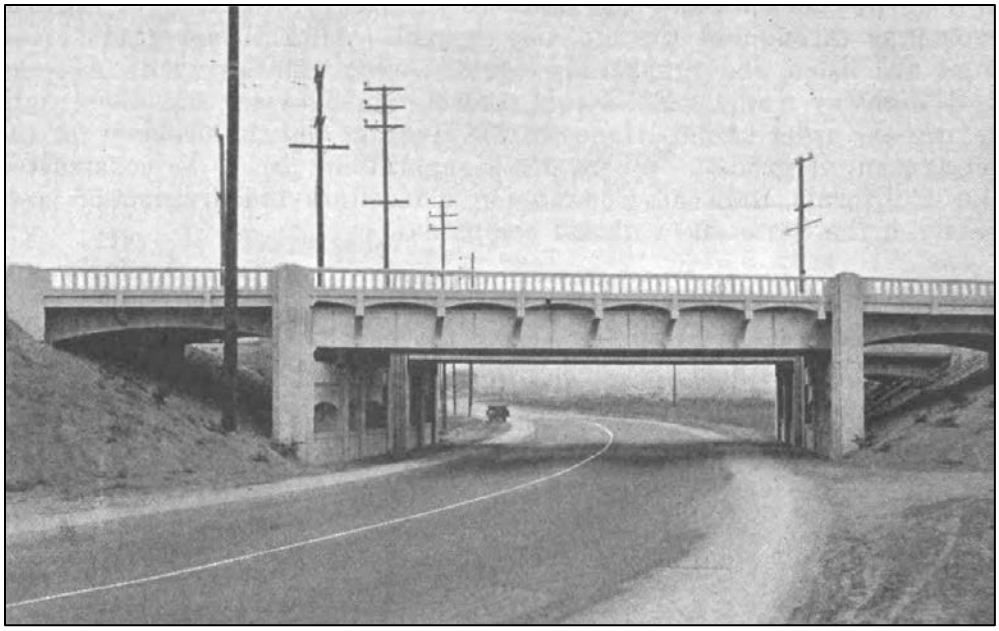
The engineering of the structure faced only one difficulty, the surrounding territory. Ballona was still open wetlands. The Los Angeles Flood Control District had channelized Ballona Creek to near the proposed highway by 1924, however, the remaining channel was not built until after an appeal was made to the Army Corps of Engineers in 1933 (**Photograph 4**). As a result, SR 1 would cross the muddy marsh making unfeasible a structure that would require the road to be lowered below ground level. The Division of Highways conducted borings of up to fifty feet in order to find a resolution for the crossing. The final decision, and most economical design, was to raise Culver Boulevard and the Pacific Electric line allowing them to cross over the new highway.[44]

Photograph 4. 1933 photograph camera facing east show the incomplete Ballona Creek Channel. Grading for SR 1 has just been completed horizontally left to right. Angled road is Culver Boulevard.[45]

The design of the overcrossing used established forms and methods, common for its period. Culver Boulevard and the Pacific Electric tracks were built over SR 1 on steel girder bridges supported on concrete abutments with approach spans from both directions supported on reinforced concrete girders (**Photograph 5**). The difference between the road way and rail crossing were the placement of the girders. Culver Boulevard was carried on top of the girders, whereas the Pacific Electric tracks were built as a through plate girder bridge, a common design for railroads of the era. Girder bridges are one of the oldest and simplest of bridge forms. Girders supported on the abutments

[44] Jones, "Building Safety Into Super-Highway by Double Bridge Grade Separation," 23, 35.
[45] Save Ballona, 1933 E-3951 Playa del Rey Ballona Creek 2-24-1933, http://www.saveballona.org/ballona-watershed/ballona-watershed-historical-photos-1923-1952-presentation-slide-show.html accessed March 2018.

span the length of the bridge supporting in turn the road bed. Improved metal processing in the nineteenth century provided sufficient quality metals to form girders.



Photograph 5. Photograph of the completed grade separation looking north at Culver Boulevard overcrossing. A portion of the Pacific Electric Railway Bridge over SR 1 is behind the bridge depicted in this photograph. [46]

James Milholland constructed the earliest plate girder bridge in the United States in 1846. The earliest of these bridges were used for railroads, and developed steadily for railroad use, being fully established by the twentieth century. Standardized plans for various girder bridges were available by 1905 from the American Railway Engineering Association, American Society of Civil Engineers, and American Bridge Company. Plate girder bridges, like that used for the Pacific Electric tracks, were common for bridges from about 30 to 100 feet by 1908. Plate girders were built up and riveted together from smaller pieces to create a girder. A tall, long plate formed the web or center part of the beam to which pieces were riveted at the top and bottom to form a girder. The approach spans for the Culver Boulevard bridge and the Pacific Electric tracks were much the same. Short spans supported on reinforced concrete girders, or T beams, spanned from the top of the embankments to the side bents. Each of these approach spans was 35 feet for each of those associated with Culver Boulevard and 33 feet 9 inches each for the Pacific Electric tracks. Like the through plate girder, reinforced concrete girder bridges were a common bridge form of the day. The material had been employed in California from the 1910s, and by the 1930s constituted the majority of bridges constructed by the Division of Highways. Review of other Division of Highway bridge contracts completed in the 1932-1934 biennium indicates that within Los Angeles several complete reinforced concrete bridges with spans up to 65 feet were also built. This exceeds the small approach spans constructed for the Pacific Electric Grade Separation. The span for the

[46] Division of Highways, Department of Public Works, *Ninth Biennial Report of the Division of Highways of the Department of Public Works 1934*, 76.

Pacific Electric tracks lacked a railing. The major difference between the two grade separations was that the bents that supported the Pacific Electric tracks had thickened concrete at the sill where the rails were to sit.[47]

The Division of Highways entered into a contract in November 1932 with the Artukovich Brothers to construct the two bridges over the new highway right of way. Vido, Jerry and John formed Artukovich Brothers in 1919. The three came to America from Croatia earlier in the decade. Vido joined his cousins Jerry and John to form the company. The company specialized in water distribution, sewer, and storm drain systems. They installed the first of the Los Angeles County Sanitation District pipelines. Other significant jobs included work on the Hetch Hetchy Aqueduct, Colorado River Aqueduct, and the San Diego Aqueduct. Throughout the 1930s they constructed sewer and storm drain lines throughout southern California specializing in underground work. The Culver Boulevard and Pacific Electric overcrossings were not typical for the company. The company split in 1950 with Vido forming his own company which is still in operation.[48]

As noted, increased automobile use eventually resulted in the end of the Pacific Electric. The company's popularity reached its height in the 1920s, and ridership began to slowly decline and various branches of the system were discontinued. Although there was an emphasis on constructing grade separations, there were increasing numbers of at-grade crossings as roads were built and improved for motor vehicles. The increasing number of at-grade crossings degraded the system's efficiency. Responding to changing areas of service, the Pacific Electric created a bus line under the name of the Motor Transit Company. Ridership dropped even further, losing over 39 million between 1929 and 1934, during the height of the Great Depression. The massive drop resulted in the closure of additional lines and reduction in schedules, making the automobile more attractive in turn. The system slowly began to shrink as local streetcar lines in the outlying portions of the system were closed along with some of the lightly traveled lines at the periphery of the system. Busses offered the company reduced staffing and flexibility of routes, but this did little to increase ridership and profits. City boosters sought ways to improve the ailing system through the construction of unimpeded routes, such as proposals to add more subterranean lines to San Gabriel Valley, Long Beach Harbor, and Glendale. The costs, however, were prohibitive. The depression and the company's dwindling income prevented any major plan to reverse the decline. In 1939 the State Railroad Commission suggested numerous improvements to the system in a plan for modernization, but the company lacked funds to initiate most of these efforts. Pacific Electric was

[47] P.A.C. Spero & Company, *Historic Highway Bridges in Maryland: 1631-1960, Historic Context Report* (Baltimore, Maryland: Maryland State Highway Administration, Maryland Department of Transportation, 1995) 110, 112; Parsons Brinkerhoff and Engineering and Industrial Heritage, *A Context for Common Historic Bridge Types,* for National Cooperative Highway Research Program, 2005, 3-110; Division of Highways, Department of Public Works, *Ninth Biennial Report of the Division of Highways of the Department of Public Works 1934* (Sacramento, California: California State Printing Office, 1934) 80; JRP Historical Consulting Services, *Historic Context Statement Roadway Bridge of California: 1936 to 1959*, 48.

[48] Vido Artukovich & Son, "History," https://www.artukovich.com/history Accessed March 2018; Division of Highways, Department of Public Works, *Ninth Biennial Report of the Division of Highways of the Department of Public Works 1934,* 355.

allowed to substitute more busses for ailing lines. Through 1940 and 1941 the substitution of busses accelerated, ending trolley service to the once highly profitable Santa Monica line. The rationing of fuel and other automotive supplies through World War II along with the rapid increase in southern California population provided a reprieve for the trolley system. Once the trolley system was left out of the highway planning and development in 1947, its fate was certain. At the same time the Public Utilities Commission (successor to the Railroad Commission) issued a report calling for nearly five-million dollars-worth of improvements. Consequently, more routes were replaced with busses. In 1953 the operation was sold to Metropolitan Coach Lines, and to the governmental Metropolitan Transit Authority in 1958. By that time only the Long Beach line remained in operation, all other lines had been converted to bus service.[49]

The Railroad Commission provided for the removal of trolley service on the Los Angeles to Redondo Beach line via Playa del Rey and other beach communities in its 1939 report. The commission noted several issues that plagued the line. The area between Culver City and El Segundo was sparsely populated with portions, including the Ballona wetland, largely agricultural or undeveloped. Second, new freeways provided alternate faster routes, as did the direct Los Angeles to Redondo Beach line of the Pacific Electric. The line also duplicated a portion of the Los Angeles to Venice line. Studying the passenger statistics, the Commission determined that the Los Angeles to Venice and Los Angeles to Redondo Beach lines were capable of handling most of the traffic on the route through Playa del Rey, and the remaining passengers could be accommodated with bus service. Considering the pressures facing the Pacific Electric at the time, the option was soon embraced. The tracks and associated plate girder bridge in the Ballona wetlands over SR 1 were removed leaving the existing structure by 1952.[50]

[49] Crump, *Ride the Big Red Cars*, 91, 161, 177, 203-209.
[50] J.G. Hunter and Arthur C. Jenkins, "Section E: Service and Operating Conditions," *California Railroad Commission Application No. 21656 Volume IV Report on Engineering Survey of Pacific Electric Railway Company*, Los Angeles, May 1939, 92-96; Pacific Air Industries, Aerial Photographs Los Angeles County for Sanborn Mapping Company, flight PAI-LA, frame 7-3, 1952.

4 FINDINGS AND CONCLUSIONS

There are four built environment resources in the APE for this project. Three properties were previously determined not eligible for listing in the NRHP. One property was evaluated for this project and found not eligible for listing in the NRHP or CRHR. This property has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code. No properties are historical resources for the purposes of CEQA. A full evaluation of the property under NRHP / CRHR criteria is provided on the DPR 523 forms in **Appendix B**. The tables below summarize the conclusions of this report.

- Historic properties listed in the NRHP: **None**
- Historic properties previously determined eligible for the NRHP: **None**
- Resources previously determined not eligible for the NRHP:

Name	Address/ Location	Community	OHP Status Code	Map Reference
Culver Boulevard Overcrossing (Bridge No. 53 0089)	Culver Boulevard over Lincoln Boulevard (SR 1)	Los Angeles	6Y[a]	MR2
Lincoln Boulevard over Ballona Creek Channel (Bridge 53 0018)	SR 1 between Culver Boulevard and Jefferson Boulevard	Los Angeles	6Y[a]	MR3
Ballona Creek Flood Control Channel	Vic west of SR 1 and Culver Boulevard	Los Angeles	6Y[b]	MR 4

a. Caltrans Historic Bridge Survey (Historic Bridge Log). Provided in Appendix C.
b. SHPO Concurrence Letter, Reference: COE_2017_0421_001, November 29, 2017. See Appendix B.

- Historic properties determined eligible for the NRHP as a result of current study: **None**

- Resources determined *not* eligible for the NRHP as a result of current study:

Name	Address/ Location	Community	OHP Status Code	Map Reference
Pacific Electric Railway Approach Spans over Lincoln Boulevard	Culver Boulevard and Lincoln Boulevard (SR 1)	Los Angeles	6Y, 6Z	MR 1

- Resources for which further study is needed because evaluation was not possible: **None**
- Historical resources for the purposes of CEQA: **None**
- Resources that are *not* historical resources under CEQA, per CEQA guidelines §15064.5, because they do not meet the CRHR criteria outlined in PRC §5024.1:

Name	Address/ Location	Community	OHP Status Code	Map Reference
Pacific Electric Railway Approach Spans over Lincoln Boulevard	Culver Boulevard and Lincoln Boulevard (SR 1)	Los Angeles	6Z	MR 1
Culver Boulevard Overcrossing (Bridge No. 53 0089)	Culver Boulevard over Lincoln Boulevard (SR 1)	Los Angeles	6Y	MR2
Lincoln Boulevard over Ballona Creek Channel (Bridge 53 0018)	SR 1 between Culver Boulevard and Jefferson Boulevard	Los Angeles	6Y	MR3
Ballona Creek Flood Control Channel	Vic west of SR 1 and Culver Boulevard	Los Angeles	6Y	MR 4

Cheryl Brookshear (JRP), who meets the Professionally Qualified Staff Standards in Section 106 PA Attachment 1 as an Architectural Historian, has determined that the only other properties present within the APE, meet the criteria for Section 106 PA Attachment 4 (Properties Exempt from Evaluation). Exempt property types within the APE include Property Type 1: Minor, ubiquitous, or fragmentary infrastructure elements and Property Type 2: Buildings, structures, objects, districts, and sites less than 30 years old. No other properties require evaluation. There are state-owned resources in the APE that are exempt as Property Type 1 or Property Type 2.

5 PREPARERS' QUALIFICATIONS

This HRER was conducted under the general direction of Christopher D. McMorris (M.S., Historic Preservation, Columbia University, New York), a JRP Principal with 21 years of experience conducting these types of studies. Mr. McMorris provided overall project direction and guidance, and he reviewed and edited this report. Based on his level of experience and education, Mr. McMorris meets and exceeds the Secretary of the Interior's Professional Qualification Standards under History and Architectural History (as defined in 36 CFR Part 61).

JRP Staff Architectural Historian Cheryl Brookshear (M.S., Historic Preservation, University of Pennsylvania) performed research and drafted this report. Based on her level of experience and education, Ms. Brookshear meets and exceeds the Secretary of the Interior's Professional Qualification Standards under History and Architectural History (as defined in 36 CFR Part 61).

JRP Staff Architectural Historian Steven Melvin (M.A., History/ Public History, California State University Sacramento) completed fieldwork for this project.

Research Assistant Jason Sarmiento (M.A., History / Public History, California State University Sacramento) assisted in fieldwork, research, and form preparation. Historian Sam Skow (M.A., History, California State University Sacramento) assisted with research, context preparation and form preparation.

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APPENDIX A

Figures

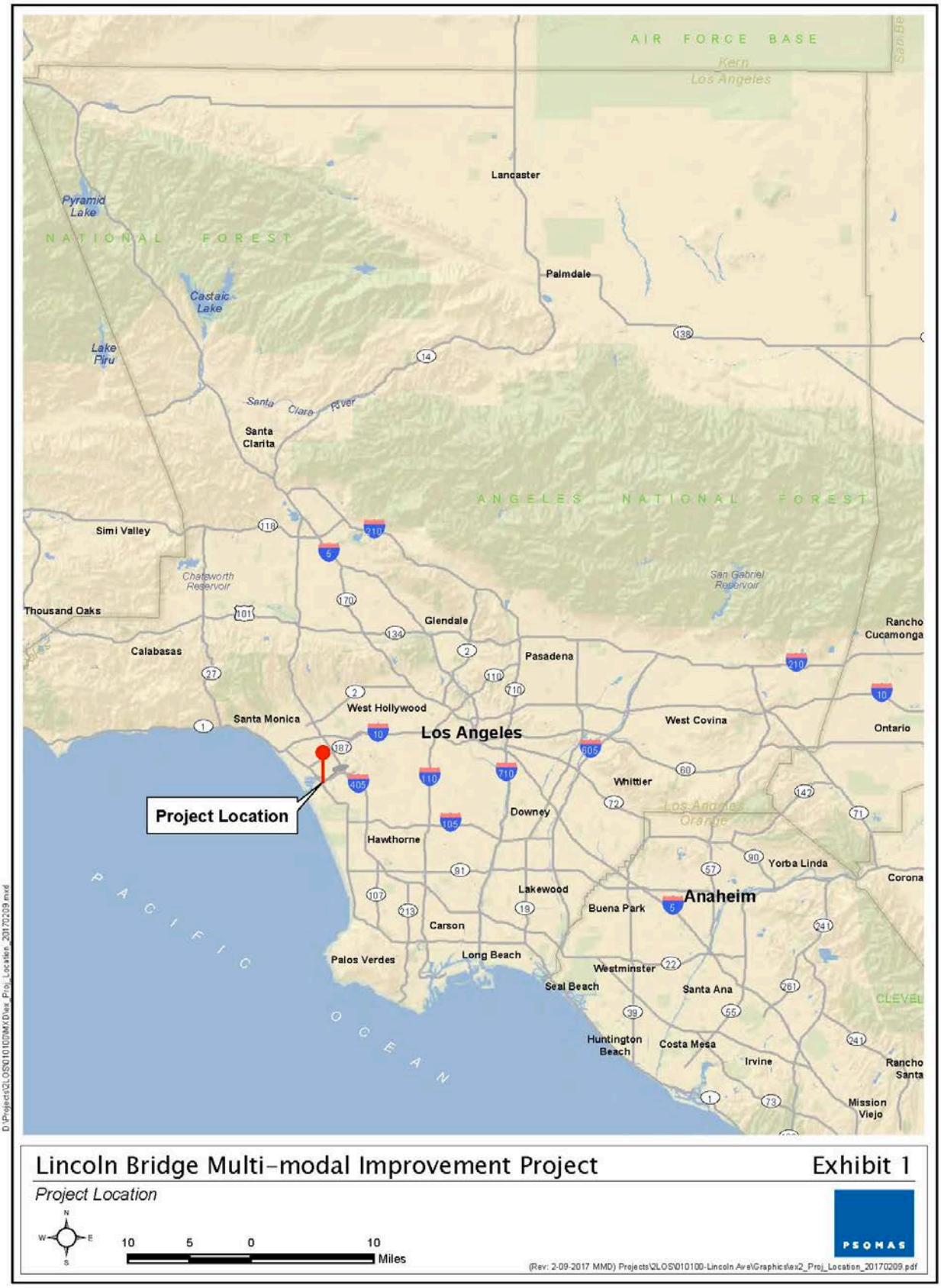


Figure 1. Project Vicinity Map

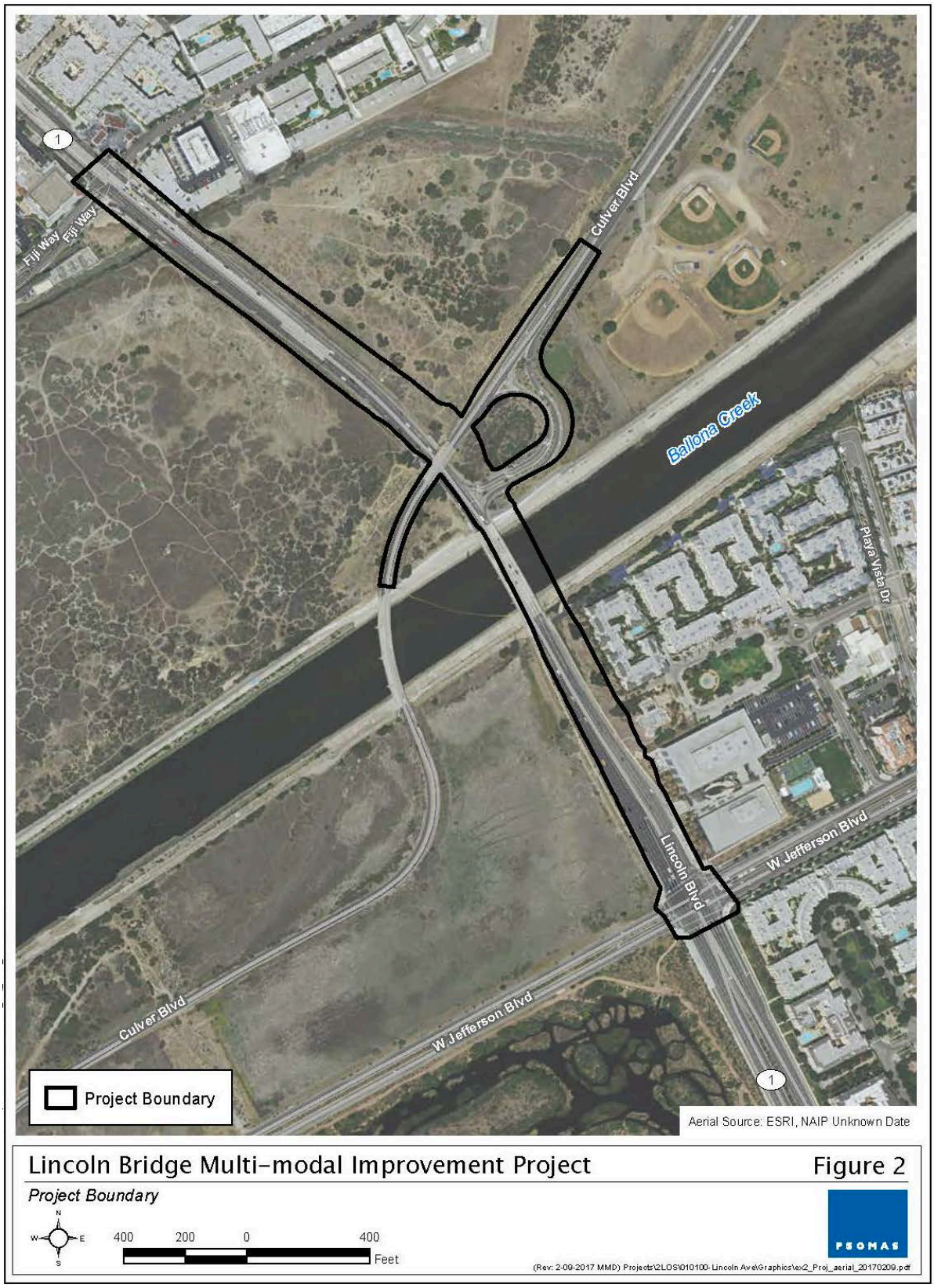


Figure 2. Project Location Map

Area of Potential Effects
State Route 1 (Lincoln Boulevard) Multimodal Improvement

Mariam Dahdul — 1/10/23
Caltrans PQS - Mariam Dahdul, PI Prehistoric Archaeology — Date

Joshua Knudson — 1/10/23
Caltrans PQS - Joshua Knudson, Principal Architectural Historian — Date

1/17/2023
Shabbir Ahmed – Project Manager — Date

A

B

Archaeological APE
Architectural APE
Waters of the US - ACOE Jurisdiction

550 275 0 550 Feet

N

Area of Potential Effects

State Route 1 (Lincoln Boulevard)
Multimodal Improvement Project

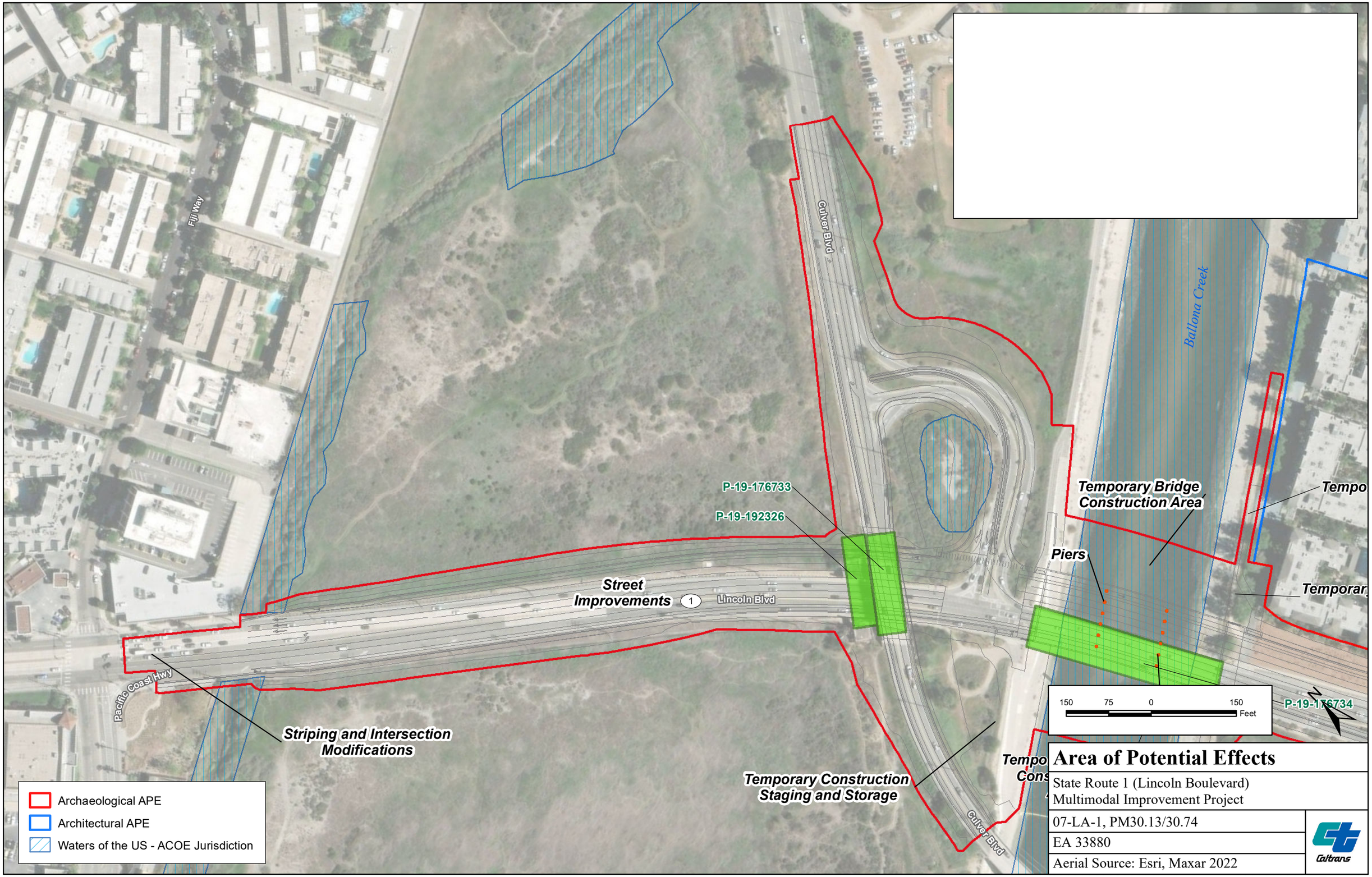
07-LA-1, PM30.13/30.74

EA 33880

Aerial Source: Esri, Maxar 2022

Caltrans

Index



Area of Potential Effects

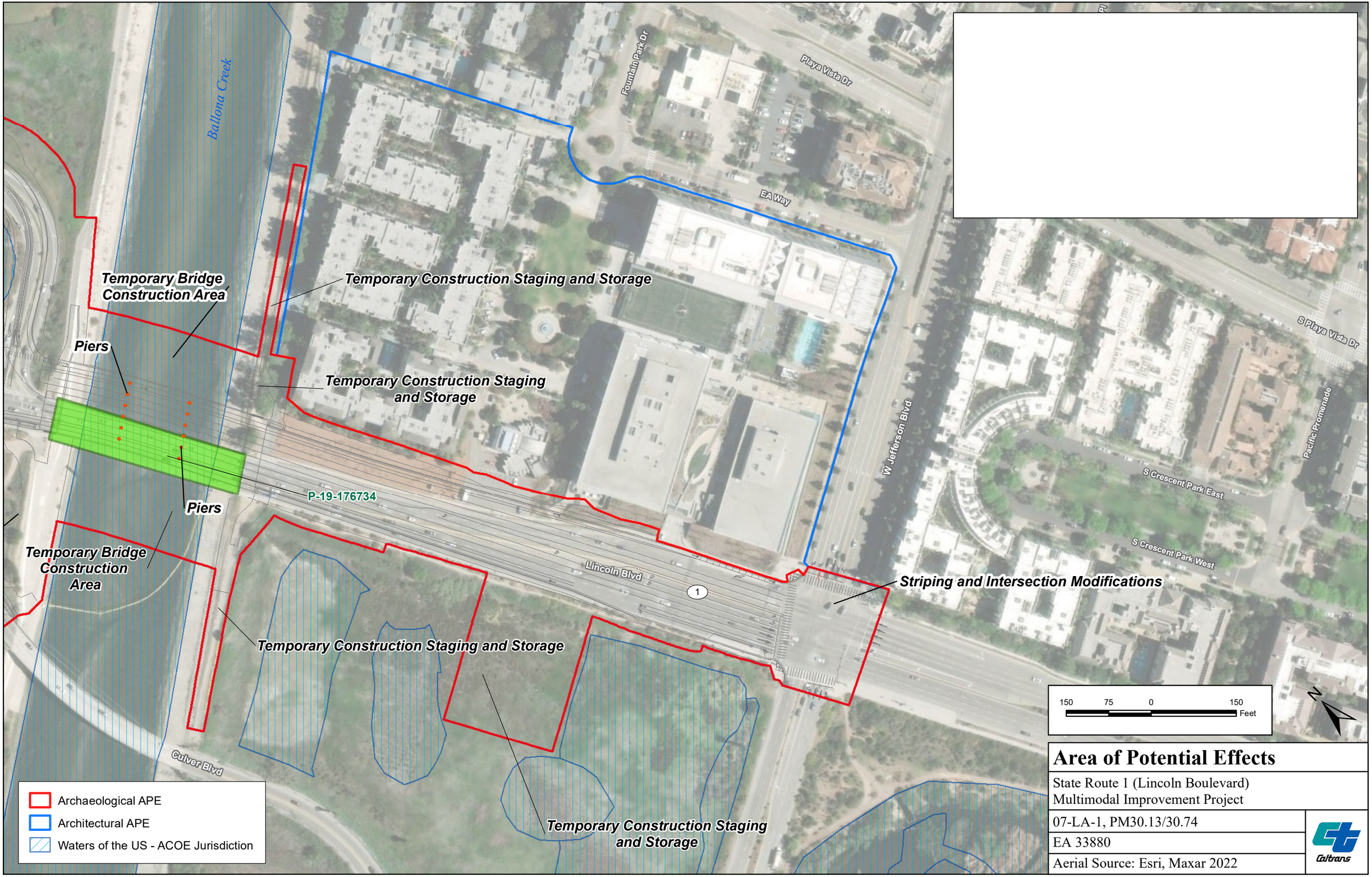
State Route 1 (Lincoln Boulevard)
Multimodal Improvement Project

07-LA-1, PM30.13/30.74

EA 33880

Aerial Source: Esri, Maxar 2022

Caltrans



Area of Potential Effects

State Route 1 (Lincoln Boulevard)
Multimodal Improvement Project

07-LA-1, PM30.13/30.74

EA 33880

Aerial Source: Esri, Maxar 2022

Caltrans

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APPENDIX B

DPR 523 Forms

P1. Other Identifier:

*P2 e. Other Locational Data: The bridge approach spans flank Lincoln Blvd./SR 1 immediately to the north of the Culver Boulevard Overcrossing.

***P3a. Description:** The structure evaluated on the attached form was described as former Pacific Electric Railway bridge abutments. These "abutments" are actually poured reinforced concrete approach spans for a former plate girder central span that has been removed. The approach spans are 36 feet wide at the base and 21 feet tall with the roadbed sitting 18 feet above Lincoln Boulevard. Each approach span extends just over 33 feet. The approach spans previously held two separate rail tracks atop a plate girder bridge, which was removed between 1940 and 1952. The removed plate girder bridge spanned nearly 76 feet, for a total bridge length of approximately 141 feet. The remaining spans are reinforced concrete T beams. Research revealed no evidence of a Pacific Electric Railway (Pacific Electric) stop at this location. The stair located between the recorded approach spans and the neighboring Culver Boulevard overcrossing (53 0089) were designed to allow pedestrian access between Culver Boulevard and Lincoln Boulevard/SR 1. This resource has been field checked and has not been altered since its last recordation (see attached previous documentation).

***P3b. Resource Attributes:** HP11—Engineering Structure
***P6. Date Constructed/Age:** 1933
***P8. Recorded by:** Steven 'Mel' Melvin, JRP Historical Consulting, LLC, 2850 Spafford Street, Davis, CA 95618; March 29, 2018
***P11. Report Citation:** JRP Historical Consulting, LLC, "Historical Resources Evaluation Report, SR-1 (Lincoln Bridge) Multi-Modal Improvement Project, Los Angeles, California (07-LA – 1 PM 30.16/30.74) EA 07-33880," 2019.

B9. Architect: California Division of Highways b. Builder: Artukovich Brothers

***B10. Significance:** The Pacific Electric Railway (Pacific Electric) bridge approach spans were the subject of a National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR) evaluation in 2015. Pamela Daly of Daly & Associates surveyed and evaluated the structure, erroneously labeling the structure as "abutments," and concluded that the structure was eligible for the NRHP and CRHR as an individual property through survey evaluation (3S/ 3CS). Daly concluded that the structure was eligible under NRHP Criterion C and CRHR Criterion 3 as an embodiment of 1930s bridge construction associated with the Pacific Electric with slight Art Deco influences. Daly also stated that the approach spans were a rare remnant of Pacific Electric bridges. The evaluation was conducted for a US Army Corps of Engineers National Historic Preservation Act Section 106 undertaking. The Corps consultation letter to State Historic Preservation Officer (SHPO) was unclear about the agency's determination of eligibility for the bridge remnants. Consequently, SHPO declined to concur with the findings for the bridge remnants stating that insufficient information about the bridge approach spans was available for SHPO to make a consensus determination. (See attached.)

This Update DPR 523 form documents the current condition of the structure, provides additional historic context, and includes a re-evaluation of the structure. The re-evaluation herein concludes that it is not eligible for the NRHP or CRHR.

Historic Context

Pacific Electric Railway and the Western Suburbs

Numerous housing developments and planned tract communities sprung up in the Los Angeles basin during the 1880s. A few survived the initial excitement, while others quickly fizzled. To the west of Los Angeles, the communities of Hollywood, Santa Monica, Palms, and Redondo became stable communities. Among the failed ventures was Port Ballona at the mouth of

Ballona Creek just west of the approach spans recorded here.[1] Development of these communities and small feeder lines to them laid the foundations for the development of interurban railway development in the Los Angeles area.[2]

The interurban system developed as larger firms bought out the small single route feeder lines. The lines west of Los Angeles were the domain of the Los Angeles Pacific Railway (LAPR). The railway was associated with the development of oceanside communities from Santa Monica to Redondo Beach, and was merged into the Pacific Electric Railway (Pacific Electric) in 1911. Moses H. Sherman and Eli P. Clark were the motivating forces behind the development of the LAPR.[3]

The LAPR Santa Monica line, among Sherman and Clark's first, was so successful that the company began to invest in other tracks to the shoreline. The company opened three more lines to the sea, including a second line to Santa Monica, the Palms line, and the del Rey Division. The del Rey line from Ivy Junction (current Culver City) to the coast at Playa del Rey and then further south to Redondo Beach, served several coast line developments organized and laid out by Sherman and Clark. LAPR constructed the first portion of the railroad northeast from Playa del Rey in 1902 to the Santa Monica Inglewood line and on to Ivy in 1903. The western portion of the line crossed the Ballona wetlands to Playa del Rey where Sherman and Clark subdivided land and built a hotel and pleasure pavilion served by excursion trains. Sherman and Clark, under several incorporated entities, developed additional seaside communities to the south. As with many interurban lines, road development paralleled the rail line. Culver Boulevard soon ran along the line to Playa del Rey.[4]

While the LAPR had operated independently from the large steam railroads, the Southern Pacific Railroad had maintained an interest in interurban rail transportation and began gaining control of Los Angeles' system in 1906. That year Sherman and Clark accepted Southern Pacific's purchase of a controlling interest in LAPR. Southern Pacific also gained control of the other large interurban company in Los Angeles, Henry E. Huntington's Pacific Electric Railway between 1908 and 1910.[5]

By 1910 Southern Pacific had control of the interurban rail traffic in the Los Angeles area. The following year Southern Pacific merged eight Los Angeles interurban companies into a new iteration of the Pacific Electric Railway Company (Pacific Electric). The newly reformed Pacific Electric expected the interurban lines to remain profitable and envisioned further development of the system.[6]

Arrival of the Automobile

While Los Angeles had a rich interurban and local trolley service, the city rapidly adapted to the automobile. Road building had been given a boost when the county had issued $3.5 million in bonds in 1909. By 1920 the county system was extensive and included Culver Boulevard among several routes to the ocean.[7]

When California's Highway Commissioners issued their first plan for a state highway system in 1896, they included a coastal route which would become State Route (SR) 1. This superseded the Camino Real which had linked California missions along the coast since the establishment of Mission Dolores at San Francisco in 1776. The state highway adopted in Los Angeles by

[1] Myers and Swett, *Trolleys to the Surf,* 33; Pamela Daly, *Historic Resources Evaluation Report of Ballona Wetlands Ecological Reserve Restoration Project, Los Angeles, Los Angeles County, California,* for BonTerra Psomas and US Army Corps of Engineers, 2015, 19-21
[2] Myers and Swett, *Trolleys to the Surf,* 34; Rolle, *Los Angeles: from Pueblo to City of the Future,* 36.
[3] Myers and Swett, *Trolleys to the Surf,* 7-8, 11-15; Spencer Crump, *Ride the Big Red Cars* (Costa Mesa, California: Trans-Anglo Books, 1970) 35.
[4] Myers and Swett, *Trolleys to the Surf,* 16, 21, 33-40, 49,52; Crump, *Ride the Big Red Cars,* 109, 115. For a full description of the Sherman and Clark companies that make up the LAPR system see Meyers and Swett Appendix.
[5] Myers and Swett, *Trolleys to the Surf,* 149; Crump, *Ride the Big Red Cars,* 39-45, 90-91.
[6] Crump, *Ride the Big Red Cars,* 92, 103-105, 107.
[7] *California Highways and Public Works*, "California as 5.68 per cent of World's Motor Vehicles," 3 no.1 (February 1926), 15; *California Highways and Public Works*, "County Figures Show Increase in Motor Vehicle Registration" 5 no. 5-6 (May-June 1928): 31; Marshall A. Page, "The Growth of Motoring in California," *California Highways and Public Works* 7 no. 10 (October 1929) 2-4, 23; Engineering Department of the Automobile Club of Southern California, "Traffic Survey Los Angeles Metropolitan Area," 1937; Ben Blow, *California Highways* (San Francisco: H.S. Crocker Co., Inc, 1920) 162-163.

1919 followed the general path of US 101 today, entering from Cahuenga Pass to Hollywood and then southeast to Los Angeles. Over the next several decades progress was steadily made to create a true costal route.[8]

While SR 1 officially opened through Malibu in 1929, segments were regularly realigned to bring them closer to the proposed ideal of a completely coastal route. In Los Angeles county, the route meandered along inadequate county roads beginning in Santa Monica. The various beach communities were not connected without having to first drive further inland. In 1932, the Division of Highways (precursor of Caltrans) developed plans for a new coastal segment of SR 1 in Los Angeles. The planned route followed closer to the coast from Santa Monica to Seal Beach and was known as the Wilmington link. The first segment constructed was from Venice to El Segundo in 1932. This route crossed the Ballona wetlands and Culver Boulevard in 1933, where a grade separation was constructed. Work to El Segundo was open by 1934, and the Division of Highways opened the full link to Seal Beach in 1937 completing SR 1 in Los Angeles County.[9]

The inclusion of a grade separation at Culver Boulevard on the new segment of SR 1 / Lincoln Boulevard was part of a continuing program of the Division of Highways to create safer railroad crossings. The hazardous conditions associated with at-grade railroad crossings were recognized early on. As early as 1903, Southern Pacific constructed grade separations along the new Bayshore Cutoff along the San Francisco Peninsula, for example. However, it took many years to address what were referred to in 1921 as "some of the worst death traps" in California. From 1916 onward the California Railroad Commission, and later, the Public Utilities Commission, studied and rated grade crossings. Over the next several years railroads, and local and state agencies developed the framework for financing and constructing grade separations.[10] The state placed bridge and railroad grade separation design under the Highway Commission's Bridge Department in 1924. It was at this point that the state began to set uniform standards for grade separations, as did the California Railroad Commission.[11]

Los Angeles, with the largest number of automobile registrations in the state, was well aware of the need for grade separations. The extensive railroad facilities for the steam rail lines and the number of interurban and local lines created a significant impediment to traffic, and traffic posed an impediment for expeditious trolley operation. In 1921, bowing to local pressure the Railroad Commission mandated Los Angeles city, county, railroads, and transit lines to construct grade separations at major intersections.[12]

During the first decades of the twentieth century Los Angeles was developing a strong city planning ethic that became visible in its bridges. Bridge design was overseen by the Los Angeles Municipal Art Commission established in 1903, and the Traffic Commission established in 1923.[13] The interest in aesthetics combined with Los Angeles' attempts to solve its traffic issues

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[8] Blow, *California Highways*, 99; Automobile Blue Book Publishing Co., *Official Automobile Blue Book 1919 Volume 8* (New York: Automobile Blue Book Publishing Co., 1919) 740; Caltrans, *A Historical Context and Methodology for Evaluating Trails, Roads, and Highways in California*, Caltrans, 2016, 86; Nathan Masters, "From Roosevelt Highway to the 1: A Brief History of Pacific Coast Highway," Lost LA, KCET, https://www.kcet.org/shows/lost-la/from-roosevelt-highway-to-the-1-a-brief-history-of-pacific-coast-highway accessed March 2018.

[9] S.V. Cortelyou, "Numerous Highway Improvements Under Way in Four Southern Counties," *California Highways and Public Works*, 10 no. 1 (January 1932): 16; P.A. McDonald, "Governor Dedicates Link of Roosevelt Highway in South," *California Highways and Public Works*, 15 no. 6 (June 1937): 8.

[10] Howe & Peters Consulting Engineers, "Engineer's Report to California State Automobile Association Covering the Work of the California Highway Commission for the Period 1911-1920," July 1920-January 1921, 106.

[11] Biennial Report of the California Highway Commission (1926), 85-87; and F.W. Panhorst, "Sixty-Eight Grade Separation Projects Aggregate $11,000,000," *California Highway and Public Works* 17 no. 5 (May 1939), 13-14; J.G. Hunter and Steward Mitchell, "Report of the Grade Crossing Situation of Public Streets, Roads and Highways with Steam and Electric Interurban Railroads in the State of California," State of California Railroad Commission and Department of Public Works Division of Highways, Pursuant to Assembly Concurrent Resolution No. 23, Chapter 45, Laws of 1931, December 1, 1932, 47.

[12] Mikesell, Stephen D. "The Los Angeles River Bridges: A Study in the Bridge as a Civic Monument," *Southern California Historical Society Quarterly* (Summer 1986):269-271; Jeanette K. Schulz, NRHP Nomination Davis Subway, Yolo County, Davis, California, 1997, 8; Crump, *Ride the Big Red Cars*, 158.

[13] JRP Historical Consulting, *City of Los Angeles Monumental Bridges 1900-1950*, Prepared for California Department of Transportation, 2004, 8-10, 18; Mikesell, "The Los Angeles River Bridges: A Study in the Bridge as a Civic Monument," 372-373.

resulted in construction of numerous bridges. Bonds totaling five million dollars passed between 1923 and 1926 supported the construction of bridges and grade separations mandated by the Railroad Commission. The involvement of the Municipal Art Commission insured that many of these embodied architectural styles of the period. The most significant of these bridges were located along the Los Angeles River and the railroads entering the city alongside the river. Beginning in the 1930s the Los Angeles area would constitute the area of California with the greatest number of new bridges through the 1950s.[14]

In addition to the city's projects, Pacific Electric also sought to separate its lines from local traffic. Cross traffic impeded and slowed the operations of the railroad making it less attractive. New routes were constructed with grade separations. Pacific Electric undertook its largest project to separate itself from automotive traffic beginning in 1924. The company constructed the Hollywood Subway from between Fourth Street and Fifth Street on Hill Street in downtown Los Angeles to a location near the intersection of First Street and Glendale Boulevard. This allowed the interurban trolleys to avoid the downtown traffic. Completed in 1925 the project was highly successful and hailed as a civic benefit.[15]

During this period of bridge development in and around Los Angeles, there also occurred a change in architectural styles. During the 1930s bridge designers moved to the sleeker less ornamented early Moderne styles such as Art Deco and Streamline Moderne. The move was in part due to the growing popularity of the styles, but also1930s depression economics. The newer modern styles relied less upon applied ornament aesthetic appeal. The Art Deco style, named for the Parisian exposition in 1925 that brought the style to wide audiences, stylized and highly simplified earlier classical elements. The result was more geometric forms mixed with flowing organic lines. The Los Angeles Bureau of Engineering utilized the style in multiple examples of bridges built during this time period.[16] At least six examples are extant in the Los Angeles area.[17] These rich examples of Los Angeles Art Deco bridges make use of concrete's plasticity to include geometric ornament on bents and railing supports. Additional visual appeal came from street lights, textured side walls, and even incorporated benches. While not separations between rail and road traffic, several of the bridges either carried or crossed Pacific Electric lines which ran along the associated streets.[18]

The Pacific Electric Railway Grade Separation

The Division of Highways considered and included construction of grade separations for its new route for SR 1 between Santa Monica and Seal Beach. As the Division of Highways developed the section of SR 1 from Washington Boulevard in Venice to El Segundo, a grade separation was planned for both Culver Boulevard and the parallel Pacific Electric line. The project was planned so that the undercrossing would be completed at the same time as the paving contract.[19]

The main consideration in the construction of the grade separation was the amount of traffic that would need to be accommodated. The coastal highway near Santa Monica was among the most popular and congested highways. The Division of Highways estimated five million vehicles would use the highway each year. In the same time period 18,250 trains would cross and a million vehicles would traverse Culver Boulevard. During its review, the Railroad Commission rejected any at-grade crossing at the intersection. The sheer volume, potential for accidents, and the various traffic delays made the agencies involved view the cost of construction less than the potential harms. The distribution of costs for the construction reflected the

[14] JRP Historical Consulting, *City of Los Angeles Monumental Bridges 1900-1950*, 18-19; Mikesell, "The Los Angeles River Bridges: A Study in the Bridge as a Civic Monument," 371; JRP Historical Consulting, *Historic Context Statement Roadway Bridges of California: 1936-1959,* Prepared for California Department of Transportation, 2003, 6.
[15] Crump, *Ride the Big Red Cars*, 158-161, 170. The Pacific Electric Subway Building at 417 Hill Street still stands.
[16] JRP Historical Consulting Services, *Historic Context Statement Roadway Bridge of California: 1936 to 1959*, for California Department of Transportation, 2003, 29
[17] See report cited in P11 for a complete list.
[18] Andrew Hope, *Caltrans Statewide Historic Bridge Inventory Update Survey and Evaluation of Common Bridge Types*, California Department of Transportation, 2004, 15; JRP Historical Consulting, *City of Los Angeles Monumental Bridges 1900-1950*, California Department of Transportation, 2004; 21, 24
[19] S.V. Cortelyou, "Numerous Highway Improvements Under Way in Four Southern Counties," *California Highways and Public Works* 10 no. 2 (January 1932) 16. At the time of construction SR 1 was commonly called the Roosevelt Highway, it is also known as the Pacific Coast Highway, and locally as Lincoln Boulevard.

mix of traffic accommodated by the grade separation. The state, Los Angeles County, and Pacific Electric shared the estimated $120,000 cost.[20]

The engineering of the structure faced only one difficulty, the surrounding territory. Ballona was open wetlands. The Los Angeles Flood Control District had channelized Ballona Creek to near the proposed highway by 1924, however, the remaining channel was not built until after an appeal was made to the Army Corps of Engineers in 1933 (**Image 1**). As a result, SR 1 would cross the muddy marsh making unfeasible a structure that would require the road to be lowered below ground level. The Division of Highways conducted borings of up to fifty feet in order to find a resolution for the crossing. The final decision, and most economical design, was to raise Culver Boulevard and the Pacific Electric line allowing them to cross over the new highway.[21]

Image 1. 1933 photograph camera facing east show the incomplete Ballona Creek Channel. Grading for SR 1 has just been completed horizontally left to right. Angled road is Culver Boulevard.[22]

The design of the overcrossing used established forms and methods, common for its period. Culver Boulevard and the Pacific Electric tracks were built over SR 1 on steel girder bridges supported on concrete abutments with approach spans from both directions supported on reinforced concrete girders (**Image 2**). The difference between the road way and rail crossing were the placement of the girders. Culver Boulevard was carried on top of the girders, whereas the Pacific Electric tracks were built as a through plate girder bridge, a common design for railroads of the era. Girder bridges are one of the oldest and simplest of bridge forms. Girders supported on the abutments span the length of the bridge supporting in turn the road bed. Improved metal processing in the nineteenth century provided sufficient quality metals to form girders. James Milholland constructed the earliest plate girder bridge in the United States in 1846. The earliest of these bridges were used for railroads, and developed

[20] Charles West Jones, "Building Safety Into Super-Highway by Double Bridge Grade Separation," *California Highways and Public Works* 10 no. 2 (January 1932) 22-23; Department of Public Works, Division of Highways, *Eighth Biennial Report of the Division of Highways of the Department of Public Works 1931-1932* (Sacramento, California: State Printing Office, 1932) 172.
[21] Jones, "Building Safety Into Super-Highway by Double Bridge Grade Separation," 23, 35.
[22] Save Ballona, 1933 E-3951 Playa del Rey Ballona Creek 2-24-1933, http://www.saveballona.org/ballona-watershed/ballona-watershed-historical-photos-1923-1952-presentation-slide-show.html accessed March 2018.

steadily for railroad use, being fully established by the twentieth century. Standardized plans for various girder bridges were available by 1905 from the American Railway Engineering Association, American Society of Civil Engineers, and American Bridge Company. Plate girder bridges, like that used for the Pacific Electric tracks, were common for bridges from about 30 to 100 feet by 1908. Plate girders were built up and riveted together from smaller pieces to create a girder. A tall, long plate formed the web or center part of the beam to which pieces were riveted at the top and bottom to form a girder. The approach spans for the Culver Boulevard bridge and the Pacific Electric tracks were much the same. Short spans supported on reinforced concrete girders, or T beams, spanned from the top of the embankments to the side bents. Each of these approach spans was 35 feet for each of those associated with Culver Boulevard and 33 feet 9 inches each for the Pacific Electric tracks. Like the through plate girder, reinforced concrete girder bridges were a common bridge form of the day. The material had been employed in California from the 1910s, and by the 1930s constituted the majority of bridges constructed by the Division of Highways. Review of other Division of Highway bridge contracts completed in the 1932-1934 biennium indicates that within Los Angeles several complete reinforced concrete bridges with spans up to 65 feet were also built. This exceeds the small approach spans constructed for the Pacific Electric Grade Separation. The span for the Pacific Electric tracks lacked a railing. The major difference between the two grade separations was that the bents that supported the Pacific Electric tracks had thickened concrete at the sill where the rails were to sit.[23]

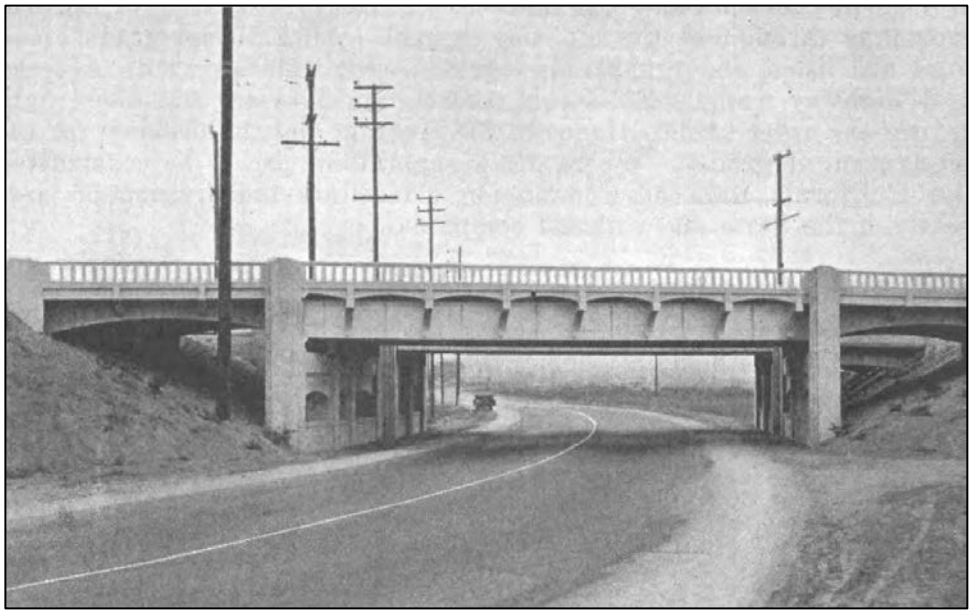


Image 2. Photograph of the completed grade separation looking north at Culver Boulevard overcrossing. A portion of the Pacific Electric Railway Bridge over SR 1 is visible behind the bridge depicted in this photograph. [24]

The Division of Highways entered into a contract in November 1932 with the Artukovich Brothers to construct the two bridges over the new highway right of way. Vido, Jerry and John formed Artukovich Brothers in 1919. The three came to America from Croatia earlier in the decade. Vido joined his cousins Jerry and John to form the company. The company specialized in

[23] P.A.C. Spero & Company, *Historic Highway Bridges in Maryland: 1631-1960, Historic Context Report* (Baltimore, Maryland: Maryland State Highway Administration, Maryland Department of Transportation, 1995) 110, 112; Parsons Brinkerhoff and Engineering and Industrial Heritage, *A Context for Common Historic Bridge Types*, for National Cooperative Highway Research Program, 2005, 3-110; Division of Highways, Department of Public Works, *Ninth Biennial Report of the Division of Highways of the Department of Public Works 1934* (Sacramento, California: California State Printing Office, 1934) 80; JRP Historical Consulting Services, *Historic Context Statement Roadway Bridge of California: 1936 to 1959*, 48.

[24] Division of Highways, Department of Public Works, *Ninth Biennial Report of the Division of Highways of the Department of Public Works 1934*, 76.

water distribution, sewer, and storm drain systems. They installed the first of the Los Angeles County Sanitation District pipelines. Other significant jobs included work on the Hetch Hetchy Aqueduct, Colorado River Aqueduct, and the San Diego Aqueduct. Throughout the 1930s they constructed sewer and storm drain lines throughout southern California specializing in underground work. The Culver Boulevard and Pacific Electric overcrossings were not typical for the company. The company split in 1950 with Vido forming his own company which is still in operation.[25]

Increased automobile use in Los Angeles eventually resulted in the end of the Pacific Electric. The company's popularity reached its height in the 1920s. Although there was an emphasis on constructing grade separations, there were increasing numbers of at-grade crossings as roads were built and improved for motor vehicles. The increasing number of at-grade crossings degraded the system's efficiency. Responding to changing areas of service, the Pacific Electric created a bus line under the name of the Motor Transit Company. Ridership dropped even further, losing over 39 million between 1929 and 1934, during the height of the Great Depression. The massive drop resulted in the closure of additional lines and reduction in schedules, making the automobile more attractive in turn. The system slowly began to shrink as local streetcar lines in the outlying portions of the system were closed along with some of the lightly traveled lines at the periphery of the system. City boosters sought ways to improve the ailing system through the construction of unimpeded routes, such as proposals to add more subterranean lines to San Gabriel Valley, Long Beach Harbor, and Glendale. The costs, however, were prohibitive. The depression and the company's dwindling income prevented any major plan to reverse the decline. In 1939 the State Railroad Commission suggested numerous improvements to the system in a plan for modernization, but the company lacked funds to initiate most of these efforts. Through 1940 and 1941 the substitution of busses accelerated, ending trolley service to the once highly profitable Santa Monica line. The rationing of fuel and other automotive supplies through World War II along with the rapid increase in southern California population provided a reprieve for the trolley system. Once the trolley system was left out of the highway planning and development in 1947, its fate was certain. At the same time the Public Utilities Commission (successor to the Railroad Commission) issued a report calling for nearly five-million dollars-worth of improvements. Consequently, more routes were replaced with busses. In 1953 the operation was sold to Metropolitan Coach Lines, and to the governmental Metropolitan Transit Authority in 1958. By that time only the Long Beach line remained in operation, all other lines had been converted to bus service.[26]

The Railroad Commission provided for the removal of trolley service on the Los Angeles to Redondo Beach line via Playa del Rey and other beach communities in its 1939 report. The commission noted several issues that plagued the line. The area between Culver City and El Segundo was sparsely populated with portions, including the Ballona wetland, largely agricultural or undeveloped. Second, new freeways provided alternate faster routes, as did the direct Los Angeles to Redondo Beach line of the Pacific Electric. The line also duplicated a portion of the Los Angeles to Venice line. Studying the passenger statistics, the Commission determined that the Los Angeles to Venice and Los Angeles to Redondo Beach lines were capable of handling most of the traffic on the route through Playa del Rey, and the remaining passengers could be accommodated with bus service. Considering the pressures facing the Pacific Electric at the time, the option was soon embraced. The tracks and associated plate girder bridge in the Ballona wetlands over SR 1 were removed leaving the existing structure by 1952.[27]

Evaluation

The former Pacific Electric bridge approach spans flanking SR 1 / Lincoln Boulevard are a part of Los Angeles' transportation infrastructure. As infrastructure is necessary for the proper functioning of any community it has a certain level of importance within any locality. In order to properly identify truly significant examples, it is important to consider it in the context of similar infrastructure. The bridge approach spans may be examined through several lenses: their association with the Pacific

[25] Vido Artukovich & Son, "History," https://www.artukovich.com/history Accessed March 2018; Division of Highways, Department of Public Works, *Ninth Biennial Report of the Division of Highways of the Department of Public Works 1934*, 355.
[26] Crump, *Ride the Big Red Cars*, 91, 161, 177, 203-209.
[27] J.G. Hunter and Arthur C. Jenkins, "Section E: Service and Operating Conditions," *California Railroad Commission Application No. 21656 Volume IV Report on Engineering Survey of Pacific Electric Railway Company*, Los Angeles, May 1939, 92-96; Pacific Air Industries, Aerial Photographs Los Angeles County for Sanborn Mapping Company, flight PAI-LA, frame 7-3, 1952.

Electric, their association with the development of the highway system, and in the context of bridge engineering. This evaluation addresses the role of bridge spans in these various contexts.

The bridge approach spans do not have significant associations with the development of the Pacific Electric or SR 1 (NRHP Criterion A or CRHR Criterion 1). In each of these cases the bridge and its approach spans came well after the associated rail or highway was established. In the case of the Pacific Electric, the Los Angeles Pacific Railway constructed the Los Angeles to Redondo Beach via Playa del Rey line in 1902 after the significant success experienced by their Santa Monica and Venice lines several years prior. Nor is the grade separation associated with the early operation of the line. The grade separation was constructed in 1933 altering the existing line to maintain optimal operation as new roads were introduced. The construction of SR 1 through the Ballona wetlands updated the existing route that opened from Mexico to Canada in 1929. The alteration in alignment brought the highway closer to the original plan for a coastal route, but it made no significant alteration in the overall Mexico to Canada vision for the road. Many sections were realigned following the 1929 opening and this realignment did not connect previously unconnected portions of the coast or open new areas of the coast to the populace. Nor did the bridge and its approach spans play a significant role in the development of grade separations. By the time the bridge was constructed in 1933, the need for grade separations was understood by both the Division of Highways and the various railroads. An active program of constructing grade separations was in place statewide and included many such structures built in Los Angeles during the 1920s and 1930s.

The bridge approach spans are not associated with any individuals who have made significant contributions to local, state, or national history (NRHP Criterion B/ CRHR Criterion 2). Corporate and governmental organizations were responsible for the bridge's development and construction. Research did not locate any individual within these entities closely associated with the bridge and spans.

Under NRHP Criterion C/ CRHR Criterion 3 the bridge approach spans do not embody distinctive characteristics of a type, period, or method of construction. Standard methods of construction were used for a well-known bridge type. As noted in the historic context, grade separations had become a standard part of railroad and road construction by the early 1930s when this grade separation was built. Both concrete girder (T beam) and through plate girder beams used in the bridge/ grade separation were well known bridge forms of the period. National review of bridge types indicates that metal plate girder bridges are only of moderate significance among the bridge types, and significant examples are from the early development of the type.[28] The grade separation is not a significant example of either type of construction. The remnant approach spans are not stylistically important either. Los Angeles had a program for developing and constructing bridges with aesthetic considerations. This bridge was only slightly out of the city purview of the period, and minimal effort was made to include Art Deco elements. Compared to other bridges in the metropolitan area this is not a good example of Art Deco design applied to utilitarian infrastructure. Efforts were made to study aerial photographs and identify other grade crossings associated with the Pacific Electric. The Pomona to San Bernardino route was known for its grade separations, however, none were identified along that alignment which has been adapted as a bike path. The Pacific Electric bridge over Ballona Creek Channel at Exposition Boulevard/National Boulevard is fully intact and is a contributing element of that line and has been retained in place following the construction of the new light rail line. Other structures that supported both automotive and Pacific Electric traffic were also identified including West Boulevard over Venice Boulevard (Bridge No. 53C1380), Beverly Boulevard over Glendale Boulevard (Bridge No. 53C0045), and Sunset Boulevard over Glendale Boulevard (Bridge No. 53C0134). These bridges have greater aesthetic value than the remaining approach spans at SR 1. While no other Pacific Electric grade separations were identified through this survey, both Pacific Electric associated bridges and through plate girder bridges are represented in the built environment. It should also be noted that Criterion C or CRHR Criterion 3 does not directly apply rarity as a metric that would alone lead to the eligibility of a resource. Additionally, the bridge approach spans are not the work of a master and do not possess high artistic value.

The approach spans are not significant under NRHP Criterion D or CRHR Criterion 4 as a source (or likely source) of important information regarding history. They do not appear to have any likelihood of yielding important information about historic

[28] Parsons Brinkerhoff and Engineering and Industrial Heritage, *A Context for Common Historic Bridge Types,* for National Cooperative Highway Research Program, 2005, 4-5.

construction materials or technologies. Also, the property's land use, the layout of the extant built environment resources, and the relationship the spans to their surroundings follow known paths and do not appear to provide important information within the broader economic, social, and cultural setting of the region during its historic-period occupation.

The integrity of the bridge approach spans is partially dependent upon the entity assessed. As Daly pointed out in the previous evaluation, the approach spans do retain a large measure of integrity as simple bridge spans. One rarely, however, experiences just a bridge's approaches. Bridges are a cohesive entity with a specific purpose. Without a key component, such as a central span in this case, it does not convey its use or purpose and is not experienced as a complete structure. While the component may have good integrity, it is insufficient to convey significance as a grade separation and the proper unit of evaluation is the complete bridge structure. In this case the removal of the deck and central span represents a loss of design, materials, and workmanship. The feeling and association are further degraded by the loss of the Pacific Electric tracks and central span across the bridge. While the bridge may retain its location and setting it does not retain sufficient integrity to convey its role as a Pacific Electric grade separation.

***B14. Evaluator:** Cheryl Brookshear ***Date of Evaluation:** April 2018

Photographs:

Photograph 1: Pacific Electric / SR 1 bridge approach spans; camera facing south, Culver Boulevard overcrossing in background, March 29, 2018.

Photograph 2**:** Pacific Electric / SR 1 bridge approach span; camera facing northwest showing supports for rail beds, March 29, 2018.

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

PRIMARY RECORD

Primary #:
HRI #
Trinomial
NRHP Status Code: 3S, 3CS

Other Listings
Review Code | Reviewer | Date

*Resource Name or #: Pacific Electric Railway bridge abutments

P1. Other Identifier:

*P2. Location: ☐ Not for Publication ☒ Unrestricted *a. County: Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad: Venice Date: 1964/1981 T 2S; R 15W; S.B.B.M.

c. Address: N/A City: Marina del Rey Zip: 90292

d. UTM: east end: Zone: 11; 367608mE/ 3760432mN; (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: 12feet above sea level.

The bridge abutments are situated on each side of Lincoln Blvd./Highway 1, immediately to the north of the Culver Blvd. crossover.

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Previously unrecorded during surveys of the BWER and of Highway 1, these are concrete bridge abutments situated on the east and west side of Lincoln Boulevard/Highway 1, in survey Areas A and C.

The abutments are each 36 feet wide and at street level the rail bed is approximately 18 feet high, with the side panels reaching approximately 21 feet above street level. The eastern abutment extends approximately 37 feet in length, and the western abutment is approximately 30 feet long. The abutments were constructed of poured and reinforced concrete, were specifically designed to carry two separate rail tracks over Highway 1. Steel girder supports, and riveted side panels and floor, would have spanned between the abutments. Based upon the Art Deco ornamentation of the abutments, and the supporting structure seen at street level, it appears that the railway bridge was constructed contemporaneously with the Culver Boulevard overcrossing bridge (53-0089) in 1933. It also appears that this bridge served as a stop on the Pacific Electric Railway line between Culver City and Redondo Beach, as a set of poured concrete stairs are situated to the immediate south of the railway bridge on the east side, and these would have provided access for pedestrians to the station platform. The earthen berms leading up to, and away from the abutments have been removed, along with the steel tracks, wood ties, and electric service poles.

*P3b. Resource Attributes: AH16 – Other: bridge abutments.

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

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

P5b. Description of Photo: View looking south. September 6, 2015.

*P6. Date Constructed/Age and Sources: ☒Historic ☐Prehistoric ☐Both 1933.

*P7. Owner and Address: Ballona Wetland Ecological Reserve

*P8. Recorded by:
Pamela Daly, M.S.H.P.
Daly & Associates
4486 University Avenue
Riverside, CA 92501

*P9. Date Recorded: November 12, 2015

*P10. Survey Type: (Describe) Intensive-level, Section 106 and CEQA.

*P11. Report Citation: Daly, Pamela. *Historic Resource Evaluation Report of Ballona Wetlands Ecological Reserve Restoration Project, Los Angeles County, California*. Daly & Associates, 2015.

*Attachments: ☐NONE ☒Location Map ☐Sketch Map ☒Continuation Sheet ☒Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code**: 3S, 3CS

***Resource Name or # :** Pacific Electric Railway bridge abutments

B1. Historic Name: Pacific Electric Railway
B2. Common Name: Red Car
B3. Original Use: bridge abutments to carry railroad track B4. Present Use: none
***B5. Architectural Style:** Art Deco
***B6. Construction History:** 1933

***B7. Moved?** ■No ☐Yes ☐Unknown **Date:** **Original Location:**
***B8. Related Features:** None

B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance:** Electric Railroad transportation **Theme:** Inter-urban railway system **Area:** Los Angeles County
Period of Significance: 1902-1940 **Property Type:** formed-concrete bridge abutments **Applicable Criteria:** NR/CR

The Pacific Electric Railway played a crucial part in the settlement pattern of Southern California from the early 1900s to the 1930s. Severely impacted by the financial fallout of the Great Depression, the Pacific Electric Railway started cutting back on its interurban railway system and began to focus more on buses for serving their customers. The Pacific Electric Railway ceased most operations in the 1950s and sold its transportation infrastructure to the Los Angeles Metropolitan Transportation Agency.

The bridge abutments that carried the Pacific Electric Railway line from Culver City to Redondo Beach appear to have been constructed in 1933. The abutments supported a bridge that carried the railway over Highway 1/Lincoln Boulevard. It appears that there was a passenger stop at this location, as a set of stairs is still in place from the highway up to were a platform would have been located. Most of the Pacific Electric Railway was demolished in the 1960s, and the railroad tracks/ties/switches and other features have all been removed from within the project corridor.

Under the criterion for evaluating properties for listing in the National Register or California Register for their association with events that have made a significant contribution to the broad patterns of history on a local, state, or national level, the Pacific Electric Railway abutments do not appear eligible for listing. While the bridge abutments are associated with the history of the Pacific Electric Railway, this specific location in the BWER APE has not been found to be associated with important historic events. The Pacific Electric Railway abutments do not appear eligible for listing in the National Register or California Register under Criterion A/1.

We did not find any direct association between the Pacific Electric Railway abutments in the BWER APE with the lives of persons important to the history of the Pacific Electric Railway, Los Angeles County, or the nation. It does not appear that the Pacific Electric Railway abutments of the BWER APE are eligible for listing in the National Register or California Register under Criterion B/2.

The Pacific Electric Railway abutments in the BWER APE appear to be eligible for listing in the National Register and California Register under Criterion C/3. Historic topographic maps have clearly shown that the abutments were structures directly associated with the Pacific Electric Railway. (See Continuation Sheet for additional text.)

B11. Additional Resource Attributes: None.

***B12. References:**

B13. Remarks:

***B14. Evaluator:** Pamela Daly, M.S.H.P.

***Date of Evaluation:** November 12, 2015.

(This space reserved for official comments.)

*Recorded by: Pamela Daly, M.S.H.P. *Date: November 14,2015 ☒Continuation ☐Update

B10. Significance, continued:

The abutments present the distinctive characteristics of concrete structures designed to carry two separate tracks of the Railway system that ran between Culver City and Redondo Beach. The abutments also present the characteristics of a type of bridge structure constructed in the early 1930, as the Pacific Electric Railway built the abutments with the method of using poured, reinforced concrete to create the support system for the trolley rails. The abutments are examples of transportation structures built during the 1930s, as they have subtle Art Deco decorative elements on the railings and end-posts of the track deck.

Although the Pacific Electric Railway abutments have lost the section of the bridge structure that carried the rails over Highway 1, the abutments retain most of the physical features and aspects of integrity that constitute a Pacific Electric Railway bridge constructed in the early 1930s. The abutments have retained their historic location, design, setting, materials, workmanship, and feeling. The abutments have lost their association with the Pacific Electric Railway, but have retained sufficient association the theme of railway transportation by their physical features and design.

A complete search of all surviving Pacific Electric Railway bridges and bridge abutments was not possible for this effort, yet archival history and the on-line documents and photos available from persons avidly involved with preserving the history of the Pacific Electric Railway, suggest that the abutments are a rare example of partially intact Pacific Electric Railway bridge. It appears that, only because the bridge abutments were located in this undeveloped area of Los Angeles County, and that Highway 1 never had to be widened beyond the width of the span of the railway bridge, the bridge abutments had not been previously destroyed.

The Pacific Electric Railway abutments in the BWER APE have not yielded, nor do the abutments appear to have the potential to yield, information important about prehistory or history of the local area, California or the nation. The Pacific Electric Railway abutments do not appear eligible for listing in the National Register or California Register under Criterion D/4.

The Pacific Electric Railway crossing over La Brea Avenue in Los Angeles. The bridge has concrete abutments extending from a raised railbed.
(Photograph courtesy of the Craig Rasmussen Collection, http://www.pacificelectric.org

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

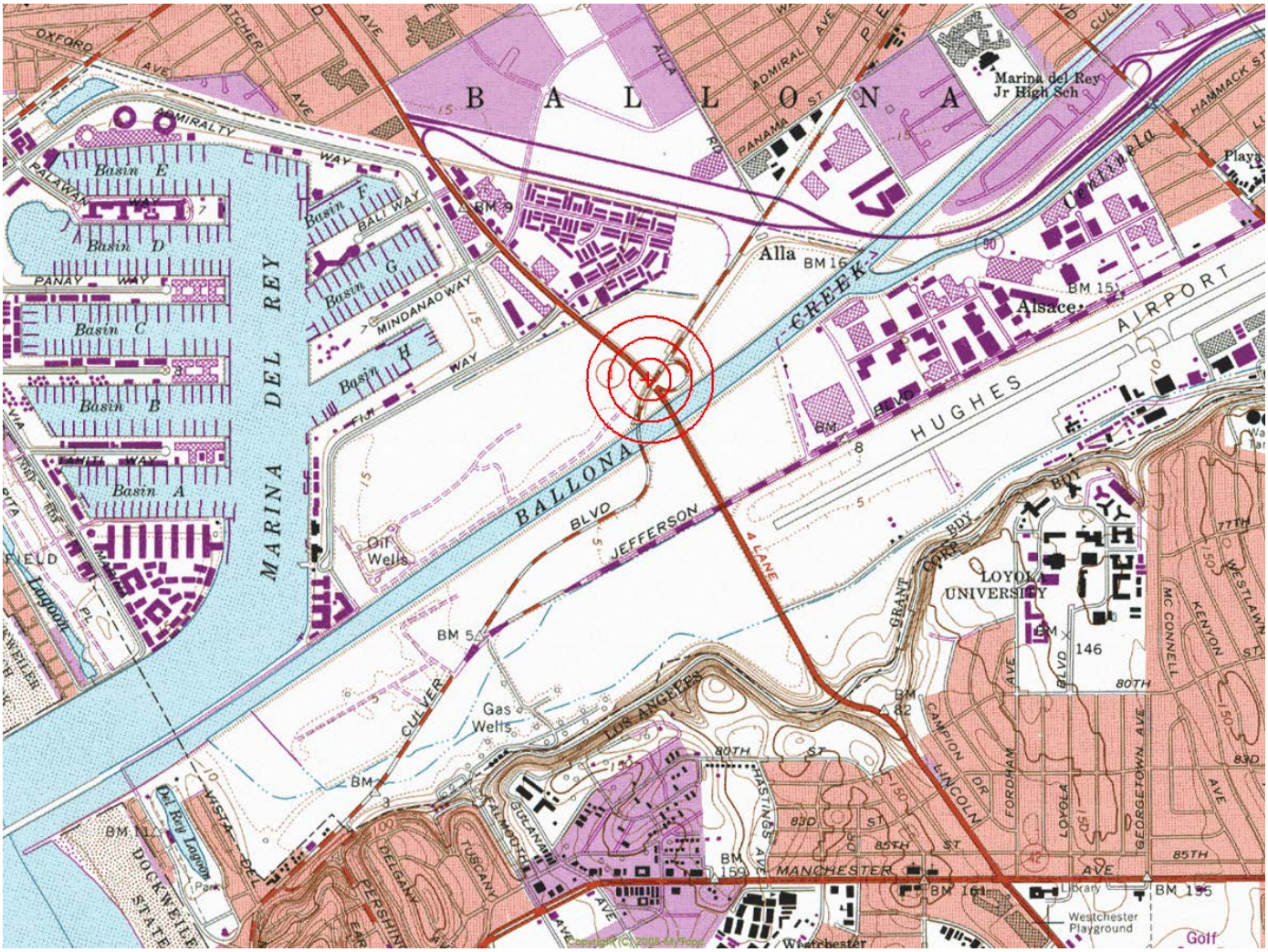
LOCATION MAP

Primary #
HRI#
Trinomial

***Resource Name or #:** Pacific Electric Railway bridge abutments

***Map Name:** Venice

***Scale:** 1:24,000 ***Date of Map:** 1964/1981



State of California • Natural Resources Agency Edmund G. Brown Jr., *Governor*

DEPARTMENT OF PARKS AND RECREATION Lisa Ann L. Mangat, *Director*
OFFICE OF HISTORIC PRESERVATION

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
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calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

November 20, 2017

In reply refer to: COE_2017_0421_001

Daniel P. Swenson, Chief
LA and San Bernardino Section, Regulatory Division
U.S. Army Corps of Engineers, Los Angeles District
916 Wilshire Boulevard, Suite 930
Los Angeles, CA 90017

Subject: Section 106 consultation regarding the Ballona Wetlands Ecological Reserve Restoration Project, City of Los Angeles, Los Angeles County, California (SPL-2010-1155)

Dear Mr. Swenson:

The Office of Historic Preservation (OHP) received your letter on October 19, 2017 requesting review and comment on the proposed Ballona Wetlands Ecological Reserve Restoration Project in Los Angeles County, California. The Army Corps of Engineers (COE) is consulting with OHP pursuant to 36 CFR 800 (as amended August 5, 2004), the regulations implementing Section 106 of the National Historic Preservation Act (NHPA). Along with their letter, the COE submitted the following documents:

- *Phase I Cultural Resources Assessment Ballona Wetlands Ecological Reserve Restoration Project* (Bonterra Psomas 2015).
- *Historic Resources Evaluation Report of Ballona Wetlands Ecological Reserve Restoration Project, Los Angeles County, California* (Daly & Associates 2015).
- *Ballona Wetlands Ecological Reserve Restoration Project, Los Angeles County, California Geoarchaeological Review* (ESA 2015).
- *Ballona Wetlands Ecological Reserve Restoration Project, Los Angeles, California Extended Phase I and Phase II Archaeological Testing Report* (ESA 2016).

The COE is proposing to issue a permit under Section 404 of the Clean Water Act to allow the California Department of Fish and Wildlife (CDFW) and the State Coastal Conservancy (SCC) (Applicants) to restore native coastal wetland and upland habitats within the existing Ballona Wetland Ecological Reserve (BWER). This undertaking will also require the issuance of a Section 408 (33 U.S.C. Section 408) permit to the Los Angeles Department of Public Works (LADPW) as the non-federal sponsor of the Los Angeles County Drainage Area Project in order to modify the existing Ballona Creek Levees. The proposed project is a large-scale, phased, restoration effort overseen by the CDFW and the SCC. The project would entail excavation and

re-contouring of channels to reconfigure wetlands and habitats, removing non-native and invasive species by planting appropriate vegetation types, breeching the Ballona Creek Channel Levees and installing new tide gates, and removing the concrete walls of the channels. The COE has defined the Area of Potential Effects (APE) including all areas of proposed disturbance inside and outside of the areas subject to COE jurisdiction measuring approximately 589 acres. The APE has been separated into four areas labeled A, B, C and D.

Efforts to identify historic properties within the APE included a records search, pedestrian survey, geoarchaeological review, and Native American consultation. The records search was completed in November 2014 and identified several previously recorded cultural resources within the APE. These resources are listed in the table below. The pedestrian survey covered the entire APE except for areas that were inundated with water or completely impenetrable with vegetation. The survey was able to relocate all of the previously recorded cultural resources with the exception of SR-3 and SR-7, which could not be relocated. Additionally, CA-LAN-54, CA-LAN-3784 and CA-LAN-3982 are known to be buried beneath several feet of fill materials and could not be observed on the surface. Two prehistoric isolates were recorded within the APE including Isolate-1, a quartzite secondary flake and Isolate-2, a rhyolitic secondary flake. The COE has also indicated that CA-LAN-54 is a contributing element to the Ballona Lagoon Archaeological District (BLAD), which was determined eligible and received State Historic Preservation Officer (SHPO) concurrence in 1991. Though the boundaries of the BLAD have not yet been defined, it is comprised of seven sites and CA-LAN-54 is the only contributing site within the APE. The COE has requested concurrence with the following determinations of eligibility for the identified cultural resources within the APE:

SITE #	Description	Eligibility Determination
CA-LAN-54	Shell midden	Previously determined individually eligible under D and contributor to BLAD
BLAD	Prehistoric Archaeological District	Eligible
CA-LAN-1970H	Historic-era site-Venice Oil Field complex	Not Eligible
CA-LAN-3784H	Historic-era site	Assumed eligible
CA-LAN-3982H	Historic wooden platform	Not eligible
CA-LAN-4713H	Historic-era site	Not eligible
CA-LAN-4714H	Historic-era site	Not eligible
CA-LAN-4715H	Historic-era horse stable/riding area	Not eligible
CA-LAN-4716H	Historic refuse scatter	Not eligible
P-19-101357	Prehistoric isolate, chert projectile point	Not eligible
P-19-176734	Caltrans Bridge #53-118	Not eligible

P-19-187805	Ballona Creek Channel	Segment in APE not eligible
P-19-192323	Remnants of utility line	Not eligible
P-19-192324	Pacific Electric Railroad berm and bridge remnants	Not eligible
P-19-192325	Earthen Channel “Fiji Ditch”	Not eligible
P-19-192326	Two paired bridge abutments on Lincoln Boulevard	Not eligible/Eligible under Criterion C (see below)
Isolates 1, 2, and P-19-101357	Isolated prehistoric lithics	Not eligible

The COE began their Native American consultation for this iteration of the undertaking in 2012, contacting the Native American Heritage Commission (NAHC) in 2012, 2014 and 2016 requesting a search of the Sacred Lands File and a list of Native American contacts for the project area. The Sacred Lands File search was negative for known cultural resources in the project area. The COE contacted the contacts listed by the NAHC on August 23, 2016 by letter and followed up as recently as October 2017 via e-mail. Although no specific concerns have been raised regarding the archaeological sites present within the APE, Chairman Morales of the Gabrieleno Tongva Indians of California noted that the Ballona area is very sensitive and should have Native American monitoring during all soil disturbance.

Although the proposed undertaking will include ground disturbance within the geographic location of CA-LAN-54 and CA-LAN-3784H, these sites are buried below 3-10 feet of sterile fill soil and no additional fill would be placed in these locations under any of the alternatives. The areas would not be subject to inundation and no post-restoration activities or other indirect effects would be incurred by these sites. The COE indicated that the Pacific Railway Bridge Abutments (P-19-192326) are not eligible, however, the report provided by Daly and Associates (2015) evaluated the resource as eligible under Criterion C for presenting the distinctive characteristics of a type of railway bridge abutment constructed in the early 1930s with the application of art deco decorative elements and as a rare example of Pacific Electric Railway bridge abutments with a high level of physical integrity. However, the COE noted in their letter dated April 20, 2017 that the abutments would be reused under all of the alternatives to construct a new bridge spanning Lincoln Boulevard and this would be done in compliance with the Secretary of the Interior’s Standards for the Treatment of Historic Properties to ensure no post-restoration adverse effects. Therefore, they would not be adversely affected by the undertaking. The COE has determined that issuing a permit for this project would result in *no adverse effect* on historic properties and has requested SHPO comments on their APE, as well as concurrence with their eligibility determinations and finding of effect. After reviewing the submitted documentation, I have the following comments:

- **I agree** that CA-LAN-1970H, CA-LAN-3982H, CA-LAN-4713H, CA-LAN-4714H, CA-LAN-4715H, CA-LAN-4716H, P-19-101357, P-19-176734, P-19-187805, P-19-192323, P-19-192324, and P-19-192325 are **not eligible** for listing on the NRHP under any criteria.
- **I agree** that Isolates 1, 2, and P-19-101357 are **not eligible** for listing on the NRHP.
- Although it is unclear whether the COE intended to request concurrence with the determination that P-19-192326 is eligible under Criterion C, as listed in the Daly and Associates report, or that it is not eligible as noted in the COE's letter, the provided evaluation does not provide adequate information to make a consensus determination of eligibility for this resource. However, I agree that the resource will not be adversely affected by the undertaking if it is carried out as described. Therefore, it is recommended that the COE assume P-19-192326 as eligible for listing on the NRHP for the purposes of this project.
- Pursuant to 36 CFR 800.5(d)(1), **I do not object** to a finding of ***no adverse effect*** for this undertaking.
- It is recommend that the COE provide the opportunity for Native American monitors from the interested tribe(s) to be present for all ground-disturbing activities, as was requested in consultation.
- Please be advised that the COE may have additional responsibilities under 36 CFR 800 in the event of changes to the proposed undertaking, changes to the APE, or post-review discoveries.

For more information or if you have any questions, please contact Archaeologist, Jessica Tudor at (916) 445-7016 or jessica.tudor@parks.ca.gov or Historian, Kathleen Forrest at (916) 445-7022 or kathleen.forrest@parks.ca.gov.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

OHP Rep # 022977

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # 19-187805
HRI #
Trinomial
NRHP Status Code
Other Listings
Review Code Reviewer Date

Caltrans ID, County/Route/Postmile/EA: 07-LA-1- KP 48.9/49.4 EA 166061 Map Ref. #

P1. Resource name(s) or number: Ballona Creek Flood Control Channel & Drainage System
*P2. Location: *a. County Los Angeles
*c. Address N/A City Los Angeles, Culver City, Beverly Hills Zip N/A
d. Other Identifier USGS Quads Venice, 1964; Photo Rev. 1981 N 3352.5-W 11822.5 / 7.5
~~Inglewood, 1964, Rev. 1981 N 3352.5 W 11815 /7.5~~
Beverly Hills, 1995 N 34730-W 11822.3 /7.5
Hollywood, 1966, Rev. 1981 & 1994 N 34730-W 11815 7/5

*P3a. Description:
The Ballona Creek Flood Control Channel is part of a wider system that drains the western portion of the city of Los Angeles, including the independent incorporated cities of Culver City and Beverly Hills. The drainage area, encompassing 129 square miles, is located between the Santa Monica Mountains to the north and the Baldwin Hills to the south. Only the Ballona Creek Channel, constructed between 1935-39 is an open waterway. The remainder of the system, mostly constructed in the post-war era, is comprised of subsurface box culverts and reinforced concrete pipes. This system is a component of the Los Angeles County Flood Control District that encompasses the watersheds of the Los Angeles and San Gabriel Rivers—an area of 1,717 square miles. This system, began in the teens and completed in the early 1980s, stores water in reservoirs; controls water and debris flows to protect lives and property; and recharges the underlying water table in graveled spreading grounds. The system has allowed the unbrideled development of the Los Angeles basin and adjacent hillside areas, and has contributed to the low-slung development patterns characteristic of Los Angeles. It is undoubetedly an impressive, innovative, and significant public works project.

Within this overall effort, the Ballona Creek drainage area occupies a scant 4% of the total area. The system is comprised of two debris basins in tributary canyons, a 2.3 mile open water main channel, two jetties at the mouth of the main channel, 23.67 miles of tributary channels, and 15 bridges. The main channel, funded through the federal Flood Control Act of 1938, was constructed in
(see continuation sheet)

*P3b. Resource Attributes: 27

*P4. Resources Present: ☐Building X☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other

P5a. Photo See continuation sheet

*5b. Photo date: August 2000

*P6. Date Constructed/Sources:
1935-1963

*P7. Owner and Address:
United States Army
Corps of Engineers
Los Angeles District
P.O. Box 2711
Los Angeles, Ca 90053

*P8. Recorded by:
Diane Kane, Ph. D.
Caltrans
120 S. Spring Str :et
Los Angeles, CA 90012

*P9. Date Recorded:
August 15, 2000

*P10. Survey Type: Intensive

*P11. Report Citation: HPSR for the LA-1 Widening Project, KP 48.9/49.4, EA 166061

*Attachments: NONE X☐Location Map ☐Sketch Map X☐Continuation Sheet X☐Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____

Resource Name or #: (Assigned by recorder) _____

DPR 523A (1/95)

*Required information

*P3a. Description: (continued)
sections between 1938-39. The Vista del Mar to Pacific Ocean stretch includes two parallel jetties, approximately 340' apart, that extend 1225 feet into the Pacific Ocean. The trapezoidal jetties are constructed of one-to-six ton boulders sealed with a grouted cap. They measure approximately 30 feet at their base and rise in a 1:1 ½ slope to a 15' level top. The main channel is an inverted

trapedoid in cross section, measuring 336' across the top and 200' the base of the channel. The channel sides are sloped earth at a ratio of 1:3, covered with stone paving. Backfill at the base of the slope varies in depth, while freeboard varies between 19' to 21'. A five foot-to-eight foot earthen invert is located in the center of the channel bottom. An earth berm roadway is located along the banks of the channel, separated from the embankment by cyclone fencing. A bridge, constructed in 1938 and currently closed to vehicular traffic, crosses the channel at Pacific Avenue.

The La Salle Avenue to Vista del Mar portion of the channel was the first portion built, with construction occuring between 1935-1936. The cross section is similar to that of the Vista del Mar section. Bridges cross the channel at Overland Avenue, Station 244.70 (pedestrian footbridge), Sepulveda Boulevard, Sawtelle Boulevard, the San Diego Freeway, Inglewood Boulevard, Centinela Avenue, the Marina Freeway, the Pacific Electric Railway, Lincoln Boulevard and Culver Boulevard.

The channel begins to narrow as it enters into Culver City. In the Washington Boulevard to La Salle Avenue section, constructed in the 1938-39 period, concrete sides are slopee at a 1 ½ : 1 ratio. A ten foot wide backfilled footing at the toe of the slope supports a straight sided concrete invert at the channel bottom. The channel walls vary in width from 38'6" to 80', and in depth from 9' to 11', with a minimum of 2' freeboard. Bridges cross the channel at Exposition Boulevard and the Pacific Electric Railway, Higuera Street and Duquesne Avenue. The The Redondo Boulevard to Washingotn Boulevard portion, constructed between 1936-1937, is a straight sided concrete channel with a concrete invert in the channel bottom. The channel varies in depth from 12' to 18' and in width from 38.7' to 80', with a m inimum of 2' freeboard. Bridges are located at Fairfax Avenue, Cadillac Avenue, the Santa Monica Freeway, a service bridge beneath the freeway, La Cienega Boulevard, and Washington Boulevard. The channel goes underground at Redondo Boulevard, just south of Venice Boulevard. Typical box culvert cross sections are 10' to 12' in width and 6.7' to 8.6' in height.

19-187805

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
Primary_____
HRI#_____

BUILDING, STRUCTURE, AND OBJECT RECORD

Page___1 of 4 _ **Status Code**__4S1__ **Resource Name or #** (Assigned by recorder)_

B1. Historic Name: Ballona Creek Flood Control Channel & Drainage System
B2. Common Name: Ballona Creek Flood Control Channel & Drainage System
B3. Original Use: flood control, land reclamation
B4. Present Use: flood control, land reclamation
*B5. **Architectural Style:** utilitarian/industrial
*B6. **Construction History:** (Construction date, alterations, and date of alterations)
Main channel (Washington Boulevard to Pacific Ocean) 1935-1939
Vista del Mar to Pacific Ocean (1938-39)
La Salle Ave. to Vista del Mar (1935-36)
Redondo Boulevard to Washington Boulevard (1936-37)

*B7. Moved? X☐No ☐Yes ☐Unknown Date: **Original Location:**
*B8. **Related Features:** Ballona Creek Drainage Area (mostly subsurface culverts)
Arroyo de los Jardines (1935-36)
Sawtelle-Westwood (1949-1959)
Benedict Canyon (1961-64)
2 debris basins
15 bridges over the main channel
Rexford-Monte Mar Branch (1963)
Kenter Canyon (1935-37)
Centinela Creek (1961-62)
2 jetties at the mouth of the main channel

B9a. Architect: Col. C. T. Newton, District Engineer, US Army Corps & Harold E. Hedger, Chief Engineer, LA County Flood Control District
b. Builder: Army Corps of Engineers
*B10. **Significance:** Theme Public Works **Area** Land Reclamation & Flood Control
Period of Significance 1935-1970 **Property Type** 27 **Applicable Criteria** A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The Ballona Creek Flood Control Channel is part of a wider system that drains the western portion of the city of Los Angeles lying between the Santa Monica Mountains to the north and the Baldwin Hills to the south. Only the Ballona Creek Channel, constructed between 1935-39, is an open waterway. The remainder of the system, mostly constructed in the post-war era, is comprised of subsurface box culverts. Today, the complete watershed, **(See continuation sheet)**

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

*B12. **References:** See continuation sheet.

B13. Remarks: Property a potential contributor to a discontiguous thematic historic district of Los Angeles County Flood Control Dams, determined eligible for the National Register, Criteria A & C, Dated December 22, 1999.
Property should be re-evaluated when it becomes 50 years old.

(Sketch Map with north arrow required.)

See continuation sheet.

*B14. **Evaluator:** Diane Kane, Ph.D.
Caltrans, District 7
120 S. Spring Street
Los Angeles, CA 90012

Date of Evaluation: August 15, 2000

*B10. Significance: (continued)

encompassing 129 sq. miles, empties into the Pacific Ocean in the incorporated city of Marina del Rey, just north of the Los Angeles County International Airport. Historically, the territory west of present-day Culver City was low-lying wetlands bordering Ballona Creek, one of the few year-round streams in the greater Los Angeles area. Because of the swampy conditions, the land was primarily used for ranching and was only marginally productive for agriculture. The earliest ranchos, Rancho La Ballona (ranch of the bays) and Rincon de los Buyes (corner for cattle), testify to the area's initial condition.

In the late 19th century, various entrepreneurial ventures attempted to develop ports and pleasure grounds at the mouth of Ballona Creek, accessed by railroads providing day excursions. Port Ballona, established in 1887, shortly went bust in a real estate downturn of the 1890s. In 1902, new building cycle began with Playa del Rey, which rose upon the earlier foundations of Port Ballona. A popular seaside resort crowded with auto-racing and boat-racing fans, Playa del Rey featured the 50 room Hotel del Rey, a pleasure pavilion, boardwalks, a boathouse, grandstands, and an incline railway accessing the palisades above the beach. When the pavilion and hotel burned, that venture also collapsed. Development next returned to the area in the 1920s, but it focused upon the palisade bluffs and avoided the beach at the mouth of the creek--a site with a history of fantastic dreams and dashed visions. Aerial photographs from the late 1920s reveal that as Ballona Creek meandered toward the ocean, it dispersed across a broad area, finally collecting in a lagoon created by a sand bar at the ocean's edge. Because of the creek's unpredictable course, only minimal and expendable development--such as farming and oil drilling--occurred on the low ground between Culver City to the east and the Pacific Ocean to the west.

Los Angeles County Flood Control Program

Construction of the Ballona Creek flood control channel must be viewed within the context of Los Angeles County flood control efforts. Seasonal rains, at times torrential, had caused extensive damage since settlers first arrived in the southland. But, prior to the late 1880s, limited property development and low property values did not create general demand for protective measures. By the early 1900s, however, booming real estate development resulted in a substantial increase in property values, as well as an increase in impermeable surfaces, thus exacerbating the region's proclivity toward flooding.

Initial flood control efforts consisted of localized, independent flood control districts. For example, destructive storms of 1910 and 1911 resulted in the formation of the San Antonio Protection District to provide protection along the upper Rio Hondo and San Gabriel River channels. Other local districts formed during the teens also proved successful in protecting property from inundation. By 1913, LA County Engineer Olmsted proposed three interrelated approaches to regional flood control that prefigured all subsequent programs: 1) retention and storage of flood waters in reservoirs; 2) artificial spreading of flood waters over gravel beds to replenish the water table; and 3) straightening and reinforcement of river channels. The proposal included both water conservation and land reclamation as part of a countywide strategy to cope with the climate and terrain particular to the Los Angeles basin.

During the decade 1910-1920, flood control quickly evolved from the jurisdiction of small independent flood control districts to the responsibility of a county-wide flood control agency, catalyzed by the disastrous flood of 1914. That cataclysm caused a record $10 million in damage—including one to two hundred bridges, all railroad lines, public utility wires and pipe lines An act of the California State Legislature created the Los Angeles County Flood Control District the following year. World War I delayed suspension of bonds approved by voters in 1917, so money to begin flood protection measures did no materialize until late 1918. The 1918 plan called for the following measures: 1) conservation of storm waters through reforestation and retarding works in the mountains; 2) containment of storm waters with dams in the mountains; 3) spreading of storm waters at the mouths of canyons to replenish the water table4) diversion of the San Gabriel and Los Angeles Rivers to prevent siltation of the Long Beach and San Pedro harbors; and, 5) acquisition of officials channels of principal streams to permanently align and protect those channels. The first phase of work undertaken between 1918-1924 resulted in the diversion of the Los Angeles River, construction of reservoirs and check dams and realignment of major drainage channels of the Los Angeles and San Gabriel rivers, totaling $7,600,000 worth of improvements.

A second comprehensive plan of 1924 combined the district's mandate of flood protection with water conservation. It detailed 11 additional dams and a number of spreading grounds where stored flood waters could be added to the water table. A county bond measure for $35,300,000 passed later that same year and led to the county's most active period of construction. By 1933, work in progress or already completed included 16 reservoirs, 412 miles of regulated mountain and foothill watersheds, spreading grounds and 132 miles of permanently improved drainage channels, totaling $55 million. Despite these successes, the public did not continue to support flood control efforts, turning down bond issues in 1926 and again in the early 1930s. Tragedy struck on New Year's Day, 1934, when raging flood waters claimed 41 people and left over $ 6 million in property damage. The rejected bond measures

were directly responsible for the devastation. To address the funding shortfall, the Flood Control District turned to the War Department for help. The Emergency Relief Expropriation Act of April 18, 1935, allocated $13, 869,000to continue LA County's flood control program. Included in the legislation were appropriations for storm drains, permanent channel improvements and debris basins. Additional federal legislation, the Flood Control Act of 1936, changed the mission of the Army Corps of Engineers from providing temporary relief during times of duress to permanent supervision of future flood control projects. Channelization of the Los Angeles and San Gabriel Rivers, and the Rio Hondo thus came under the jurisdiction of the Army Corps of Engineers.

A disastrous flood in 1938 led to the passage of yet another federal flood relief bill, the Flood Control Act of 1938. This act provided for a revised plan, submitted to Congress in 1940, and finally approved as the Flood Control Act of 1941. Included as part of this plan were improvements for Ballona Creek, consisting of debris basins in two tributary canyons, 2.3 miles of main channel improvement and 23.67 miles of tributary channel improvement, as well as the reconstruction of several bridges. By 1960 the Los Angeles County Drainage Area project was 99% complete and considered a major success, as raging waters water escaping river banks faded into the past. Countywide efforts now shifted to controlling mudslides and debris flows in steep mountain areas undergoing residential development.

Significance of Ballona Creek Channel : Criterion C

The Ballona Creek drainage area occupies roughly 4% of the total Los Angeles drainage basin, so from a regional perspective, flood control efforts in this watershed were miniscule compared to those conducted in the rest of the Los Angeles basin. The historic record indicates that channelization of Ballona Creek was not a top priority in initial flood control efforts, which began on the Los Angeles and San Gabriel Rivers. A significant amount of hydraulic-laboratory investigation occurred during the design development phase of the channel project because of the unique problems inherent in supercritical flow velocity around curves, through bridges, and at confluences. Limited right of way often resulted in considerable curvature in channel alinement. Likewise, short radius curves required super elevation of the channel bottom to maintain flow equilibrium.

Both rectangular and trapezoidal cross-sections were used in channel design. Although trapezoidal cross sections were less costly to construct, they required greater right of way, and resulted in costlier bridges due to their longer length. Networks of flood control channels required merging two high-velocity streams. This also led to complicated engineering calculations and innovative design. For example, in some of the smaller channels in foothill areas, where steep slopes, narrow rights of way and crooked alinements were common, circular channel sections of cast-in-place concrete were used, precluding the need for a tilted invert along an extremely short radius. Open, rectangular channel concrete sections were designed as L-type walls, constructed in pairs opposite one another, with the wall base forming the channel invert. Walls were engineered for two opposite and limiting conditions--with—the channel empty and with the channel full.

Although significant engineering advances occurred during the channel construction program, most engineering advancements had already been worked out during the design and construction of the more significant waterways. Because Ballona Channel was constructed later in the flood control program, Ballona Creek Flood Control Channel does not appear to meet National Register Criterion C for its engineering, design, or construction.

Significance of Ballona Creek Channel : Criterion A

For most of their history, the Ballona wetlands were too marginal to spend civic resources to protect from flooding. In fact, development could only occur in the area after the creek was channelized, since much of the land was at or below sea level. As evidenced on early maps and aerial photographs, the creek's natural tendency was to sheet flow through a vast wetland, meandering at will across an undeveloped plain until it its flow was directed by natural sandbars at the ocean's edge. So channelization of Ballona Creek was a necessary element for land development to occur within the lower reaches of its watershed.

Flood protection was not as great an issue, since only the higher elevations, not subject to flooding, could be developed prior to channel construction. Even on the higher ground in Culver City, areas adjacent to the new channel were slow to develop. The economic downturn during the Depression and the foreclosure and legal encumbrances of many properties under the Matoon Act, precluded development in much of the town until after World War II. Those properties that did develop were just as much influenced by war-related defense industry production facilities in neighboring Westchester as they were by construction of the Ballona Creek Flood Control Channel, so the cause and effect relationship is a complex one not easy to untangle.

What remains clear is that the most spectacular effect of channelization of Ballona Creek was the land reclamation that occurred during the post-war period. Marina del Rey, its harbor for pleasurecraft, highrise condominiums, garden apartments, shops, hotels, restaurants and recreational facilities, could never have been developed without channelizing Ballona Creek. As important as this relationship is, it occurred during the 1970s and 80s, well beyond the resource's period of significance (1928-1939). Furthermore, more than half of the resource was constructed during the thirty years after the passage of the 1938 Flood Control Act that authorized initial work on the flood control channel. Consequently, most of the Ballona Creek Flood Control drainage area is not yet fifty years old.

Since the majority of the resource itself, and the historic pattern of events signifying its importance, is not yet old enough to be historic, and the resource does not appear to have overriding historic significance, the Ballona Creek Flood Control Drainage project does not appear to meet National Register Eligibility criteria at this time. When the system becomes fifty years old, it should be re-evaluated to determine if it contributes to the National Register-eligible discontiguous thematic Historic District comprised of the LA County Flood Control Dams, determined eligible for the National Register under criteria A and C through the Sec. 106 process instituted by the Federal Emergency Management Agency (FEMA) in conjunction with the seismic retrofit of the dams.

***B12. References: (Continued)**

Stephen van Wormer, "Historical Resource Overview and Survey for the Los Angeles County Drainage Area Review Study", U.S. Army Corps of Engineers, 1985.

____"A History of Flood Control in the Los Angeles County Drainage Area," *Historical Society of Southern California Quarterly*, 73, No. 1: 55-107.

John McFee, "Los Angeles Against the Mountains" in *The Control of Nature*, New York: Farrar, Giroux, 1989, 183-272.

S. E. Rantz, "Urban Sprawl & Flooding in Southern California," Water in the Urban Environment Geological Survey Circular 601-B, Washington D.C., 1970.

Col. C. T. Newton and Harold E. Hedger, "Los Angeles County Flood Control and Water Conservation," a paper presented to the American Society of Civil Engineers, Los Angeles Convention, February 9-13, 1959.

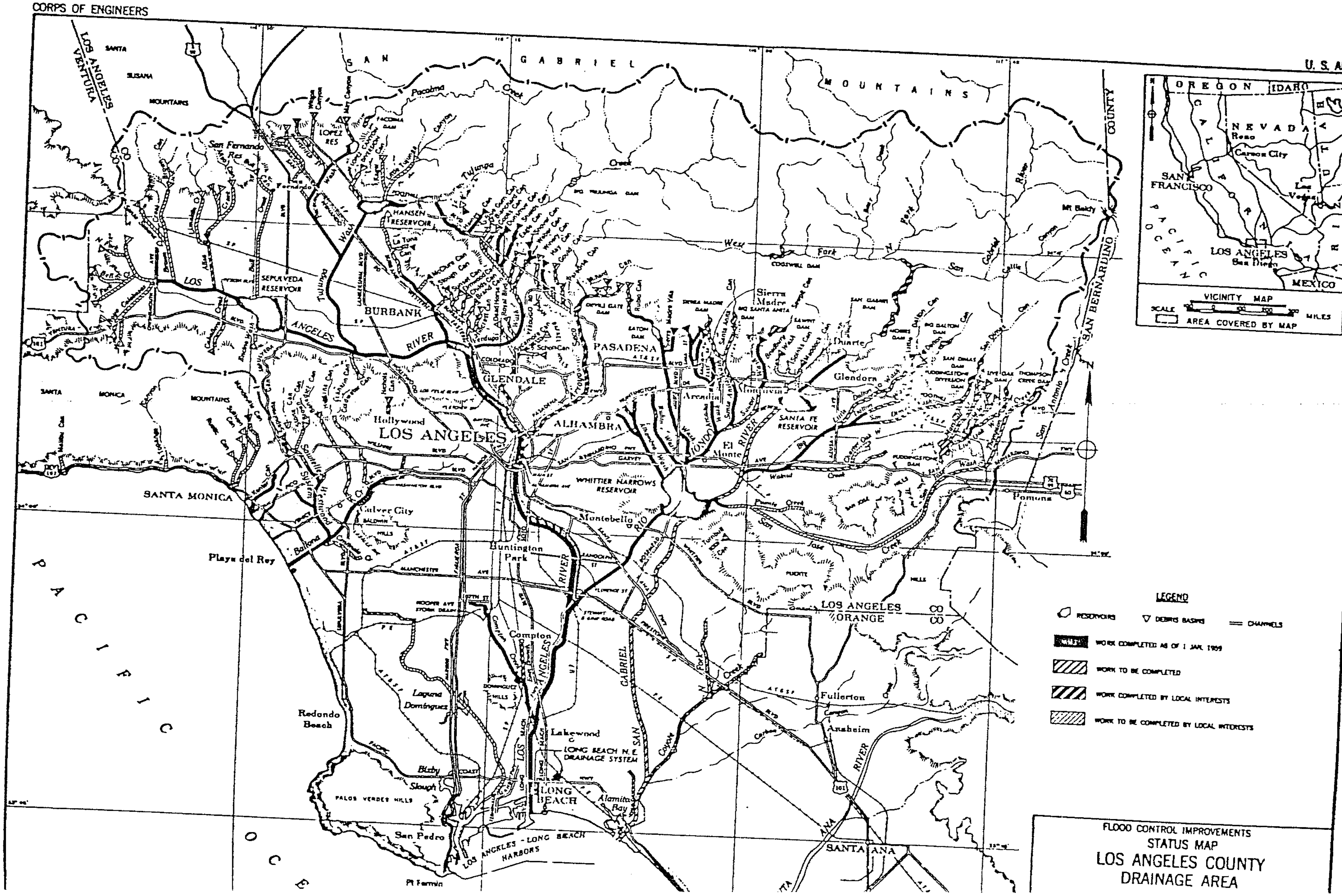
FEMA Sec. 106 consultation files for the Seismic Safety Modification of Dams Project, Los Angeles County Department of Public Works. Determination of Eligibility for a discontiguous thematic district of 10 dams in Los Angeles County, California. December 22, 1999.

Operation & Maintenance Manual , Los Angeles County Drainage Area Project, Los Angeles District, Army Corps of Engineers, December 1975.: project data sheets for the Ballona Creek drainage area.

Fairchild Photo Collection, Whittier College, Flight Numbers C-164 (1-1928); c-300 (1928); C-5084 (4-1-38); C-6330 (5-1940); C-11023 (1946-47); C-11351 (1947); C-11351 (1947); c-19375 (5-8-53).

CORPS OF ENGINEERS

U. S. ARMY



FLOOD CONTROL IMPROVEMENTS
STATUS MAP
LOS ANGELES COUNTY
DRAINAGE AREA

18-187805

Federal Emergency Management Agency
Hazard Mitigation Division
FEMA-1008-DR-CA
P.O. Box 6020
Pasadena, CA 91102-6020
Telephone: (626) 431-3000 FAX: (626) 431-3875

Mr. Daniel Abeyta, Acting State Historic Preservation Officer
State of California, Department of Parks and Recreation
Office of Historic Preservation
1416 9th Street, Room 1442-7
Sacramento, California 95814

Subject: County of Los Angeles, Department of Public Works
National Register of Historic Places
Determination of Eligibility for Los Angeles County Dams

Issue: Supplemental Information

FEMA
#1

Dear Mr. Abeyta:

The Federal Emergency Management Agency (FEMA) has received informal comments from your office on the determination of eligibility for a discontiguous district of dams related to a 1924 Los Angeles County Flood Control District bond issue. FEMA transmitted this original determination to your office in correspondence dated November 8, 1999. This letter is provided as a supplemental response to the above stated comments and as a request for concurrence based on the following exchange of information.

1. **National Register Eligibility**

The discontiguous district is composed of 10 dams and their related features, all of which were funded as part of a Los Angeles County Flood Control District bond issue in 1924.

These dams are identified as follows:

- Big Dalton Dam
- Big Tujunga Dam
- Cogswell Dam
- Pacoima Dam
- Puddingstone Dam
- Puddingstone Diversion Dam
- San Gabriel Dam
- Santa Anita Dam
- Sawpit Dam
- Thompson Creek Dam

The review of the dams indicates that nine of them are eligible for listing as a thematic district in the National Register of Historic Places under Criteria A and C; and that one, the Thompson Creek Dam, is eligible only under Criterion A.

2. Period of Significance

Based on the informal consultation with SHPO, FEMA proposes to revise the period of significance as the time period from 1924 through 1949. This period reflects the funding action and start of construction on the dams and continues through to a period at which the effectiveness of the dams, in achieving their important purpose of controlling flood waters and then, of allowing new growth and expansion of the valley areas, was clearly evident.

Revised Conclusion

In summary, FEMA respectfully requests SHPO to concur with the following findings: 1) The identification of a discontiguous district of 10 thematically related dams, period of significance for the district, and the determination of the historic structures within the district as eligible for the National Register, and; 2) The reevaluation of the Pacoima Dam as eligible for the National Register as part of the district.

Thank you for your assistance in the completion of the Section 106 review process for this determination of eligibility. If you have any questions or need additional information in regard to this letter please contact Tim Brandt at (626) 431-3417.

Sincerely,

Dan J. Smith

for David Fukutomi
Deputy Disaster Recovery Manager
FEMA DR-1008-CA

CONCUR: _____ for _____ 12/22/99
Daniel Abeyta Date
Acting State Historic Preservation Officer

APPENDIX C

California Historic Bridge Inventory

Structure Maintenance & Investigations

Historical Significance - State Agency Bridges

District 07

Los Angeles County

Bridge Number	Bridge Name	Location	Historical Significance	Year Built	Year Wid/Ext
53 0085R	GORMAN CREEK	07-LA-005-R80.79	5. Bridge not eligible for NRHP	1967	
53 0085Y	GORMAN CREEK	07-LA-005-R80.79	5. Bridge not eligible for NRHP	1967	
53 0086	WOODWARDIA CANYON	07-LA-002-29.55	5. Bridge not eligible for NRHP	1931	
53 0088	SIDEHILL VIADUCT	07-LA-002-29.08-PAS	4. Historical Significance not determined	1931	
53 0089	CULVER BLVD OC	07-LA-001-30.47-LA	5. Bridge not eligible for NRHP	1933	
53 0090	BROADAWY OC (ON-RAMP)	07-LA-101-1.10-LA	5. Bridge not eligible for NRHP	1950	
53 0093	CASTAIC CREEK	07-LA-126-R4.09	5. Bridge not eligible for NRHP	1989	1998
53 0094	LIVE OAK CANYON CHANNEL	07-LA-000--CLA	5. Bridge not eligible for NRHP	1914	1991
53 0096	ESTUDILLO AVENUE POC	07-LA-060-R1.76-LA	5. Bridge not eligible for NRHP	1965	
53 0098	LANKERSHIM BLVD UC	07-LA-101-10.34-LA	5. Bridge not eligible for NRHP	1948	
53 0101	INDIANA STREET OC	07-LA-060-R1.94-LA	5. Bridge not eligible for NRHP	1965	
53 0102K	TEMPLE ST OFF-RAMP OC	07-LA-101-1.40-LA	5. Bridge not eligible for NRHP	1949	
53 0103S	GRAND AVENUE ON-RAMP OC	07-LA-101-1.42-LA	5. Bridge not eligible for NRHP	1949	
53 0104M	CHARTER OAK WASH	07-LA-010-37.61-WCOV	5. Bridge not eligible for NRHP	1934	1975
53 0105	WALNUT CREEK CHANNEL	07-LA-010-38.32-WCOV	5. Bridge not eligible for NRHP	1932	1975
53 0109L	SAN GABRIEL RIVER	07-LA-010-30.84-BWP	5. Bridge not eligible for NRHP	1933	2002
53 0109R	SAN GABRIEL RIVER	07-LA-010-30.84-BWP	5. Bridge not eligible for NRHP	1956	2004
53 0111	BASSETT OH	07-LA-010-32.50-BWP	5. Bridge not eligible for NRHP	1956	2013
53 0112	BIG DALTON WASH	07-LA-010-32.93-BWP	5. Bridge not eligible for NRHP	1955	2012
53 0113	SAN GABRIEL RIVER	07-LA-039-17.82	5. Bridge not eligible for NRHP	1933	
53 0114	CHAPMAN CANYON	07-LA-039-18.36	5. Bridge not eligible for NRHP	1934	
53 0115	VAN ORNUM CANYON	07-LA-039-20.66	5. Bridge not eligible for NRHP	1933	
53 0116	CARPENTER CANYON	07-LA-039-21.45	5. Bridge not eligible for NRHP	1933	
53 0117	PEJSA CANYON	07-LA-039-22.17	5. Bridge not eligible for NRHP	1933	
53 0118	BALLONA CREEK	07-LA-001-30.36-LA	5. Bridge not eligible for NRHP	1937	
53 0119	ROWAN AVENUE OC	07-LA-060-R2.22	5. Bridge not eligible for NRHP	1965	
53 0121	YORK BLVD OC	07-LA-110-29.50-LA	2. Bridge is eligible for NRHP	1912	
53 0123	EASTERN AVENUE OC	07-LA-010-20.85-LA	5. Bridge not eligible for NRHP	1972	
53 0130	STATE STREET OC	07-LA-010-18.52-LA	5. Bridge not eligible for NRHP	1934	
53 0133	SOTO-MARENGO STREET OC	07-LA-010-19.07-LA	5. Bridge not eligible for NRHP	1972	
53 0138	SANTA MONICA STORM DRAIN	07-LA-001-37.01-LA	5. Bridge not eligible for NRHP	1940	1951
53 0143	TOPANGA CREEK	07-LA-027-2.02	5. Bridge not eligible for NRHP	1941	1989
53 0144	TOPANGA CREEK	07-LA-027-4.20	5. Bridge not eligible for NRHP	1934	
53 0145	ROUTE 1/103 SEPARATION	07-LA-001-8.27-LBCH	5. Bridge not eligible for NRHP	1948	
53 0146	SANTA SUSANA CREEK	07-LA-027-17.01-LA	5. Bridge not eligible for NRHP	1964	1966
53 0147L	RED ROVER MINE ROAD UC	07-LA-014-R47.34	5. Bridge not eligible for NRHP	1965	2002
53 0147R	RED ROVER MINE ROAD UC	07-LA-014-R47.34	5. Bridge not eligible for NRHP	1965	2002
53 0148	TELEPHONE OC	07-LA-405-23.30-ING	5. Bridge not eligible for NRHP	1961	
53 0162	NEWELL STREET UC	07-LA-005-22.26-LA	5. Bridge not eligible for NRHP	1961	
53 0162H	NEWELL STREET UC	07-LA-002-14.97-LA	5. Bridge not eligible for NRHP	1961	
53 0162K	NEWELL STREET UC	07-LA-005-22.26-LA	5. Bridge not eligible for NRHP	1961	
53 0163	RIVERSIDE DRIVE UC	07-LA-005-21.94-LA	5. Bridge not eligible for NRHP	1961	
53 0164	GILROY STREET UC	07-LA-005-22.78-LA	5. Bridge not eligible for NRHP	1961	1974

hs_state.rdf

APPENDIX D

Correspondence

Communication Log

JRP HISTORICAL CONSULTING, LLC
2850 Spafford Street, Davis, CA 95618
Phone (530) 757-2521 / Fax (530) 757-2566

Project Lincoln Bridge Multi-Modal Improvement Project

Project No. EA: 07-33880

Subject Contacting interested parties re: historic resources

Client California Department of Transportation (Caltrans)

Notes Prepared By Cheryl Brookshear, Staff Historian, JRP Historical Consulting, LLC on behalf of Caltrans

Participants	Notes
Marina Del Rey Historical Society 4030 Del Rey Ave Marina del Rey, CA 90292	June 24, 2019 – letter mailed via USPS. July 8, 2019 – letter returned as non-deliverable. July 11, 2019 – attempt to send letter via website e-mail portal http://www.marinadelreyhistoricalsociety.org/contact-us/
Pacific Electric Railway Historical Society P.O. Box 431 San Gabriel, CA 91778	June 24, 2019 – letter mailed via USPS. June 28, 2019 – e-mail response from President Michael Patris that they have no information or comments regarding the project.
The Bay Foundation 8334 Lincoln Blvd # 310 Los Angeles, CA 90045	June 24, 2019 – letter mailed via USPS. July 11, 2019 – Follow up e-mail sent by website e-mail portal https://www.santamonicabay.org/contact/
Los Angeles Office of Historic Resources Department of City Planning 200 N Spring St, Room 559 Los Angeles, CA 90012	June 24, 2019 – letter mailed via USPS. July 11, 2019 – Follow up e-mail sent.
Los Angeles Railroad Heritage Foundation 825 Colorado Blvd, Suite 242 Los Angeles, CA 90041	June 24, 2019 – letter mailed via USPS. July 11, 2019 – Follow up e-mail sent.
Loyola Marymount University Department of Archives and Special Collections 1 LMU Drive Los Angeles CA, 90045-2659	June 24, 2019 – letter mailed via USPS. July 11, 2019 – Follow up e-mail sent.
Attn: Adrian Scott Fine Los Angeles Conservancy 523 W 6th St Los Angeles, CA 90014	June 24, 2019 – letter mailed via USPS. July 11, 2019 – Follow up e-mail sent.

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, DIVISION OF ENVIRONMENTAL PLANNING
100 S. MAIN STREET, MS 16A
LOS ANGELES, CA 90012
PHONE (213) 897-0362
FAX (213) 897-0685
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

June 24, 2019

RE: Lincoln Bridge Multi-Modal Improvement Project

To Whom It May Concern:

The California Department of Transportation (Caltrans) and the City of Los Angeles are proposing the Lincoln Bridge Multi-Modal Improvement Project located on an approximately 0.61-mile segment of Lincoln Boulevard between Jefferson Boulevard (PM 30.15) and just south of Fiji Way (PM 30.74) in the City of Los Angeles near the community of Marina del Rey, Los Angeles County (see enclosed map). The project proposes to improve travel safety and connectivity by constructing an additional southbound lane, installing sidewalks and bicycle lanes, and making other related improvements. The project also includes the demolition, replacement, and widening of two bridges, the Lincoln Boulevard Bridge over the channelized Ballona Creek and the Culver Boulevard Overcrossing. The project area also includes remnants of a former Pacific Electric Railway bridge, which flanks the Culver Boulevard Overcrossing. A list of recipients of this letter is also provided.

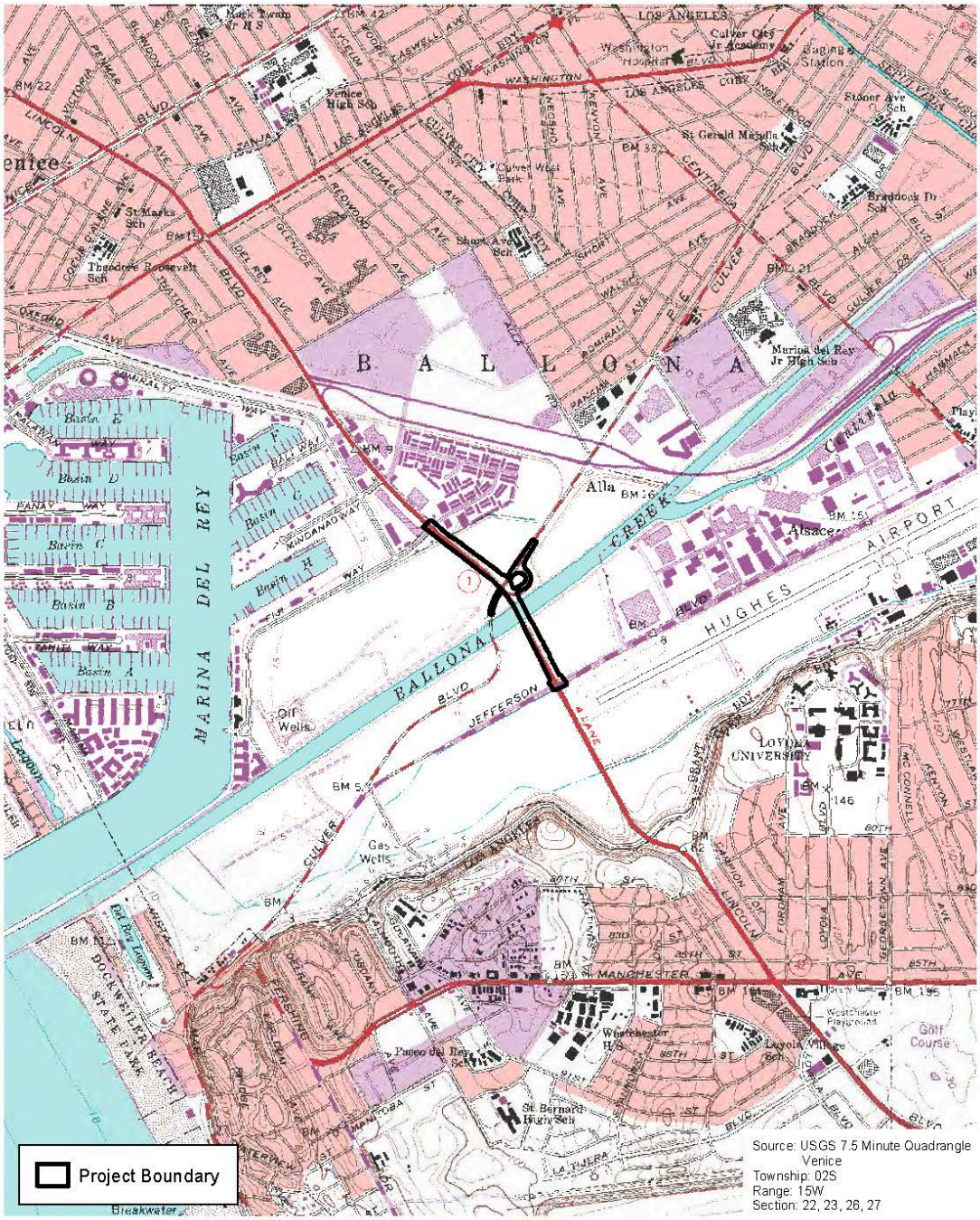
JRP Historical Consulting, LLC (JRP) has been retained to conduct an inventory and evaluation of potential historic properties that may be affected by the project. JRP is determining whether such properties are eligible for listing in the National Register of Historic Places (NRHP) and/or the California Register of Historical Properties (CRHR). The channelized Ballona Creek, for example, was previously determined not eligible for the NRHP. JRP's work is part of the environmental studies process for the proposed project and is being conducted for compliance with Section 106 of the National Historic Preservation Act and the California Environmental Quality Act.

Your knowledge of local history is important to us. If you or your organization has any information or concerns about historic resources that could be affected by this project, please respond in writing to Attn: Cheryl Brookshear, JRP Historical Consulting, LLC, 2850 Spafford Street, Davis, California 95618, or via e-mail at cbrookshear@jrphistorical.com within the next thirty (30) days. We would also appreciate you letting us know if you do not have any comments. Please note this is not a request for research, just for information. Thank you for any assistance you can provide.

Sincerely,

JOSHUA KNUDSON
Associate Environmental Planner, Architectural Historian
Caltrans, District 7, Division of Environmental Planning, Cultural Resources Unit

Enclosure: Project Location Map, List of Recipients



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Lincoln Bridge Multi-modal Improvement Project

Figure 3

Project Boundary on the USGS map

2,000 1,000 0 2,000 Feet

PSOMAS

(Rev: 2-09-2017 MMD) Projects\2LOS\010100-Lincoln Ave\Graphics\ex3_USGS_20170209.pdf

List of Recipients

Marina Del Rey Historical Society
4030 Del Rey Ave
Marina del Rey, CA 90292

Los Angeles Railroad Heritage Foundation
825 Colorado Blvd, Suite 242
Los Angeles, CA 90041

Pacific Electric Railway Historical Society
P.O. Box 431
San Gabriel, CA 91778

Loyola Marymount University
Department of Archives and Special Collections
1 LMU Drive
Los Angeles CA, 90045-2659

The Bay Foundation
8334 Lincoln Blvd # 310
Los Angeles, CA 90045

Attn: Adrian Scott Fine
Los Angeles Conservancy
523 W 6th St
Los Angeles, CA 90014

Los Angeles Office of Historic Resources
Department of City Planning
200 N Spring St, Room 559
Los Angeles, CA 90012

Cheryl Brookshear

From: mpatris@pacbell.net
Sent: Friday, June 28, 2019 3:02 PM
To: Cheryl Brookshear
Subject: Lincoln Bridge Multi-Modal Improvement Project

Hello Cheryl,

Our organization, the Pacific Electric Railway Historical Society Archives, received a letter from the Department of Transportation regarding the Lincoln Bridge.

I did want to let you know we received the letter, but have no specific historical information regarding this former right-of-way and also do not have any comments on the pending project.

Thanks for your information, best wishes,

Michael Patris
President, PERYHS.org

Cheryl Brookshear

From: Cheryl Brookshear
Sent: Thursday, July 11, 2019 3:45 PM
To: 'info@larhf.org'; 'special.collections@lmu.edu'; 'info@laconservancy.org'; 'janet.hansen@lacity.org'
Subject: Lincoln Bridge Multi-Modal Improvement Project
Attachments: Interested Parties Letter - Lincoln Bridge Multi-Modal CT Letterhead 2019-06-24.pdf

Hello,

I am following up on a letter sent from Caltrans on June 24, 2019 regarding this project (see attached). We are wrapping up our historic resources report and wanted to check if your organization had any comments regarding the project. Please respond to this e-mail or contact me via the address and telephone number below.

Thank you,
Cheryl

Cheryl Brookshear
Historian/Architectural Historian
JRP Historical Consulting, LLC
2850 Spafford Street
Davis, CA 95618
(530) 757-2521 x113
cbrookshear@jrphistorical.com

ATTACHMENT 3

ARCHAEOLOGICAL SURVEY REPORT (ASR)

ARCHAEOLOGICAL SURVEY REPORT FOR THE STATE ROUTE 1 (LINCOLN BOULEVARD) MULTIMODAL IMPROVEMENT PROJECT, CITY OF LOS ANGELES, LOS ANGELES COUNTY, CALIFORNIA

POSTMILES 30.16 TO 30.74
EA# 07-33880
EFIS# 0717000061

Approved by:

Claudia Harbert
Environmental Branch Chief
California Department of Transportation, District 7
Los Angeles, CA 90012

Reviewed by:

Mariam Dahdul
PQS Principal Investigator, Prehistoric Archaeology
Division of Environmental Planning, Cultural Studies
California Department of Transportation, District 7
Los Angeles, CA 90012

Prepared by:

Charles W. Cisneros, M.S., RPA
Senior Archaeologist
Psomas
225 South Lake Avenue, Suite 1000
Pasadena, CA 91101
626-204-6520

March 2023

NADB Data: Lincoln Bridge, Intensive Survey, Negative Findings, U.S. Geological Survey (USGS) 7.5' *Venice* Topographic Quadrangle of the San Bernardino Baseline and Meridian

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S.C. 327 and the Memorandum of Understanding dated December 23, 2016, and executed by FHWA and Caltrans.

CONFIDENTIALITY

Cultural resources are nonrenewable and their scientific, cultural, and aesthetic values can be significantly impaired by disturbance. To deter vandalism and other activities that can damage cultural resources, the location of cultural resources should be kept confidential. The legal authority to restrict cultural resource information can be found in California Government Code sections 6254.10 and 6254(r); California Code of Regulations Section 15120(d); and Section 304 of the National Historic Preservation Act of 1966.

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Section **Page**

TABLES

APPENDICES

SUMMARY OF FINDINGS

The purpose of this document is to report results of an archaeological survey undertaken for the State Route 1 (Lincoln Boulevard) Multimodal Improvement Project located in the City and County of Los Angeles and within the community of Marina del Rey. The Project extends from Post Mile (PM) 30.16 to 30.74 and occurs within the Los Angeles city limits and an unincorporated portion of Los Angeles County. The Project occurs on a California Department of Transportation (Caltrans) roadway facility and may involve federal funding; therefore, the Project requires federal approval.

This Archaeological Survey Report (ASR) has been prepared in accordance with Caltrans' regulatory responsibilities under Section 106 of the National Historic Preservation Act (NHPA; 36 CFR Part 800) and in accordance with the January 2014 *First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer and the California Department of Transportation regarding Compliance with Section 106 of the National Historic Preservation Act, as it pertains to the Administration of the Federal-Aid Highway Program in California* (Section 106), and the *Memorandum of Understanding between the California Department of Transportation and the California State Historic Preservation Officer regarding Compliance with Public Resources Code Section 5024 and Governor's Order W-26-92* (5024 MOU).

A records search at the South Central Coastal Information Center (SCCIC) showed that 32 cultural resources have been recorded within a one-mile radius of the project's Area of Potential Effects (APE). Of these 32, five are located within the APE; however, one of the cultural resources previously identified in 1989 as a prehistoric shell scatter—CA-LAN-1698—was updated in 1990 by Statistical Research Incorporated (SRI). SRI determined that the shell scatter was the result of redeposited fill and not cultural in origin. The remaining four cultural resources consist of built environment resources and are discussed in the 2022 Historic Resources Evaluation Report (Attachment 2) of the Historic Property Survey Report [HPSR]).

The resource identification effort included a request on February 23, 2018 to the California Native American Heritage Commission (NAHC) for a search of the Sacred Lands File. The NAHC responded on February 26, 2018, stating that no Native American cultural resources are known to exist within or adjacent to the Project APE. However, the NAHC noted that the area is sensitive for cultural resources and that the absence of specific site information in the Sacred Lands Files does not indicate the absence of Native American cultural resources in the APE. The NAHC recommended that 10 Native American representatives and organizations be contacted to solicit any information or concerns regarding cultural resources issues related to the Project. Four of the Native American representatives contacted confirmed that the area is sensitive for prehistoric cultural resources, but they did not provide specific information on tribal cultural resources within the project's APE.

On June 14, 2019, Psomas Senior Archaeologist Charles Cisneros conducted a pedestrian survey of the Project APE. Portions of the APE within the Ballona Wetlands were not surveyed as no permission was provided by the California Department of Fish and Wildlife (CDFW) for right of entry. When feasible the survey was conducted in parallel transects that were spaced no farther than 2 to 4 meters. Most of the Project APE consists of active roadway, with much of the ground surface covered in asphalt or concrete. No prehistoric or historical archaeological resources were identified within the accessible portions of the Project APE. The APE may be highly sensitive for the presence of subsurface cultural deposits due to the close proximity of known archaeological sites and the location of the project in the area of the Ballona Lagoon and its associated wetlands. For this reason, an Extended Phase I (XPI) investigation was completed in October 2022 (Attachment 4 of the HPSR).

It is Caltrans' policy to avoid cultural resources whenever possible. Further investigations may be needed if site[s] cannot be avoided by the Project. If buried cultural materials are encountered during construction, it is Caltrans' policy that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find. Additional survey will be required if the Project changes to include areas not previously surveyed.

1.0 INTRODUCTION

This Archaeological Survey Report (ASR) was prepared for the California Department of Transportation (Caltrans) for the State Route 1 (Lincoln Boulevard) Multimodal Improvement Project (hereinafter referred to as the Project). Psomas has been retained to conduct a cultural resources study for the proposed Project. The Project is located within the City and County of Los Angeles. Caltrans, in cooperation with the City of Los Angeles, proposes to improve circulation and safety along Lincoln Boulevard by constructing an additional southbound lane, installing sidewalks and protected bicycle lanes, and implementing complete streets and other related improvements along an approximate 0.61-mile segment of Lincoln Boulevard between Jefferson Boulevard (PM 30.16) and just south of Fiji Way (PM 30.74). The Project primarily occurs in the City of Los Angeles and the community of Marina del Rey, with potential temporary construction easements and partial right-of-way acquisitions needed in the north and northwest within parcels that are within unincorporated parts of Los Angeles County.

This report was prepared by Charles W. Cisneros according to the guidelines presented in Caltrans *Standard Environmental Reference, Volume 2: Cultural Resources* (2016). Charles Cisneros participated in the field survey. Charles Cisneros has an M.S. degree in Archaeology with an emphasis in prehistoric archaeology and approximately 19 years of professional experience. He is a Registered Professional Archaeologist (RPA) qualified under the Secretary of the Interior's Professional Qualifications Standards (1983) and is the PQS equivalent of Principal Investigator – Prehistoric Archaeology. Please refer to Appendix A for Charles Cisneros's resume.

2.0 HIGHWAY PROJECT LOCATION AND DESCRIPTION

2.1 HIGHWAY PROJECT LOCATION

The Project is located on State Route 1, known locally as Lincoln Boulevard, in the Marina Del Rey area, Los Angeles County, California. The southern limit of the Project is the Lincoln Boulevard/ Jefferson Boulevard intersection (PM 30.74), and the northern limits are Lincoln Boulevard/Fiji Way (PM 30.16). The Project is approximately 3,200 feet (0.61 mile) in length. The Project would improve circulation and safety along Lincoln Boulevard by constructing an additional southbound lane, installing sidewalks and protected bicycle lanes, and implementing complete streets and other related improvements.

The Project is shown on the U.S. Geological Survey (USGS) 7.5-minute Venice topographic quadrangle of the San Bernardino Baseline and Meridian. A detailed project map is shown in Exhibit 1 (Project Location Map). Exhibit 1 is included in Attachment 1 of the 2023 HPSR.

2.2 PROJECT DESCRIPTION

City of Los Angeles, in cooperation with Caltrans, proposes to improve circulation and safety along Lincoln Boulevard by constructing an additional southbound lane, installing sidewalks and protected bicycle lanes, and implementing complete streets and other related improvements along an approximate 0.61-mile segment of Lincoln Boulevard between Jefferson Boulevard (PM 30.16) and just south of Fiji Way (PM 30.74). The Project primarily occurs in the City of Los Angeles, with potential temporary construction easements and partial right-of-way acquisitions needed in the north and northwest within parcels that are within unincorporated Los Angeles County.

The Project purpose is to achieve a consistent roadway design, while also enhancing safety and mobility for pedestrians, bicyclists, automobiles, and transit vehicles on Lincoln Boulevard in the vicinity of Ballona Creek. The Project purpose is also to increase southbound roadway capacity along Lincoln Boulevard within the Project limits at a location where Lincoln Boulevard bottlenecks from three lanes to two lanes in the southbound direction.

The Project's build alternative includes: realignment of the Lincoln Boulevard centerline approximately 50 feet to the east; addition of one southbound lane along Lincoln Boulevard for a length of approximately 1,800 feet; demolition, replacement, and widening of the Lincoln Boulevard Bridge over Ballona Creek; demolition, replacement, and widening of the Culver Boulevard Bridge over Lincoln Boulevard; demolition, replacement, and realignment of the connector ramps between Lincoln Boulevard and Culver Boulevard; construction of active transportation improvements including sidewalks, Class IV protected bicycle lanes on both sides of Lincoln Boulevard, ADA-compliant curb ramps, and signal upgrades at intersections within the Project limits. The Project would also include: utility relocation; landscaping; low-intensity street lighting, striping, signage, drainage, and water quality improvements. The Project would install a striped center median that would allow space to accommodate a future center-running transit facility within the Project limits, which is not included as part of the Project. Construction of the Project build alternative would result in three through lanes in the northbound and southbound directions of Lincoln Boulevard between Fiji Way and Jefferson Boulevard, with additional turning lanes at intersections. Project right-of-way needs are still being refined for the build alternative, but it is likely that partial right-of-way acquisition and/or temporary construction easements would be required from approximately 20 parcels. No full right-of-way takes, residential displacements, or business displacements would be required under the build alternative; however, local parking and driveways may need to be reconfigured for parcels where partial right-of-way acquisition occur to accommodate the Project.

Under the build alternative, the replacement Lincoln Boulevard Bridge over Ballona Creek would include three 12-foot travel lanes in each direction, a 12-foot center median, and 2-foot lane buffers, 8-foot shoulders including 6-foot-wide, Class IV protected bicycle lanes, 6-foot sidewalks, and 1-foot edge barriers on both sides of the roadway.

Under the build alternative, the replacement Culver Boulevard Bridge would include one 12-foot travel lane in each direction as well as 5-foot shoulders, 6-foot sidewalks, and 1-foot bridge barriers on both sides of the roadway.

2.3 PROJECT AREA OF POTENTIAL EFFECTS

The archaeological APE is defined as the limits of Project disturbance/direct impact area plus a 200-foot buffer to allow for construction vehicles and equipment movement. The archaeological APE are those areas outside of the direct impacts that suffer indirect impacts (e.g., vibration, noise) because of the Project and generally include the adjacent built environment. The buffer areas in the APE are primarily open space adjacent to Lincoln Boulevard. In addition, the vertical APE accounts for depths of excavations ranging from 2 to 100 feet below the existing ground surface. The Project APE was established in consultation with Caltrans Professionally Qualified Staff and the Caltrans Project Engineer. A detailed APE map is included in Attachment 1 of the 2023 HPSR.

3.0 SOURCES CONSULTED

3.1 ARCHAEOLOGICAL/HISTORICAL RESOURCES RECORDS SEARCH

An archaeological and historical resources records search for the Project APE and the surrounding one-mile radius was conducted on January 9, 2018 (see Appendix D) at the South-Central Coastal Information Center (SCCIC), housed at the Department of Anthropology at California State University, Fullerton. The SCCIC is the designated regional repository of the California Historical Resources Information System (CHRIS) for records regarding archaeological and historical resources and associated studies in Los Angeles County. The CHRIS system provides data on the NRHP, California Register of Historical Resources (CRHR), California Historical Landmarks (CHL), California Points of Historical Interest (CPHI), and Historical Landmarks of Los Angeles County, plus historical maps and photographs as needed.

3.1.1 2018 SCCIC RESULTS FOR PREVIOUS STUDIES AND LITERATURE REVIEW

The results of the 2018 records search identified 68 studies within a one-mile search radius of the APE for the Project. Of the 68 studies, six occur within the boundary of the APE. The studies date from 1936 to 2016 and consist primarily of block archaeological field studies and literature reviews, archaeological excavations and mitigation monitoring, and general overviews of the region. Table 1 lists the studies that were conducted within and near the APE for the Project.

TABLE 1
CULTURAL RESOURCE INVESTIGATIONS WITHIN 1-MILE OF THE APE

Report Number	Author	Year	Title	Proximity to APE
LA-00027	Rozaire, C.E.	1974	Del Rey/Strand Environmental Report	Outside
LA-00188	Hector, S.K.	1976	Evaluation of the Area Known as Tentative Tract 31351, Los Angeles County, an Environmental Impact Report	Outside
LA-00211	Dillon, B.D.	1982	Archaeological Test Excavations on the Property Proposed for the Hughes Aircraft Company Headquarters Facility Los Angeles, California	Outside
LA-00436	Pence, R.L.	1979	Archaeological Assessment of the Summa Corporation Property, Culver City, Los Angeles County	Outside
LA-00462	Hector, S.M.	1979	An Archaeological Resource Survey for an Impact Assessment of Tract No. 25635, Los Angeles County	Outside
LA-00748	Schofield, G.T.	1964	Surface Collection from Loyola University Site, Los Angeles County (CA-LAN-61)	Outside
LA-00750	Marty, T.	1953	Recording by Pictures the Collection of William Deane of the Hughes Aircraft Site	Outside
LA-00751	Belous, R.E. and C.E. Rozaire	1950	Preliminary Report on the Archaeology of the La Ballona Creek Area, Los Angeles County	Outside
LA-00798	Singer, C.A.	1980	Archaeological Investigations at the Westport Beach Club in Playa Del Rey, Los Angeles County, California – Phase I Report	Outside
LA-00839	Farmer, M.F.	1936	Preliminary Notes of an Archaeological Reconnaissance of Indian Camp Sites in the Baldwin Hill-Ballona Creek Region of Los Angeles County, California	Outside

TABLE 1
CULTURAL RESOURCE INVESTIGATIONS WITHIN 1-MILE OF THE APE

Report Number	Author	Year	Title	Proximity to APE
LA-00873	Singer, C. A.	1980	Cultural Resource Survey and Impact Assessment for a Lot at 373-375 Fowling Street, Playa Del Rey, Los Angeles County, California	Outside
LA-01173	Dillon, B.D.	1982	An Archaeological Resource Survey and Impact Assessment of Parcel Near Centinela and Ballona Creeks in the City of Los Angeles, California	Outside
LA-01202	Dillon, B.D.	1982	An Evaluation of the Archaeological Resources on the Property Proposed for the Hughes Aircraft Company Headquarters Near LAN-61 in Los Angeles, California	Outside
LA-01209	Van Horn, D. M.	1983	Archaeological Test Excavation Report: The Site of the New Hughes Aircraft Company Headquarters Near LAN-61 in Los Angeles, California	Outside
LA-01249	Aycock, R. D.	1983	An Assessment of the Archaeological Resources on the Property Proposed for the Project Title Protection West Lincoln Blvd, California	Outside
LA-01282	Padon, B.	1983	An Archaeological Assessment of the Playa Sol Project in the City of Los Angeles	Outside
LA-01444	Dillon, B. D., D. M. Van Horn, and J. R. Murray	1983	Report to the LAN-61 Board of Senior Advisors: The Location and Condition of LAN-62	Outside
LA-01512	Van Horn, D. M.	1986	Surface Mapping and Auger Sampling at LAN-63 and LAN-64, City of Los Angeles	Outside
LA-01613	Van Horn, D. M.	1983	Archaeological Survey Report: a 30+/- Tract a at the Northwest Corner of Manchester & Hastings Avenues in the City of Los Angeles	Outside
LA-01614	Brown, R. S.	1983	Archaeological Test Report: a 30+/- Acre Parcel of Property at the Corner of Manchester and Hastings Avenues in the City of Los Angeles	Outside
LA-01975	Neuenschwander, N. J.	1989	Cultural Resource Survey and Clearance Report for the Proposed American Telephone and Telegraph Los Angeles Airport Central Office to the Santa Monica Central Office Fiberoptic Communication Route	Outside
LA-02372	Homburg, J. A.	1991	Late Prehistoric Change in the Ballona Wetland.	Outside
LA-02445	Peak, A.	1990	Shovel Testing at Two Sites CA-LAN-1698 and CA-LAN-1018 Los Angeles County, California	Outside
LA-02669	Gervais, R.	1978	Draft Background and Environmental Impact Report Venice District	Outside
LA-03583	Bucknam, B. M.	1974	The Los Angeles Basin and Vicinity: A Gazetteer and Compilation of Archaeological Site Information	Outside
LA-03776	Romoli, D. A., K. L. Johnson, and T. Blackburn	1965	Ucas-035 Malibu	Outside
LA-03898	Anonymous		Proposal for Archaeological Investigations in the Area of Hammock Street and Port Drive (vii-l.a.-90,405; Lincoln Blvd. to Slauson Avenue)	Outside

TABLE 1
CULTURAL RESOURCE INVESTIGATIONS WITHIN 1-MILE OF THE APE

Report Number	Author	Year	Title	Proximity to APE
LA-04548	Ariss, R.M.	1948	Hughes Aircraft Company Site, Playa Del Rey, California	Outside
LA-04725	Unknown	1998	West Bluffs Project Subsequent Draft Environmental Impact Report	Outside
LA-04868	Shepard, R. S.	2000	Cultural Resources Records Search and Paleontological Resources Literature Review Report for the Sempra Energy Gas Lease Sale Project Area, Playa Del Rey and a Portion of the City of Los Angeles, Los Angeles County, California	Outside
LA-05556	Tillman, D. C.	1977	Historic Property Survey: Vista Del Mar - Culver Boulevard to Napoleon Street	Outside
LA-05559	Duke, C.	2000	Cultural Resource Assessment for AT&T Wireless Services Facility Number R319 County of Los Angeles, California	Outside
LA-05561	Duke, C.	2000	Cultural Resource Assessment for Pacific Bell Wireless Facility La 306-03 County of Los Angeles, California	Outside
LA-05757	Iverson, G.	1998	Negative Archaeological Survey Report - Widening and Signal Upgrades on the West Side of the Intersection at Lincoln Boulevard and Mindanao Way, Remove the Raised Islands on Lincoln Blvd. Between Fiji Way and Mindanao Way, Re-stripe Lincoln Blvd.	Outside
LA-06002	Van Horn, D. M.	1987	Excavation at the Del Rey Site (LAN-63) and the Bluff Site (LAN-64) in the City of Los Angeles	Outside
LA-06003	Mason, R. D.	2001	Cultural Resources Records Search and Literature Review Report for an AT&T Telecommunications Facility: Number D092 Jefferson Boulevard in the City of Inglewood, Los Angeles County, California	Outside
LA-06004	Mason, R. D.	2001	Proposed at & T Antenna Facility D092, Jefferson Boulevard, City of Inglewood, Los Angeles County, California	Outside
LA-06239	Wesson, A., B. Bass, and B. Hatoff	2000	El Segundo Power Redevelopment Project Cultural Resources (Archaeological Resources) Appendix J of Application for Certification	Outside
LA-06240	Bunse, M. and M. Stephen D.	2000	El Segundo Power Redevelopment Project Historic Resources (Built Environment) Appendix K of Application for Certification	Outside
LA-06570	Swanson, M. T.	1991	Playa Vista Archaeological and Historical Project, Technical Report 1. Visual and Aesthetic Impact of the Playa Vista Project on Adjacent Properties 45 Years of Age and Older	Outside
LA-06833	Foster, J. M.	1991	Playa Vista Archaeological and Historical Project, Technical Report 3. Historical Test Evaluation, CA-LAN-1970H (SR 2), Playa Vista, Los Angeles, California	Outside

TABLE 1
CULTURAL RESOURCE INVESTIGATIONS WITHIN 1-MILE OF THE APE

Report Number	Author	Year	Title	Proximity to APE
LA-06904	Altschul, J. H., Stoll, A. Q., Grenda D. R., and C.T. Richard	2003	Playa Vista Monograph Series Test Excavation Report 4. Playa Vista Archaeological and Historical Project at the Base of the Bluff. Archaeological Inventory and Evaluation Along Lower Centinela Creek, Marina Del Rey, California	Outside
LA-07185	Foster, J. M.	2004	Archaeological Investigation for Venice Pumping Plant Dual Force Main Project	Outside
LA-07192	Hampson, R. P	1991	Playa Vista Archaeological and Historical Project, Technical Report 2. Historical Test Excavations, Playa Vista, Los Angeles, California	Outside
LA-07724	Keller, A. H.	1999	Playa Vista Archaeological and Historical Project, Technical Report 9. Evaluation of Sr10, a Nonarchaeological Assemblage in the Ballona Wetlands, Marina Del Rey, California	Within
LA-07725	Altschul, J.H.	2001	Playa Vista: Archaeological Treatment Plan for CA-LAN-54	Within
LA-07726	Vargas, B. R. and Altschul, J. H.	2001	Playa Vista Monograph Series Test Excavation Report 3. Playa Vista Archaeological and Historical Project on Ballona Creek Archaeological Treatment Plan for CA-LAN-54, Marina Del Rey, California	Outside
LA-07939	Kane, D.	2000	Historic Property Survey Report for the Route 1 Widening Project Between Culver Boulevard and Jefferson Boulevard in Los Angeles County, California	Within
LA-09480	Altschul, J.H., C. J. Doolittle, S. Benaron, R. Ciolek-Torrello, L. L. Erickson, P. Ford, A. Keller, D. Maxwell, and E. J. Rosenthal	1998	Playa Vista Archaeological and Historical Project, Test Excavation Report 1. Settlement on the Lagoon Edge: Archaeological Treatment Plan for CA-LAN-2676, Marina Del Rey, California	Outside
LA-09481	Altschul, J. H., R. S. Ciolek-Torrello, J. A. Homburg, and M. T. Swanson	1991	Playa Vista Archaeological and Historical Project Research Design. Statistical Research Technical Series No. 29, Pt. 1	Within
LA-09998	Van Galder, S. J., B. R. Vargas, J. H. Altschul, J G. Douglass, R. Ciolek-Torrello, and D. R. Grenda	2006	Playa Vista Archaeological and Historical Project, Technical Report 13. Preliminary Report on Data Recovery within the Phase 2 Project Area at CA-LAN-62, Locus D, and CA-LAN-211/H, Playa Vista, California	Outside
LA-09999	Vargas, B. R., J. H. Altschul, J. G. Douglass, R. Ciolek-Torrello, D. R. Grenda, R. M. Wegener, and W. L. Deaver	2005	Playa Vista Archaeological and Historical Project, Technical Report 12. Preliminary Report on Data Recovery within the Phase 1 Project Area at CA-LAN-62, Playa Vista, California	Outside
LA-10134	Keller, A. H. and J. H. Altschul	2002	Playa Vista Monograph Series Technical Report 10. Playa Vista Archaeological and Historical Project, Preliminary Report on Data Recovery at Site CA-LAN-54, Marina del Rey, California	Outside

TABLE 1
CULTURAL RESOURCE INVESTIGATIONS WITHIN 1-MILE OF THE APE

Report Number	Author	Year	Title	Proximity to APE
LA-10135	Altschul, J. H.	1991	Playa Vista Archaeological and Historical Project, Data Recovery Plan for CA-LAN-62 and CA-LAN-211	Outside
LA-10136	Altschul, J. H.	1999	National Register Evaluation of CA-LAN-63, CA-LAN-64, and CA-LAN-206, West Bluff Project, Westchester/Playa del Rey, California. Technical Report 99-45	Outside
LA-10137	Altschul, J. H., A Q. Stoll, D.R. Grenda, and R. Ciolek-Torrello	2000	Historic Properties Treatment Plan for the bluff Site, CA-LAN-64, West Bluff Project, Westchester/Playa del Rey, California. Technical Report 00-32	Outside
LA-10138	Douglass, J. G. and J.H. Altschul	2004	Preliminary Report on Archaeological Monitoring and Data Recovery at Sites CA-LAN-63, CA-LAN-64, and CA-LAN-206A, West Bluffs Project, Westchester/Playa del Rey, California. Technical Report 03-77	Outside
LA-10152	Anonymous	2007	Playa Vista Archaeological and Historical Project (PVAHP). Programmatic Agreement, Playa Vista Project, Annual Reports, September 1996 through 20070	Within
LA-10880	Trinh, P.	2007	Tahiti Marina application for Department of the Army authorization	Within
LA-11038	Vargas, B.	2009	Preliminary Report on Data Recovery at CA-Lan-62 Locus G, within the Proposed School Site Parcel, Phase 1, Playa Vista, California	Outside
LA-11177	Cappellino, S., J. Burnam, L.R. Cooke, and J. Malone	2008	Entrance Channel Maintenance Dredging of Contaminated Sediments at Marina Del Rey Harbor - Public Draft Supplemental Environmental Assessment (SEA)	Outside
LA-11545	Vargas, B., Altschul, J., Douglass, J., Ciolek-Torrello, R., Grenda, D., Wegener, R., and D., William	2005	Preliminary Report on Data Recovery within the Phase I Project Area at CA-LAN-62, Playa Vista, California	Outside
LA-11819	Hirsch, J.	2006	Historical resources Evaluation Report for the SR 90 Realignment and Admiralty Way Improvements Projects Marina Del Rey, California	Outside
LA-12500	Vader, M.	2013	Final Archaeological Resources Monitoring Report for the Los Angeles Department of Water and Power Scattergood-Olympic Transmission Line Project, Vault Investigations, Los Angeles County, California	Outside
LA-12757	Delu, A. and Chasteen, C.	2014	Cultural Resource Study for The Boat Yard - Marina Del Rey, Marina del Rey, Los Angeles County, California	Outside
LA-12859	Ortiz, V.	2016	Bluff Creek Road Project D130500.14	Outside
LA-12863	McKenna, J. A.	2016	A Cultural Resources Investigation of the Proposed Ocean Charter Schools Site, 12870 Panama St., in the Marina Del Rey Area of Los Angeles, Los Angeles County, California	Outside
LA-13135	Bonner, W. H.	2000	Cultural Resources Survey, Villa Venetia Apartments	Outside

3.1.2 2018 SCCIC RESULTS FOR PREVIOUSLY RECORDED CULTURAL RESOURCES

The 2018 records search at the SCCIC showed that 32 cultural resources have been recorded within a one-mile radius of the APE. Of these 32, five are located within the APE; and consist of four built environment resources (see Attachment 5 of HPSR) and one purported archaeological site designated CA-LAN-1698. Identified in 1989 as a prehistoric shell scatter, CA-LAN-1698 was updated in 1990 by Statistical Research Incorporated (SRI). SRI determined that the shell scatter was the result of redeposited fill and not cultural in origin. Additionally, it should be noted that another nearby archaeological site – CA-LAN-2676 – was identified slightly outside of the APE near the intersection of the Lincoln Boulevard and West Jefferson Boulevard. The site was originally described as a prehistoric habitation site with human burials. However, during data recovery of the site it was determined to be redeposited cultural material rather than an intact archaeological site, and excavation at the site ceased (Grenda et al. 2016:7). In fact, CA-LAN-2676 is now referred to as a "runway site" because it was created by Hughes Aircraft Company during the extension of its runway during World War II, using redeposited archaeological site material from two sites along the base of the bluff in the Ballona Lagoon area – CA-LAN-62 and CA-LAN-211 (Grenda et al. 2016: 435).

Table 2 lists the cultural resources that were recorded within and near the APE. The resources outside of the APE include prehistoric/Native American lithic scatters, habitation debris, shell middens, and burials as well as historical sites consisting of refuse scatters, remnants of railroads, and built environment resources such as bridges.

Additionally, several prehistoric archaeological sites within the one-mile radius of the APE are part of the Ballona Lagoon Archaeological District (BLAD), a National Register of Historic Places (NRHP) eligible district. The BLAD establishes the conceptual fabric for examining the archaeological resources in the greater Ballona Lagoon area collectively, as parts of the region's prehistoric hunter-gatherer populations' an adaptive settlement and subsistence system centered on the lagoon environment.

The establishment of the BLAD allows for a more standardized procedure for assessing the significance of sites as contributors to the district. Specifically, each archaeological site identified within the Ballona Lagoon region should be evaluated to determine whether it is a contributing element of the BLAD.

TABLE 2
CULTURAL RESOURCES WITHIN 1-MILE OF THE APE

Primary Number	Trinomial	Alternate Identifications	Recorder	Year	Resource Type(s)	Proximity to APE
P-19-000054	CA-LAN-54	Deane's Broken Mortar Site; LA-78	Eberhart; Kremkau	1949 2002	Multicomponent: lithic scatters, burials, habitation debris, hearths, refuse scatters, railroad grades, landscaping	Outside
P-19-000062	CA-LAN-62	Malcolm Farmer's Playa del Rey Site #4; LA-79	Rozaire and Belous; King	1950; 1970	Prehistoric: lithic scatters, burials, habitation debris, hearths	Outside
P-19-000063	CA-LAN-63	Malcolm Farmer's Playa del Rey Site #5; LA-81; Deane's Site #3	Rozaire and Belous	1950	Prehistoric: lithic scatters, habitation debris	Outside

TABLE 2
CULTURAL RESOURCES WITHIN 1-MILE OF THE APE

Primary Number	Trinomial	Alternate Identifications	Recorder	Year	Resource Type(s)	Proximity to APE
P-19-000064	CA-LAN-64	Malcolm Farmer's Playa del Rey Site #6; LA-82; Deane's Site #4	Rozaire and Belous	1950	Prehistoric: lithic scatters, burials, habitation debris	Outside
P-19-000065	CA-LAN-65	Malcolm Farmer's Playa del Rey Site #7; LA-86; Deane's Site #5	Rozaire and Belous	1950	Prehistoric: lithic scatter, habitation debris	Outside
P-19-000066	CA-LAN-66	Malcolm Farmer's Playa del Rey Site #8; LA-87	Rozaire and Belous	1950	Prehistoric:	Outside
P-19-000204	CA-LAN-204	LA-22	Ebenhart,	1953	Prehistoric:	Outside
P-19-000206	CA-LAN-206	William Deane's Site #6; LA-24	Ebenhart and Altschul	1953 2004	Prehistoric: habitation debris	Outside
P-19-001018	CA-LAN-1018	-	Pence	1979	Prehistoric: habitation debris	Outside
P-19-001698	CA-LAN-1698	PA-89-38	Peak & Associates	1989	Not an archaeological site	Within
P-19-001716	CA-LAN-1716	Chadwick #1	Singer	1990	Prehistoric: lithic scatter, habitation debris	Outside
P-19-001933	CA-LAN-1933	SR-5	Spain and Troncone	1990	Historic: refuse scatter	Outside
P-19-001934	CA-LAN-1934H	SR-4	Troncone	1990	Historic: refuse scatter	Outside
P-19-001970	CA-LAN-1970	SR-2	Spain and Troncone	1990	Historic: foundations, refuse scatter, wells, water conveyance system, machinery	Outside
P-19-002676	CA-LAN-2676	SR-19	Fiore	1998	Redeposited archaeological material	Outside
P-19-003784	CA-LAN-3784	SCG Facilities Trash Dump 1	McCormick	2008	Historic: refuse scatter	Outside
P-19-003982	CA-LAN-3982H	SR-9	Vargas and Douglass	2002	Historic: foundations, refuse scatter, habitation debris	Outside
P-19-004713	CA-LAN-4713H	ESA-BR-001H	Vader	2015	Historic: refuse scatter	Outside
P-19-004714	CA-LAN-4714H	ICF-BS-006H	Vader	2015	Historic: refuse scatter	Outside
P-19-004715	CA-LAN-4715H	SR-3	Vader	2015	Historic: refuse scatter	Outside
P-19-004716	CA-LAN-4716H	SR-7	Vader	2015	Historic: refuse scatter	Outside
P-19-101357	-	ESA-ISO-001	Bever	2015	Prehistoric: isolate	Outside
P-19-176733	-	OHP-020717	Pursell	1978	Historic: Bridge #53-89	Within
P-19-176734	-	OHP-020718	Pursell	1979	Historic: Bridge #53-0118	Within
P-19-187805	-	07-LA-1-KP 48.9/49.4 EA 166061	Kane & Daly	2000 2015	Historic: Ballona Creek Flood Control Channel & Drainage System	Within

TABLE 2
CULTURAL RESOURCES WITHIN 1-MILE OF THE APE

Primary Number	Trinomial	Alternate Identifications	Recorder	Year	Resource Type(s)	Proximity to APE
P-19-188837	-	OHP- 183530; Clearwire CA-LOS2050	Crawford	2010	Historic: Westgate Bldg.	Outside
P-19-190938	-	-	Chasteen	2014	Historic: The Boat Yard – Marina Del Rey	Outside
P-19-192300	-	-	McKenna	2016	Historic: Teledyne Microelectronics; Woodbury R.W. Sprague Products Co.	Outside
P-19-192323	-	ICF-BS-003H; Utility Poles	Mitchell	2010	Historic: engineering structure	Outside
P-19-192324	-	ICF-BS-010H	Mitchell	2010	Historic: railroad berm	Within
P-19-192325	-	ICF-BS-018H	Shaver	2010	Historic: canal/aqueduct	Outside
P-19-192326	-	-	Daly	2015	Historic: Pacific Electric Railway Bridge Abutments	Outside

3.2 SUMMARY OF NATIVE AMERICAN CONSULTATION

The resource identification effort included a request to the Native American Heritage Commission (NAHC) on February 23, 2018 for a Sacred Lands File search (see HPSR Attachment 3). The results of the search were negative for the APE, although the NAHC indicated that the area is sensitive for cultural resources and that the absence of specific site information in the Sacred Lands File does not indicate the absence of Native American cultural resources in the APE. Therefore, the NAHC provided a list of Native American representatives that should be contacted for further information. The following 10 individuals/organizations listed in Table 3 (see below) were contacted via letter on June 21, 2019 and invited to share any cultural resource information that they may have regarding the Project area. On July 2, 2019, the 10 representatives and organizations were again contacted by email inquiring if they had received the letters describing the Project. Two tribal representatives responded to the July 2, 2019 emails (see below). The remaining eight tribal representatives received follow-up phone calls on July 9, 2019.

TABLE 3
TRIBAL REPRESENTATIVES

Tribal Organization	Ethnographic Affiliation	Contact
Fernandeño Tataviam Band of Mission Indians	Tataviam	Alan Salazar
Fernandeño Tataviam Band of Mission Indians	Tataviam	Jairo Avila
Fernandeño Tataviam Band of Mission Indians	Tataviam	Rudy Ortega
Fernandeño Tataviam Band of Mission Indians	Tataviam	Beverly Salazar Folkes
Gabrieleno Band of Mission Indians – Kizh Nation	Gabrielino	Andrew Salas
Gabrieleno/Tongva San Gabriel Band of Mission Indians	Gabrieleno	Anthony Morales
Gabrieleno/Tongva San Gabriel Band of Mission Indians	Gabrielino	Sandonne Goad
Gabrielino Tongva Indians of California Tribal Council	Gabrielino	Robert Dorame
Gabrielino-Tongva Tribe	Gabrielino	Charles Alvarez
San Fernando Band of Mission Indians	Kitanemuk; Serrano; Tataviam	John Valenzuela

3.2.1 TRIBAL OUTREACH

- On July 2, 2019, Jairo Avila, on behalf of the Tribal Historic and Cultural Preservation Department of the Fernandeño Tataviam Band of Mission Indians identified the Project as being located outside of their ancestral boundaries and deferred consultation for the Project to tribal representatives and organizations representing the Gabrielino tribes.
- On July 3, 2019, Robert Dorame, on behalf of the Gabrielino Tongva Indians of California Tribal Council via teleconference identified the Project APE as within a highly sensitive area for prehistoric cultural resources, and requested a tribal representative be onsite during all excavations. Mr. Dorame also mentioned that his organization had prepared and submitted a treatment for this area to Caltrans several years ago and suggested the plan be reexamined and updated for this project. Mr. Dorame is referring to information he provided during a consultation meeting with Caltrans on October 17, 2018 for a project situated at the intersection of State Route 90 (SR-90) and Culver Boulevard (approximately 1,500 feet north-northeast of this project's APE). Mr. Dorame provided maps and descriptions of previously recorded archaeological sites identified at the intersection of SR-90 and Culver Boulevard and SR-90 and Lincoln Boulevard, but not for the current project APE. Mr. Dorame also provided maps of the location of the ethnohistoric village of Gaucha/Guaspita/Guashgna (Kirkman and Harriman's 1938 map and an undated Diseño). Based on these maps, the village appears to have been situated along the eastern bank of Ballona Creek. Mr. Dorame related that his great-great grandmother was from Guaspita, which means "place of mud." In addition to this information, Mr. Dorame relayed his preference for the treatment of cultural resources in the area. This included the following: inclusion of Native American during pedestrian surveys; participation of a certified osteologist in the identification of human remains; and receiving Caltrans' final determinations for projects. Mr. Dorame also provided a number of documents that outline the Gabrielino Tongva Indians of California's recommendations for Native American monitoring, treatment and disposition of human remains and associated grave goods, and recovery and reburial procedures. This information is confidential and Mr. Dorame asked that it be included only in confidential appendices to any of Caltrans' technical reports. Caltrans will consider this information and implement Mr. Dorame's requests as appropriate, e.g., in cases of discovery of human remains where Mr. Dorame is named the Most Likely Descent by the Native American Heritage Commission.

- A teleconference between Alan Salazar from the Fernandeño Tataviam Band of Mission Indians and Psomas occurred on July 9, 2019. Mr. Salazar identified the APE as being located out of the territorial boundaries of the Fernandeño Tataviam Band of Mission Indians and deferred consultation for this Project to the tribal representatives and organizations representing the Gabrielino tribes.
- A teleconference between Ms. Salazar Folkes and Psomas occurred on July 9, 2019. She identified the APE as extremely sensitive for prehistoric cultural resources and that a Native American Monitor should be present during excavations. She also mentioned that she has monitors available to provide support if needed. Ms. Salazar Folkes also suggested implementing a rotating schedule of monitors from different tribal organizations. She is available to discuss the Project in more detail with Caltrans as needed. She would also like to be included in any future discussions related to the Project (e.g., revisions to APE and/or discovery of cultural resources).
- A teleconference call between Mr. Salas and Psomas occurred on July 9, 2019. Mr. Salas stated that he would follow up with Psomas to discuss comments/suggestions after he has had an opportunity to review the Project details. Mr. Salas followed up with Caltrans during a coordination meeting held on July 9, 2019. During the meeting, Mr. Salas and Mr. Teutimez stated that the project location is highly sensitive for Tribal cultural resources and shared information from SRI's technical report titled People in a Changing Land: The Archaeology and History of the Ballona in Los Angeles, California, as well as a map showing locations of archaeological sites in the vicinity of the project location. They also expressed interest in participating in any archaeological investigations (e.g., Extended Phase I) as well as archaeological monitoring. Caltrans explained that the Tribe will have this opportunity, and that the Tribe will be able to reviewed any and all documents prepared for the project, including proposals for archaeological excavations and/or monitoring.
- A teleconference call between Mr. Morales and Psomas occurred on July 9, 2019. Mr. Morales identified the APE as extremely sensitive for prehistoric archaeology, including human remains. He also believes the area has significant spiritual value to the Gabrieleno. Mr. Morales is requesting an archaeologist and Tribal Representative be onsite during ground disturbance.

- On November 9, 2021, an Extended Phase I (XPI) proposal was sent to each of the tribal representatives and organizations included in the table above. The proposal provided the study goals, relevant archaeological information, and archaeological field methods. Mr. Robert Dorame responded in an email to Psomas on the same day, requesting to monitor the XPI fieldwork. On the same day, Caltrans discussed the XPI proposal with Mr. Andrew Salas during a virtual meeting. Mr. Salas identified the area as highly sensitive and agreed with the approach of testing to determine the presence/absence of cultural deposits within the project footprint.

- Caltrans followed up with Mr. Dorame and Mr. Salas in an email dated December 15, 2021 that the XPI fieldwork was tentatively scheduled for February 2022 and to confirm their participation. Mr. Dorame replied on the same day confirming his availability to monitor. Mr. Salas responded on December 22, 2021 with comments to the XPI proposal but did not ask to monitor the fieldwork. Caltrans addressed Mr. Salas' comments and emailed the revised XPI proposal on January 3, 2022. Caltrans also informed Mr. Salas of the intent to move forward with the upcoming fieldwork while keeping the tribe appraised of any findings.

- The XPI fieldwork was conducted On October 5, 6, 18, and 24, 2022. Mr. Robert Dorame participated in the entirety of the work. His participation is summarized in the XPI report (Attachment 4 of the HPSR). The results from the XPI were negative; however, Mr. Dorame still requests that ground disturbance from the construction of the Project be monitored by both a professional archaeologist and tribal representative from the Gabrielino/Tongva community.

- On February 14, 2023, a secure email was sent to the tribal representatives listed in Table 3. The email included a summary letter of the results from both the ASR and the XPI study. Both the ASR and the XPI were also included as attachments. Sarah Brunzell (Jairo's replacement) responded with no comments on February 21, 2023.

- On February 21, 2023, Sarah Brunzell from the Fernandeño Tataviam Band of Mission Indians responded with the Fernandeño Tataviam Band of Mission Indians has no comments. None of the remaining tribal representatives from Table 3 commented on the ASR and XPI study.

4.0 BACKGROUND

4.1 ENVIRONMENT

The Project is situated in the Los Angeles Basin and within the Peninsular Ranges Geomorphic Province, which consists of a series of ranges separated by northwest trending valleys and composed of granitic rock intruding into older metamorphic rocks (Saucedo et al. 2016; Yerkes et al. 1965). Soils in the region consist of Tertiary-Quaternary Alluvium composed of sandy loam and clay resulting from cyclical flooding of the Los Angeles, San Gabriel, and Rio Hondo rivers and their tributaries.

The Project APE itself is situated within portions of the Ballona Creek Wetlands Ecological Reserve and developed and urbanized areas (see Appendix C). The Ballona Reserve is divided into three main areas: Areas A-C. Under existing conditions, Area A is approximately 163 acres, Area B is approximately 329 acres (including the Ballona Creek channel), and Area C is approximately 69 acres. Area B is further divided into North Area B, East Area B, Southeast Area B, South Area B, and West Area B; and Area C is further divided into North Area C and South Area C. The Project APE is partly situated in the east portion of the reserve.

Much of the Project APE consists of fill soils from the construction of the Ballona Creek Channel and developments such as Marina del Rey, the Pacific Electric Railroad, the raising of Culver Boulevard, and State Route 90. Before the arrival of European colonists, the wetlands were a vast 2,120-acre marshland providing salt and freshwater aquatic resources from estuaries and wetland habitats. Today, the wetlands — the second-largest open space within the city limits of Los Angeles — is confined to less than 600 acres of land.

Summer temperatures in the area can reach as high as 84˚F, whereas winter temperatures can drop to as low as 49˚F. The basin is part of the Coastal Sage Scrub plant community. Typical native plants include California barley, purple needlegrass, alkali ryegrass, salt grass, pickleweed, coyote bush, wild radish, salt march dodder, arrow grass, and glass wort. Animals common to the region include both local and migratory birds and a variety of species of fish, amphibians, reptiles, and small to medium-sized mammals.

4.2 ETHNOGRAPHY

4.2.1 GABRIELINO/TONGVA

At the time of Spanish contact, the Project area was inhabited by the Gabrielino near the eastern extent of their ancestral territory (see Kroeber 1925; Harrington 1933; Johnston 1962; Blackburn 1963; Heizer 1968; Bean and Smith 1978; McCawley 1996). The name “Gabrielino” identifies those people who came under the control of Mission San Gabriel Arcángel and included the inhabitants of most of current-day Los Angeles and Orange Counties and portions of Riverside and San Bernardino Counties. According to the ethnographic evidence, Gabrielino territory included the coastal plain of Los Angeles and Orange Counties, extending from Topanga Canyon in the north to Aliso Creek in the south and eastward of Mount Rubidoux in western Riverside County. Their territory also included Santa Catalina, San Clemente, and San Nicolas Islands.

Unfortunately, the Gabrielino are one of the least documented of the native peoples of California because they were one of the first groups to suffer the effects of foreign diseases brought by the Spanish and the subsequent migration of foreigners who arrived in the region (Bean and Smith 1978). Fortunately, however, ethnographic studies conducted by J.P. Harrington (1933), Alfred Kroeber (1925), and others in the early twentieth century provide some insight into the culture of

the Gabrielino. More importantly, outreach and consultation with tribal representatives has provided relevant historical and cultural information for the Gabrielino community.

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

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

Permanent villages evolved in resource-rich areas near rivers, streams, and along the coast. Secondary, or satellite, villages were also established nearby. The Gabrielino traditionally constructed two types of dwellings: the subterranean pit house and the thatched lean-to. The pit house was constructed by excavating approximately 2 feet below the surface and constructing the walls and roof with wooden beams and earth around the excavation pit. The lean-to, or *wickiup*, was constructed of thatched walls and thatched roof surrounded by large converging poles. A hearth located inside the structure provided warmth. Hearths used for cooking were located outside. Sweathouses, or *temescals*, were used as a meeting place for the men (Kroeber 1925; Bean and Smith 1978).

The material culture of the Gabrielino reflected an elaborately developed artistic style and an adaptation to the various environments within their territory. This artistic style was often manifested in elaborate shell bead and asphaltum ornamentation on many utilitarian items (e.g., bone awl handles, bowls, mortar rims). Spear and bow and arrow were used for hunting, while manos and metates, as well as mortars and pestles, were used for processing plant and animal material into food items. The Gabrielino were also known for their high quality of basketry made from rush stems (*Juncus* sp.), native grass (*Muhlenbergia rigens*), and squawbush (*Rhus trilobata*) (Bean and Smith 1978:542).

4.3 PREHISTORY

Southern California has a long history of human occupation, with dates of the earliest evidence of human occupation during the late Pleistocene, circa (ca.) 11,000 years B.C. (Glassow et al. 2007: 191). Prehistoric material culture in the state's southern region has been categorized according to periods or patterns that define technological, economic, social, and ideological elements. Within these periods, archaeologists have defined cultural patterns or complexes specific to prehistory within the state's southern region, including the Project APE.

The following text illustrates the chronological framework developed for Southern California. This framework is divided into four major periods: Paleoindian period (ca. 11,000–7000 B.C.), Milling Stone period (7000 B.C. – 3000 B.C.), Intermediate period (3000 B.C. – A.D. 500), and Late Prehistoric period (A.D. 500-Historic Contact). Within these broad temporal periods are variations

in the timing and nomenclature of cultural complexes for the region. The timescales referenced in the following discussion are presented as calendar dates (years B.C. /A.D.).

4.3.1 PALEOINDIAN PERIOD (11,000 - 7000 B.C.)

Recent data from coastal and inland sites during this period indicate that the economy was a diverse mixture of hunting and gathering, with a major emphasis on aquatic resources in many coastal areas (Jones et al. 2002) and on Pleistocene lakeshores in eastern San Diego County (Moratto 1984:90–92). Although few Clovis-like or Folsom-like fluted points have been found in Southern California, it is widely thought that there was a greater emphasis on hunting at near-coastal and inland sites during the Paleoindian Period than in later periods (e.g., Dillon 2002; Erlandson et al. 1987). Subsistence patterns shifted around 6000 B.C., coincident with the gradual desiccation associated with the onset of the Altithermal, a warm and dry period that lasted for about 3,000 years. As the climate changed, a greater emphasis was placed on plant foods and small animals.

4.3.2 MILLING STONE PERIOD (7000 - 3000 B.C.)

The Milling Stone Period (Wallace 1955, 1978) is the earliest well-established period of occupation in Southern California (Glassow et al. 2007: 192). This period is characterized by an ecological adaptation to collecting, accompanied by a dependence on ground stone implements associated with the horizontal motion of grinding small seeds: milling stones (metates, slabs) and hand stones (manos, mullers). Milling stones are found in large numbers for the first time and become more numerous toward the end of this period. As evidenced by their tool kits and shell middens in coastal sites, people during this period practiced a mixed food-procurement strategy. Subsistence patterns became more specialized as groups became better adapted to their regional or local environments. Projectile points from the period are relatively rare, but are large and generally leaf-shaped, and were probably employed with darts or spears thrown with atlatls. Bone tools, such as awls, and items made from shell, including beads, pendants, and abalone dishes, are also quite uncommon. Evidence of weaving or basketry is present at a few sites. The mortar and pestle, associated with the vertical motion of pounding foods such as acorns, were introduced during the Milling Stone Period but do not become common until the Intermediate Period.

4.3.3 INTERMEDIATE PERIOD (3000 B.C. - A.D. 500)

The Intermediate Period is characterized by a shift toward a hunting and maritime subsistence strategy, along with a wider use of plant foods. During this period, a pronounced trend toward greater adaptation to regional or local resources can be observed. For example, the remains of fish, land mammals, and marine mammals are increasingly abundant and diverse in sites along the Southern California coast. Chipped stone tools suitable for hunting are more common and both stylistically and technologically varied. Projectile points include large side-notched, stemmed, and lanceolate or leaf-shaped forms.

Koerper and Drover (1983) consider Gypsum Cave and Elko series points, which have a wide distribution in the Great Basin and Mojave Deserts between ca. 2000 B.C. to A.D. 500, diagnostic of this period. Larger knives, a variety of stone flake scrapers, and drill-like implements are common during this period. Shell fishhooks become an integral part of the tool kit. Bone tools, including awls, are more numerous than in the preceding period; and the use of asphaltum adhesive becomes more common.

4.3.4 LATE PREHISTORIC PERIOD (A.D. 500 - 1769)

During the Late Prehistoric Period, use of plant food resources increased in conjunction with land and marine mammal hunting. The variety and complexity of material culture also increased during this period, demonstrated by more diverse classes of artifacts. The recovery of many small, finely chipped projectile points, usually stemless with convex or concave bases, suggests an increased utilization of the bow and arrow for hunting rather than the atlatl and dart.

During this period, an increase in population size is accompanied by the advent of larger, more permanent villages with greater numbers of inhabitants (Wallace 1955:223). Some coastal and near coastal settlements were occupied by as many as 1,500 people. Many of these larger settlements were permanent villages where at least some people resided year-round. The populations of these villages may have also increased seasonally.

4.4 HISTORY

The major historic periods for the greater Southern California area are defined by key events documented by participants, witnesses, historians, and cartographers. Paramount among these was the transfer of political control over Alta California, including the study area specifically.

- Spanish Period (1769–1821)
- Mexican Period (1821–1848)
- American Period (1848-Present)

The historic era encompasses the period of occupation by European descendants. This period marked a time of disease, exploitation, and deculturation of the native peoples beginning ca. 1769 with the founding of the Mission San Diego de Alcalá. The occupation and control by the Spanish was passed on to Mexico after the latter gained its independence in 1821. The Mexican Period, in turn, gave way to control by the United States subsequent to the Mexican-American War and the treaty of Guadalupe Hidalgo in 1848.

4.4.1 SPANISH PERIOD (1769 TO 1821)

Spanish explorer Juan Rodriguez Cabrillo made a temporary landfall at the Chumash village of *Sisolop* (present-day Ventura) on October 12, 1542 (Grant 1978:518). He was the first of several early explorers, representing several nations, to explore the *Alta California* coast. However, the end of the prehistoric era in Southern California is marked by the arrival of the Gaspar de Portolá overland expedition from New Spain (Mexico) and founding of the first Spanish settlement at San Diego on July 16, 1769 (Johnston 1962).

4.4.2 MEXICAN PERIOD (1821 TO 1848)

Mexico's independence from Spain in 1821 brought the Mexican Period in Alta California. The new government of Mexico had a very different outlook on mission activities. Secularization of the missions, planned under the Spanish, was greatly accelerated by the Mexican government. Mexico secularized the missions in 1833 and expanded on the Spanish practice of granting large tracts of ranch land to soldiers, civil servants, and pioneers. Plans to provide land, training, and living quarters for the Native American population never developed, and the mission lands were soon under the control of a relatively few influential Mexican families. The rancho life style was relatively short lived but remains an influential period in California history.

4.4.3 AMERICAN PERIOD (1848 TO PRESENT)

Americans began to explore Alta California as early as 1826, when trapper Jedediah Smith arrived at Mission San Gabriel (Morgan 1953:200–202; Lewis 1993:441). An increasing influx of Americans from the eastern United States during the 1840s spurred an American challenge for the California territory. The American Period began with Mexico's defeat at the end of the Mexican-American War, resulting in the concession of California to the United States under the Treaty of Guadalupe Hidalgo on February 2, 1848 (Rolle 1998:91, 104). Only a few days before the treaty was signed, gold was discovered on the American River, however the Gold Rush of 1848–1849 was not started until several months later

American dominance became more apparent in 1850 when California became a state and was divided into 21 original counties (Marschner 2017). Los Angeles County was formed at the time of statehood in 1850.

Marina Del Rey

The community of Marina del Rey is part of what was once the much larger Rancho de los Quintos Spanish-era land grant given to Pio Quinto Zuñiga in 1802 (ESA 2017: page number). The land grant was rescinded around 1808 when Zuñiga's heirs failed to confirm the grant after their father's death in 1805. The area then likely reverted to common lands belonging to El Pueblo de Los Angeles, with suitable portions used for open grazing by residents (ESA 2017: 3.5-9).

In 1819, Felipe Talamantes and Agustin Machado, who had been using the area to graze their cattle, sought and were granted a temporary concession to the previous land grant, which had become known as Rancho La Ballona. Talamantes and Machado constructed several improvements, such as dwellings and irrigation systems and planted crops and vineyards, although only Machado ever lived on the rancho. The exact location of these improvements on the rancho are currently unknown and there does not appear to be historic-era sites dating from this time currently on file with the SCCIC within the project APE or the one-mile search radius. However, what is known is that Machado, who lived primarily at El Pueblo de Los Angeles, constructed an adobe in 1821 (near Overland Avenue) that was destroyed by floods. He built a new adobe located roughly 3-miles (4.77 km) northeast of the project APE (near the intersection of Overland Avenue and Jefferson Boulevard) later in the 1820s. In 1839, a formal grant was given to Agustin Machado and Ygnacio Machado and Felipe Talamantes and Tomas Talamantes for the 13,920-acre Rancho La Ballona, which was filed with the U.S. Land Commission in 1854 and confirmed in 1873 (ESA 2017: 3.5-10). The Talamantes family lost their share of Rancho La Ballona shortly thereafter, while the Machado family continued to prosper and add to their land holdings. Augustin Machado died in 1865, and Rancho La Ballona was professionally surveyed and subdivided among Machado's heirs (ESA 2017: 3.5-10).

In 1874, Will Tell filed a claim for 150 acres near the mouth of the Ballona Reserve and constructed Will Tell's Seashore Resort. Machado's heirs attempted to evict Tell but allowed the process to lapse. The resort was destroyed by a storm in 1884.

In 1902, the Los Angeles Pacific (subsequently Pacific Electric Line) constructed a line from Culver City to Playa del Rey through the Ballona Reserve. The rail was a double track, narrow gauge line. The line was abandoned in 1940. Remnants of this line (P-19-192324), including a partially earthen berm and wood pilings from a bridge, were identified by the SCCIC as being located within the project APE near the Culver Blvd traffic loop. The remnants of the line were evaluated for the NRHP and the CRHR in 2018 by JRP Historical Consulting, LLC., and it was determined not eligible for either the NRHP or CRHR (Attachment 5 of the HPSR).

The area west of Highway 1 (Lincoln Boulevard) remained a coastal wetland through the turn of the 20th century, and these wetlands were used recreationally for activities such as duck hunting. In 1910, an area that available information indicates probably lay to the west of the present-day intersection of Culver Boulevard and Jefferson Boulevard (roughly ½-mile (.8 km) from this project's APE) was developed into the Los Angeles Motordrome, a wooden racing track for automobiles and motorcycles. The track, a full mile in circumference and approximately 1,700 feet in diameter, could accommodate up to 40,000 spectators within its massive in-field; all told, the Motordrome occupied an area of approximately 50-acres within the wetlands south of Ballona Creek. The track had a 30-foot wide in-field apron composed of crushed granite, and the surface was coated with crushed seashells to provide traction for the vehicles. To bring spectators to the Motordrome, the Pacific Electric Line railroad built a special purpose rail spur across the wetlands to the track. The Aero Club of California also utilized the Motordrome facilities, building hangars and even a paved, 1-mile-long runway for conducting flight experiments. In 1913, a fire destroyed a portion of the track, and it was subsequently dismantled. While no archaeological remains associated with the Motordrome have been discovered, substantial ground disturbance, including installation of pilings and placement of various fill materials, undoubtedly occurred near the project APE. The Motordrome was not identified by the SCCIC as being located within the Project APE or the one-mile search radius.

The Ohio Oil Company discovered oil in the Ballona Reserve and surrounding wetlands in 1929, resulting in the rapid development of wells in what became known as the Venice Oil Field. Wells were built on low pads constructed of sand and gravel fill. These oil wells proved profitable until the 1940s when oil production ceased. In 1942, the United States government converted the oil fields into underground gas storage to establish a gas reserve during World War II. In 1955, SoCalGas purchased the field, and it continues in operation today. While there are no remnants of the oil fields located within the project APE, the SCCIC records search confirmed one historic oil well complex archaeological site – CA-LAN-1970 – within the search radius and near the intersection of Culver Blvd and Jefferson Blvd. The site consists of several earthen oil well pads connected by a series of linear earthen berms. The Department of Parks and Recreation (DRP) Form 523 prepared by SRI notes four oil derricks and several storage tanks are visible on an aerial photograph dated February 1933 (see 4 from the SCCIC results). None of the four oil derricks are standing today.

The 1920s and ‘30s also saw the rise of agricultural enterprise in the vicinity of the Project APE, as wetlands were drained for agricultural-related uses. Japanese farmers tilled most of the acreage until forcibly relocated to detention centers during World War II.

Flooding from natural rivers and creeks into increasingly urbanized areas of Los Angeles led to widespread channelization efforts by the 1920s. The Los Angeles County Flood Control District (LACFCD) initiated channelization of Ballona Creek, completing the portion east of Lincoln Boulevard by 1923 (ESA 2017: 3.5-11). Lower Ballona Creek was channelized by the Corps in 1935. The path of the approximately 300-foot-wide channel likely intersected the former location of the Motordrome, although the exact location is unknown. Spoils from dredging were placed to either side of the canal to build up the protective levees. A segment of the Ballona Creek channel is located within the Project APE. In addition, most of the on-site wetlands were filled in because of construction of Marina del Rey in the 1950s and 1960s, as well as State Route 90 (SR 90), which was built in stages over a five-year period ending in 1972. Dredge spoils from construction of Marina del Rey were deposited as fill across the north and northwestern portion of the Project APE. This fill could contain displaced archaeological materials from the dredging of the marina, including materials from both prehistoric and archaeological sites.

From the initial stages of the region’s local history, ranching and agriculture and the economic boom of the late 1800s, the area has experienced rapid urbanization over the last two centuries

under the governance of three different countries. Significant development in the early and mid-1900's included construction of the Ballona Creek Channel in 1935 and construction of Marina del Rey in the 1950s and 1960s. These developments have paved the way for increased urbanization that is still occurring today.

5.0 FIELD METHODS AND RESULTS

On June 14, 2019, Psomas Senior Archaeologist Charles Cisneros conducted a pedestrian survey of the Project APE. Portions of the APE within the Ballona Wetlands were not surveyed as no permission was provided by the California Department of Fish and Wildlife (CDFW) for right of entry. When feasible the survey was conducted in parallel transects that were spaced no farther than 2 to 4 meters. Most of the Project APE lies on active roadway, with much of the ground surface covered in asphalt or concrete. No prehistoric or historical archaeological resources were identified within the accessible portions of the Project APE.

6.0 STUDY FINDINGS AND CONCLUSIONS

Identification efforts undertaken for this study included a records search, background research, Native American consultation, and a pedestrian survey. The records search did not show any archaeological resources within or immediately adjacent to the project APE; however, the project location is situated in a highly archaeologically sensitive area as indicated by numerous large Native American sites known to exist within the Ballona Lagoon area, and that are a part of the Ballona Lagoon Archaeological District. The cultural sensitivity of the area is confirmed by the information provided (and concerns relayed) by Native American representatives as a result of the consultation conducted for this project. The involved Native American communities have expressed the need for archaeological and Native American monitoring of ground disturbing activities in the Ballona Lagoon area. The archaeological field survey of accessible portions of the project's APE failed to identify prehistoric or historical archaeological resources; however, there is a high potential to uncover intact cultural deposits at depths as well as within areas of the APE that could not be surveyed. For this reason, an Extended Phase I (XPI) investigation has been conducted for the project APE. The results from the XPI were negative for buried cultural resource deposits. Please see Attachment 4 of the HPSR for more information from the XPI investigation.

If previously unidentified cultural materials are unearthed during construction, it is Caltrans' policy that work be halted in that area until a qualified archaeologist can assess the significance of the find. Additional archaeological survey will be needed if the Project limits are extended beyond the current survey limits.

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APPENDIX A

PROFESSIONAL QUALIFICATIONS

Charles Cisneros, MS, RPA

Senior Project Manager/Senior Archaeologist

REGISTRATION

Registered Professional Archaeologist/Register of Professional Archaeologists 28575983

EDUCATION

2008/MS/European Archaeology/University of Edinburgh, United Kingdom,

2004/BA/Anthropology/California State University, Los Angeles

CERTIFICATIONS

Orange County Certified Archaeologist Certified Archaeologist

Riverside County Certified Archaeologist

PROFESSIONAL AFFILIATIONS

Society for American Archaeology

Society for California Archaeology

Western States Folklore Society

PRESENTATIONS/ PUBLICATIONS

Late Prehistoric Subsistence Practices and Landscape Archaeology in the Cronise Basin 03/13/2016 – Society for California Archaeology

Analyzing Sacred Sites and Cultural Landscapes under CEQA., 03/22/2014 – Society for California Archaeology

Uncovering the Life of the Barbecue King of the Antelope Valley., 03/22/2014 – Society for California Archaeology

When Worlds Collide: The Struggle for Power in the Mojave Desert., 03/10/2013 – Society for California Archaeology

Charles Cisneros is a registered professional archaeologist with 13 years of archaeological assessment and field experience in California and Nevada. He has directed numerous field projects in support of compliance with the CEQA the NEPA and Sections 106 and 110 of the National Historic Preservation Act (NHPA). Charles has managed a wide range of projects involving archaeological survey, testing, data recovery, monitoring, and laboratory analysis. He is skilled at research and data management, as well as maintaining and organizing digital and print publications. His training and background meet the U.S. Secretary of the Interior's Professional Qualifications Standards for prehistoric and historic archaeology and he is a California Energy Commission approved archaeologist for desert archaeology.

Experience

Concordia University Campus Master Build-Out Plan Update Environmental Impact Report, Irvine, CA: Senior Archaeologist for construction monitoring for the first phase of development pursuant to the approved Campus Master Build-Out Plan Update. The Campus Master Build-Out Plan Update will allow for existing buildings totaling approximately 71,231 square feet (sf) to be demolished and 8 new buildings or additions to existing buildings totaling approximately 148,880 sf to be constructed, along with a new residence hall. The project also includes new, relocated, and improved athletic facilities and outdoor space at the approximately 73-acre campus. Charles reviewed project plans and construction agendas to schedule cultural and tribal monitors over the course of the project.

Merrill Brownstones Initial Study/Mitigated Negative Declaration, Riverside, CA: Senior Archaeologist for the project, which is a proposed mixed-use development of 108 dwelling units with a leasing office, club room, swimming pool and spa, fitness center, and cabana. Charles prepared the cultural resources documentation and recommended mitigation measures for the project.

Triunfo Creek Vineyards Project Initial Study/Mitigated Negative Declaration, County of Los Angeles, CA: Senior Archaeologist for the project. Triunfo Creek Vineyards is a privately-owned property that hosts various events throughout the year, including but not limited to weddings and other celebration events, private and corporate events, and yoga classes. The project proposes three separate spaces within the 55 acres, each with specific purpose: a Special Events area; a wine tasting area; and a winery facility for processing wine and hosting smaller events/tastings. Charles is preparing the cultural resources documentation mitigation measures for the project based on past studies and current field studies

NorthLake Specific Plan Environmental Impact Report, Los Angeles County, CA: Senior Archaeologist for the development of an approximate 1,330-acre project site near Castaic Lake. This project involves the

TRAINING

Association of Environmental Professionals, CEQA Basics Workshop

Caltrans Introduction to Cultural Resources

CSULA San Nichols Island Archaeological Field School,

Riverside County Cultural Sensitivity Training (Certificate 338)

EXPERIENCE

With Psomas: 1 year/With Other Firms for: 13 years

development of a mix of single-family units; multi-family units; commercial, industrial, and recreational uses; open space; and school and park facilities. Charles revised the cultural resources documentation and responded to public comments related to the project's cultural resources task.

Glendale-Hyperion Complex of Bridges Improvement Project, Los Angeles, CA: Senior Archaeologist for the PR and PS&E for the rehabilitation of the interchange complex. Improvements include widening the Glendale Boulevard bridges, realigning the I-5 northbound off- and on-ramps and LA River bike path, adding a median barrier on the Hyperion Avenue Viaduct, retaining walls, traffic signals, drainage system improvements, infiltration basins, and improving pedestrian facilities. Charles is preparing required Caltrans cultural resources documentation for the project.

Elysian Park Lofts Project Environmental Impact Report, Los Angeles, CA: Senior Archaeologist for preparation of an Environmental Impact Report for the project, which involves the mixed-use redevelopment of an approximate 8.08-acre parcel with approximately 920 residential units, approximately 17,951 square feet (sf) of neighborhood-serving retail uses, and approximately 5,465 sf of leasing offices. The project site is located Central City North Community Plan Area near the Metro Gold Line railroad and the Los Angeles State Historic Park. The project is considered a transit-oriented development (TOD) due its proximity to a network of regional transportation facilities providing access to the greater metropolitan area and a City of Los Angeles designated transit priority area (TPA). Charles is preparing a cultural resources assessment.

I-10/Jefferson Street Interchange Improvement Project; Indio, California: Assistant Project Manager for prehistoric site investigations located near the archaeological sites of CA-RIV-6896 and CA-RIV-6897. He became familiar with artifacts from the Coachella Valley, plotted and created a map of all surrounding archaeological sites and ancient lake shores, created a table of radio carbon dates, and reviewed relevant reports.

Imperial Irrigation District (IID) Salton Seawater Marine Habitat Pilot Project; Imperial County, CA: Project Manager and Lead Archaeologist for the cultural resources and paleontological assessment study for the Sephton Water Technology and IID Salton Seawater Marine Habitat project located in Imperial County. His responsibilities include assessing the project for cultural and paleontological sensitivity and to develop strategies to minimize impacts to sensitive resources. Charles' other tasks include managing the project budget, correspondence with the IID environmental staff and advising IID with Assembly Bill (AB) 52 Tribal Cultural Resource (TRC) consultation.

Imperial Irrigation District (IID) Johnson's Landing Pilot Project and Boat Ramp; Imperial County, CA: Project Manager and Lead Archaeologist for the cultural resources survey for a 67-acre study on lands administered by the Bureau of Reclamation (BOR) for the IID Johnson's Landing Pilot Project and Boat Ramp located in Imperial County. His responsibilities include conducting the field study and to developing strategies to minimize impacts to sensitive resources. Charles' other tasks include managing the project budget, correspondence with the BOR and

Charles Cisneros, MS, RPA (Continued)

IID environmental staff and advising IID with Assembly Bill (AB) 52 Tribal Cultural Resource (TRC) consultation.

Beacon Solar Photovoltaic Project; Kern County, CA: Project Manager and Lead Archaeologist for the cultural resources monitoring and biological monitoring of Chambers Group personnel on behalf of BonTerra Psomas for the Beacon Solar Photovoltaic project located in Kern County. His responsibilities include assigning Chambers Group personnel to monitor for cultural and biological resources and to develop strategies to minimize impacts to culturally sensitive archaeological sites. Mr. Cisneros's other tasks include managing the project budget and correspondence with the BonTerra Psomas senior project manager.

East Kern Wind Resource Area (EKWRA) Project; Kern County, CA: Project Manager and Lead Archaeologist for the cultural resources monitoring for Southern California Edison's (SCE) East Kern Wind Resources Areas project located in Kern County. His responsibilities include assigning personnel to monitor for cultural resources and to develop strategies to minimize impacts to culturally sensitive archaeological sites. Charles' other tasks include managing the project budget, correspondence with the SCE project senior archaeologist, advising construction personnel and client, and attending to project engineering details.

Genesis Solar Solar Project; Riverside County, CA: Crew Chief, CEC Approved Archaeologist on a special studies data recovery team for the Genesis solar project on Bureau of Land Management property. His responsibilities included providing support for the investigation of cultural resources, GPS mapping, site recordation, ground penetrating radar surveys, and working with AECOM archaeologist and Soboba Tribal Monitors.

Solar Millenium Blythe Solar Project; Riverside County, CA: Crew Chief, CEC Approved Assistant Project Prehistoric Archaeologist on several intensive archaeological surveys and data recovery teams for the Solar Millennium's solar project on Bureau of Land Management property. His responsibilities included providing support for the investigation of cultural resources, GPS mapping, site recordation, ground penetrating radar surveys, and working with AECOM archaeologist and Aqua Caliente tribal monitors.

McCoy Solar Project; Blythe, CA: Crew Chief, CEC Approved Archaeologist for an archaeological survey on a 5000-acre project located on Bureau of Land Management property. Along with other archaeologists, he conducted the investigation of cultural resources, GPS mapping, site recordation and working with AECOM archaeologist and Aqua Caliente tribal monitors.

AT&T Fiber Optic Cable Maintenance Project, Halloran Summit Road to Slash X Ranch Segment, San Bernardino, County, CA: Ethnographer for the ethnographic study for a fiber-optic project located on public lands managed by the Bureau of Land Management (BLM). His responsibilities include researching the ethnographic literature and folklore for several tribes claiming ancestral ties to the land within the project area. Mr. Cisneros's other tasks include managing the project budget, correspondence with the Barstow BLM archaeologist, and completing a report analyzing the ethnographic data.

Charles Cisneros, MS, RPA (Continued)

AT&T Fiber Optic Cable Maintenance Project, Halloran Summit Road to Slash X Ranch Segment, San Bernardino, County, CA: Senior Archaeologist and Principal Investigator for the senior archaeologist and principal investigator for a fiber-optic project located on public lands managed by the Bureau of Land Management (BLM). His responsibilities include researching the archaeology and paleontology for the Mojave Desert and preparing research designs and management plans for cultural and paleontological resources. Mr. Cisneros's other tasks include managing the project budget, correspondence with the Barstow BLM archaeologist, local tribes, and completing a report analyzing the data generated from both the field surveys and mitigation monitoring.

APPENDIX B

FIELD PHOTOS

Site Photos for State Route 1 (Lincoln Boulevard) Multimodal Improvement Project

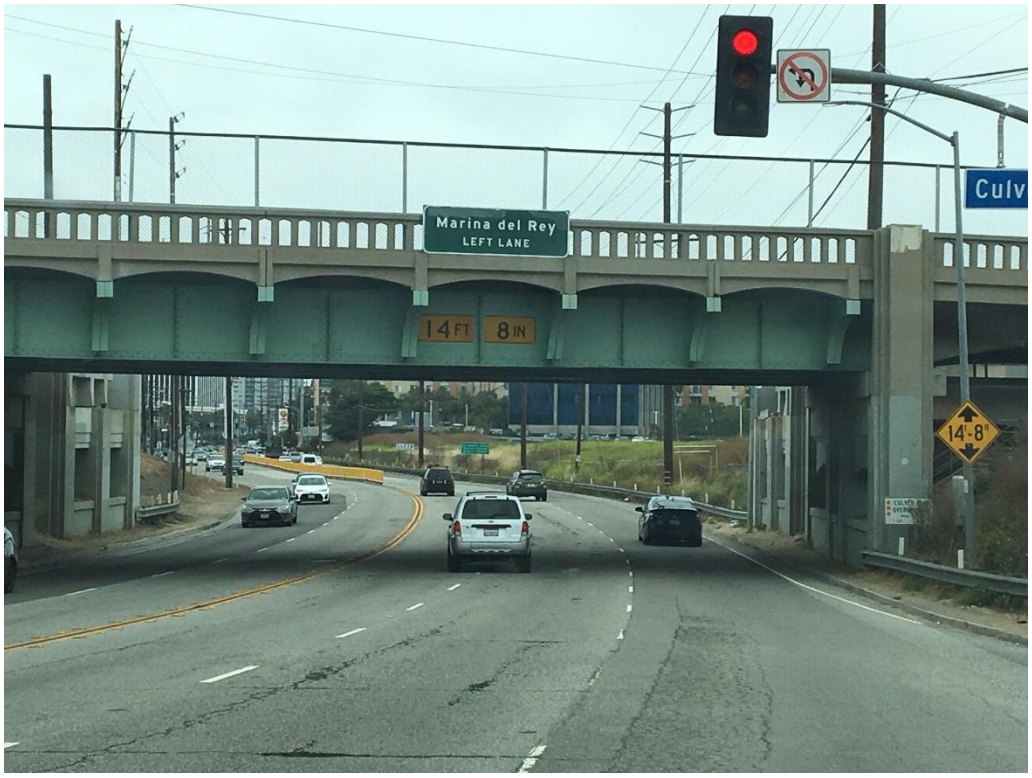


Figure 1: Overview of Intersection at Lincoln Blvd and Culver Blvd (View Towards Northwest)

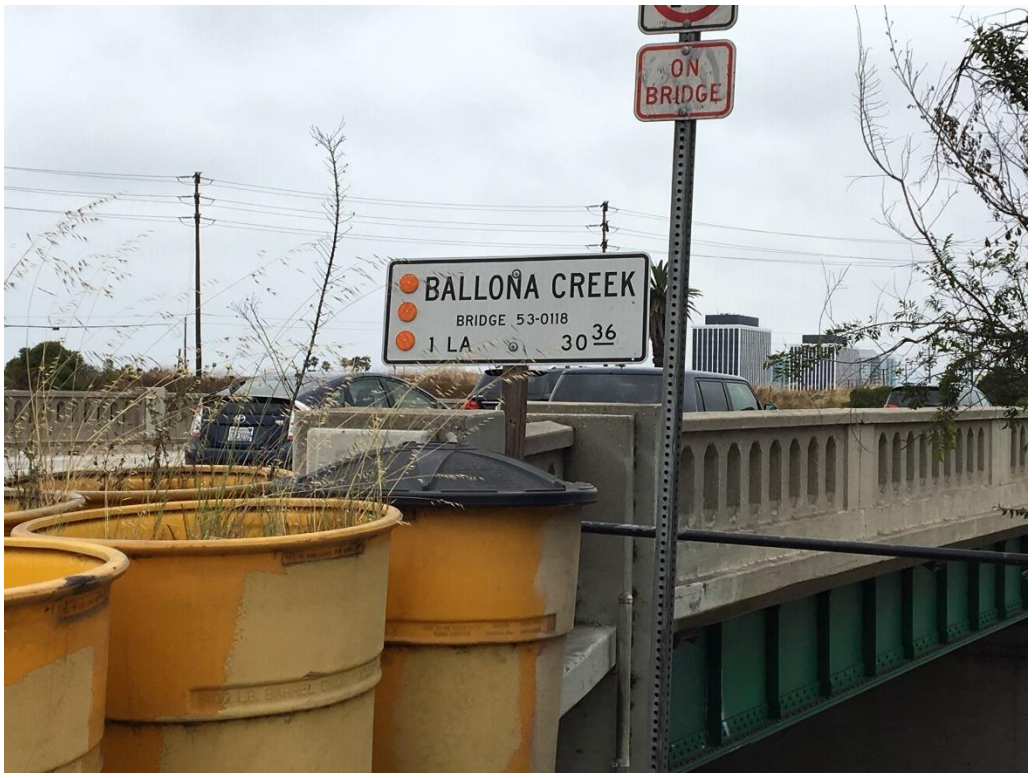


Figure 2: P-19-176734 Ballona Creek Bridge (View Towards Northwest)

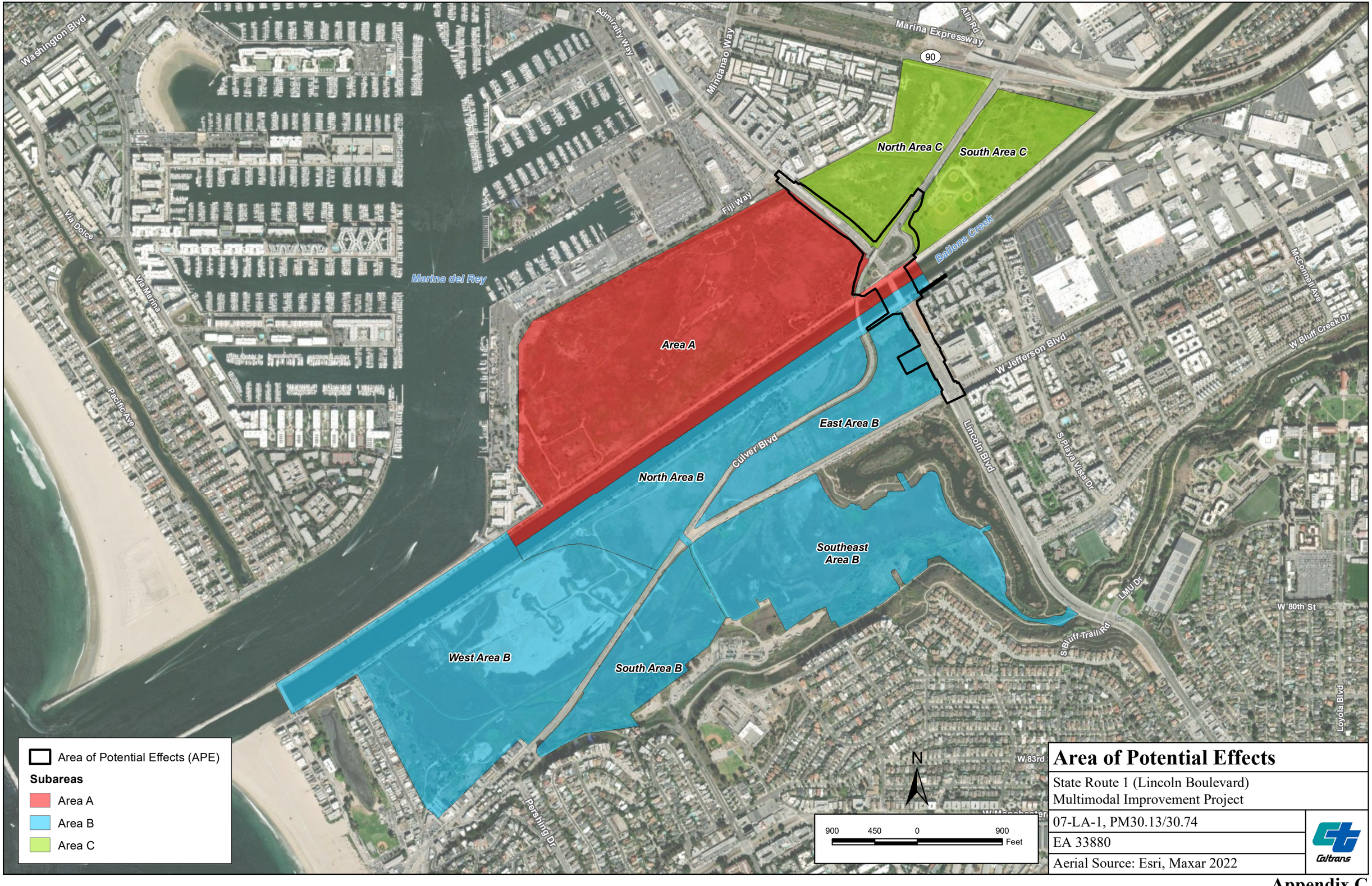
Figure 3: P-19-176734 Ballona Creek Bridge (View Towards Northwest)

Figure 4: P-19-176734 Ballona Creek Bridge (View Towards West)

Figure 5: Ballona Creek (View Towards Northeast)

APPENDIX C

BALLONA RESERVE (MAP)



Area of Potential Effects

State Route 1 (Lincoln Boulevard)
Multimodal Improvement Project

07-LA-1, PM30.13/30.74

EA 33880

Aerial Source: Esri, Maxar 2022

Caltrans

Appendix C

APPENDIX D

SOUTH CENTRAL COASTAL INFORMATION CENTER
RECORD SEARCH RESULTS

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-00027		1974	Rozaire, Charles E.	Del Rey/strand Environmental Impact Report	Engineering Service Corp.	
LA-00069		1974	Rosen, Martin D.	Evaluation of the Archaeological Resources in Playa Del Rey Area, Leighton and Associates	University of California, Los Angeles	19-000047, 19-000053, 19-000054, 19-000057, 19-000059, 19-000060, 19-000061, 19-000062, 19-000063, 19-000064, 19-000065, 19-000066, 19-000136, 19-000194, 19-000203, 19-000204, 19-000206, 19-000211, 19-000212, 19-000213, 19-000216, 19-000356
LA-00188		1976	Hector-Kaufman, Susan	Evaluation of the Area Known As Tentative Tract 31351, Los Angeles County, an Environmental Impact Report.	University of California, Los Angeles Archaeological Survey	
LA-00211		1982	Dillon, Brian D.	Archaeological Test Excavations on the Property Proposed for the Hughes Aircraft Company Headquarters Facility Los Angeles, California		19-000061
LA-00436		1979	Pence, Robert L.	Archaeological Assessment of the Summa Corporation Property, Culver City, Los Angeles County		19-000054, 19-000059, 19-000060, 19-000061, 19-000062, 19-000063, 19-000064, 19-000065, 19-000193, 19-000203, 19-000204, 19-000206, 19-000211, 19-000212, 19-000213, 19-000216, 19-001018
LA-00462		1979	Hector, Susan M.	An Archaeological Resource Survey an Impact Assessment of Tract No. 25635, Los Angeles County	University of California, Los Angeles Archaeological Survey	
LA-00748		1964	Schofield, George T.	Surface Collection From Loyola University Site, Los Angeles County (CA-LAN-61)		19-000061
LA-00750		1953	Marlys, Thiel	Recording by Pictures the Collection of William Deane of the Hughes Aircraft Site		19-000054, 19-000059, 19-000060, 19-000061, 19-000062, 19-000063, 19-000064, 19-000065, 19-000067, 19-000206, 19-000211
LA-00751		1950	Belous, Russell E. and Charles E. Rozaire	Preliminary Report on the Archaeology of the La Ballona Creek Area, Los Angeles County		19-000053, 19-000055, 19-000056, 19-000057, 19-000058, 19-000059, 19-000060, 19-000061, 19-000062, 19-000063, 19-000064, 19-000065, 19-000066, 19-000067, 19-000068, 19-000069, 19-000070, 19-000071, 19-000072, 19-000073, 19-000074, 19-000171, 19-000172

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-00798		1980	Singer, Clay A.	Archaeological Investigations at the Westport Beach Club in Playa Del Rey, Los Angeles County, California---phase I Report		19-000066
LA-00839		1936	Farmer, Malcolm F.	Preliminary Notes of an Archaeological Reconnaissance of Indian Camp Sites in the Baldwin Hills-ballona Creek Region of Los Angeles County, California		19-000059, 19-000061, 19-000062, 19-000063, 19-000064, 19-000065, 19-000066, 19-000067, 19-000068, 19-000069, 19-000070, 19-000071, 19-000072, 19-000073, 19-000074
LA-00873		1980	Singer, Clay A.	Cultural Resource Survey and Impact Assessment for a Lot at 373-375 Fowling Street, Playa Del Rey, Los Angeles County,	C.A. Singer & Associates, Inc.	
LA-01173		1982	Dillon, Brian D.	An Archaeological Resource Survey and Impact Assessment of a Parcel Near Centinela and Ballona Creeks in the City of Los Angeles, California	Brian Dillon	
LA-01202		1982	Dillon, Brian D.	An Evaluation of the Archaeological Resources on the Property Proposed for the Hughes Aircraft Company Headquarters Facility, Los Angeles	University of California, Los Angeles Archaeological Survey	19-000061, 19-000062, 19-001018
LA-01209		1983	Van Horn, David M.	Archaeological Test Excavation Report: the Site of the New Hughes Aircraft Company Headquarters Near LAN-61 in Los Angeles, California	Archaeological Associates, Ltd.	19-000061, 19-000062, 19-001018
LA-01249		1983	Aycock, Richard D.	An Assessment of the Archaeological Resources on the Property Proposed for the Project Title Protection W/o Coln Blvd, California		19-000063, 19-000064
LA-01282		1983	Padon, Beth	An Archaeological Assessment of the Playa Sol Project in the City of Los Angeles	Beth Padon	
LA-01444		1983	Dillon, B. D., D. M. Van Horn, and J. R. Murray	Report to the LAN-61 Board of Senior Advisors: the Location and Condition of LAN-62	Archaeological Associates, Ltd.	19-000062
LA-01512		1986	Van Horn, David M.	Surface Maping and Auger Sampling at LAN-63 and LAN-64, City of Los Angeles	Archaeological Associates, Ltd.	19-000063, 19-000064, 19-000206
LA-01613		1983	Van Horn, David M.	Archaeological Survey Report: a 30+/- Tract a at the Northwest Corner of Manchester & Hastings Avenues in the City of Los Angeles	Archaeological Associates, Ltd.	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-01614		1983	Brown, Robert S.	Archaeological Test Report: a 30+/- Acre Parcel of Property at the Corner of Manchester and Hastings Avenues in the City of Los Angeles	Archaeological Associates, Ltd.	
LA-01975		1989	Neuenschwander, Neal J.	Cultural Resource Survey and Clearance Report for the Proposed American Telephone and Telegraph Los Angeles Airport Central Office to the Santa Monica Central Office Fiberoptic Commmunication Route	Peak & Associates, Inc.	19-001018, 19-001698
LA-02372		1991	Homburg, Jeffrey A.	Late Prehistoric Change in the Ballona Wetland.	Statistical Research, Inc.	19-000047, 19-000054, 19-000059, 19-000060, 19-000061, 19-000062, 19-000063, 19-000064, 19-000194, 19-000206, 19-000211, 19-000356
LA-02445		1990	Peak, Ann	Shovel Testing at Two Sites CA-LAN-1698 and CA-LAN-1018 Los Angeles County, California	Peak & Associates, Inc.	19-001018, 19-001698
LA-02669		1978	Gervais, Richard	Draft Background and Environmental Impact Report Venice District	Department of City Planning	19-000047

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Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-03583		1974	Bucknam, Bonnie M.	The Los Angeles Basin and Vicinity: a Gazetteer and Compilation of Archaeological Site Information	Archaeological Research, Inc.	19-000001, 19-000002, 19-000003, 19-000004, 19-000005, 19-000007, 19-000009, 19-000010, 19-000011, 19-000012, 19-000013, 19-000015, 19-000016, 19-000017, 19-000018, 19-000019, 19-000023, 19-000024, 19-000027, 19-000028, 19-000029, 19-000030, 19-000031, 19-000033, 19-000037, 19-000038, 19-000039, 19-000040, 19-000044, 19-000045, 19-000046, 19-000047, 19-000048, 19-000049, 19-000050, 19-000051, 19-000052, 19-000053, 19-000054, 19-000055, 19-000056, 19-000057, 19-000058, 19-000059, 19-000060, 19-000061, 19-000062, 19-000063, 19-000064, 19-000065, 19-000066, 19-000067, 19-000068, 19-000069, 19-000070, 19-000071, 19-000072, 19-000073, 19-000074, 19-000078, 19-000080, 19-000088, 19-000090, 19-000091, 19-000092, 19-000094, 19-000096, 19-000097, 19-000098, 19-000099, 19-000100, 19-000101, 19-000102, 19-000103, 19-000104, 19-000105, 19-000106, 19-000107, 19-000108, 19-000109, 19-000110, 19-000112, 19-000113, 19-000114, 19-000115, 19-000116, 19-000117, 19-000118, 19-000119, 19-000120, 19-000121, 19-000122, 19-000123, 19-000124, 19-000125, 19-000126, 19-000127, 19-000131, 19-000133, 19-000134, 19-000135, 19-000136, 19-000137, 19-000138, 19-000139, 19-000140, 19-000141, 19-000142, 19-000143, 19-000144, 19-000145, 19-000146, 19-000147, 19-000148, 19-000149, 19-000150, 19-000151, 19-000152, 19-000153, 19-000154, 19-000155, 19-000156, 19-000159, 19-000161, 19-000162, 19-000170, 19-000171, 19-000172, 19-000174, 19-000175, 19-000178, 19-000179, 19-000180, 19-000181, 19-000182, 19-000183, 19-000184, 19-000185,

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Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
						19-000187, 19-000189, 19-000190, 19-000191, 19-000193, 19-000194, 19-000195, 19-000196, 19-000197, 19-000198, 19-000199, 19-000200, 19-000201, 19-000202, 19-000203, 19-000204, 19-000205, 19-000206, 19-000207, 19-000210, 19-000211, 19-000212, 19-000213, 19-000214, 19-000215, 19-000216, 19-000217, 19-000219, 19-000220, 19-000222, 19-000224, 19-000225, 19-000226, 19-000227, 19-000229, 19-000231, 19-000232, 19-000233, 19-000234, 19-000235, 19-000236, 19-000245, 19-000255, 19-000263, 19-000264, 19-000265, 19-000266, 19-000267, 19-000268, 19-000269, 19-000270, 19-000271, 19-000272, 19-000273, 19-000274, 19-000275, 19-000276, 19-000277, 19-000278, 19-000279, 19-000280, 19-000281, 19-000282, 19-000283, 19-000284, 19-000285, 19-000286, 19-000287, 19-000288, 19-000289, 19-000291, 19-000292, 19-000303, 19-000306, 19-000307, 19-000308, 19-000309, 19-000310, 19-000311, 19-000316, 19-000317, 19-000319, 19-000322, 19-000330, 19-000331, 19-000332, 19-000333, 19-000335, 19-000340, 19-000341, 19-000344, 19-000350, 19-000352, 19-000353, 19-000354, 19-000356, 19-000382, 19-000383, 19-000385, 19-000386, 19-000387, 19-000388, 19-000389, 19-000390, 19-000398, 19-000400, 19-000401, 19-000403, 19-000404, 19-000406, 19-000415, 19-000423, 19-000424, 19-000425, 19-000448, 19-000454, 19-000468, 19-000469, 19-000470, 19-000472, 19-000478, 19-000483, 19-000484, 19-000494, 19-000495, 19-000496, 19-000497, 19-000499, 19-000500, 19-000501, 19-000505, 19-000506, 19-000512, 19-000513, 19-000514, 19-000515, 19-000516, 19-000517,

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Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
						19-000519, 19-000520, 19-000523, 19-000525, 19-000526, 19-000527, 19-000528, 19-167019, 19-179270
LA-03776		1965	Romoli, Douglas A., Keith L. Johnson, and Tom Blackburn	Ucas-035 Malibu	University of California, Los Angeles Archaeological Survey	19-000061, 19-000264
LA-03898			Anonymous	Proposal for Archaeological Investigations in the Area of Hammock Street and Port Drive (vii-l.a.-90,405; Lincoln Blvd. to Slauson Avenue)	Unknown	
LA-04548		1948	Ariss, R.M.	Hughes Aircraft Company Site, Playa Del Rey, California	Los Angeles County Museum	19-000061, 19-000062, 19-000063, 19-000064, 19-000065
LA-04725		1998	Unknown	West Bluffs Project Subsequent Draft Environmental Impact Report	Planning Consultants Research	19-000063, 19-000064, 19-000206
LA-04868	Paleo -	2000	Shepard, Richard S.	Cultural Resources Records Search and Paleontologic Resources Literature Review Report for the Sempra Energy Gas Leas Sale Project Area, Playa Del Rey and a Portion of the City of Los Angeles, Los Angeles County, California	Chambers Group, Inc.	19-000064, 19-000065, 19-000203, 19-000204, 19-000206
LA-05556		1977	Tillman, Donald C.	Historic Property Survey: Vista Del Mar - Culver Boulevard to Napoleon Street	City of Los Angeles	
LA-05559		2000	Duke, Curt	Cultural Resource Assessment for At&t Wireless Services Facilty Number R319 County of Los Angeles, California	LSA Associates, Inc.	19-000066, 19-001716
LA-05561		2000	Duke, Curt	Cultural Resource Assessment for Pacific Bell Wireless Facility La 306-03 County of Los Angeles, California	LSA Associates, Inc.	19-000066, 19-001118, 19-001716, 19-100116
LA-05757		1998	Iverson, Gary	Negative Archaeological Survey Report - Widening and Signal Upgrades on the West Side of the Intersection at Lincoln Boulevard and Mindanao Way, Remove the Raised Islands on Lincoln Blvd. Between Fiji Way and Mindanao Way, Re-stripe Lincoln Blvd.	Caltrans District 7	
LA-06002		1987	Van Horn, David M.	Excavation at the Del Rey Site (LAN-63) and the Bluff Site (LAN-64) in the City of Los Angeles	Archaeological Associates, Ltd.	19-000063, 19-000064

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Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-06003		2001	Mason, Roger D.	Cultural Resources Records Search and Literature Review Report for an at & T Telecommunications Facility: Number D092 Jefferson Boulevard in the City of Inglewood, Los Angeles County, California	Chambers Group, Inc.	
LA-06004		2001	Mason, Roger D.	Proposed at & T Antenna Facility D092, Jefferson Boulevard, City of Inglewood, Los Angeles County, California	Chambers Group, Inc.	
LA-06239		2000	Wesson, Alex, Bryon Bass, and Brian Hatoff	El Segundo Power Redevelopment Project Cultural Resources (archaeological Resources) Appendix J of Application for Certification	URS Corporation	19-186856
LA-06240		2000	Bunse, Meta and Mikesell, Stephen D.	El Segundo Power Redevelopment Project Historic Resources (built Environment) Appendix K of Application for Certification	JRP Historical Consulting Services	
LA-06570		1991	Swanson, Mark T.	Playa Vista Archaeological and Historical Project, Technical Report 1. Visual and Aesthetic Impact of the Playa Vista Project on Adjacent Properties 45 Years of Age and Older.	Statistical Research, Inc.	
LA-06833		1991	Foster, John M.	Playa Vista Archaeological and Historical Project, Technical Report 3. Historical Test Evaluation, CA-LAN-1970H (SR 2), Playa Vista, Los Angeles, California	Statistical Research Inc.	19-001970
LA-06904		2003	Altschul, Jeffrey H., Stoll, Anne Q., Grenda, Donn R., and Ciolek-Torrello, Richard	Playa Vista Monograph Series Test Excavation Report 4. Playa Vista Archaeological and Historical Project at the Base of the Bluff. Archaeological Inventory and Evaluation Along Lower Centinela Creek, Marina Del Rey, California.	Statistical Research, Inc.	19-000060, 19-000062, 19-000064, 19-000193, 19-000211, 19-001932, 19-001934, 19-002676, 19-002768, 19-002769
LA-07185		2004	Foster, John M.	Archaeological Investigation for Venice Pumping Plant Dual Force Main Project	Greenwood and Associates	19-000066
LA-07192		1991	Hampson, R. Paul	Playa Vista Archaeological and Historical Project, Technical Report 2. Historical Test Excavations, Playa Vista, Los Angeles, California	Statistical Research, Inc.	19-001932, 19-001933, 19-001934
LA-07724		1999	Keller, Angela H.	Playa Vista Archaeological and Historical Project, Technical Report 9. Evaluation of Sr10, a Nonarchaeological Assemblage in the Ballona Wetlands, Marina Del Rey, California	Statistical Research, Inc.	19-000047, 19-001932, 19-001933, 19-001970, 19-002676

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Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-07725		2001	Altschul, Jeffrey H.	Playa Vista: Archaeological Treatment Plan for CA-LAN-54	Statistical Research, Inc.	19-000054
LA-07726		2001	Vargas, Benjamin R. and Altschul, Jeffrey H.	Playa Vista Monograph Series Test Excavation Report 3. Playa Vista Archaeological and Historical Project on Ballona Creek Archaeological Treatment Plan for CA-LAN-54, Marina Del Rey, California.	Statistical Research, Inc.	19-000054
LA-07939		2000	Kane, Diane	Historic Property Survey Report for the Route 1 Widening Project Between Culver Boulevard and Jefferson Boulevard in Los Angeles County, California	California Department of Transportation, District 7	19-000063, 19-001018
LA-09480		1998	Altschul, Jeffrey H., Christopher J. Doolittle, Su Benaron, Richard Ciolek-Torrello, Lori L. Erickson, Pamela Ford, Angela Keller, David Maxwell, and E. Jane Rosenthal	Playa Vista Archaeological and Historical Project, Test Excavation Report 1. Settlement on the Lagoon Edge: Archaeological Treatment Plan for CA-LAN-2676, Marina Del Rey, California	Statistical Research, Inc.	19-000047, 19-000059, 19-000060, 19-000061, 19-000062, 19-000063, 19-000206, 19-000211, 19-002676
LA-09481		1991	Altschul, Jeffrey H., Richard S. Ciolek-Torrello, Jeffrey A. Homburg, and Mark T. Swanson	Playa Vista Archaeological and Historical Project Research Design. Statistical Research Technical Series No. 29, Pt. 1.	Statistical Research, Inc	19-000029, 19-000054, 19-000060, 19-000062, 19-000078, 19-000193, 19-000211, 19-001698
LA-09998		2006	Van Galder, Sarah J., Benjamin R. Vargas, Jeffrey H. Altschul, John G. Douglass, Richard Ciolek-Torrello, and Donn R. Grenda	Playa Vista Archaeological and Historical Project, Technical Report 13. Preliminary Report on Data Recovery within the Phase 2 Project Area at CA-LAN-62, Locus D, and CA-LAN-211/H, Playa Vista, California.	Statistical Research, Inc.	19-000062, 19-000211
LA-09999		2005	Vargas, Benjamin R., Jeffrey H. Altschul, John G. Douglass, Richard Ciolek-Torrello, Donn R. Grenda, Robert M. Wegener, and William L. Deaver	Playa Vista Archaeological and Historical Project, Technical Report 12. Preliminary Report on Data Recovery within the Phase 1 Project Area at CA-LAN-62, Playa Vista, California.	Statistical Research, Inc.	19-000062
LA-10134		2002	Keller, Angela H. and Jeffrey H. Altschul	Playa Vista Monograph Series Technical Report 10. Playa Vista Archaeological and Historical Project, Preliminary Report on Data Recovery at Site CA-LAN-54, Marina del Rey, California.	Statistical Research, Inc.	19-000054

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Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-10135		1991	Altschul, Jeffrey H.	Playa Vista Archaeological and Historical Project, Data Recovery Plan for CA-LAN-62 and CA-LAN-211	Statistical Research	19-000062, 19-000211
LA-10136		1999	Altschul, Jeffrey H.	National Register Evaluation of CA-LAN-63, CA-LAN-64, and CA-LAN-206, West Bluff Project, Westchester/Playa del Rey, California. Technical Report 99-45	Statistical Research, Inc.	19-000063, 19-000064, 19-000206
LA-10137		2000	Altschul, Jeffery H., Anne Q. Stoll, Donn R. Grenda, and Richard Ciolek-Torrello	Historic Properties Treatment Plan for the bluff Site, CA-LAN-64, West Bluff Project, Westchester/Playa del Rey, California. Technical Report 00-32	Statistical Research, Inc.	19-000064
LA-10138		2004	Douglass, John G. and Jeffrey H. Altschul	Preliminary Report on Archaeological Monitoring and Data Recovery at Sites CA-LAN-63, CA-LAN-64, and CA-LAN-206A, West Bluffs Project, Westchester/Playa del Rey, California. Technical Report 03-77.	Statistical Research, Inc.	19-000063, 19-000064, 19-000206
LA-10152		2007	anonymous	Playa Vista Archaeological and Historical Project (PVAHP). Programmatic Agreement, Playa Vista Project, Annual Reports, September 1996 through 2007.	Statistical Research, Inc.	19-000054, 19-000060, 19-000062, 19-000193, 19-000211, 19-001932, 19-002676, 19-002768, 19-187548
LA-10880		2007	Trinh, Phoung	Tahiti Marina application for Department of the Army authorization	Department of the Army Corps of Engineers	19-000047, 19-000337, 19-001596, 19-001698, 19-186163, 19-186164, 19-186165
LA-11038		2009	Vargas, Benjamin	Preliminary Report on Data Recovery at CA-Lan-62 Locus G, within the Proposed School Site Parcel, Phase 1, Playa Vista, California	SRI	19-000062
LA-11177		2008	Cappellino, Steve, Joshua Burnam, Lennie Rae Cooke, and Jack Malone	Entrance Channel Maintenance Dredging of Contaminated Sediments at Marina Del Rey Harbor - Public Draft Supplemental Environmental Assessment (SEA)	U.S. Army Corps of Engineers	
LA-11545		2005	Vargas, Benjamin, Altschul, Jeffery, Douglass, John, Ciolek-Torrello, Richard, Grenda, Donn, Wegener, Robert, and Deaver, William	Preliminary Report on Data Recovery within the Phase I Projet Area at CA-LAN-62, Palya Vista, California	Statistical Research Inc	19-000062, 19-000211
LA-11819		2006	Hirsch, Jennifer	Historical resources Evaluation Report for the SR 90 Realighment and Admiralty Way Improvements Projects Marina Del Rey, California	EDAW	19-167310, 19-169696, 19-176733, 19-176734, 19-186163, 19-186164, 19-186165

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Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-12500		2013	Vader, Michael	Final Archaeological Resources Monitoring Report for the Los Angeles Department of Water and Power Scattergood-Olympic Transmission Line Project, Vault Investogations, Los Angeles County, California	ESA	19-002345, 19-004352, 19-004353, 19-004354
LA-12757		2014	Delu, Antonina and Chasteen, Carrie	Cultural Resource Study for The Boat Yard -- Marina Del Rey, Marina del Rey, Los Angeles County, California	Applied EarthWorks	19-000047, 19-001689, 19-176733, 19-186163, 19-186164, 19-186165, 19-187805, 19-190938
LA-12859		2016	Ortiz, Venessa	Bluff Creek Road Project D130500.14	ESA	
LA-12863		2016	McKenna, Jeanette A.	A Cultural Resources Investigation of the Proposed Ocean Charter Schools Site, 12870 Panama St., in the Marina Del Rey Area of Los Angeles, Los Angeles County,	McKenna et al.	19-192300
LA-13135		2000	Bonner, Wayne H.	CULTURAL RESOURCES SURVEY, VIlLA VENETIA APARTMENTS, 13900 FIJI WAY, MARINA DEL REV, CITY AND COUNTY OF LOS ANGELES, CALIFORNIA	W. H. BONNER ASSOCIATES	

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-19-000054	CA-LAN-000054/H	Resource Name - Deane's Broken Mortar Site; Other - LA-78	Site	Prehistoric, Historic	AH03 (Landscaping/orchard); AH04 (Privies/dumps/trash scatters); AH07 (Roads/trails/railroad grades); AP02 (Lithic scatter); AP09 (Burials); AP10 (Caches); AP11 (Hearths/pits); AP15 (Habitation debris)	1949 (EBERHART); 2002 (Scott Kremkau, SRI)	LA-00069, LA-00436, LA-00750, LA-02372, LA-03583, LA-05565, LA-07725, LA-07726, LA-09481, LA-10134, LA-10152, LA-10756
P-19-000062	CA-LAN-000062	Resource Name - Malcolm Farmer's Playa del Rey site #4; Other - LA-79	Site	Prehistoric	AP02 (Lithic scatter); AP09 (Burials); AP11 (Hearths/pits); AP15 (Habitation debris); AP16 (Other)	1950 (Rozaire & Belous); 1970 (Tom King)	LA-00069, LA-00436, LA-00750, LA-00751, LA-00839, LA-01202, LA-01209, LA-01443, LA-01444, LA-02372, LA-02830, LA-03494, LA-03511, LA-03583, LA-03770, LA-04548, LA-05565, LA-06904, LA-09480, LA-09481, LA-09998, LA-09999, LA-10135, LA-10152, LA-11038, LA-11545, LA-12541
P-19-000063	CA-LAN-000063	Resource Name - Malcolm Farmer's Playa del Rey Site #5; Other - Deane Site #3; Other - LA-81	Site	Prehistoric	AP02 (Lithic scatter); AP15 (Habitation debris)	1950 (Rozaire and Belous)	LA-00069, LA-00436, LA-00750, LA-00751, LA-00839, LA-01249, LA-01512, LA-01696, LA-02372, LA-03583, LA-04548, LA-04725, LA-05565, LA-06002, LA-06005, LA-07851, LA-07939, LA-09480, LA-10136, LA-10138, LA-10756, LA-11166, LA-12541

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-19-000064	CA-LAN-000064	Resource Name - Malcolm Farmer's Playa del Rey site #6; Other - LA-82; Other - Deane Site #4	Site	Prehistoric	AP02 (Lithic scatter); AP09 (Burials); AP15 (Habitation debris)	1950 (Rozaire and Belous)	LA-00069, LA-00436, LA-00750, LA-00751, LA-00839, LA-01249, LA-01512, LA-02372, LA-03494, LA-03511, LA-03583, LA-03770, LA-04548, LA-04725, LA-04868, LA-05565, LA-06002, LA-06005, LA-06904, LA-07851, LA-10136, LA-10137, LA-10138, LA-10765, LA-11166, LA-12541
P-19-000065	CA-LAN-000065	Resource Name - Malcolm Farmer's Playa del Rey site #7; Other - LA-86; Other - Deane Site 5	Site	Prehistoric	AP02 (Lithic scatter); AP15 (Habitation debris)	1950 (Rozaire & Belous)	LA-00069, LA-00436, LA-00750, LA-00751, LA-00839, LA-01451, LA-03494, LA-03511, LA-03583, LA-03690, LA-03770, LA-04548, LA-04868, LA-05565, LA-07851
P-19-000066	CA-LAN-000066	Resource Name - Malcolm Farmer's Playa del Rey site #8; Other - LA-87	Site	Prehistoric	AH01 (Unknown)	1950 (Rozaire and Belous)	LA-00069, LA-00751, LA-00798, LA-00839, LA-03583, LA-05559, LA-05561, LA-07185, LA-10733, LA-11183, LA-11774, VN-01462
P-19-000204	CA-LAN-000204	Other - LA-22	Site	Unknown	AH01 (Unknown); AP01 (Unknown)	1953 (EBERHART)	LA-00069, LA-00436, LA-03487, LA-03494, LA-03511, LA-03583, LA-03770, LA-04868, LA-05565, LA-07851, LA-08640

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Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-19-000206	CA-LAN-000206	Resource Name - William Deane's site #6; Other - LA-24	Site	Prehistoric	AP15 (Habitation debris)	1953 (EBERHART); 2004 (John Douglas and Jeffrey Altschul)	LA-00069, LA-00436, LA-00750, LA-01512, LA-02372, LA-03494, LA-03511, LA-03583, LA-04725, LA-04868, LA-05565, LA-07851, LA-09480, LA-10136, LA-10138
P-19-001018	CA-LAN-001018		Site	Prehistoric	AP15 (Habitation debris)	1979 (R. L. Pence)	LA-00436, LA-01202, LA-01209, LA-01443, LA-01975, LA-02445, LA-05565, LA-07939
P-19-001698	CA-LAN-001698	Resource Name - PA-89-38	Site	Prehistoric	AP15 (Habitation debris)	1989 (NEUENSCHWANDER, Peak & Associates)	LA-01975, LA-02445, LA-09481, LA-10880
P-19-001716	CA-LAN-001716	Resource Name - Chadwick #1	Site	Prehistoric	AP02 (Lithic scatter); AP15 (Habitation debris)	1990 (Clay A. Singer, C.A. Singer & Assoc. Inc)	LA-05559, LA-05561, LA-10733
P-19-001933	CA-LAN-001933H	Resource Name - SR-5	Site	Historic	AH04 (Privies/dumps/trash scatters)	1990 (N. Spain, S. Troncone, Statistical Research)	LA-07192, LA-07724
P-19-001934	CA-LAN-001934H	Resource Name - SR-4	Site	Historic	AH04 (Privies/dumps/trash scatters)	1990 (S. TRONCONE, Statistical Research)	LA-06904, LA-07192
P-19-001970	CA-LAN-001970H	Resource Name - SR-2	Site	Historic	AH02 (Foundations/structure pads); AH04 (Privies/dumps/trash scatters); AH05 (Wells/cisterns); AH06 (Water conveyance system); AH10 (Machinery)	1990 (N. Spain, S. Troncone, Statistical Research); 2015 (M. Vader, ESA)	LA-06833, LA-07724
P-19-002676	CA-LAN-002676	Resource Name - SR-19	Site	Prehistoric	AP02 (Lithic scatter); AP09 (Burials); AP15 (Habitation debris)	1998 (Christina Fiore, SRI)	LA-06904, LA-07724, LA-09480, LA-10152

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Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-19-003784	CA-LAN-003784H	Resource Name - SCG Facilities Trash Dump 1	Site	Historic	AH04 (Privies/dumps/trash scatters)	2008 (Steven McCormick, Cogstone)	
P-19-003982	CA-LAN-003982H	Resource Name - SR-9	Site	Historic	AH02 (Foundations/structure pads); AH04 (Privies/dumps/trash scatters); AP15 (Habitation debris)	2002 (Vargas, Benjamin R. and John Douglass, Statistical Research, Inc.)	
P-19-004713	CA-LAN-004713H	Resource Name - ESA-BR-001H	Site	Historic	AH04 (Privies/dumps/trash scatters)	2015 (M. Vader, ESA)	
P-19-004714	CA-LAN-004714H	Resource Name - ICF-BS-006H	Site	Historic	AH04 (Privies/dumps/trash scatters)	2015 (M. Vader, ESA)	
P-19-004715	CA-LAN-004715H	Resource Name - SR-3	Site	Historic	AH04 (Privies/dumps/trash scatters)	2015 (M. Vader, ESA)	
P-19-004716	CA-LAN-004716H	Resource Name - SR-7	Site	Historic	AH04 (Privies/dumps/trash scatters)	2015 (M. Vader, ESA)	
P-19-101357		Resource Name - ESA-ISO-001 Isolate	Other	Prehistoric	AP02 (Lithic scatter); AP16 (Other)	2015 (M.R.Bever, ESA)	
P-19-176733		OHP Property Number - 020717; Resource Name - Bridge #53-89	Structure	Historic	HP19 (Bridge)	1978 (C. Pursell, UCSB/California Inventory)	LA-11819, LA-12757
P-19-176734		OHP Property Number - 020718; Resource Name - Bridge #53-118	Structure	Historic	HP19 (Bridge)	1979 (C. Pursell, UCSB/California Inventory)	LA-11819
P-19-187805		Resource Name - Ballona Creek Flood Control Channel & Drainage System; Other - 07-LA-1-KP 48.9/49.4 EA166061	Structure	Historic	HP20 (Canal/aqueduct)	2000 (D. Kane, Caltrans); 2015 (Pamela Daly, Daly & Associates)	LA-12677, LA-12722, LA-12757
P-19-188837		OHP Property Number - 183530; Resource Name - Westgate Bldg; Other - Clearwire CA-LOS2050	Building	Historic	HP07 (3+ story commercial building)	2010 (K.A. Crawford, Micheal Brandman Associates)	LA-10733
P-19-190938		Resource Name - The Boat Yard - Marina Del Rey	Building	Historic	HP06 (1-3 story commercial building)	2014 (Carrie Chasteen, Applied Earthworks, Inc)	LA-12757

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Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-19-192300		Resource Name - Teledyne Microelectronics; Resource Name - Woodbury R W Sprague Products Co.	Building	Historic	HP06 (1-3 story commercial building)	2016 (Jeanette McKenna, McKenna et al)	LA-12863
P-19-192323		Resource Name - ICF-BS-003H - Utility Poles	Object	Historic	HP11 (Engineering structure)	2010 (Chmiel R. Mitchell, ICF)	
P-19-192324		Resource Name - ICF-BS-010H	Object	Historic	AH07 (Roads/trails/railroad grades)	2010 (R. Mitchell, ICF)	
P-19-192325		Resource Name - ICF-BS-018H	Structure	Historic	HP20 (Canal/aqueduct)	2010 (C. Shaver, ICF)	
P-19-192326		Resource Name - Pacific Electric Railway Bridge Abutments	Structure	Historic	HP11 (Engineering structure); HP95 (Concrete Construction)	2015 (Pamela Daly, Daly & Associates)	

ATTACHMENT 4

EXTENDED PHASE I (XPI) REPORT

EXTENDED PHASE I REPORT FOR THE STATE ROUTE 1 (LINCOLN BOULEVARD) MULTIMODAL IMPROVEMENT PROJECT, CITY OF LOS ANGELES, LOS ANGELES COUNTY, CALIFORNIA

POSTMILES 30.16 TO 30.74
EA# 07-33880

EFIS No. 0717000061

Approved by:

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February 2023

NADB Data: Lincoln Bridge, XPI Work Plan, U.S. Geological Survey (USGS) 7.5' *Venice* Topographic Quadrangle of the San Bernardino Baseline and Meridian

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this Project are being, or have been, carried out by Caltrans pursuant to 23 U.S.C. 327 and the Memorandum of Understanding dated December 23, 2016, and executed by FHWA and Caltrans.

CONFIDENTIALITY

Cultural resources are nonrenewable and their scientific, cultural, and aesthetic values can be significantly impaired by disturbance. To deter vandalism and other activities that can damage cultural resources, the location of cultural resources should be kept confidential. The legal authority to restrict cultural resource information can be found in California Government Code sections 6254.10 and 6254(r); California Code of Regulations Section 15120(d); and Section 304 of the National Historic Preservation Act of 1966.

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SUMMARY OF FINDINGS

The City of Los Angeles (City) is proposing to improve circulation and safety along Lincoln Boulevard by constructing an additional southbound lane, installing sidewalks and protected bicycle lanes, and implementing complete streets and other related improvements along an approximate 0.61-mile-long segment of Lincoln Boulevard between Jefferson Boulevard (Post Mile [PM] 30.16) and just south of Fiji Way (PM 30.74). The State Route 1 (Lincoln Boulevard) Multimodal Improvement Project (Project) primarily occurs within the unincorporated seaside community of Marina del Rey, with potential temporary construction easements and partial right-of-way acquisitions needed in adjacent parcels in unincorporated Los Angeles County (see Project Vicinity Map and Project Location Map in Appendix A).

This Project is an undertaking as defined in 36 Code of Federal Regulations (CFR) § 800.16(y) (200). The California Department of Transportation (Caltrans), acting as the federal lead agency as assigned by the Federal Highway Administration (FHWA), is providing Project oversight. The studies for this undertaking were carried out in a manner consistent with Caltrans' regulatory responsibilities Section 106 of the National Historic Preservation Act (NHPA [36 CFR Part 800]) and pursuant to the January 2014 *First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation regarding Compliance with Section 106 of the National Historic Preservation Act, as it pertains to the Administration of the Federal-Aid Highway Program in California* (Section 106 PA).

An Archaeological Survey Report (ASR) was prepared for the Project by Psomas (Attachment 3 of the Historic Property Survey Report (HPSR). No evidence of archaeological resources was found during the pedestrian survey of the Project's Area of Potential Effects (APE) (see APE map in Appendix A). However, records search data from the South Central Coastal Information Center (SCCIC) indicate 32 cultural resources have been recorded within one-mile radius of the APE, five of which are in the APE. One of these five resources (CA-LAN-1698) was originally recorded in 1989 as a prehistoric shell scatter located 50 meters south-southwest from the junction of Fiji Way and Lincoln Boulevard. Statistical Research Incorporated (SRI) revisited the site in 1990 and concluded that the remains represented redeposited fill and not cultural in origin. The remaining four cultural resources within the APE consist of built-environment resources and are discussed in the Historic Resources Evaluation Report (Attachment 2 of the HPSR).

Twenty-seven cultural resources have been identified outside of the Project APE within a one-mile buffer. Many of the previously recorded resources date to the prehistoric period (post-contact) and include lithic scatters, habitation debris, shell middens, and burials. A number of these sites are part of the Ballona Lagoon Archaeological District (BLAD), a National Register of Historic Places (NRHP)-eligible district. The BLAD establishes the conceptual fabric for examining the archaeological resources in the greater Ballona Lagoon area collectively, as parts of the region's prehistoric hunter-gatherer populations' an adaptive settlement and subsistence system centered on the lagoon environment.

The record search results indicate that the Project's APE is sensitive for prehistoric buried archaeological deposits. Furthermore, outreach (See Section 3 below) to local Native Americans has identified the Project APE as being highly sensitive for archaeological resources important to Native Americans. Based on these findings, Caltrans concluded that an Extended Phase I (XPI) study was required for the Project.

Psomas developed and implemented an XPI study for the Project. The XPI study is an extension of the identification phase and meets the requirements of 36 CFR § 800.4(b) and Section 106 PA Stipulation VIII.B "to identify historic properties within the area of potential effects," and similar

requirements under the California Environmental Quality Act. The primary goal of the XPI was to provide presence/absence information on subsurface archaeological deposits in the APE as an extension of the survey effort in areas of high sensitivity where such deposits may be buried or obscured by sediment deposition, vegetation, or landscaping or other modern development (Caltrans 2015:5:18). The XPI study was completed in accordance with the requirements specified in the Caltrans Standard Environmental Reference (SER), Volume 2: Cultural Resources.

The XPI fieldwork was conducted in October 2022 and consisted of excavations of three (3) backhoe trenches and three (3) shovel test pits. No subsurface archaeological deposits were encountered. The study found that the area within and around the Project APE was, at times, part of seasonal wetlands frequently inundated with fresh water, flooded, and subjected to rapid deposition. Underlying estuarine deposits, including a tidal marsh plain and channel deposits, were permanently inundated with marine water. These past environmental conditions were better suited for resource gathering and/or processing purposes as opposed to long-term habitation.

The XPI excavations, coupled with examination of historical maps and aerials of the area, indicate between 50 cm to 90 cm of fill in the north-central portion of the APE. Below this fill, two paleosol surfaces were identified as likely seasonal wetlands but, again, these were devoid of any cultural materials.

All data considered, Project construction in the area of the Culver Loop Ramp will consist of removing the existing roadway pavement, which will require a maximum depth of ground disturbance of approximately 2 feet that would occur entirely within previously disturbed soils. The loop ramp would then be reconstructed on imported fill material. Therefore, there is no potential to uncover intact subsurface cultural resource deposits in this area.

Project construction in the northern portion of the APE, north of the Culver Loop Ramp, will consist of the removal of existing pavement and reconstruction of Lincoln Boulevard at a higher elevation and with a wider footprint. Most of the roadway widening would occur on the east side of the road and would occur on imported fill. This work north of the Culver Loop Ramp will require a maximum depth of ground disturbance of approximately 2 feet to allow for pavement removal that would occur entirely within previously disturbed soils to remove the existing pavement. Also, south of Fiji Way along the west side of Lincoln Boulevard the Project would cut into the existing slope west of the roadway to a maximum depth of approximately 8 feet. However, prior geotechnical borings in this area indicated 9 feet of fill materials, so it is not likely that native soils would be encountered until drilling for piers/abutments at a depth between 9 feet and 100 feet below the surface. The potential to uncover buried cultural resource deposits in this area is low due to both past disturbances and the likelihood of frequent floods over the centuries and the area once being a freshwater marsh.

Results of shovel testing in the southern portion of the APE, on the south side of Ballona Creek, indicated that ground disturbance in this area extended at least 1.65 feet (0.5 meter) below the modern ground surface. Project construction in the southern area of the APE will consist of the removal of existing pavement and reconstruction of Lincoln Boulevard at a higher elevation and with a wider footprint. Pavement removal would require a maximum excavation depth of about 2 feet. Widening of the roadway south of Ballona Creek would occur on fill; therefore, no ground disturbance would be needed beyond what is required for pavement removal, with the exception of one soundwall. The Project may include the construction of a soundwall south of Ballona Creek along the east side of Lincoln Boulevard that would require ground disturbance of approximately 8 feet to construct foundations. This soundwall would be constructed in an area east of the existing Lincoln Boulevard within a landscaped area fronting a residential land use. As noted above, shovel test pits dug in this area indicated past disturbance to a depth of at least 1.65 feet. The

Project could impact up to 6.35 feet of previously undisturbed soils along an approximate 350-foot-long sound wall. The potential to uncover buried cultural resource deposits in this area is low due to the likelihood of frequent floods over the centuries and the area once being a freshwater marsh.

The Project would also include ground disturbance associated with new streetlights, power pole relocations, and installation of a new signal at Lincoln Boulevard and Culver Loop Ramp and at Jefferson Boulevard. Relocated power poles would be set approximately 10 feet deep along the edges of Lincoln Boulevard. New streetlights would have an approximate foundation depth of 10 feet. Relocated streetlights at the Culver Loop ramp and the one relocated streetlight at Jefferson Boulevard would have deeper foundations up to approximately 20 feet. The potential to uncover buried intact cultural deposits in this area is low due to the likelihood of frequent flooding, the area being a freshwater marsh in the past, and the deeper depths being located below sea level and confirmed by the presence of marine gastropods.

To confirm the conclusions of this study and to assuage any Native American concerns, the City of Los Angeles will implement archaeological and Native American monitoring of areas requiring ground disturbance below the fill areas.

It is Caltrans' policy to avoid cultural resources whenever possible. Further investigations may be needed if buried cultural materials are encountered during construction, it is Caltrans' policy that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find. Additional studies will be required if the Project changes include areas not previously inventoried for historic properties.

1.0 INTRODUCTION

This Extended Phase I (XPI) Report was prepared for the California Department of Transportation (Caltrans) for the State Route 1 (Lincoln Boulevard) Multimodal Improvement Project (hereinafter referred to as the Project). Psomas has been retained to conduct a cultural resources study for the proposed Project. The Project is located in the City and County of Los Angeles and within the community of Marina del Rey. Caltrans, in cooperation with the City of Los Angeles, proposes to improve circulation and safety along Lincoln Boulevard by constructing an additional southbound lane, installing sidewalks and protected bicycle lanes, and implementing complete streets and other related improvements along an approximate 0.61-mile segment of Lincoln Boulevard between Jefferson Boulevard (PM 30.16) and just south of Fiji Way (PM 30.74). The Project primarily occurs in the City of Los Angeles, with potential temporary construction easements and partial right-of-way acquisitions needed in the north and northwest within parcels that are within unincorporated parts of Los Angeles County. A detailed Project description is provided in the Archaeological Survey Report (ASR) that is Attachment 3 of the HPSR.

This Project is an undertaking as defined in 36 Code of Federal Regulations (CFR) § 800.16(y) (200). The California Department of Transportation (Caltrans), acting as the federal lead agency as assigned by the Federal Highway Administration (FHWA), is providing Project oversight. The studies for this undertaking were carried out in a manner consistent with Caltrans' regulatory responsibilities under Section 106 of the National Historic Preservation Act (NHPA [36 CFR Part 800]) and pursuant to the January 2014 *First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation regarding Compliance with Section 106 of the National Historic Preservation Act, as it pertains to the Administration of the Federal-Aid Highway Program in California* (Section 106 PA).

This XPI study is an extension of the identification phase and meets the requirements of 36 CFR § 800.4(b) and Section 106 PA Stipulation VIII.B "to identify historic properties within the area of potential effects," and similar requirements under the California Environmental Quality Act (CEQA).

Charles Cisneros acted as the Principal Investigator for the cultural studies associated with the effort. He has an M.S. degree in Archaeology with an emphasis in prehistoric archaeology and approximately 19 years of professional experience. Mr. Cisneros is a Registered Professional Archaeologist (RPA) qualified under the Secretary of the Interior's Professional Qualifications Standards (1983) and is the Professionally Qualified Staff (PQS) equivalent of Principal Investigator – Prehistoric Archaeology. Mr. Cisneros was assisted by Michael Mirro, M.A., RPA, of PaleoWest, LLC, who served as a geoarchaeologist for the XPI investigations. Robert Dorame of the Gabrielino Tongva Indians of California Tribal Council was the Native American monitor and was present during all the field work efforts. Tiffany Clark, Ph.D., RPA, of PaleoWest, LLC. provided a senior technical review of the XPI study. See Appendix B for professional qualifications.

2.0 SOURCES CONSULTED

To determine the potential for encountering subsurface archaeological deposits during Project construction, Caltrans has taken into consideration various datasets. These include the results of the record searches at the SCCIC, Native American consultation, and field survey. Below is a summary of these efforts (see ASR, that is Attachment 3 of the HPSR, for complete results).

2.1 RECORDS SEARCH

Research at the SCCIC was conducted on January 9, 2018. Results of the SCCIC search indicate that 32 cultural resources have been recorded within a one-mile radius of the Project APE. One archaeological resource, CA-LAN-1698, had been previously recorded in the APE. Initially identified in 1989 as a precontact shell scatter, later revisit by Statistical Research Incorporated (SRI) in 1990 found that the shell scatter was the result of redeposited fill and not cultural in origin. A second precontract archaeological resource, CA-LAN-2676, was identified slightly outside of the Project APE near the intersection of Lincoln Boulevard and West Jefferson Boulevard. The resource was originally described as a precontact habitation site with human burials. However, during a data recovery investigation conducted by SRI, it was determined that the site consisted of redeposited cultural material rather than intact archaeological deposits (Grenda et al. 2016:7).

2.2 NATIVE AMERICAN CONSULTATION

Psomas contacted the Native American Heritage Commission (NAHC) on February 23, 2018 (Cisneros 2019) and requested the NAHC conduct a Sacred Lands File database search for sacred lands and sites. Though the results from the Sacred Land File search did not determine the Project APE area as sacred, the NAHC noted the area was sensitive for cultural resources (e.g., ancestral human remains, village sites) important to the local Native American community. Therefore, the NAHC provided a list of 10 Native American representatives from the Fernandeño Tataviam Band of Mission Indians, Gabrieleno Band of Mission Indians – Kizh Nation, Gabrieleno/Tongva San Gabriel Band of Mission Indians, Gabrielino Tongva Indians of California Tribal Council, Gabrielino-Tongva Tribe, and San Fernando Band of Mission Indians. that should be contacted for further information. These individuals were contacted via letter on June 21, 2019, with follow-up emails and phone calls conducted on July 2, 2019 and July 9, 2019. Several of the Native American representatives identified the Project APE as being highly sensitive for archaeological resources important to the Native American community (see Attachment 5 of the HPSR). Robert Dorame, an elder from the Gabrielino Tongva Indians of California Tribal Council participated in the 2022 XPI study as a Native American monitor. Mr. Dorame requests that the Project have both an archaeologist and a Native American monitor during construction of the Project regardless of the findings of the cultural resource studies completed for the Project.

2.3 FIELD SURVEY

Psomas completed a field survey of the APE on June 14, 2019. Portions of the APE within the Ballona wetlands were not surveyed as no permission was provided by the California Department of Fish and Wildlife for right of entry. When feasible the survey was conducted in parallel transects that were spaced no farther than 2 to 4 meters. Most of the Project APE lies on active roadway, with much of the ground surface covered in asphalt or concrete. No precontact or historical archaeological resources were identified within the accessible portions of the Project APE.

3.0 BACKGROUND

3.1 LOCAL ENVIRONMENT AND GEOLOGICAL HISTORY

The Project APE intersects the Ballona Creek Channel and is partially located within the Ballona Wetlands Ecological Reserve. Portions of the wetlands contain significant archaeological resources associated with the nearby Ballona Lagoon Archaeological District (BLAD) (see ASR in Attachment 3 of HPSR for more information on the cultural context for the area). Archaeological investigations previously conducted in the area have shown the wetlands were exploited by Native American populations who inhabited the region for thousands of years (Altschul et al 2003; Grenda et al. 2016). Therefore, intact cultural resources deposits (e.g., archaeological features and habitation debris) associated with villages and cemeteries may be present in the APE. These remains may be buried or obscured by sediment deposition, vegetation, landscaping, or modern development.

3.1.1 Geologic Setting

The Project is within the western extent of the Los Angeles Basin near the northern limits of the Peninsular Ranges Geomorphic Province (CGS 2002). The Los Angeles Basin is a structural depression filled with Miocene (23 to 5 million years ago [MYA]) and Pliocene (5 to 2.5 MYA) marine deposits overlain by Quaternary alluvium bounded by the San Gabriel and Santa Monica Mountains to the north, the Santa Ana Mountains to east, and the Pacific Ocean to the south and west (Saucedo et al. 2016). The basin is filled with over 30,000 feet of alluvial and marine deposits at the deepest point (Sylvester and Gans 2016). The basin is roughly 7,000 feet in depth beneath the Project APE (Schoellhamer and Woodford 1951). It is dominated by a thick deposit of Pliocene Repetto Formation lithofacies consisting of conglomerate and sandstone submarine channel fills (Conrey 1967) that is overlain by Pleistocene marine alluvium (Yerkes et al. 1965) and capped with Pleistocene and Holocene terrestrial deposits. Compression during the Pliocene and early Pleistocene caused uplift and folding forming a series of low ridges throughout the basin (Ingersoll and Rumelhart 1999; Sylvester and Gans 2016). Surface units within the basin consist mostly of Pleistocene and Holocene alluvium derived from mountain drainage and coalescing fans of the Los Angeles, San Gabriel, and Santa Ana rivers (Yerks et al. 1965).

North of the Project APE, late Pleistocene alluvial fan deposits extend 2.5 miles from the base of the Santa Monica Mountains southward; these fan deposits are incised by drainage systems of the range's southern front. Younger inset late Pleistocene deposits extend up to 3 miles further into the basin terminating near Ballona Creek (Saucedo et al. 2016). Fan deposits underlie the present-day city of Santa Monica and are exposed in the coastal bluffs along the northern escarpment of Ballona Wetlands. Approximately 3 miles to the east are the Baldwin Hills, which rise over 500 feet above mean sea level (amsl) and consist of uplifted sandstone and conglomerates of the San Pedro Formation. A narrow apron of Pleistocene fan deposits flanks its base. The Ballona Escarpment lies at the south end of the Project APE. The El Segundo Sand Hills extend from the Ballona Escarpment along the coast as a 2 to 3-mile-wide belt of Pleistocene- and Holocene-aged sand dunes ranging in height from 85 to 185 feet with a 0.25-mile-wide belt of active dunes flanking the coast. The dunes are situated on an elevated terrace approximately 100 feet amsl; the terrace consists of the Palos Verdes Sand, which was formed in shallow seas during interglacial sea-level high stands in the late Pleistocene (approximately 125,000 years Before Present [B.P.]) (Bilodeau et al. 2007).

During glacial periods, sea levels dropped by as much as 130 meters exposing continental shelf west of the current coastline. Wetter climate during the last glacial period led to the incision of deep channels across the Los Angeles Basin surface primarily by the Los Angeles, San Gabriel, Rio Hondo, and Santa Ana rivers. With sea level rise during the Holocene, channels backfilled in

response to shifting base levels with debris-flow, sheet flood, and fluvial deposits consisting of boulder to gravelly sands interbedded with sand, silt, and clay derived from the surrounding highlands. When the rate of sea level rise decreased around 6,000 years B.P., estuaries and tidal marshes formed near river mouths filling the lower floodplain with fine-grained organic-rich sediments extending from the coastline up to 4 miles inland (paragraph adapted from Bilodeau et al. 2007).

Prior to the historic period, the Los Angeles River flowed freely across the basin shifting its course in response to major floods. Floods commonly occurred during the latest Holocene with extensive flooding occurring on one of three major river systems 10 to 20 times a century where the river overtopped its banks, cut new channels, and deposited fresh alluvium. Presently, the Los Angeles River flows southward meeting the Pacific Ocean in San Pedro Bay. However, in the early 19th century, the river was observed to flow along the course of Ballona Creek and empty into Santa Monica Bay through Ballona Gap. During an 1825 flood, the river changed course merging with the San Gabriel River and flowed into the ocean through San Pedro Bay (adapted from Poland and Piper 1956). As a result, much of the downcutting and fill in the valley through which Ballona Creek now flows were the result of the Los Angeles River.

The Ballona Wetlands has formed at the mouth of a drainage system where presently Ballona Creek drains the lower alluvial fan piedmont of the Santa Monica Mountains and wetlands of La Cienega. Centinela Creek drains the east part of El Segundo Hills and southern Baldwin Hills merging with Ballona Creek east of the Project. The valley along the coastline is approximately 3.5 miles wide and the break in the bluffs between Santa Monica and El Segundo Hills is known as the Ballona Gap. The Gap was created by fluvial downcutting during and after the last glacial period and subsequently filled during the Holocene. The valley associated with this drainage system narrows to approximately 1 mile in width farther inland.

Historic U.S. Coastal Survey T-sheets (T-1427b; 1876) show the pre-urbanization boundary of the wetlands extending for about 2.5 miles along the coast and 1.5 miles inland with a barrier sand beach protecting the wetlands from Pacific swells. The wetland is roughly shaped like a right triangle tapering to the north. The historic period alignment of Ballona Creek roughly follows its current course, although in the past it meandered more, and Centinela Creek followed the Ballona Escarpment making up the southern margin of the floodplain. Historic maps show both creeks cutting through the Project APE. T-sheets depict a branching system of sloughs incised into a plain of a tidal marsh and ponds and lagoons can be found throughout. Several hills are located inside wetland areas, including near the northwestern extent of the Project APE, which may represent sand hills, which are dunes partially buried by wetland deposits. The Project APE in general is near the eastern inland boundary of the Ballona wetlands as mapped in 1876, which is where the floodplain and associated basin of Ballona and Centinela creek transition into the estuary.

Throughout the Holocene, the Ballona Wetlands has evolved as sea level rose and terrestrial sediment sources responded to ever changing climatic patterns. For tidal wetlands to exist, there must be a balance between sediment supply, deposition, and aggradation, erosion, and sea level rise where sediment supply keeps pace with sea level rise. Deficits in sediment supply result in the wetlands drowning with sea water inundated the marsh plain and the soft muds eroding out into the sea. Alternatively, when sediment supply is high in creeks and drainages flowing into the marsh, alluvial fans, deltas, and floodplains can form over the marsh plain (Baye 2018). With the decrease in the rate of sea level rise around 6000 B.P., sea level rise could no longer keep pace with sediment supply, which led to the formation of Ballona Wetlands.

Modeling of the wetlands through the interpretation of cores revealed how the wetlands has evolved through much of the Holocene (Ciolek-Torello et al. 2013). In the early Holocene, the

eastern extent of the present-day wetland area, which encompasses the Project APE, was terrestrial with the western portion of the wetlands composed of sand flats, likely below the high tide line, in a narrow bay. Between roughly 9000 and 7000 B.P., the eastern area oscillated between marine, freshwater, and terrestrial environments and persistent brackish pools formed. Around 5000 B.P., marine waters inundated the area to near the base of the Baldwin Hills. As a result, a tidal marsh formed and much of the lagoon was open water as a bay. Around 4000 B.P., tidal marsh migrated down the margins of the bay towards the sea and a sand spit formed closing the bay to form a lagoon that was cut off from the Pacific Ocean. Between 4000 and 1000 years B.P., the tidal marsh retreated seaward. This resulted in returning much of the inland area to terrestrial and freshwater environments and reduced the spatial extent of the lagoon. The sand spit continued to develop over time with the lagoon remaining as open water. Over the most recent millennia, the sediment has infilled much of the lagoon allowing the tidal marsh to expand over much of its extent. The eastern extent of the tidal marsh continued to retreat seaward.

3.1.2 Stratigraphy

The literature review shows that the Project APE is underlain by surficial sediments identified as Quaternary younger alluvium, unit 2 (Qya2), which is composed of alluvial gravel, sand, and silt/clay of valleys and canyon flood plains (Saucedo et al. 2016). A geotechnical study prepared for the Project involving the excavation of four boring cores placed west of SR-1 found the presence of intact alluvial sediments covered by 4 to 9 feet of artificial fill (Group Delta 2018). The underlying alluvium varied between boring cores and consisted of 2- to 10-foot-thick layers of clay, sandy clay, silty sand, and sand that are brown near the surface and gray below 10 to 18 feet (see XPI Map in Appendix A of this report). Shell fragments were observed in three boring cores between 10 and 29 feet below the surface (Group Delta 2018). Bore depths ranged between 21 and 69 feet deep and do not appear to reach the Holocene/Pleistocene contact. Observed stratigraphy is generally interbedded bands of low energy stream, overbank flood, possibly levee, and basin deposits. Organics were observed in one boring core at 29 feet below surface west of the APE indicating the presence of developed marsh deposits. Based on the results of the geotechnical study, Pleistocene deposits predating human populations in the area likely exceed 60 to 70 feet in depth within the APE.

3.1.3 Buried Site Sensitivity

A buried site sensitivity model was prepared as part of the XPI Proposal (Cisneros 2022). The model indicated that the APE is characterized by Holocene-aged sediments deposited by low energy geologic processes conducive to the preservation of cultural deposits. These sediments, which may exceed 60 to 70 feet in depth, are capped by a variably thick surface layer of artificial fill. Underlying Holocene deposits are part of the Ballona Creek, Centinela Creek, and Los Angeles River floodplain and may include stream channel, overbank flood, basin, levee, splay fan, and possibly tidal marsh deposits. There is a high potential that buried soils are present within the sediment sequence. The potential for intact buried archaeological sites appears to be high beneath artificial fill where buried soil surfaces are present. Redeposited cultural materials from archaeological deposits eroded from upstream locales may also be present in the APE. These remains may be represented as poorly sorted low-density archaeological deposits within individual lithologic units. The XPI investigation investigated accessible areas of the APE to confirm or refute these assumptions and to determine the potential for Project construction to uncover subsurface buried deposits.

3.2 ARCHAEOLOGICAL CONTEXT

As discussed above in Section 2.1 and in the ASR (Attachment 6 of the HPSR), the SCCIC record search results indicate 32 cultural resources have been recorded within a one-mile radius of the

APE. One of these previously identified archaeological resources (CA-LAN-1698) was mapped in the Project APE. Originally recorded in 1989 as a prehistoric shell scatter, CA-LAN-1698 was later updated in 1990 by SRI as part of an archaeological field survey for the Playa Vista Archaeological and Historical Project. SRI determined that the shell scatter represented redeposited sediments from the dredging of the nearby Fiji drainage ditch. Based on these findings, SRI concluded that the shell scatter was not cultural in origin.

A second archaeological site, CA-LAN-2676, was recorded outside of the APE near the intersection of the Lincoln Boulevard and West Jefferson Boulevard, about 200 feet away. The site was originally described as a prehistoric habitation site with human burials. However, data recovery investigations at CA-LAN-2676 found that the site consisted of redeposited cultural material rather than an intact archaeological deposit (Grenda et al. 2016:7). In fact, CA-LAN-2676 is now referred to as a “runway site” because it was created by Hughes Aircraft Company during the extension of its runway during World War II, using redeposited archaeological site material from two nearby sites situated along the base of the bluff in the Ballona Lagoon area.

Other previously recorded archaeological resources located within the vicinity of the APE include prehistoric/Native American lithic scatters, habitation debris, shell middens, and burials, as well as historic period refuse scatters, remnants of railroads, and built environment resources. Several prehistoric archaeological sites within the one-mile radius of the APE are part of the Ballona Lagoon Archaeological District (BLAD), a National Register-eligible district. The BLAD provides a framework for examining the archaeological resources in the greater Ballona Lagoon area and provides a context with which to explore prehistoric adaptive settlement and subsistence systems centered on lagoon environments. The establishment of the BLAD allows for a more standardized procedure for assessing the significance of sites as contributors to the district. Specifically, each archaeological site identified within the Ballona Lagoon region should be evaluated to determine whether it is a contributing element of the BLAD.

4.0 FIELD METHODS AND RESULTS

4.1 METHODS

As part of the XPI study, four trenches and six shovel test pits were planned to be excavated in the Project APE to investigate subsurface conditions, including previous environmental settings, depositional environments, extent of surface disturbance, and to test for the presence or absence of archaeological remains.

4.1.1 Trench Excavation

Trenches were placed east of the Lincoln Boulevard on-ramp at its intersection with Culver Boulevard at the base of road prism where the depth of fill was expected to be minimal. The locations of these trenches are depicted in Appendix A (Exhibit 4). The area excavated consisted of a depressed closed artificial basin below the road grade of the ramp and Culver Boulevard, and north of the dike flanking the bank of Ballona Creek. Trenches were labeled in ascending order between 1 and 4 from northeast to southwest, with Trench 1 placed near Culver Boulevard and Trenches 2 and 4 adjacent to the ramp.

Ken Stoltzner of Chamberlain Backhoe Service was contracted to excavate and backfill the test trenches. Chamberlain utilized a John Deere extend-a-hoe backhoe, Model 310SL, capable of excavating up to 20 feet deep with a two-foot-wide toothed bucket. Chamberlain was onsite between October 5 and 6, 2022.

Each backhoe trench was approximately 6 meters (20 feet) in length, which was long enough to provide adequate exposure of the stratigraphy and sufficient access to map stratigraphy. Length varied due to on-the-ground hazards or objects, such as trees and biologically sensitivity areas. Proposed trench depth was 5 meters (16 to 17 feet); however, depth varied slightly depending on sidewall stability and collapse potential.

Trenching was carefully monitored by Geoarchaeologist Michael Mirro, Psomas Senior Archaeologist Charles Cisneros, and Robert Dorame from the Gabrielino Tongva Indians of California Tribal Council to observe the presence of archaeological materials and to manage samples. During trenching, the backhoe operator systematically excavated the trench in 30 centimeter (1 foot) increments carefully removing material from the trench base. From each increment, sediment samples were extracted (typically a single backhoe bucket) and placed in discrete piles. Each pile was marked with flagging tape indicating the depth. A sample equivalent to a 30-centimeter (12-inch) level in a 50 by 50-centimeter square-shaped shovel test unit (0.0375 cubic meters or roughly two five-gallon buckets) from each pile was screened through 1/8-inch hardware cloth to test for the presence or absence of artifacts, their frequency and type, and their vertical distribution. Detailed observations, including trench dimensions, soil descriptions, and documentation of recovered materials, were recorded in the field on trench log forms.

At a depth of 1.5 meters (5 feet), the trench was entered by the geoarchaeologist and trench sidewalls were scraped to analyze deposits for buried archaeological features and document natural stratigraphy. For safety reasons, stratigraphy below 1.5 meters was documented without entering the trench pursuant to Occupational Safety and Health Administration standards. Prior to entering the trench, the backhoe operator cut a 0.5 meter (1.5 foot) deep step along one side of the trench to reduce the potential for collapse and ramped one end for safe entry and egress. Documentation of sediments below 1.5 meters was completed by the geoarchaeologist from outside the trench through remote examination of trench sidewalls and sampling spoils piles. Upon reaching the maximum depth of excavation, trenches were immediately backfilled and compacted.

A stratigraphic log of each trench was created by the geoarchaeologist that included soil and sediment descriptions based on techniques and characteristics set forth in the Soil Survey Manual prepared by the Natural Resources Conservation Service (Soil Survey Staff 2017) and Field Book for Describing and Sampling Soils version 3.0 (Schoeneberger et al. 2012). Sediments were described both lithologically to identify geomorphic properties, such as depositional environment, and pedogenically to characterize soil development and paleoenvironmental characteristics. For each trench profile, master horizon designations were assigned (A, B, or C horizons) whenever possible, with their appropriate suffixes and other modifiers. For each horizon, the color (using Munsell notation), texture, structure, consistence, pore characteristics, coatings (if present), effervescences, and presence of minerals were documented. Additional features, such as mottles, roots, crusts, and precipitates, were noted and described. If observable, individual or sets of horizons were also assigned as geologic strata defined by depositional processes, energy of deposition, landform class (i.e., stream channel, erosional terrace, etc.), and other characteristics. Contacts between depositional units were carefully mapped. Geoarchaeological data were recorded on an iPad using a FileMaker form designed for this purpose.

4.1.2 Shovel Test Pits

The XPI study proposed the excavation of six STPs in the existing ROW in the portion of the APE across from the Ballona Wetlands Reserve at the intersection of Lincoln Boulevard and West Jefferson Boulevard (designated as Site #2 on XPI Testing Map provided as Exhibit 4 in Appendix A). The purpose of the STPs was to further map the extent of stratigraphy observed in trench profiles. However, safety concerns associated with the presence of underground utilities prevented the excavation of three STPs (STP 5.1, STP 5.2, and STP 5.6). As such, information on subsurface deposits in this portion of the APE derived from three STPs (STP 5.3, STP 5.4 and STP5.5). The STPS were manually excavated by Psomas Senior Archaeologist Charles Cisneros and monitored by Robert Dorame from Gabrielino Tongva Indians of California Tribal Council.

4.2 RESULTS

4.2.1 Trench Excavations

Trenches 1 and 2 were excavated October 5, 2022, to a depth of 5.2 meters (17 feet). Sediments from 1.5 to 5.2 meters were not analyzed in Trench 2 due to mixing of the spoils piles during excavation in tight quarters. Safety concerns associated with the presence of an active underground beehive prevented the excavation of Trench 3; the trench could not be relocated due to the presence of a biologically sensitive area immediately to the east. Trench 4 was excavated October 6, 2022, to a depth 4.9 meters (16 feet). Results and conclusions of this study are derived from detailed profiles of the upper 1.5 meters of Trenches 1, 2, and 4, and sediment descriptions taken from spoils piles of Trenches 1 and 4 below 1.5 meters. Detailed sediment and soil descriptions can be found in Attachment D and a generalized profile of all three trenches in Attachment E. Attachment C includes a series of photographs depicting sidewall strip profiles.

Trench 1 was 6.0 meters in length and oriented parallel to Culver Boulevard in a northeast-southwest direction on flat level ground at the base of the road prism. The surface was covered grass, shrubs, ice plant, and small trees. Surface elevation is approximately 3.1 meters (10.1 feet) amsl based on an aerial Lidar elevation dataset downloaded from the National Oceanic and Atmospheric Administration (NOAA) Digital Coast: Data Access Viewer (OCMP 2016). Trench 2 was 5.8 meters in length and oriented in a northwest-southeast direction parallel to the ramp on flat level ground at the base of the road prism slope. The surface was mainly grass and surface elevation was approximately 2.7 meters (8.8 feet) amsl. Trench 4 was approximately 5.7 meters long, oriented parallel to the on-ramp in a northeast-southwest direction on flat level ground at the base of slope of the road prism. Surface elevation was approximately 2.4 meters (8 feet) amsl

and surface cover consisted of dense grass, shrubs, and a few small trees. Due to vertical cracks in the upper strata, this trench collapsed shortly after completion.

A total of seven *in situ* natural lithologic units and two buried paleosols were defined in the three trenches. In general, the tested area is covered by strata of imported and local fill, which overlies alluvial and freshwater wetland deposits associated with a floodplain. Marine estuary deposits were identified beneath the alluvial and wetland deposits. In Trench 4, stream deposits were identified beneath the estuarine sediments.

A description of each of these units is provided below. Due to the differences in surface elevation among the three trenches, some lithologic units (Units VII and VI) were not present in all trenches. It is likely that these strata had been truncated during past construction in the areas characterized by lower elevations.

Fill/Mixed/Disturbed

The upper 0.9 meter (3 feet) of Trench 1 consisted of two layers of redeposited fill (Fill A and Fill B) and a mixed layer of alluvial and redeposited fill. The upper layer of redeposited fill was likely imported from elsewhere as it contained gravels, modern refuse, and sandy sediments which did not appear to be native to the area. The lower layer of redeposited fill appears to be of local origin. Underlying the redeposited fill, was a 5- to 10-centimeter-thick layer of alluvial deposits mixed with redeposited fill. Fill A and B layers were found in both Trench 1 and 2 and appeared to directly overlie natural deposits. Fill B was not observed in Trench 4 with Fill A lying unconformably above native sediments. Overall, redeposited fill or disturbed sediments accounted for the upper 90 centimeters of subsurface deposits in the vicinity of Trenches 1 and 2 and about 50 centimeters of the uppermost sediments near Trench 4.

Unit VII

This unit was only observed in Trench 1 due to the higher surface elevation of the trench. it is likely that this unit was removed by prior construction activities in the vicinity of Trench 2 and 4. The stratum consists of banded silty fine sand deposited as shallow low energy stream deposits. Bands are typically darker brown and range in thickness from 1 to 4 millimeters. The unit appears to have lost its upper extent and is discontinuous, leaving only limited areas that are intact. Plowing or past construction activities disturbed this and the upper contact of the underlying deposit.

Unit VI

Unit VI was subdivided into four distinct floodplain or fluvial facies with a well-developed wetland paleosol developed in its upper extent. The uppermost three units, Unit VIa, VIb, and VIc, were only observed in Trench 1, while lowest subunit, Unit VId, was observed in all three trenches. This suggests that the upper three strata were truncated by past construction activities near Trenches 2 and 4. This unit is 63 centimeters thick in Trench 1 and is located between approximately 2.1 to 1.4 meters amsl.

Unit VIa is a 10- to 15-centimeter-thick buried wetland A-horizon consisting of very dark gray clay. Large vertical cracks extending into underlying horizons, partially filled with illuvial silt, and formation of clay films on ped faces are indicative of periodic drying resulting in shrink-swell activity in the soil. Insect burrows and castings are common and are indicative of a biologically active soil typical of wetlands. This layer likely formed the surface of the backswamp portion of a floodplain or upper extent of a filled channel or pond that was seasonally wet or saturated.

Unit IVb is a 3- to 5-centimeter-thick fluvial layer of sediments that displays a higher energy of deposition laid down during a period, or event, of increased water flow through the area. The stratum is a black sandy clay mottled with reddish brown clay inclusions that may have eroded from upstream during a flood event. Unit IVb lies abruptly on top of the underlying clay clearly suggesting a temporary change in depositional patterns of area for a short period. The layer contains common insect burrows and castings. Pedogenically, this layer is well-developed and represents a continuation of the overlying A-horizon based on its lack of depositional features and accumulation of organic matter indicated by dark color.

Unit IVc is a 15 to 20 centimeter thick very dark gray clay similar to Unit Via. It consists of low energy clayey backswamp or in-filled channel (or pond) facies. The abrupt upper wavy boundary associated with Unit IVc suggests that there may have been some erosion and shallow gully incision prior to the deposition of Unit IVb. The presence of trans-horizon vertical cracks partially filled with illuvial silt and clay films on ped faces suggests shrink-swell activity indicative of alternative periods of wet and dry. Insect burrows, castings, and thin-shelled gastropods (land or freshwater snails) are common typical of wetland soils. Unit IVc may have been a former buried paleosol representing a temporary pause in aggradation of the wetlands.

Faint iron oxide and manganese accumulations, which consist of coarse strong red and dark gray masses, are common. The lower extent of the horizon appears whitened near its base due to accumulated disseminated carbonates. In this area, fine to medium whitish spherical carbonate masses are common indicating periodic soil saturation that form in subsurface horizons.

The basal facies of the unit, Unit IVd consists of overbank, crevasse splay, or natural levee deposits. This unit was present in all three trenches and ranges from approximately 30 to 42 centimeters in thickness. It consists of two horizons of grayish brown to brown silty very fine sand, very fine sandy silt, to silt. Both normal and inverse grading were observed, which are depositional patterns indicative of crevasse splays or levee deposits (Waters 1996). However, post-depositional pedogenic processes have eliminated the original finer scale depositional structures making detailed interpretations challenging. Disseminated pedogenic carbonates are common and give the horizons a whitish to olive hue. At the base of the lower horizon, precipitated fine to medium whitish spherical shaped carbonate masses and concretions are present. Few faint fine iron oxide stains were also observable throughout the layer indicates alternating periods of wet and dry conditions.

Observed facies in Unit IV represent a period of floodplain aggradation, and possibly temporary period of erosion. A variety of depositional landforms are represented including overbank, possibly natural levee or crevasse splay, low energy backswamp or channel/pond fill mud, sandy fluvial deposits possibly representing wide shallow channel flow or high energy overbank flow, and low energy backswamp or channel fill mud deposits. Surface soil development is limited during the initial period of deposition. However, aggradation slowed allowing for the development of a wetlands paleosol surface(s), accumulation of organic material in the strata's upper extent, and precipitation of minerals in the lower extent during the later phases of deposition.

Unit V

Unit V is an 80-to-90-centimeter thick backswamp, in-filled channel, or in-filled pond feature consisting of a series of horizons of clay and silty clay. The upper surface consists of a well-developed highly organic wetland paleosol. Trans-horizon vertical cracks extend from the surface into lower horizons, which are partially filled with illuvial silt. Tubular pores and some ped faces are also coated in silt as continuous flooding carried new material onto the landform and into soil voids. Insect burrows, work casts, and thin-shelled (freshwater/terrestrial) gastropods are common throughout; bioturbation has resulted in the reworking of soil leaving no original

depositional structures intact. Iron oxide mottling and accumulations manganese stains are common in lower horizons indicative of hydric conditions and periodic wet to dry conditions. Disseminated carbonates are common throughout the lower horizons as well and few medium carbonate concretions are present near the layer base. The basal horizon is gleyed indicating more permanent saturation at this level.

Unit IV

Unit IV is a 60- to 80-centimeter-thick overbank flood deposit consisting of a dark grayish brown silt approximately 0.8-meter amsl. The presence of mottling with faint to distinct iron oxide masses indicate hydric conditions and periodic saturation. The lower extent of this horizon is completely gleyed resulting from constant saturation.

Unit III

Unit III consists of greenish gray to very dark greenish gray silty clay estuarine facies approximately 90 to 120 centimeters thick approximately 0.1-to--0.3-meter amsl. Estuarine soils here are moderately fluid and differ from the overlying alluvial deposits. Soils are massive to weakly angular blocky, lack pores, and have common deteriorated fine roots. Carbonates are weakly disseminated throughout evident by a weak effervesces with hydrochloric acid. Marine gastropod and bivalve (clam) shell fragments were observed in the unit with varying densities of each species. None of the shell shows evidence of cultural modification. Mats of vegetation were also noted pressed between masses of soil.

Unit II

Unit II is a black sandy clay mottled with clasts of a silty clay approximately 60 centimeters thick and -1.2 meters amsl. The coarseness of the sediments may be indicative of channel deposits that were subject to winnowing of fine material by tidal currents. Silty clay clasts found in this environment may represent channel sidewall collapse. This layer has a high density of razor clams and oysters, the latter of which has not been seen in other units. None of the shell shows evidence of cultural modification.

Unit I

Unit I is a black stony sandy clay stream deposit at least 60 centimeters thick and -1.83 meters amsl. Inclusions include pebbles that are well rounded and of slate, which is sourced in the Santa Monica Mountains to the north (Yerks 1997). Clay films are common on pebble faces.

4.2.2 Shovel Test Pits

STPs were excavated on October 18 and 24, 2022. STP 5.3 and STP 5.4 were both excavated to a depth of 7 inches (18 centimeters) due to the presence of concrete footings below the surface. STP 5.5 was dug to a depth of 61 centimeters (2 feet); STP 5.5 was terminated due to the presence of asphalt/concrete. All soils from the STPs were screened through 1/8-inch hardware mesh. All sediments consisted of redeposited fill and likely imported from elsewhere as it contained gravels, modern refuse, and asphalt.

As previously noted, safety concerns associated with the presence underground utilities prevented the excavation of three of the six proposed STPs (STP 5.1, STP 5.2, and STP 5.6).

5.0 XPI STUDY DISCUSSION AND CONCLUSIONS

5.1 DISCUSSION

The geoarchaeological study found that near surface sediments associated with Units IV through VII are floodplain deposits; these deposits contain two well-developed freshwater wetland soils located on the upper extent of Unit V and Unit VI. Sediments consist of a mix of low energy fine sandy, silty, or clayey overbank, backswamp or pond/oxbow lake, and natural levee or crevasse splay deposits that are interbedded with higher energy coarse sandy fluvial deposits. Alluvial and freshwater wetland deposits are found generally above sea level with estuarine deposits observed below sea level. A former course of Ballona Creek may be incised into this landform evidenced by coarse fluvial facies underlying the estuarine deposits.

No subsurface archaeological remains or buried surfaces that would be highly sensitive for prehistoric habitation were identified in the test trenches. The geomorphological data collected as part of this study do provide details on the shifting environmental zones associated with Ballona Wetlands. Previous paleoenvironmental modeling conducted by Statistical Research, Inc. (SRI) explored the Holocene characteristics of the Ballona wetlands (Ciolek-Torello et al. 2013). Although much smaller in scope, the results from the current study can be used to obtain a better understanding of the depositional environment and associated ecology of the portion of the Ballona wetlands that encompasses the APE. It allows for the further refinement of the buried site sensitivity model. Finally, information obtained from the review of aerial photographs from the 20th century, combined with results of geoarchaeological excavations, provide a means of developing a model of past historic period surface impacts that can be used to understand the extent of disturbance, degree of soil loss, and emplacement of fill. It should be noted that no specialized studies such as carbon dating, palynology, or faunal analysis that could define ecological characteristics was performed for this XPI Study. Thus, ecological conclusions modeled herein are inferred from other studies in the region.

The results of the XPI study found that the upper 50 to 90 centimeters of deposits near the trenched areas consisted of one or two layers of redeposited fill. Beneath the fill layers in Trench 1, plow scars were evident in the upper extent of the underlying material. Review of aerial photographs from 1927, 1936, 1938, 1960, 1971, and the present (UCSB, Google 2022), indicate that this portion of the APE was once plowed agricultural land between the dike along the Ballona Creek flood control channel and Culver Blvd. In the early 1960s, the circular on-ramp was constructed leaving the tested area relatively unmodified. In the late 1960s, the adjacent baseball fields were constructed leaving the low artificial basin.

Based on the photographs and excavation results, it can be inferred that the current ground surface is relatively close to the former agricultural surface. Some imported fill from the construction of the on-ramp and baseball field is present (Fill A) and the agricultural plow zone may have been disturbed by construction of these features. Although loss of the upper extent of Unit VI may be the result of plowing or may be part of ramp construction, the depth of disturbance appears minimal. It does appear agricultural plowing is responsible for most surface disturbance with native sediments exhibiting limited depth.

Beneath the redeposited 50-90 cm thick fill layer are a series of alluvial units associated with Ballona Creek and periodically the Los Angeles River. These units consist of low energy floodplain deposits with a few interbedded fluvial deposits. Fluvial deposits may be the result of higher energy floods spreading across the floodplain, distributary channels, or small feeder channels draining the local area. No deposits associated with former channels of the Ballona Creek or the Los Angeles River were observed. All alluvial units were above or at sea level.

Two paleosols have formed in the alluvial layers during periods of stability, which were separated by periods of rapid aggradation. Stable periods are marked by a lack of significant flooding, large sediment inputs, or erosion. During periods of stability, the ground surface was densely vegetated as indicated by the thick organic surface horizon. Both soils have moderately thick organic surface horizons (30 to 35 centimeters) overlying subsurface horizons that are frequently wet and heavily bioturbated by soil-based fauna. It is likely that seasonal flooding resulted in aggradation during this time as indicated by the presence of silt infilling vertical cracks and clays filling pores. The rate of aggradation was probably minimal and did not exceed the rate at which organic matter could accumulate in the soil. It is highly likely that during this time, the area was a freshwater wetland, a frequently wet grasslands, or covered with ponded freshwater and aquatic plants.

The rate of formation of thick highly organic layers, accumulation of minerals, development of subsurface horizons and carbonate concretions, and reduction (gleying) or oxidation of iron oxide, are likely functions of local environmental conditions. However, these processes can also be used as a rough measure of the passage of time and indicator of geological stability. Although the rate at which these pedogenic processes occur is directly related to climate and geology of an area making such methods of dating relativistic, it will minimally take centuries for them to occur (Soil Survey Staff 1999; Birkeland 1984). As such, it can be inferred that the landscape was relatively stable for several hundred years during the formation of each paleosol.

The intervening periods of rapid aggradation may have occurred when the Los Angeles River had shifted course and flowed into the Ballona Lagoon. Historical evidence indicates that this would occur during floods and therefore, had the capacity to transport high volumes of sediment into the area. During these periods, the rate of deposition exceeded the rate at which pedogenic processes can alter sediments. As a result, deposits laid down during this time lack surface and subsurface horizons.

Estuarine deposits associated with a former extent of the tidal marshes surrounding Ballona Lagoon were identified beneath the alluvial sediments. These facies extended from near sea level to approximately 1.8 meters below sea level. The upper 1.2 meters were generally uniform in composition and representative of a tidal marsh plain subject to daily marine inundation. The lower 60 centimeters of estuarine deposit was sandy, possibly representing channel cut through the marsh plain. Marine gastropods were found throughout the entire deposits. Razor clams and other bivalves were found near the lower extent of the marsh plain and channel deposit; oyster shells were limited to just the channel deposits.

The stony fluvial deposits underlying the estuarine deposits may represent a trunk channel cut through the tidal marsh plain. This deposit was encountered between 1.8 and 2.4 meters below sea level and the bottom of this unit was not reached. Large truck channels are directly connected to the primary regional drainage and transport freshwater and coarse sediment directly into the wetland.

5.2 CONCLUSIONS

No subsurface archaeological remains were identified as part of this study. No subsurface landforms were observed during trenching that are highly sensitive for buried prehistoric habitation or other large significant sites. Two depositional environments were identified during trenching including alluvial floodplain and estuarine deposits. Floodplain deposits are composed of overbank and fluvial strata containing two paleosols. Although these deposits appear to have been laid down rapidly, the two paleosols mark periods of stability. The paleosol surfaces were likely seasonal wetlands.

The alluvial environments that characterize the Project APE are not well-suited for long-term habitation sites. The area is frequently inundated with fresh water, flooded, and at times subject to rapid deposition. The underlying estuarine deposits, including the tidal marsh plain and channel deposits, are permanently inundated with marine water. Previous studies of Ballona Lagoon have shown that most habitation is concentrated on the margin of the wetlands in the El Segundo Hills or on alluvial fans along the escarpment base and are not located in estuarine muds or wetlands (Ciolek-Torello et al. 2013).

Although not suitable for long-term habitation, it is possible that these areas were used prehistorically for resource gathering or processing purposes. As such, the paleosols are characterized as having a low to moderate sensitivity for containing prehistoric sites associated with resource gathering or processing. However, as stated above, no cultural remains were identified within these strata at the Project site. The deeper estuarine layers are not sensitive for prehistoric resources. Excavation data improve the quality of modeling near the Lincoln Boulevard on-ramp. The backhoe trenches show at least 50-90 cm of fill in the area of the onramp. Previous geotechnical borings to the southwest of the APE indicate at least nine (9) feet of fill. Where proposed construction occurs within native soils, the XPI conclusions show the APE was either submerged or was an active marsh at deeper depths.

All data considered, Project construction in the area of the Culver Loop Ramp will consist of removing the existing roadway pavement, which will require a maximum depth of ground disturbance of approximately 2 feet that would occur entirely within previously disturbed soils. The loop ramp would then be reconstructed on imported fill material. Therefore, there is no potential to uncover intact subsurface cultural resource deposits in this area.

Project construction in the northern portion of the APE, north of the Culver Loop Ramp, will consist of the removal of existing pavement and reconstruction of Lincoln Boulevard at a higher elevation and with a wider footprint. Most of the roadway widening would occur on the east side of the road and would occur on imported fill. This work north of the Culver Loop Ramp will require a maximum depth of ground disturbance of approximately 2 feet to allow for pavement removal that would occur entirely within previously disturbed soils to remove the existing pavement. Also, south of Fiji Way along the west side of Lincoln Boulevard the Project would cut into the existing slope west of the roadway to a maximum depth of approximately 8 feet. However, prior geotechnical borings in this area indicated 9 feet of fill materials, so it is not likely that native soils would be encountered until drilling for piers/abutments at a depth between 9 feet and 100 feet below the surface. Therefore, the potential to uncover buried cultural resource deposits in this area is low due to both past disturbances and the likelihood of frequent floods over the centuries and the area once being a freshwater marsh.

Results of shovel testing in the southern portion of the APE, on the south side of Ballona Creek, indicated that ground disturbance in this area extended at least 1.65 feet below the modern ground surface. Project construction in the southern area of the APE will consist of the removal of existing pavement and reconstruction of Lincoln Boulevard at a higher elevation and with a wider footprint. Pavement removal would require a maximum excavation depth of about 2 feet. Widening of the roadway south of Ballona Creek would occur on fill; therefore, no ground disturbance would be needed beyond what is required for pavement removal, with the exception of one soundwall. The Project may include the construction of a soundwall south of Ballona Creek along the east side of Lincoln Boulevard that would require ground disturbance of approximately 8 feet to construct foundations. This soundwall would be constructed in an area east of the existing Lincoln Boulevard within a landscaped area fronting a residential land use. As noted above, shovel test pits dug in this area indicated past disturbance to a depth of at least 1.65 feet. The Project could impact up to 6.35 feet of previously undisturbed soils along an approximate 350-foot-long sound wall. Therefore, the potential to uncover buried cultural resource deposits in this

area is low due to both past disturbances and the likelihood of frequent floods over the centuries and the area once being a freshwater marsh.

The Project would also include ground disturbance associated with new streetlights, power pole relocations, and installation of a new signal at Lincoln Boulevard and Culver Loop Ramp and at Jefferson Boulevard. Relocated power poles would be set approximately 10 feet deep along the edges of Lincoln Boulevard. New streetlights would have an approximate foundation depth of 10 feet. Relocated streetlights at the Culver Loop ramp and the one relocated streetlight at Jefferson Boulevard would have deeper foundations up to approximately 20 feet. Therefore, the potential to uncover buried intact cultural deposits in this area is low due to the likelihood of frequent flooding, the area being a freshwater marsh in the past, and the deeper depths being located below sea level and confirmed by the presence of marine gastropods.

All data considered, the potential to uncover buried intact cultural deposits within the Project APE is low due to past disturbances and the area once being a freshwater marsh; however, to confirm the conclusions of this study and to assuage any Native American concerns, the City of Los Angeles will implement archaeological and Native American monitoring of areas requiring ground disturbance below the fill areas.

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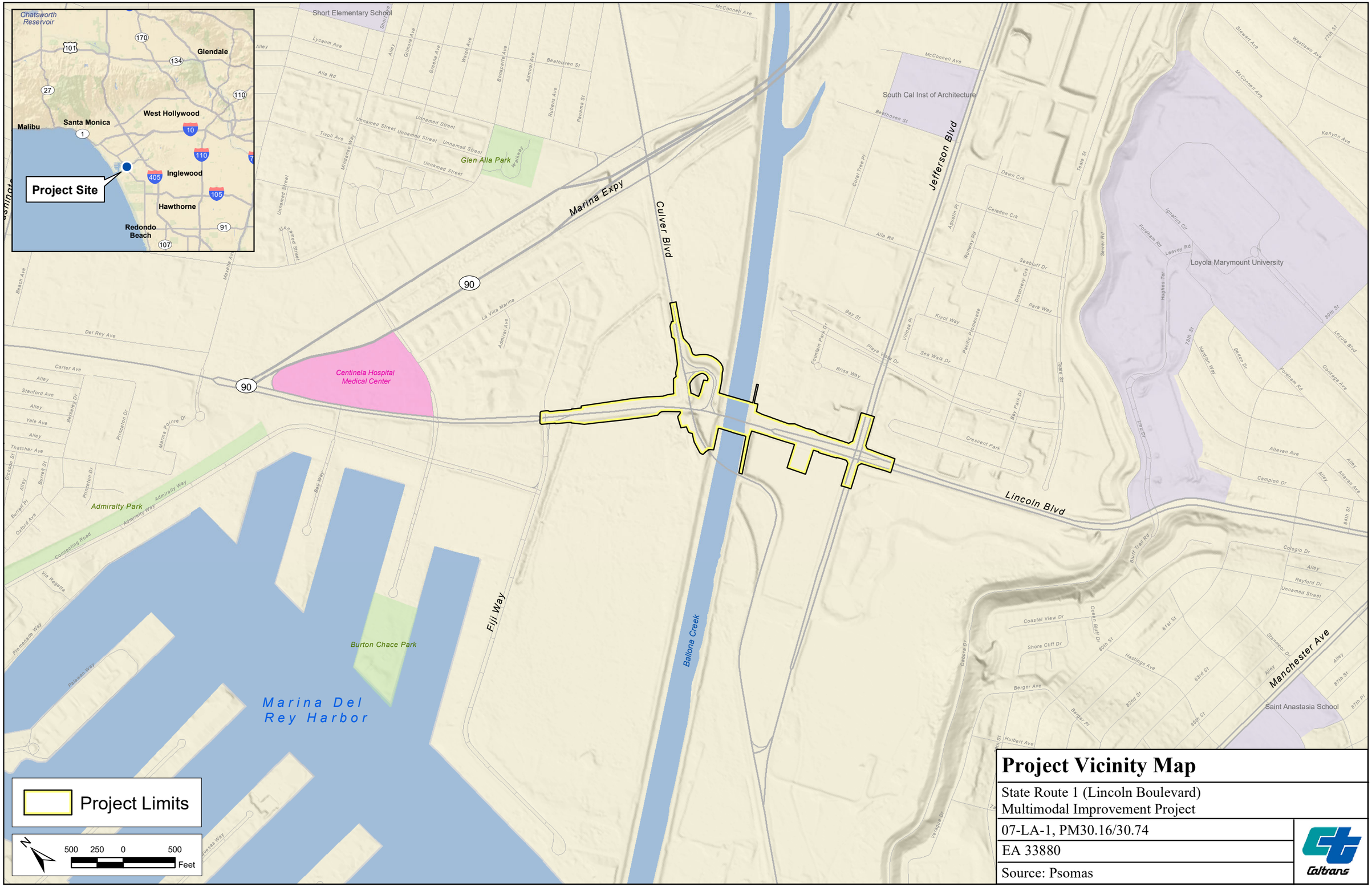
ATTACHMENT A

FIGURES



Project Vicinity Map

State Route 1 (Lincoln Boulevard)
Multimodal Improvement Project

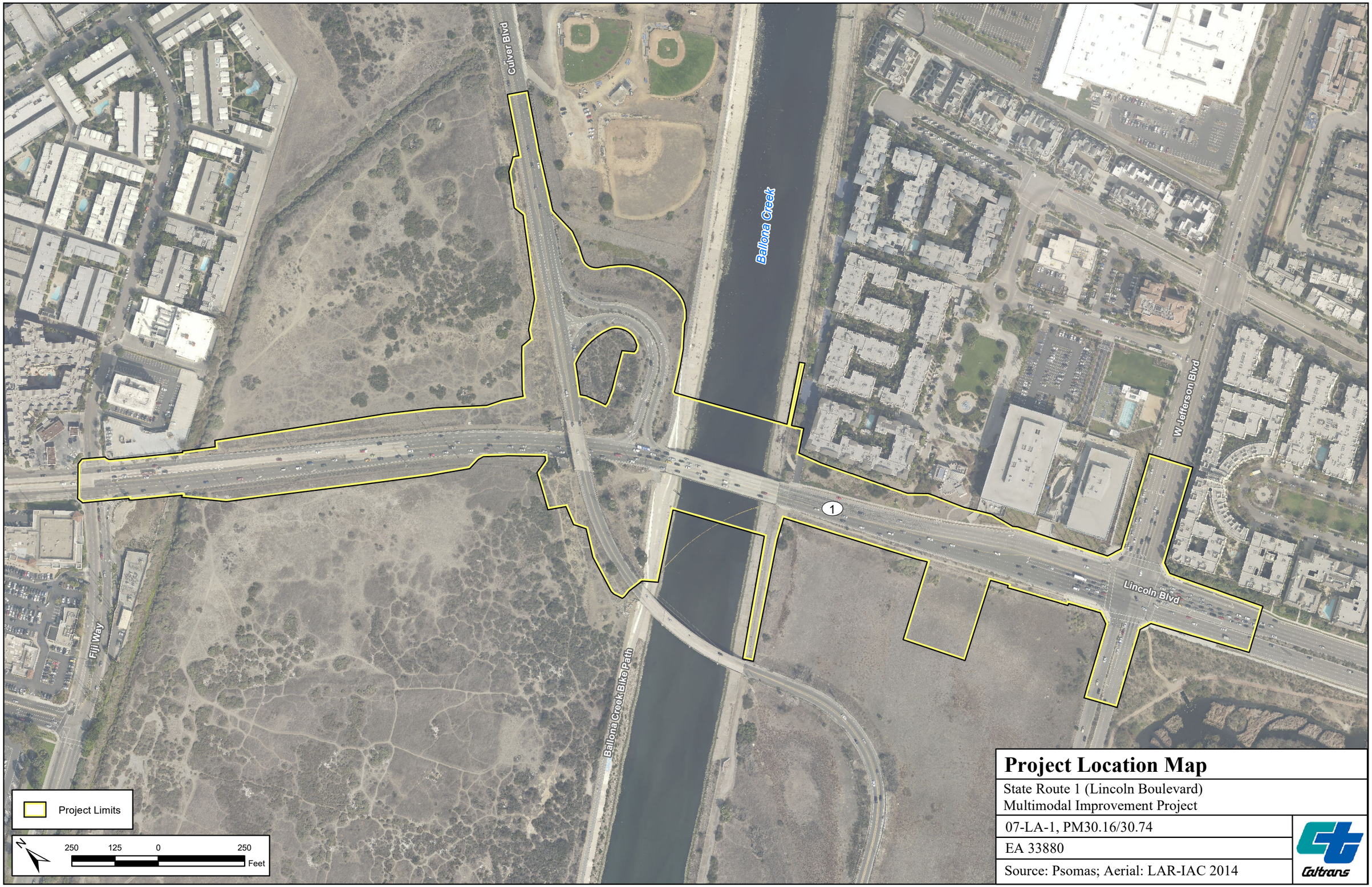
07-LA-1, PM30.16/30.74

EA 33880

Source: Psomas

Caltrans

Figure 1-1



Project Location Map

State Route 1 (Lincoln Boulevard)
Multimodal Improvement Project

07-LA-1, PM30.16/30.74

EA 33880

Source: Psomas; Aerial: LAR-IAC 2014

Caltrans

Figure 1-2

Area of Potential Effects
State Route 1 (Lincoln Boulevard) Multimodal Improvement

Mariam Dahdul — 1/10/23
Caltrans PQS - Mariam Dahdul, PI Prehistoric Archaeology — Date

Joshua Knudson — 1/10/23
Caltrans PQS - Joshua Knudson, Principal Architectural Historian — Date

1/17/2023
Shabbir Ahmed – Project Manager — Date

A

B

Archaeological APE
Architectural APE
Waters of the US - ACOE Jurisdiction

550 275 0 550 Feet

N

Area of Potential Effects

State Route 1 (Lincoln Boulevard)
Multimodal Improvement Project

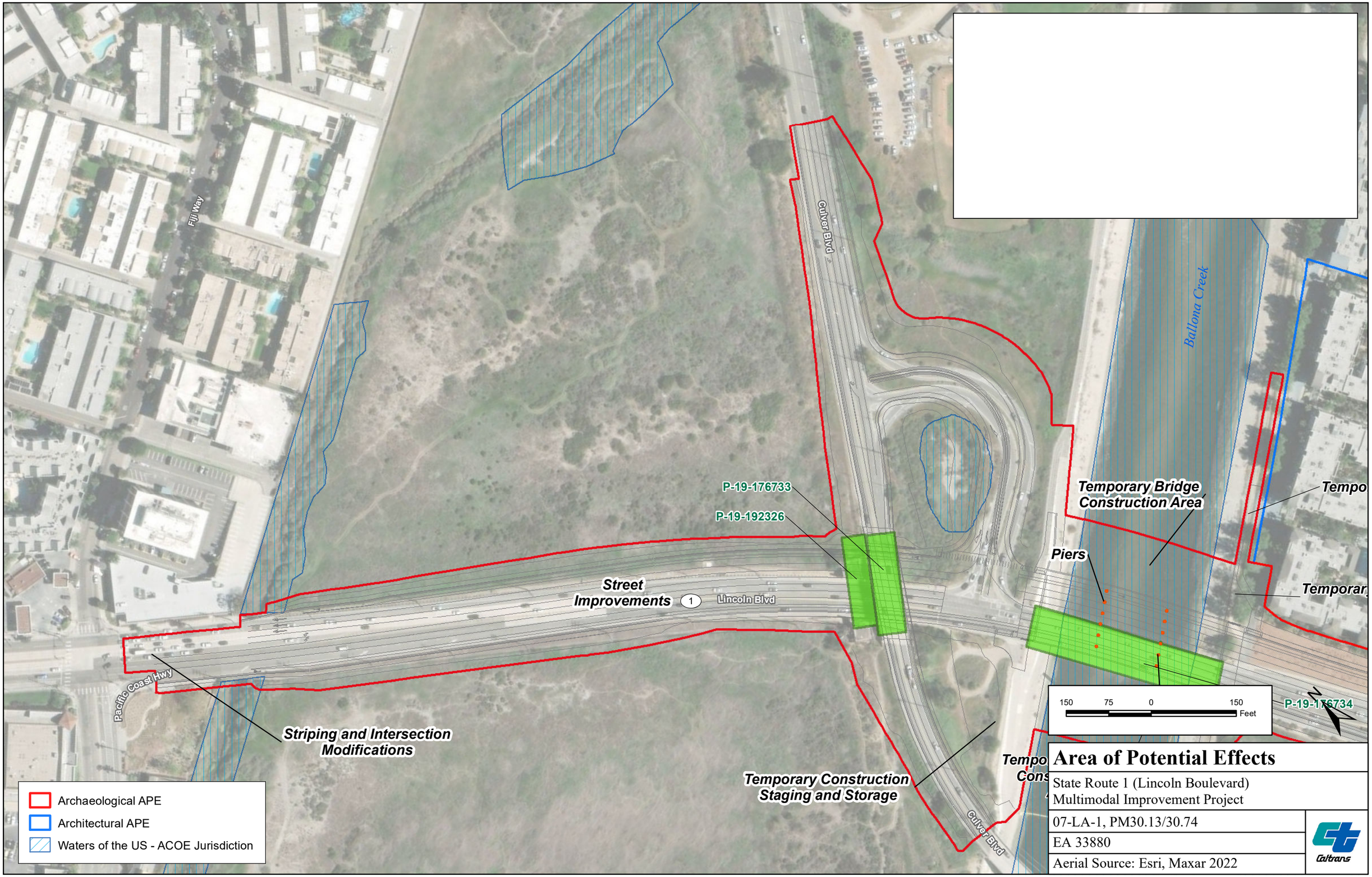
07-LA-1, PM30.13/30.74

EA 33880

Aerial Source: Esri, Maxar 2022

Caltrans

Index



Area of Potential Effects

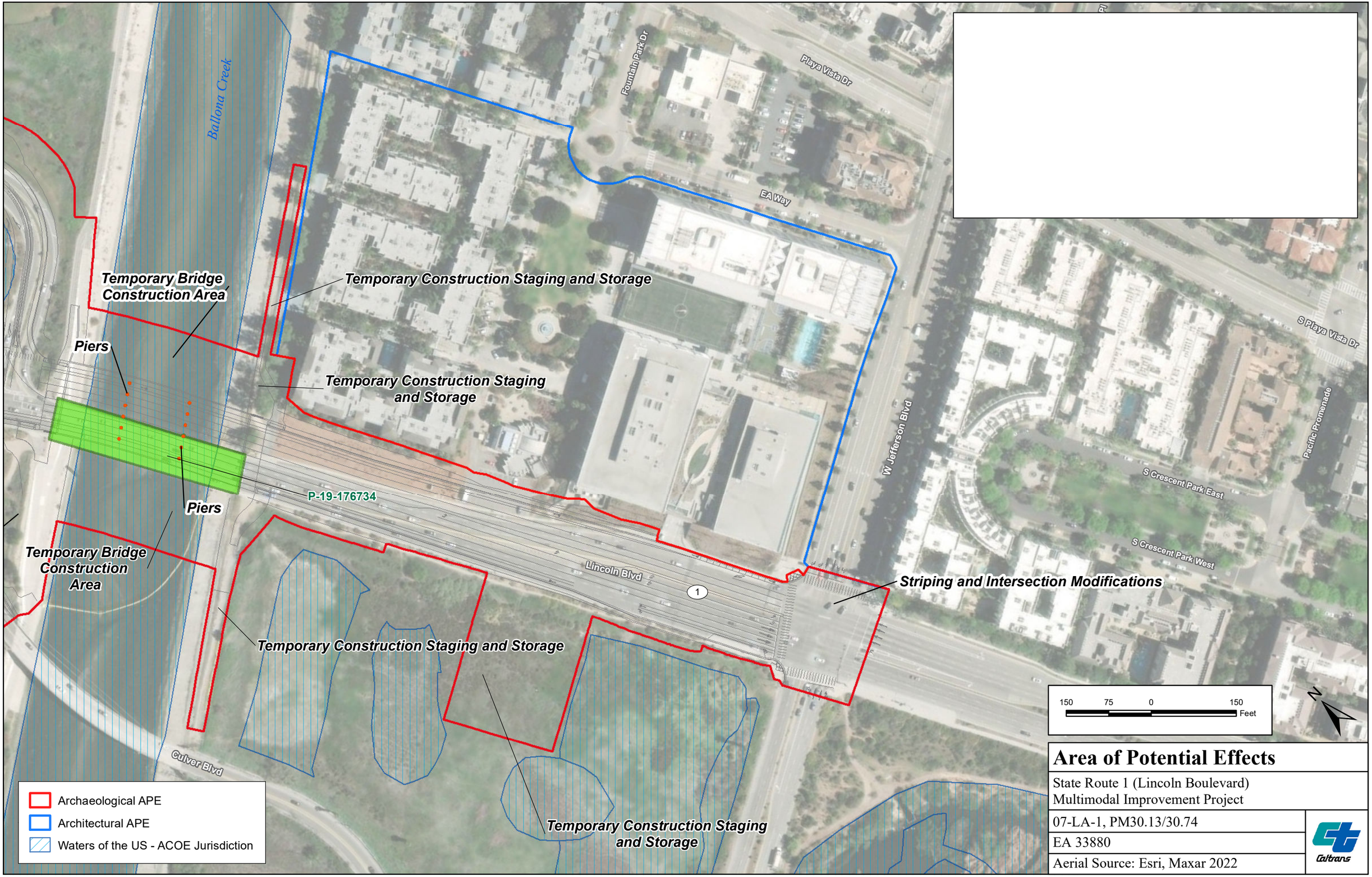
State Route 1 (Lincoln Boulevard)
Multimodal Improvement Project

07-LA-1, PM30.13/30.74

EA 33880

Aerial Source: Esri, Maxar 2022

Caltrans



Area of Potential Effects

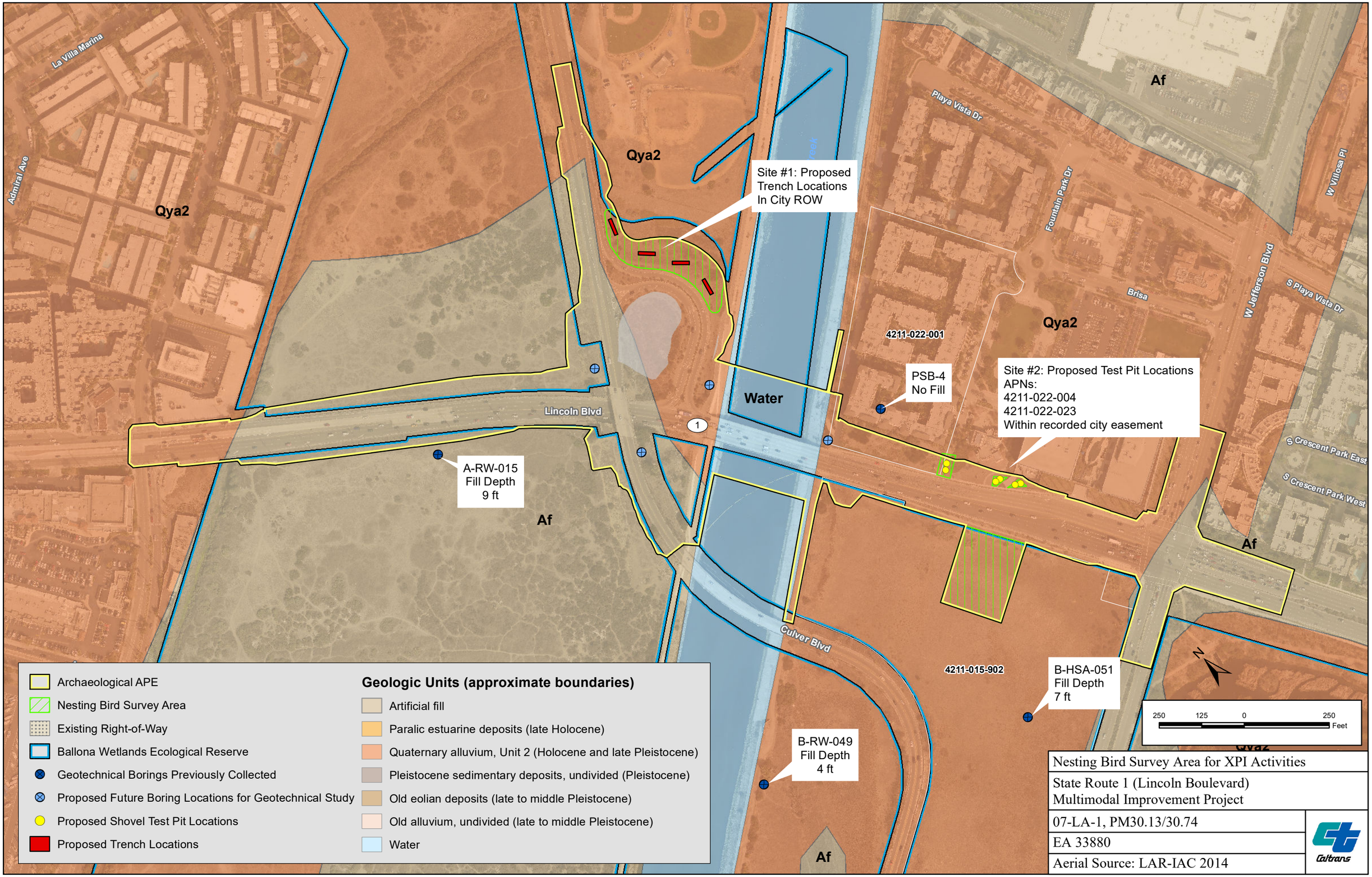
State Route 1 (Lincoln Boulevard)
Multimodal Improvement Project

07-LA-1, PM30.13/30.74

EA 33880

Aerial Source: Esri, Maxar 2022

Caltrans



Nesting Bird Survey Area for XPI Activities

State Route 1 (Lincoln Boulevard) Multimodal Improvement Project

07-LA-1, PM30.13/30.74

EA 33880

Aerial Source: LAR-IAC 2014

Caltrans

ATTACHMENT B

PROFESSIONAL QUALIFICATIONS

Charles Cisneros, MS, RPA

Senior Project Manager/Senior Archaeologist

REGISTRATION

Registered Professional Archaeologist/Register of Professional Archaeologists 28575983

EDUCATION

2008/MS/European Archaeology/University of Edinburgh, United Kingdom,

2004/BA/Anthropology/California State University, Los Angeles

CERTIFICATIONS

Orange County Certified Archaeologist Certified Archaeologist

Riverside County Certified Archaeologist

PROFESSIONAL AFFILIATIONS

Society for American Archaeology

Society for California Archaeology

Western States Folklore Society

PRESENTATIONS/ PUBLICATIONS

Late Prehistoric Subsistence Practices and Landscape Archaeology in the Cronise Basin 03/13/2016 – Society for California Archaeology

Analyzing Sacred Sites and Cultural Landscapes under CEQA., 03/22/2014 – Society for California Archaeology

Uncovering the Life of the Barbecue King of the Antelope Valley., 03/22/2014 – Society for California Archaeology

When Worlds Collide: The Struggle for Power in the Mojave Desert., 03/10/2013 – Society for California Archaeology

Charles Cisneros is a registered professional archaeologist with 13 years of archaeological assessment and field experience in California and Nevada. He has directed numerous field projects in support of compliance with the CEQA the NEPA and Sections 106 and 110 of the National Historic Preservation Act (NHPA). Charles has managed a wide range of projects involving archaeological survey, testing, data recovery, monitoring, and laboratory analysis. He is skilled at research and data management, as well as maintaining and organizing digital and print publications. His training and background meet the U.S. Secretary of the Interior's Professional Qualifications Standards for prehistoric and historic archaeology and he is a California Energy Commission approved archaeologist for desert archaeology.

Experience

Concordia University Campus Master Build-Out Plan Update Environmental Impact Report, Irvine, CA: Senior Archaeologist for construction monitoring for the first phase of development pursuant to the approved Campus Master Build-Out Plan Update. The Campus Master Build-Out Plan Update will allow for existing buildings totaling approximately 71,231 square feet (sf) to be demolished and 8 new buildings or additions to existing buildings totaling approximately 148,880 sf to be constructed, along with a new residence hall. The project also includes new, relocated, and improved athletic facilities and outdoor space at the approximately 73-acre campus. Charles reviewed project plans and construction agendas to schedule cultural and tribal monitors over the course of the project.

Merrill Brownstones Initial Study/Mitigated Negative Declaration, Riverside, CA: Senior Archaeologist for the project, which is a proposed mixed-use development of 108 dwelling units with a leasing office, club room, swimming pool and spa, fitness center, and cabana. Charles prepared the cultural resources documentation and recommended mitigation measures for the project.

Triunfo Creek Vineyards Project Initial Study/Mitigated Negative Declaration, County of Los Angeles, CA: Senior Archaeologist for the project. Triunfo Creek Vineyards is a privately-owned property that hosts various events throughout the year, including but not limited to weddings and other celebration events, private and corporate events, and yoga classes. The project proposes three separate spaces within the 55 acres, each with specific purpose: a Special Events area; a wine tasting area; and a winery facility for processing wine and hosting smaller events/tastings. Charles is preparing the cultural resources documentation mitigation measures for the project based on past studies and current field studies

NorthLake Specific Plan Environmental Impact Report, Los Angeles County, CA: Senior Archaeologist for the development of an approximate 1,330-acre project site near Castaic Lake. This project involves the

TRAINING

Association of Environmental Professionals, CEQA Basics Workshop

Caltrans Introduction to Cultural Resources

CSULA San Nichols Island Archaeological Field School,

Riverside County Cultural Sensitivity Training (Certificate 338)

EXPERIENCE

With Psomas: 1 year/With Other Firms for: 13 years

development of a mix of single-family units; multi-family units; commercial, industrial, and recreational uses; open space; and school and park facilities. Charles revised the cultural resources documentation and responded to public comments related to the project's cultural resources task.

Glendale-Hyperion Complex of Bridges Improvement Project, Los Angeles, CA: Senior Archaeologist for the PR and PS&E for the rehabilitation of the interchange complex. Improvements include widening the Glendale Boulevard bridges, realigning the I-5 northbound off- and on-ramps and LA River bike path, adding a median barrier on the Hyperion Avenue Viaduct, retaining walls, traffic signals, drainage system improvements, infiltration basins, and improving pedestrian facilities. Charles is preparing required Caltrans cultural resources documentation for the project.

Elysian Park Lofts Project Environmental Impact Report, Los Angeles, CA: Senior Archaeologist for preparation of an Environmental Impact Report for the project, which involves the mixed-use redevelopment of an approximate 8.08-acre parcel with approximately 920 residential units, approximately 17,951 square feet (sf) of neighborhood-serving retail uses, and approximately 5,465 sf of leasing offices. The project site is located Central City North Community Plan Area near the Metro Gold Line railroad and the Los Angeles State Historic Park. The project is considered a transit-oriented development (TOD) due its proximity to a network of regional transportation facilities providing access to the greater metropolitan area and a City of Los Angeles designated transit priority area (TPA). Charles is preparing a cultural resources assessment.

I-10/Jefferson Street Interchange Improvement Project; Indio, California: Assistant Project Manager for prehistoric site investigations located near the archaeological sites of CA-RIV-6896 and CA-RIV-6897. He became familiar with artifacts from the Coachella Valley, plotted and created a map of all surrounding archaeological sites and ancient lake shores, created a table of radio carbon dates, and reviewed relevant reports.

Imperial Irrigation District (IID) Salton Seawater Marine Habitat Pilot Project; Imperial County, CA: Project Manager and Lead Archaeologist for the cultural resources and paleontological assessment study for the Sephton Water Technology and IID Salton Seawater Marine Habitat project located in Imperial County. His responsibilities include assessing the project for cultural and paleontological sensitivity and to develop strategies to minimize impacts to sensitive resources. Charles' other tasks include managing the project budget, correspondence with the IID environmental staff and advising IID with Assembly Bill (AB) 52 Tribal Cultural Resource (TRC) consultation.

Imperial Irrigation District (IID) Johnson's Landing Pilot Project and Boat Ramp; Imperial County, CA: Project Manager and Lead Archaeologist for the cultural resources survey for a 67-acre study on lands administered by the Bureau of Reclamation (BOR) for the IID Johnson's Landing Pilot Project and Boat Ramp located in Imperial County. His responsibilities include conducting the field study and to developing strategies to minimize impacts to sensitive resources. Charles' other tasks include managing the project budget, correspondence with the BOR and

Charles Cisneros, MS, RPA (Continued)

IID environmental staff and advising IID with Assembly Bill (AB) 52 Tribal Cultural Resource (TRC) consultation.

Beacon Solar Photovoltaic Project; Kern County, CA: Project Manager and Lead Archaeologist for the cultural resources monitoring and biological monitoring of Chambers Group personnel on behalf of BonTerra Psomas for the Beacon Solar Photovoltaic project located in Kern County. His responsibilities include assigning Chambers Group personnel to monitor for cultural and biological resources and to develop strategies to minimize impacts to culturally sensitive archaeological sites. Mr. Cisneros's other tasks include managing the project budget and correspondence with the BonTerra Psomas senior project manager.

East Kern Wind Resource Area (EKWRA) Project; Kern County, CA: Project Manager and Lead Archaeologist for the cultural resources monitoring for Southern California Edison's (SCE) East Kern Wind Resources Areas project located in Kern County. His responsibilities include assigning personnel to monitor for cultural resources and to develop strategies to minimize impacts to culturally sensitive archaeological sites. Charles' other tasks include managing the project budget, correspondence with the SCE project senior archaeologist, advising construction personnel and client, and attending to project engineering details.

Genesis Solar Solar Project; Riverside County, CA: Crew Chief, CEC Approved Archaeologist on a special studies data recovery team for the Genesis solar project on Bureau of Land Management property. His responsibilities included providing support for the investigation of cultural resources, GPS mapping, site recordation, ground penetrating radar surveys, and working with AECOM archaeologist and Soboba Tribal Monitors.

Solar Millenium Blythe Solar Project; Riverside County, CA: Crew Chief, CEC Approved Assistant Project Prehistoric Archaeologist on several intensive archaeological surveys and data recovery teams for the Solar Millennium's solar project on Bureau of Land Management property. His responsibilities included providing support for the investigation of cultural resources, GPS mapping, site recordation, ground penetrating radar surveys, and working with AECOM archaeologist and Aqua Caliente tribal monitors.

McCoy Solar Project; Blythe, CA: Crew Chief, CEC Approved Archaeologist for an archaeological survey on a 5000-acre project located on Bureau of Land Management property. Along with other archaeologists, he conducted the investigation of cultural resources, GPS mapping, site recordation and working with AECOM archaeologist and Aqua Caliente tribal monitors.

AT&T Fiber Optic Cable Maintenance Project, Halloran Summit Road to Slash X Ranch Segment, San Bernardino, County, CA: Ethnographer for the ethnographic study for a fiber-optic project located on public lands managed by the Bureau of Land Management (BLM). His responsibilities include researching the ethnographic literature and folklore for several tribes claiming ancestral ties to the land within the project area. Mr. Cisneros's other tasks include managing the project budget, correspondence with the Barstow BLM archaeologist, and completing a report analyzing the ethnographic data.

Charles Cisneros, MS, RPA (Continued)

AT&T Fiber Optic Cable Maintenance Project, Halloran Summit Road to Slash X Ranch Segment, San Bernardino, County, CA: Senior Archaeologist and Principal Investigator for the senior archaeologist and principal investigator for a fiber-optic project located on public lands managed by the Bureau of Land Management (BLM). His responsibilities include researching the archaeology and paleontology for the Mojave Desert and preparing research designs and management plans for cultural and paleontological resources. Mr. Cisneros's other tasks include managing the project budget, correspondence with the Barstow BLM archaeologist, local tribes, and completing a report analyzing the data generated from both the field surveys and mitigation monitoring.

MIKE MIRRO, M.A., RPA

Senior Geoarchaeologist

EDUCATION

M.A., Anthropology. California State University, Los Angeles, 2007

B.S., Anthropology, Radford University, Radford, Virginia, 1998

B.S., Crop and Soils Environmental Science, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, 1995

YEARS OF PROFESSIONAL EXPERIENCE

22

REGISTRATIONS / CERTIFICATIONS

Register of Professional Archaeologists (2010)
Professional Certificate in GIS, University of CA, Riverside (2005)

PERMITS/LICENSURE

Field Director, CA BLM Statewide Cultural Resource Use Permit CA-18-27

PROFESSIONAL AFFILIATIONS

Society for American Archaeology (includes Geoarchaeology and Digital Data Interest Groups)
Society for Californian Archaeology
Geologic Society of America

Mr. Mirro has 22 years of cultural resources management experience in California and the western US. He is qualified under the Secretary of Interior's Standards for Archaeology and is certified by the Register of Professional Archaeologists. He has conducted geoarchaeological studies in California since 2005 in most Geomorphic Provinces of California as well as Four Corners, Wyoming, and eastern Utah. His approach to geoarchaeology involves the use of GIS platforms and mobile computing to bring soils, historical map, archaeological data, and geology to the field and as a means for creating detailed and accurate sensitivity models and more accurate mapping. Theoretical approach includes process geomorphology, defining lithologic units based on sedimentology and deposition, combined with soil science to analyze post-depositional effects. In addition to geoarchaeology, his area of expertise lies in application of technological solutions for improving the quality and efficiency of cultural resources management, including the use of GIS, 3D modeling, virtual reality, and GPS and through the combination of these technologies, he has developed creative workflows for developing buried site sensitivity models and buried site testing plans. His archaeological experience includes management and supervision of cultural resources surveys, evaluations, and data recovery operations. He has worked on numerous solar, wind, housing, military, transportation, and transmission projects. He has worked closely with staff from the Bureau of Land Management (BLM), US Forest Service (USFS), various military branches, Caltrans, California Public Utilities Commission (CPUC) and other federal or state agencies, on National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and National Historic Preservation Act (NHPA) Section 106 and Section 110 based projects.

SELECT PROJECT EXPERIENCE

Golden Gate National Recreation Area Tennessee Valley Dam Removal Project, Marin County, CA. Geoarchaeologist. Geoarchaeological modeling of APE and buried site testing; Present.

Peltier Road Bridge Replacement Project, San Joaquin County, CA. Geoarchaeologist and Senior GIS Specialist. Geoarchaeological modeling of buried site sensitivity in APE; 2021.

OC Streetcar Data Recovery, Orange County, CA. Geoarchaeologist. Developed geomorphic context and paleolandscape model for isolated burial; 2021.

Interstate-405 Extended Phase I (XPI) Testing, Orange County, CA. Geoarchaeologist. Buried site testing and geoarchaeological modeling; 2021.

Bridge Housing: 88 Broadway and 735 Davis Street, San Francisco County, CA. Geoarchaeologist. Geoarchaeological modeling base on results of coring; 2021.

950 to 974 Market Street ATP Implementation, San Francisco County, CA. Geoarchaeologist. Geomorphological description of project area based on monitoring result; 2021.

Desert Quartzite Solar Project, Riverside County, CA. Geoarchaeologist. Geoarchaeological testing of APE and development of construction monitoring plan; 2020.

2305 Mission College Avenue Data Center Testing, Santa Clara County, CA. *Geoarchaeologist. (2020).* Geoarchaeological evaluation of geotechnical cores and evaluation of subsurface archaeological deposits, Client: Turner Construction

Schlage Project, Monitoring and Data Recovery, San Francisco, CA. *Geoarchaeologist. (2019-2020).* Geoarchaeological evaluation of two prehistoric resources, including development of paleolandscape and landscape evolution models and correlation of stratigraphic map units. Client: Universal Paragon.

Benton Data Recover, Santa Clara County, CA. *Geoarchaeologist. (2019-current).* Geoarchaeologist and Senior GIS Specialist. Developed 3D approach to modeling site geomorphology. Development site geomorphic model of natural and cultural units. Developed program of 3D mapping features to expedite data recovery fieldwork and improve data quality and quantity. Client: Prometheus.

I-605 Corridor Improvement Project, Extended Phase I Study of Site 19-001179, CA. *Geoarchaeologist and Project Manager. (2018-2019).* Field Director and Geoarchaeologist. Conducted subsurface testing in project APE to determine integrity and extent of cultural deposits related to historic Adobe and adjacent prehistoric village. Client: HDR.

Los Alamitos Joint Task Force Training Base, Los Alamitos, Orange County, CA. *Geoarchaeologist. (2017).* Field Director and Geoarchaeologist. Developed landscape buried archaeological site sensitivity model for undeveloped base land through implementation of buried site testing program consisting of 40 backhoe trenches, carbon dating, and soil analysis. Client: Prometheus.

Caltrans, State Route 95 Realignment Project, San Bernardino, CA. Geoarchaeologist. Developed subsurface archaeological site sensitivity model for existing highway corridor; 2017.

CH2M Hill, State Route 79 Realignment, Winchester to Gilman Springs Road, Riverside County, CA. GIS Manager and Geoarchaeologist. Conducted archaeological survey and phase II evaluations, including buried site testing program. Prepared archaeological survey reports and evaluation reports in support of EIR/EIS. Worked with FTA, Caltrans, Riverside County Transit Commission, and NAHC; 2007-2017.

Caltrans, SR 58 Realignment Project near Hinkley, San Bernardino County, CA. Project and GIS manager, Senior Archaeologist, Geomorphologist, and Field Director. Managed survey; prepared ASR; managed GIS/GPS data collection; managed magnetic gradiometer study; field director of buried site testing program; and provided GIS support for HRER; 2004-2017.

PG&E Central Valley Power Connect Project, Fresno, King, and Madera Counties. Geoarchaeologist. Developed buried archaeological site sensitivity model for proposed transmission lines alternatives; 2014-2015.

PG&E Hinkley Groundwater Remediation Project, San Bernardino County, CA. GIS Manager and Geoarchaeologist. Designed and implemented GIS data collection strategies for complex parcel based surveys, prepared geoarchaeological study, and archaeological resource sensitivity model; 2011 - 2014.

REC Solar, Solar Photovoltaic System Installation Project, West Los Angeles Veterans Affairs Facilities, Los Angeles County, CA. Geoarchaeologist and Co-Project Manager. On-call services contract for sensitivity modeling, buried site testing, and Native American and archaeological monitoring. Worked closely with Office of VA, as lead agency, and CA Office of Historic Preservation; 2012 to 2013.

Kaweah Delta Water Conservation District, Paragien Basin Project, Tulare County, CA. Geoarchaeologist and Project Manager. Prepared buried archaeological site sensitivity model for project APE; implemented BST; and prepared technical report on the results of trenching operations during BST. Worked closely with USACE, Kaweah Delta Water Conservation District; 2012.

Klienfelder Environmental, Perris Valley Line Project, Riverside County, CA. Project Manager, Geoarchaeologist, and GIS Manager. Conducted Phase I archaeological survey and BST studies. Directed EIR/ EIS documentation and map production. Worked with closely with Native American Tribe Pechanga and Soboba, NAHC, FRA (lead agency), and CA OHP; 2009-2010.

TIFFANY C. CLARK, Ph.D., RPA

Senior Archaeologist, Principal Investigator

EDUCATION

Ph.D., Anthropology, Arizona State University, Tempe, AZ, 2003

M.A., Anthropology (emphasis Bioarchaeology), Arizona State University, Tempe, AZ 1997

B.A., Biology, Occidental College, Los Angeles, CA, 1992

YEARS OF PROFESSIONAL EXPERIENCE

24+

REGISTRATIONS / CERTIFICATIONS

Register of Professional Archaeologists ID#989197

Principal Investigator, CA BLM Statewide Cultural Resources Use Permit CA-21-22, expires 08/19/24

California BLM Permit, Principal Investigator, Statewide

County of Riverside Qualified Cultural Resources Consultant

Tiffany Clark is a Senior Archaeologist, Project Manager with PaleoWest Archaeology. She has over 24 years of experience in cultural resource management in California, Arizona, and New Mexico. Her professional experience includes all phases of survey, excavation, laboratory analysis, research design, report preparation, construction monitoring, Native American consultation, and project management. She has prepared numerous technical reports and environmental documents for compliance with the National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and Section 106 and 110 of the National Historic Preservation Act (NHPA). Dr. Clark is a member of the Register of Professional Archaeologists and exceeds the Secretary of Interior's Professional Qualifications Standards in Archaeology.

SELECT PROJECT EXPERIENCE

Los Angeles River Bike Path Project, City of Los Angeles, Los Angeles County, CA. *Principal Investigator, Archaeological Task Lead (2019–2020).* The City of Los Angeles Bureau of Engineering, in conjunction with Caltrans District 7, proposes to construct an approximately 3 miles of walking and biking paths along the Los Angeles River in the west San Fernando Valley. Dr. Clark was responsible for the archaeological studies that were conducted for the Project. These efforts included: records searches and literature reviews; archival research; a Phase I survey; Native American consultation and coordination; coordination with local and federal agencies; and preparation of Area of Potential Effect Map, Archaeological Survey Report, and Historic Properties Survey Report for compliance with Section 106.

San Bernardino County Transportation Authority (SBCTA), Interstate 10 Eastbound Truck Climbing Lane Improvement Project, San Bernardino and Riverside Counties, CA. *Principal Investigator, Cultural Resources Technical Lead, Project Manager (2017 – 2018).* SBCTA, in conjunction with Caltrans District 8, proposes to extend the eastbound truck climbing land on Interstate-10 for a distance of 3 miles in the City of Yucaipa and Calimesa in San Bernardino and Riverside counties, respectively. Dr. Clark supervised the cultural resources studies that were being completed for the Project. These tasks included: records searches and literature reviews; archival research; a Phase I survey; Native American consultation and coordination; coordination with local and federal agencies; and preparation of Area of Potential Effect Map, Archaeological Survey Report, and Historic Properties Survey Report for compliance with CEQA and Section 106.

San Bernardino County Transportation Authority (SBCTA), Interstate 215 / University Parkway Interchange Project, City of San Bernardino, San Bernardino County, CA. *Principal Investigator (2017 – 2018)*. SBCTA, in conjunction with Caltrans District 8, proposes improvements to the Interstate 215 / University Parkway Interchange. Dr. Clark supervised the cultural resources studies that included: records searches and literature reviews; archival research; pedestrian surveys; Native American consultation and coordination; coordination with local and federal agencies; and preparation of Area of Potential Effect Map, Archaeological Survey Report, and Historic Properties Survey Report for the Project.

California Army National Guard, Los Alamitos Joint Forces Training Base Buried Site Testing Program, Orange County, CA. *Principal Investigator, Project Manager (2017 – 2018).* Responsible for supervising the development and implementation of a buried site testing program for the California Army National Guard on the Joint Forces Training Base in Los Alamitos, Orange County, California. Responsibilities included agency coordination; conducting a record search and literature review; overseeing a geoarchaeological study involving the excavation of 40 backhoe trenches; artifact analyses; and preparation of a technical reports of findings.

State Route 86/Avenue 50 New Interchange Project, City of Coachella, Riverside County, CA. *Principal Investigator (2015 - 2018).* The City of Coachella, in conjunction with Caltrans District 8 and the Coachella Valley Association of Governments, proposes construction of a new interchange at State Route 86 and Avenue 50 in the City of Coachella, Riverside County, California. Dr. Clark supervised the cultural resources studies that included: records searches and literature reviews; archival research; pedestrian surveys; Native American consultation and coordination; coordination with local and federal agencies; and preparation of APE Map, ASR, HRER, and HPSR for the Project.

California Department of Transportation (Caltrans), On-Call Cultural Resources Services, San Bernardino and Riverside Counties, CA. *Principal Investigator (2013 – 2018).* Dr. Clark was responsible for overseeing a number of on-call cultural resources task orders for Caltrans, District 8, Riverside and San Bernardino counties. Task orders completed by Dr. Clark include a Phase I study for the State Route 60 Truck Climbing and Descending Lane Project, Phase I and II studies for the Interstate 40 Median Regrade and U.S. 395 Construct Median Buffer and Widen Shoulder projects, and Phase III data recovery for the State Route 58 Realignment and the State Route 138 Realignment – Crowder Canyon projects. As part of these projects, Dr. Clark supervised cultural resource records searches and literature reviews; archival research; pedestrian and reconnaissance surveys; testing and evaluation for National Register and California Register eligibility; Native American consultation and coordination; coordination with local and federal agencies; and preparation of technical reports for Caltrans review and approval. All projects were conducted in compliance with CEQA and Section 106 of the NHPA.

City of Riverside, Sidewalk Improvement Project, Riverside, Riverside County, CA. *Principal Investigator (2016 – 2017).* The City of Riverside, in conjunction with the Caltrans District 8, proposed sidewalk improvements in three residential areas within the City of Riverside. Dr. Clark supervised cultural resource records searches and literature reviews; archival research; reconnaissance surveys; Native American consultation and coordination; coordination with local and federal agencies; and preparation of Area of Potential Effect Maps, Archaeological Survey Report, and Historic Properties Survey Report. The Project was conducted in compliance with CEQA and Section 106 of the NHPA.

ATTACHMENT C

FIELD SURVEY PHOTOGRAPHS

XPI Field Photos for State Route 1 (Lincoln Boulevard) Multimodal Improvement Project

Figure 1: Overview of Site #1 Proposed Trench Locations

Figure 2: Chamberlain Backhoe Operator Excavating Proposed Trench

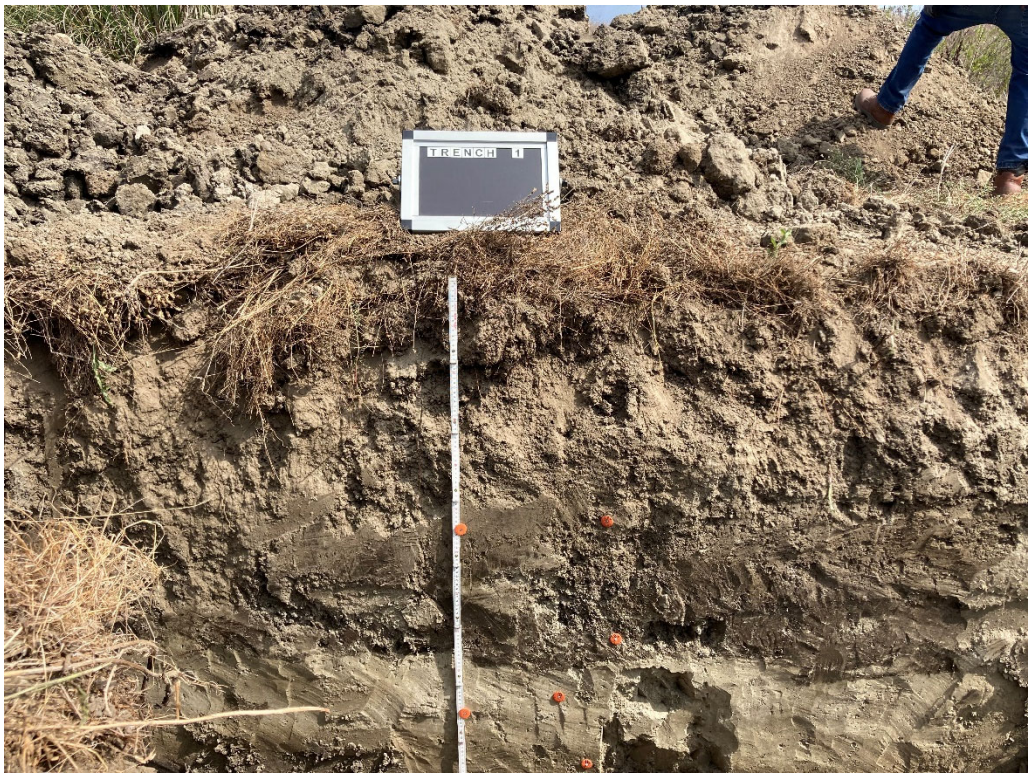


Figure 3: Profile from Trench One

Figure 4: Overview from Trench One

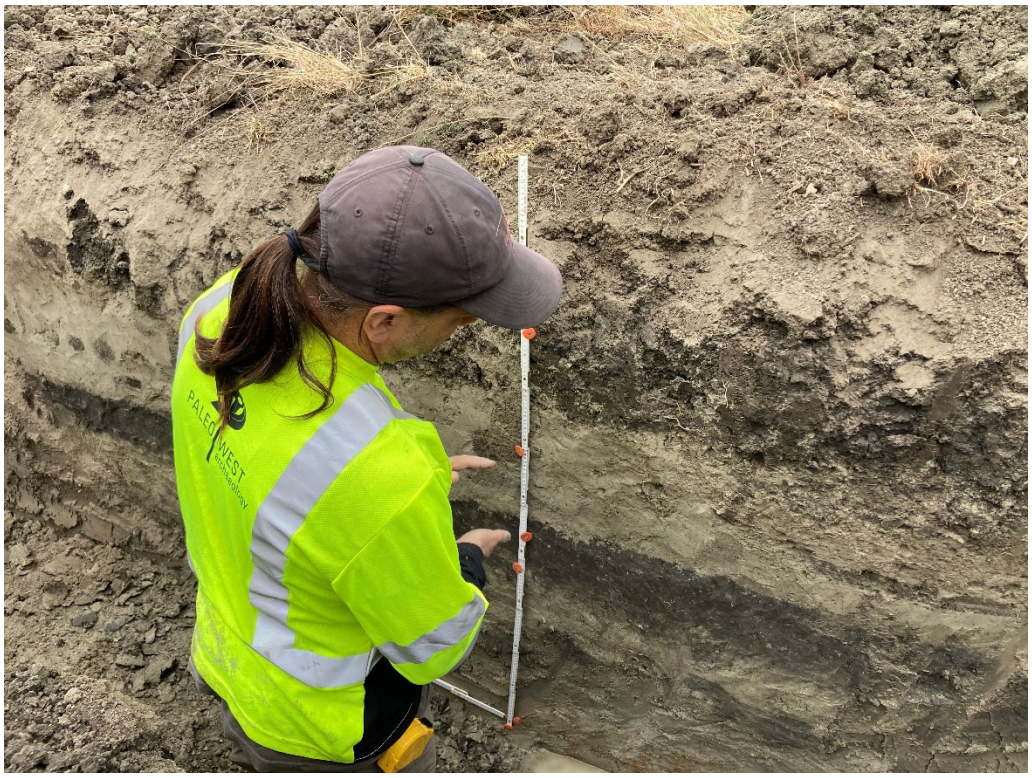


Figure 5: Geoarchaeologist Mike Mirro Analyzing Soil from Trench

Figure 6: Tribal Representative Robert Dorame Inspecting Spoils Pile

Figure 7: Overview of Site #2 Proposed Shovel Test Pit Excavations

Figure 8: Underground Utility Warning Post Located within Site #2

Figure 9: Proposed Locations for Shovel Test Pits (White Stakes) within Site #2

Figure 10: Tribal Representative Robert Dorame

Figure 11: Cement/Asphalt Identified at 7 Inches Below Surface

ATTACHMENT D

LITHOLOGIC AND PEDOGENIC DESCRIPTIONS OF TRENCH SEDIMENTS

Appendix D Lithologic and Pedogenic Descriptions of Trench Sediments

Table D1 Soil horizon and lithologic unit descriptions for Trench 1

Top Depth (ft)	Top Depth (m)	Bottom Depth (ft)	Bottom Depth (m)	Top Elev (ft)	Top Elev (m)	Bottom Elev (ft)	Bottom Elev (m)	Thickness (m)	Lithologic Unit	Lithology, Landform, Depositional Environment	Pedogenic Horizon	Color	Texture	Mottles, Inclusions, Staining	Structure	Consistence	Pores	Roots	Faunal	Voids	Effervescence	Comments	Lower Transition
0.00	0.00	1.64	0.50	10.10	3.08	8.46	2.58	0.50	**Fill A**	Fill A	Fill A	10 YR 5/3 brown	Mixed, sandy loam, silty clay, gravels, cobbles	1 to 5 percent construction and rounded gravels	Moderate medium subangular block to granular	Compaction, hardness, penetration resistance and excavation difficulty increasing with depth		Common fine to medium, grass, few large to medium bush, small tree	land snail near surface				Wavy to smooth, clear to abrupt
1.64	0.50	2.79	0.85	8.46	2.58	7.31	2.23	0.35	**Fill B**	Fill B	Fill B	10 YR 5/3 brown	Mixed, silt loam, clay	common charcoal fragments fine to medium, 1 to 5 percent gravels and fine boulders, rounded	Strong fine subangular blocky	Hard		Common fine to medium, grass, few large to medium bush, small tree					Broken, smooth, clear to abrupt
2.79	0.85	2.95	0.90	7.31	2.23	7.15	2.18	0.05	**Mized**	Mixed alluvium and Fill	Disturbed	10 YR 6/3 pale brown	Silty clay	mottled with common coarse prominent 10 YR 3/1 silty clay (inclusions from overlying strata)	Weak medium subangular blocky	Hard, moderately compact		Common fine to medium grass roots	Few to common rodent burrows			Moist, possibly plowed, faint banding in places	Broken, discontinuous, clear to abrupt
2.95	0.90	3.12	0.95	7.15	2.18	6.99	2.13	0.05	**VII**	Fluvial	C	10 YR 6/3 pale brown	Silty fine sand	Banded with 1 to 4 mm thick horizontal to slightly angular 10 YR 4/2 (dark grayish brown) silty fine sand with very abrupt boundaries	Massive			Common fine roots	Few to common rodent burrows			Fluvial, may be post or during distance, discontinuous,	Very abrupt irregular boundary, plowed, disturbed
3.12	0.95	3.44	1.05	6.99	2.13	6.66	2.03	0.10	**VIa**	Alluvial, wetland, backswamp	2Ab	10 YR 3/2 very dark gray	Clay, common mica		Strong medium angular blocky; large vertical trans-horizon cracks, filled with silt	Very hard dry; firm moist; very sticky; very plastic	Common fine to medium vesicular and tubular pores	Common fine roots	No marine faunal observed; common insect burrows	Distinct clay films on ped surface		Fresh water marsh or see wetland landforms	
3.44	1.05	3.54	1.08	6.66	2.03	6.56	2.00	0.03	**VIb**	Fluvial	2Ab2	10 YR 2/1 black	Sandy Clay, common mica	Mottled with common prominent to distinct 7.5 YR 4/6 (strong brown) clay inclusions	Moderate medium granular		Common fine to medium vesicular and tubular pores	Common fine roots	Few to common insect burrows and castings				Irregular to smooth, abrupt to very abrupt
3.54	1.08	4.10	1.25	6.56	2.00	6.00	1.83	0.17	**VIc**	Alluvial, wetland, backswamp	2Bk/2Ab3	10 YR 3/1 very dark gray	Clay, common mica	Mottled with common prominent to distinct 7.5 YR 4/6 (strong brown) clay inclusions, faint iron oxide and manganese staining, Mottled with whitish spherical carbonate masses, common fine to medium, distinct to prominent, more common near layer base	Moderate medium granular; large vertical trans-horizon cracks, filled with silt	Very hard dry; firm moist; very sticky; very plastic		Few fine roots	Common thin shelled gastropod fragments (fresh water); common insect burrows	Faint thin clay films on ped faces	Strong Effervescence	Become whitened near base due to carbonate accumulation; moist; common fine charcoal flecks and fragments	Smooth clear
4.10	1.25	4.85	1.48	6.00	1.83	5.25	1.60	0.23	**VId**	Overbank, flood deposit	2Bk1	5 Y 7/2 light gray	Silt, common mica	Mottled with whitish spherical carbonate masses, common fine to medium, distinct to	Massive to weak medium subangular blocky	Slightly hard dry[1]; friable moist; slightly sticky; nonplastic.	Few fine vesicular pores				Strong Effervescence	Common fine charcoal flecks; this and underlying layer normally sorted	Smooth gradual

Top Depth (ft)	Top Depth (m)	Bottom Depth (ft)	Bottom Depth (m)	Top Elev (ft)	Top Elev (m)	Bottom Elev (ft)	Bottom Elev (m)	Thickness (m)	Lithologic Unit	Lithology, Landform, Depositional Environment	Pedogenic Horizon	Color	Texture	Mottles, Inclusions, Staining	Structure	Consistence	Pores	Roots	Faunal	Voids	Effervescence	Comments	Lower Transition
														prominent; few faint fine to medium oxidized iron masses/stains								(fining upward) - single depositional event	
4.85	1.48	5.51	1.68	5.25	1.60	4.59	1.40	0.20	**VId**	Overbank, flood deposit	2Bk2	5Y 6/2 light olive gray	Very fine sandy silt, common mica	Mottled with whitish spherical carbonate masses, common fine to medium, distinct to prominent; few faint fine to medium oxidized iron masses/stains; carbonate concretions near layer base	Weak to moderate medium subangular blocky	Soft dry; friable moist; nonsticky; nonplastic	Few fine to medium vesicular and tubular pores	Very few roots			Strong Effervescence; becomes whiter near base due to increased carbonates	Common fine charcoal flecks; this and overlying layer normally sorted (fining upward) - single depositional event	Smooth abrupt
5.51	1.68	7.00	2.13	4.59	1.40	3.10	0.95	0.45	**V**	Alluvial, wetland, backswamp	3Ab1	10 YR 3/2 very dark gray	Clay, common mica	Common coarse faint 10 YR 5/2 (grayish brown) depleted zones	Moderate medium granular	Very hard dry; firm moist; very sticky; very plastic;slightly fluid	Common fine to medium vesicular and tubular pores	Few fine roots		Faint thin clay films on ped faces	Non efferevesent		
7.00	2.13	8.00	2.44	3.10	0.95	2.10	0.64	0.30	**V**	Alluvial, mudflow, wetland, backswamp	3B1	10YR 4/1 dark gray	Clay, common mica, common isolated coarse sand grains		Moderate medium subangular blocky to granular; large vertical trans-horizon cracks, filled with silt	Very hard dry; firm moist; very sticky; very plastic	Common fine vesicular and tubular pores						
8.00	2.44	10.00	3.05	2.10	0.64	0.10	0.03	0.61	**IV**	Overbank, flood deposit.	4B	10YR 4/2 dark grayish brown	Silt, common mica		Massive	Soft dry; friable moist; nonsticky; nonplastic							
10.00	3.05	11.00	3.35	0.10	0.03	-0.90	-0.27	0.30	**III**	Marine estuary, Tidal Marsh Plain	5Cg1	10Y 2.5/1 greenish black	Silt, common mica		Massive to weak medium angular blocky structure	Soft dry; friable moist; nonsticky; nonplastic	Very few fine vesicular pores	Common very fine roots	Marine gastropods		Non effervescent		
11.00	3.35	14.00	4.27	-0.90	-0.27	-3.90	-1.19	0.91	**III**	Marine estuary, Tidal Marsh Plain	5Cg2	10GY 5/1 greenish gray	Silt, common mica		Massive to very weak coarse angular blocky	Soft dry; friable moist; slightly sticky; nonplastic; becomes fluid at base of sample			Very fine shell fragments throughout, marine gastropods, wing bone of bird (stained black)		Very slightly effervescent	Sulfur scent	
14.00	4.27	15.00	4.57	-3.90	-1.19	-4.90	-1.49	0.30	**II**	Marine estuary, Tidal Marsh Plain	5Cg3	10 GY 3/1 very dark greenish gray	Clay, common fine mica	Common masses of sandy clay	Massive to very weak coarse angular blocky	Slightly to moderately fluid		Few fine roots	Many clam, razor clam, and gastropod		Very slightly effervescent	pressed vegetation between peds; few fine charcoal fragments	
15.00	4.57	17.00	5.18	-4.90	-1.49	-6.90	-2.10	0.61	**II**	Marine estuary, possible estuary channel edge	5Cg4	N 2.5/ black	fine to medium sand		Massive				Common razor clam				

Table D2 Soil horizon and lithologic unit descriptions for Trench 2

Top Depth (ft)	Top Depth (m)	Bottom Depth (ft)	Bottom Depth (m)	Top Elev (ft)	Top Elev (m)	Bottom Elev (ft)	Bottom Elev (m)	Thickness (m)	Lithologic Unit	Lithology, Landform, Depositional Environment	Pedogenic Horizon	Color	Texture	Mottles, Inclusions, Staining	Structure	Consistence	Pores	Roots	Faunal	Voids	Effervescence	Comments	Lower Transition
0.00	0.00	2.13	0.65	8.80	2.68	6.66	2.03	0.65	**Fill A**	Fill	Fill	10YR 3/2 very dark grayish brown	Sandy Loam	Few fine angular and rounded gravels	Moderate medium granular	Slightly hard dry; friable moist; sticky; plastic		Common fine grass roots, few medium to fine shrub and small tree roots	Common rodent burrows				Clear wavy
2.13	0.65	2.95	0.90	6.66	2.03	5.84	1.78	0.25	**Fill B**	Fill	Fill	10 YR 3/1 very dark gray	Sandy Clay	Common coarse prominent mottles consisting of underlying material	Strong medium to fine subangular blocky	Hard dry; firm moist; sticky; plastic; very hard in situ	Common vesicular pores; few tubular pores	Common fine roots	Common rodent burrows			underlying layer clearly affected by grading; truncated and mixed in this layer	Very abrupt discontinuous
2.95	0.90	3.61	1.10	5.84	1.78	5.18	1.58	0.20	**VId**	Overbank, flood deposit	2Bk1	10YR 5/2 grayish brown	very fine silty sand	Common medium to coarse distinct whitish mottles (carbonate accumulations); disseminated carbonates and carbonate staining increase with depth; few faint iron oxide masses; few very fine distinct magnesium masses	Massive to weak medium angular blocky	Slightly hard dry; friable; slightly sticky; slightly plastic	Few fine to medium vesicular pores; few fine to coarse tubular pores	Few fine roots	Common rodent burrows		Violent lyeffervescent	Few fine to coarse charcoal fragments	Clear smooth
3.61	1.10	3.94	1.20	5.18	1.58	4.85	1.48	0.10	**VId**	Overbank, flood deposit	2Bk2	10 YR 4/3 brown	slightly sandy silt	Very faint iron oxide staining;	Moderate medium subangular blocky	Soft dry; friable moist; not sticky; not plastic; hard in situ	Common fine to medium vesicular pores; few fine tubular	Few fine roots	Common rodent burrows	Silt accumulated in tubular pores and on ped faces	Strongly effervescent	Common fine charcoal fragments	Clear to abrupt smooth
3.94	1.20	4.59	1.40	4.85	1.48	4.20	1.28	0.20	**V**	Alluvial, wetland, backswamp	3Ab1	10YR 2/1 black	Clay	Carbonates appear to increase with depth evidenced by whitening of horizon	Strong coarse granular; trans-horizon vertical cracks	Very hard dry; firm moist; very sticky; very plastic		Very few fine roots	Few fine thin shelled gastropods - fresh water or terrestrial	Trans-horizon vertical cracks partially filled with silts; silts on ped faces	Strongly effervescent	Few fine charcoal fragments	Gradual smooth
4.59	1.40	5.90	1.80	4.20	1.28	2.89	0.88	0.40	**V**	Alluvial, wetland, backswamp	3Bwg	10 GY 4/1 dark greenish gray	Clay	Common fine distinct carbonate masses; disseminated carbonates - stained white; few fine distinct iron oxide masses/staining on ped faces;	Strong coarse granular; trans-horizon vertical cracks	Very hard dry; firm moist; very sticky; very plastic	Common fine to medium vesicular pores	very few fine roots	Insect burrows; castings	Trans-horizon vertical cracks partially filled with silts; silts on ped faces	Strongly effervescent	Common fine to medium charcoal fragments	

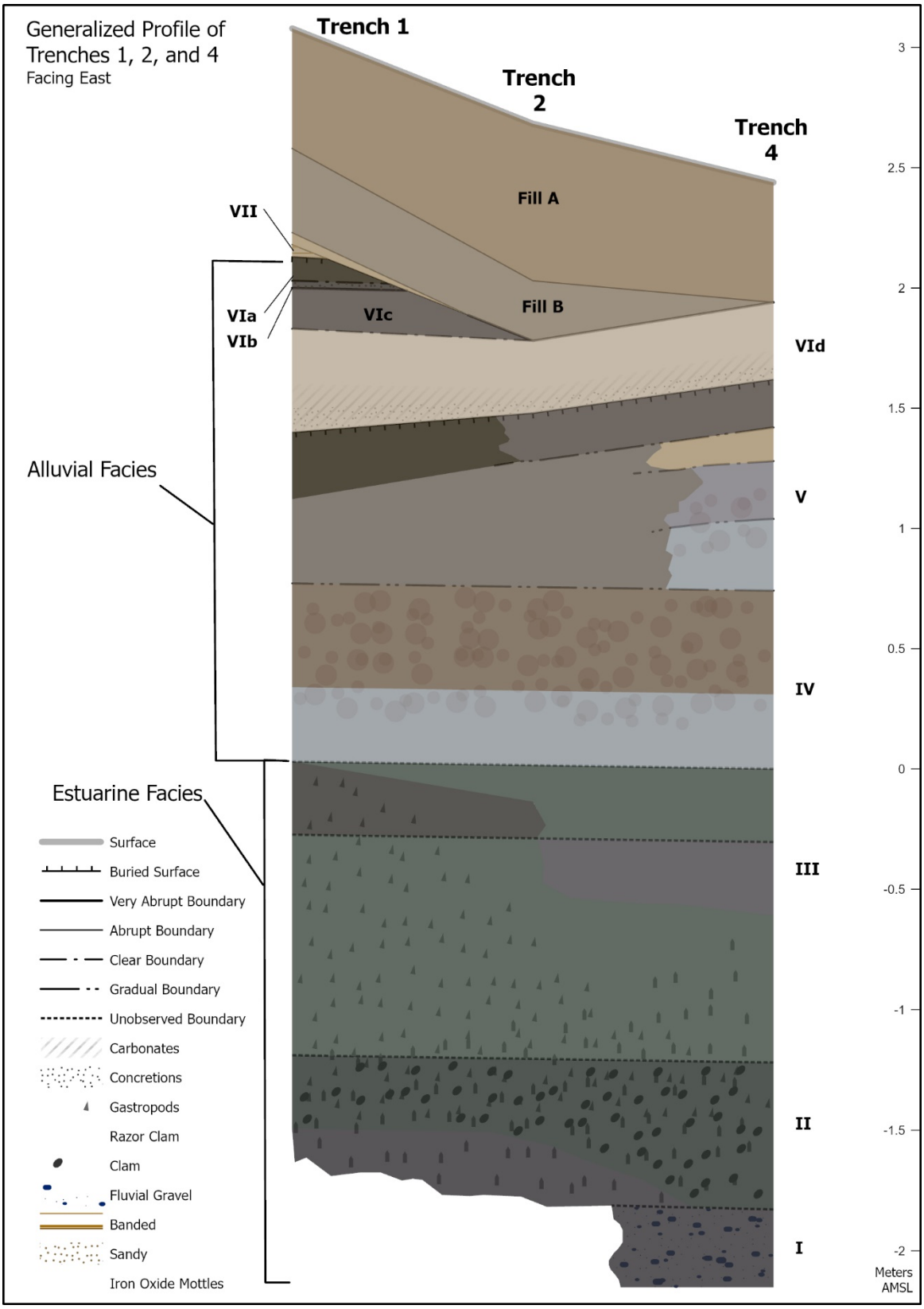
Table D3 Soil horizon and lithologic unit descriptions for Trench 3

Top Depth (ft)	Top Depth (m)	Bottom Depth (ft)	Bottom Depth (m)	Top Elev (ft)	Top Elev (m)	Bottom Elev (ft)	Bottom Elev (m)	Thickness (m)	Lithologic Unit	Lithology, Landform, Depositional Environment	Pedogenic Horizon	Color	Texture	Mottles, Inclusions, Staining	Structure	Consistence	Pores	Roots	Faunal	Voids	Effervescence	Comments	Lower Transition
0.00	0.00	1.64	0.50	8.00	2.44	6.36	1.94	0.50	**Fill A**	Fill	Fill	10YR 3/2 very dark grayish brown	Silty clay	Mottled with peds of 10YR 5/2 (grayish brown) silty fine sand (underlying material ripped up)	Strong medium to fine subangular blocky	Hard dry; firm moist; sticky; plastic; very hard in situ	Common vesicular pores; few tubular pores	Common fine roots	Common rodent burrows			underlying layer clearly affected by grading; truncated and mixed in this layer	Very abrupt discontinuous
1.64	0.50	2.30	0.70	6.36	1.94	5.71	1.74	0.20	**VId**	Overbank, flood deposit	2Bk1	10YR 5/2 grayish brown	Silty very fine sand, common mica		Massive	Slightly hard dry; friable; slightly sticky; slightly plastic	Few fine to medium vesicular pores; few fine to coarse tubular pores	Few fine roots	Common rodent burrows		Non effervescent	Few to common charcoal fragments	Gradual smooth
2.30	0.70	2.69	0.82	5.71	1.74	5.31	1.62	0.12	**VId**	Overbank, flood deposit	2Bk2	5Y 6/2 light olive gray	Silty very fine sand, common mica	Accumulation of carbonates whitening horizon	Massive	Soft dry; friable moist; not sticky; not plastic; hard in situ	Common fine to medium vesicular pores; few fine tubular	Few fine roots	Common rodent burrows		Weakly effervescent	Few to common charcoal fragments	Very abrupt smooth
2.69	0.82	3.35	1.02	5.31	1.62	4.66	1.42	0.20	**V**	Alluvial, wetland, backswamp	3Ab1	10YR 3/1 very dark gray	clay	Few fine carbonate masses; becomes whiter with depth	Moderate medium subangular blocky; trans-horizon vertical cracks	Very hard dry; firm moist; very sticky; very plastic; hard in situ	Common very fine vesicular pores; common fine to medium tubular pores	few fine roots	Few castings and insect burrows	Silt coats on tubular pores, ped faces,	Weakly effervescent		Gradual smooth
3.35	1.02	3.80	1.16	4.66	1.42	4.20	1.28	0.14	**V**	Alluvial, wetland, backswamp	3B1	10YR 6/3 pale brown	Silty clay, few mica	Few fine faint iron masses or stains	Weak to moderate medium subangular blocky	Hard dry; firm moist; sticky; plastic	Common very fine vesicular pores; common fine to medium tubular pores	few fine roots	Few castings and insect burrows; common thin shelled freshwater or terrestrial gastropod shell fragments; common rodent burrows		Strongly effervescent		Clear wavy
3.80	1.16	4.26	1.30	4.20	1.28	3.74	1.14	0.14	**V**	Alluvial, wetland, backswamp	3B2	2.5Y 5/1 gray	Silty clay		Moderate medium granular	Hard dry; firm moist; sticky; plastic; slightly fluid		Very few roots	Common insect burrows; common rodent burrows		Strongly effervescent	moist; partially gleyed	Clear wavy
4.26	1.30	4.59	1.40	3.74	1.14	3.41	1.04	0.10	**V**	Alluvial, wetland, backswamp	3B3	5Y 5/1 gray	Silty clay	Few coarse faint reddish brown iron masses	Strong medium granular	Hard dry; firm moist; sticky; plastic; moderately fluid		Very few roots	Common insect burrows; common rodent burrows		Strongly effervescent	very moist; partially gleyed	Gradual smooth
4.59	1.40	5.51	1.68	3.41	1.04	2.49	0.76	0.28	**V**	Alluvial, wetland, backswamp	3Bwg	5Y 6/1 gray	Clay	Many coarse faint to distinct (50%) reddish brown iron masses; few to common medium carbonate concretions	Strong medium granular	Very hard dry; firm moist; very sticky; very plastic; moderately fluid		Very few roots			Strongly effervescent	weakly glay; saturated	

Top Depth (ft)	Top Depth (m)	Bottom Depth (ft)	Bottom Depth (m)	Top Elev (ft)	Top Elev (m)	Bottom Elev (ft)	Bottom Elev (m)	Thickness (m)	Lithologic Unit	Lithology, Landform, Depositional Environment	Pedogenic Horizon	Color	Texture	Mottles, Inclusions, Staining	Structure	Consistence	Pores	Roots	Faunal	Voids	Effervescence	Comments	Lower Transition
5.51	1.68	8.00	2.44	2.49	0.76	0.00	0.00	0.76	**IV**	Overbank, flood deposit, wetland, backswamp	4Bc	10YR 4/2 dark grayish brown	Silt, very common mica	Common faint to distinct iron oxide staining' few distinct iron masses	Massive	Slightly hard dry'; friable moist; slightly sticky; nonplastic.	Few to no pores				Weakly effervescent		
8.00	2.44	9.00	2.74	0.00	0.00	-1.00	-0.30	0.30	**IV**	Overbank, flood deposit, wetland, backswamp	4Bg	10GY 3/1 dark greenish gray	Silt, very common mica	Common faint to distinct iron oxide staining' few distinct iron masses	Massive	Slightly hard dry'; friable moist; slightly sticky; nonplastic.	No pores				Non effervescent		
9.00	2.74	10.00	3.05	-1.00	-0.30	-2.00	-0.61	0.30	**III**	Marine estuary, Tidal Marsh Plain	5Cg1	5G 3/1 very dark greenish gray	Silty clay, common mica		Massive	Very hard dry; firm moist; sticky; plastic; slightly fluid	No pores	Common deteriorated roots				Wet	
10.00	3.05	12.00	3.66	-2.00	-0.61	-4.00	-1.22	0.61	**III**	Marine estuary, Tidal Marsh Plain	5Cg2	10 GY 3/1 very dark greenish gray	Silty clay, common mica		Massive	Very hard dry; firm moist; sticky; plastic; moderately fluid	No pores	Common deteriorated roots	Common fine shell fragments razor clam,		Very weakly effervescent	Wet	
12.00	3.66	14.00	4.27	-4.00	-1.22	-6.00	-1.83	0.61	**II**	Marine estuary, channel	5Cg3	10 GY 2.5/1 black	Variable texture; silty clay clasts embedded in sand clay matrix	Mottled with peds of silty clay	Massive	Very hard dry; firm moist; sticky; plastic; moderately fluid	No pores		Many razor clam and oyster		Very weakly effervescent	Moist	
14.00	4.27	16.00	4.88	-6.00	-1.83	-8.00	-2.44	0.61	**I**	Stream deposit	6C	N2.5/ black	Stony sandy Clay, common mica	Common fine to medium well rounded channers, pebbles of slate	Strong medium subangular blocky	Slightly hard dry; friable moist; non sticky; non plastic				Clay films on pebble faces	Very weakly effervescent		

ATTACHMENT E

TRENCH STRIP PROFILES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Trenches 1, 2, and 4
Facing East
Trench 1
Trench 2
Trench 4
Fill A
Fill B
VII
VIa
VIb
VIc
VId
V
IV
III
II
I
Alluvial Facies
Estuarine Facies
Surface
Buried Surface
Very Abrupt Boundary
Abrupt Boundary
Clear Boundary
Gradual Boundary
Unobserved Boundary
Carbonates
Concretions
Gastropods
Razor Clam
Clam
Fluvial Gravel
Banded
Sandy
Iron Oxide Mottles
3
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2
1.5
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0
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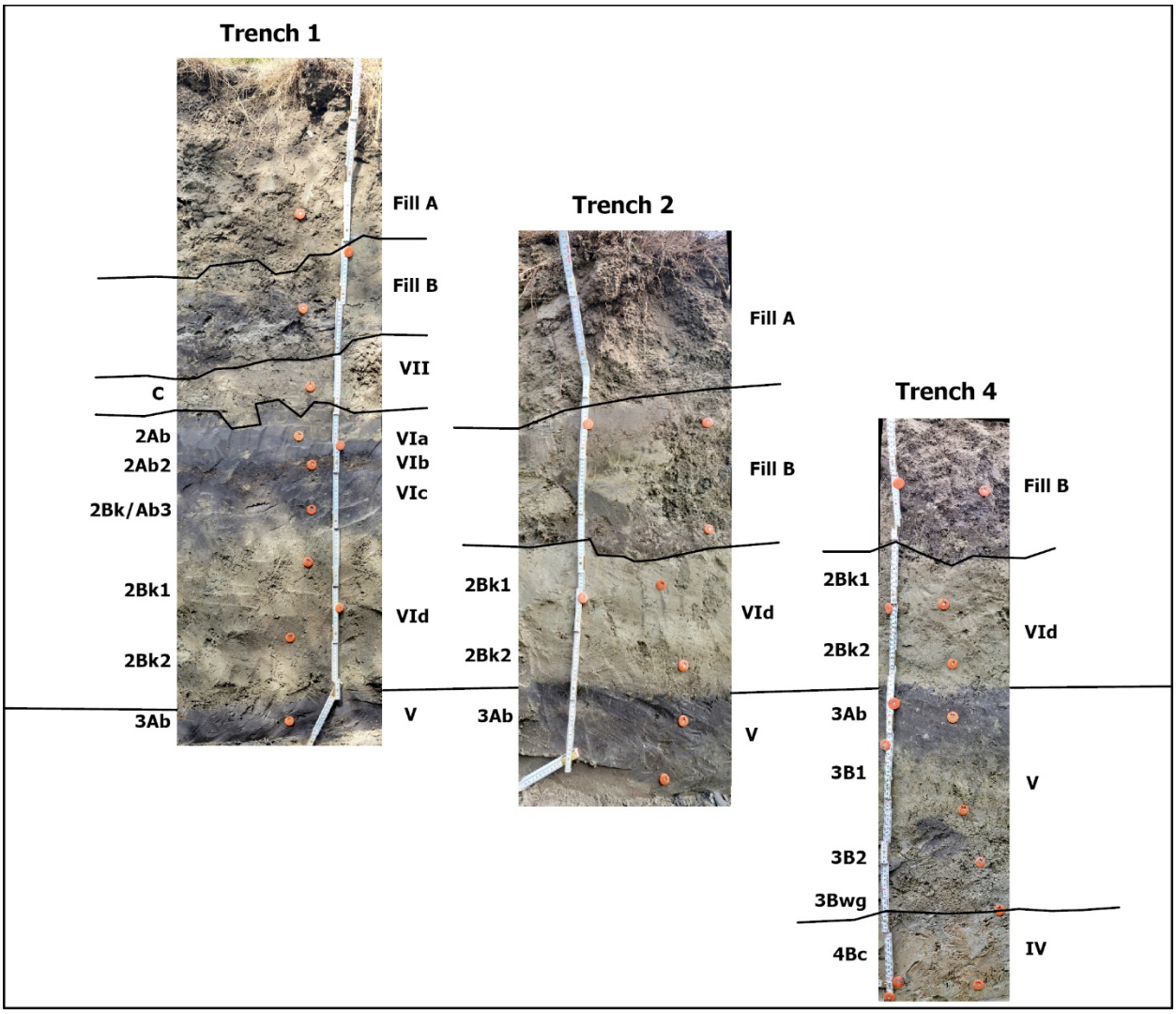
-1
-1.5
-2
Meters
AMSL


Trench 1
Fill A
Fill B
VII
C
2Ab
2Ab2
2Bk/Ab3
2Bk1
2Bk2
3Ab
VIa
VIb
VIc
VId
V
Trench 2
Fill A
Fill B
2Bk1
2Bk2
3Ab
VId
V
Trench 4
Fill B
2Bk1
2Bk2
3Ab
3B1
3B2
3Bwg
4Bc
VId
V
IV

ATTACHMENT 5

NATIVE AMERICAN CONSULTATION

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, Division of Environmental Planning
100 S. MAIN STREET, SUITE 100, MS 16A
LOS ANGELES, CA 90012
PHONE (213) 897-9016
FAX (213) 897-0685
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

June 21, 2018

Mr. Charles Alvarez
Gabrielino-Tongva Tribe
23454 Vanowen Street
West Hills, California 91307

Dear Mr. Alvarez:

The City of Los Angeles, in coordination with the California Department of Transportation (Caltrans), proposes to widen Lincoln Boulevard between Jefferson Boulevard and Fiji Way in the Playa Vista area, Los Angeles County, California (see attached location map). Please consider this letter and preliminary project information as the initiation of Section 106 consultation for the project pursuant to the National Historic Preservation Act and formal notification of a proposed project as required under the California Environmental Quality Act, specifically Public Resources Code (PRC) 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52). Please respond within 30 days, pursuant to PRC 21080.3.1(d) if you would like to consult on this project. Please provide a designated lead contact person if you have not provided that information to us already.

The proposed project proposes to improve circulation and safety along Lincoln Boulevard by constructing an additional southbound lane, installing sidewalks and bicycle lanes, and making other related improvements along an approximate 0.61-mile segment of Lincoln Boulevard between Jefferson Boulevard (PM 30.15) and just south of Fiji Way (PM 30.74). The project occurs in the City of Los Angeles and is bordered immediately to the north and northwest by unincorporated Los Angeles County.

The project's Build Alternative includes: realignment of Lincoln Boulevard to the east; addition of one southbound lane along Lincoln Boulevard for a length of approximately 1,800 feet; demolition, replacement, and widening of the Lincoln Boulevard Bridge over Ballona Creek; demolition, replacement, and widening of the Culver Boulevard overcrossing; demolition, replacement, and realignment of the on- and off-ramps between Lincoln Boulevard and Culver Boulevard; construction of sidewalks and bicycle lanes on both sides of Lincoln Boulevard; and installation of landscaping, street lighting, and signage. The project would also install a center median with space to accommodate a future center-running transit facility within the project limits.

The replacement Lincoln Boulevard Bridge over Ballona Creek would include three 12-foot travel lanes in each direction, a 12-foot center median, and 2-foot lane buffers, 8-foot shoulders

including 6-foot bicycle lanes, 6-foot sidewalks, and 1-foot edge barriers on both sides of the roadway.

The replacement Culver Boulevard Bridge would include one 12-foot travel lane in each direction as well as 5-foot shoulders, 6-foot sidewalks, and 1-foot bridge barriers on both sides of the roadway.

On February 23, 2018, Psomas' consulting archaeologist, Charles Cisneros submitted a request to the Native American Heritage Commission (NAHC) to conduct a search of the Sacred Lands File (SLF) database. The results received from the NAHC on February 26, 2018, indicated that the SLF database search was completed with negative results. However, a records search conducted at the South-Central Coastal Information Center (SCCIC) on January 9, 2018 did indicate that several Native American sites have been recorded near the project. These sites include habitation areas, lithic scatters, and burial grounds.

Caltrans would appreciate any input you may provide regarding the presence of sensitive Native American cultural resources within the project locations and/or vicinity. Early identification of heritage sites or other concerns will ensure their consideration and protection to the maximum extent feasible.

Psomas has been tasked by Caltrans to coordinate Native American consultation efforts for the Lincoln Bridge Project. If you know of any cultural resources that could be impacted by the proposed project, or if you would like additional information, please do not hesitate to contact archaeologist Charles Cisneros at charles.cisneros@psomas.com or by phone at (626) 204-6520. If you wish, you may also contact me by email at mariam.dahdul@dot.ca.gov or by phone at (213) 897-5473.

Thank you in advance for your time and involvement in our consultation efforts.

Sincerely,

Mariam Dahdul

MARIAM DAHDUL
Associate Environmental Planner (Archaeology)
District Native American Coordinator

Enclosure
Figures 1 and 2

DEPARTMENT OF TRANSPORTATION
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Making Conservation a California Way of Life.

June 21, 2018

Mr. Jairo Avila, Tribal Historic and Cultural Preservation Officer
Fernandeno Tataviam Band of Mission Indians
1019 Second St., Suite 1
San Fernando, California 91340

Dear Mr. Avila:

The City of Los Angeles, in coordination with the California Department of Transportation (Caltrans), proposes to widen Lincoln Boulevard between Jefferson Boulevard and Fiji Way in the Playa Vista area, Los Angeles County, California (see attached location map). Please consider this letter and preliminary project information as the initiation of Section 106 consultation for the project pursuant to the National Historic Preservation Act and formal notification of a proposed project as required under the California Environmental Quality Act, specifically Public Resources Code (PRC) 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52). Please respond within 30 days, pursuant to PRC 21080.3.1(d) if you would like to consult on this project. Please provide a designated lead contact person if you have not provided that information to us already.

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including 6-foot bicycle lanes, 6-foot sidewalks, and 1-foot edge barriers on both sides of the roadway.

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Making Conservation a California Way of Life.

June 21, 2018

Mr. Robert Dorame, Chairperson
Gabrielino Tongva Indians of California Tribal Council
P.O. Box 490
Bellflower, California 90707

Dear Mr. Dorame:

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Sincerely,

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District Native American Coordinator

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Making Conservation a California Way of Life.

June 21, 2018

Sandonne Goad, Chairperson
Gabrielino/ Tongva Nation
106 1/2 Judge John Aiso Street #231
Los Angeles, California 90012

Dear Sandonne Goad:

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Sincerely,

Mariam Dahdul

MARIAM DAHDUL
Associate Environmental Planner (Archaeology)
District Native American Coordinator

Enclosure
Figures 1 and 2

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, Division of Environmental Planning
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www.dot.ca.gov

Making Conservation a California Way of Life.

June 21, 2018

Mr. Anthony Morales, Chairperson
Gabrieleno/Tongva San Gabriel Band of Mission Indians
P.O. Box 693
San Gabriel, California 91778

Dear Mr. Morales:

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Making Conservation a California Way of Life.

June 21, 2018

Mr. Rudy Ortega, Tribal President
Fernandeno Tataviam Band of Mission Indians
1019 2nd Street, Suite 1
San Fernando, California 91340

Dear Mr. Ortega, Jr.:

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Making Conservation a California Way of Life.

June 21, 2018

Mr. Andrew Salas, Chairperson
Gabrieleno Band of Mission Indians - Kizh Nation
P.O. Box 393
Covina, California 91723

Dear Mr. Salas:

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Making Conservation a California Way of Life.

June 21, 2018

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Fernandeno Tataviam Band of Mission Indians
1019 2nd Street, Suite 1
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Making Conservation a California Way of Life.

June 21, 2018

Ms. Beverly Salazar Folkes, Elders Council
Fernandeno Tataviam Band of Mission Indians
1931 Shadybrook Drive
Thousand Oaks, California 91362

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Making Conservation a California Way of Life.

June 21, 2018

Mr. John Valenzuela, Chairperson
San Fernando Band of Mission Indians
P.O. Box 221838
Newhall, California 91322

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District Native American Coordinator

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NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710

February 26, 2018

Charles Cisneros
Psomas

Sent by E-mail: Charles.cisneros@psomas.com

RE: Proposed Lincoln Bridge Multi-Modal Improvement Project, Community of Marina Del Rey; Venice USGS Quadrangle, Los Angeles County, California

Dear Mr. Cisneros:

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed for the area of potential project effect (APE) referenced above with negative results however the area is sensitive for cultural resources. Please note that the absence of specific site information in the *Sacred Lands File* does not indicate the absence of Native American cultural resources in any APE.

Attached is a list of tribes culturally affiliated to the project area. I suggest you contact all of the listed Tribes. If they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult. If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact via email: gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst
(916) 373-3714

Native American Heritage Commission
Native American Contact List
Los Angeles County
2/26/2018

Fernandeno Tataviam Band of Mission Indians
Alan Salazar, Chairman Elders Council
1019 Second St., Suite 1 — Tataviam
San Fernando, CA, 91340
Phone: (805) 423 - 0091

Fernandeno Tataviam Band of Mission Indians
Jairo Avila, Tribal Historic and Cultural Preservation Officer
1019 Second Street, Suite 1 — Tataviam
San Fernando, CA, 91340
Phone: (818) 837 - 0794
Fax: (818) 837-0796
jairo.avila@tataviam-nsn.us

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Rudy Ortega, Tribal President
1019 Second Street, Suite 1 — Tataviam
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Fernandeno Tataviam Band of Mission Indians
Beverly Salazar Folkes, Elders Council
1931 Shady Brooks Drive — Tataviam
Thousand Oaks, CA, 91362
Phone: (805) 558 - 1154
folkes9@msn.com

Gabrieleno Band of Mission Indians - Kizh Nation
Andrew Salas, Chairperson
P.O. Box 393 — Gabrieleno
Covina, CA, 91723
Phone: (626) 926 - 4131
admin@gabrielenoindians.org

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693 — Gabrieleno
San Gabriel, CA, 91778
Phone: (626) 483 - 3564
Fax: (626) 286-1262
GTTribalcouncil@aol.com

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., #231 — Gabrielino
Los Angeles, CA, 90012
Phone: (951) 807 - 0479
sgoad@gabrielino-tongva.com

Gabrielino Tongva Indians of California Tribal Council
Robert Dorame, Chairperson
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Gabrielino-Tongva Tribe
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This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Lincoln Bridge Multi-Modal Improvement Project, Los Angeles County.

Table 1: Tribal Representative Contact Log EA#07-33880 (SR 1 Multi-Modal Improvement Project)

Tribal Organization	Ethnographic Affiliation	Contact	Correspondence	Date	Response
Fernandeno Tataviam Band of Mission Indians	Tataviam	Alan Salazar	Letter	June 21, 2019	On June 21, 2019, a certified letter was sent to the tribal representative. On July 2, 2019, a follow-up email was sent asking if the tribal representative received the letter. A teleconference between Mr. Salazar and Psomas occurred on July 9, 2019. Mr. Salazar would like to defer consultation for this project to members of the Gabrielino Indian Tribes.
			Email	July 2, 2019	
			Phone	July 9, 2019	
			Email	February 14, 2023	On February 14, 2023, a secure email was sent to the tribal representative. The email included a summary letter of the results from both the Archaeological Survey Report (ASR) and the Extended Phase I (XPI) study. Both the ASR and the XPI were also included as attachments. No comments were received from the tribal representative.
Fernandeno Tataviam Band of Mission Indians	Tataviam	Jairo Avila	Letter	June 21, 2019	On June 21, 2019, a certified letter was sent to the tribal representative. On July 2, 2019, a follow-up email was sent asking if the tribal representative received the letter. Mr. Avila responded to the July 2, 2019 email on July 2, 2019 with the following comment: On behalf of the Tribal Historic and Cultural Preservation Department of the Fernandeño Tataviam Band of Mission Indians (FTBMI), thank you for the formal notification letter and opportunity to consult on the proposed project referenced above. This project is situated outside the FTBMI's ancestral Tribal boundaries. The FTBMI would like to defer consultation for this project to members of the Gabrielino Indian Tribe.
			Email	July 2, 2019	
			Email	February 14, 2023	On February 14, 2023, a secure email was sent to the tribal representative. The email included a summary

Tribal Organization	Ethnographic Affiliation	Contact	Correspondence	Date	Response
					letter of the results from both the Archaeological Survey Report (ASR) and the Extended Phase I (XPI) study. Both the ASR and the XPI were also included as attachments. Sarah Brunzell (Jairo's replacement) responded with no comments on February 21, 2023.
Fernandeno Tataviam Band of Mission Indians	Tataviam	Rudy Ortega	Letter	June 21, 2019	On June 21, 2019, a certified letter was sent to the tribal representative. On July 2, 2019, a follow-up email was sent asking if the tribal representative received the letter. On July 9, 2019, Psomas left a message with Mr. Ortega's administrative assistant. Mr. Ortega was unable to come to the phone; however, his assistant did notify Mr. Ortega about the project and left a message for him to contact Psomas if he had any questions, comments, or suggestions.
			Email	July 2, 2019	
			Phone	July 9, 2019	
			Email	February 14, 2023	On February 14, 2023, a secure email was sent to the tribal representative. The email included a summary letter of the results from both the Archaeological Survey Report (ASR) and the Extended Phase I (XPI) study. Both the ASR and the XPI were also included as attachments. No comments were received from the tribal representative
Fernandeno Tataviam Band of Mission Indians	Tataviam	Beverly Salazar Folkes	Letter	June 21, 2019	On June 21, 2019, a certified letter was sent to the tribal representative. On July 2, 2019, a follow-up email was sent asking if the tribal representative received the letter. A teleconference between Mrs. Beverly Salazar Folkes and Psomas occurred on July 9, 2019. Mrs. Folkes identified the APE as extremely sensitive for prehistoric cultural resources and that a
			Email	July 2, 2019	
			Phone	July 9, 2019	

Tribal Organization	Ethnographic Affiliation	Contact	Correspondence	Date	Response
			Email	August 8, 2019	Native American Monitor should be present during excavations. She also mentioned that she has monitors available to provide support if needed. Mrs. Folks also suggested implementing a rotating schedule of monitors from different tribal organizations. She is available to discuss the project in more detail with Caltrans as needed. She would also like to be included in any future discussions related to the project (e.g., revisions to APE and/or discovery of cultural resources).
			Email	February 14, 2023	On February 14, 2023, a secure email was sent to the tribal representative. The email included a summary letter of the results from both the Archaeological Survey Report (ASR) and the Extended Phase I (XPI) study. Both the ASR and the XPI were also included as attachments. No comments were received from the tribal representative

Tribal Organization	Ethnographic Affiliation	Contact	Correspondence	Date	Response
Gabrieleno Band of Mission Indians – Kizh Nation	Gabrieleno	Andrew Salas	Letter	June 21, 2019	On June 21, 2019, a certified letter was sent to the tribal representative. On July 2, 2019, a follow-up email was sent asking if the tribal representative received the letter. A teleconference call between Mr. Salas and Psomas occurred on July 9, 2019. Mr. Salas followed-up with Psomas to discuss comments/suggestions after he had an opportunity to review the project details. Mr. Salas also consulted with Caltrans. Caltrans was contacted by the Tribe via email on June 26, 2019 and inquiring whether the Department would like to set up an appointment to consult on the project. Caltrans emailed the Tribe on the same day asking to set up a meeting to consult on the project. No response was received. On July 9, 2019, Caltrans met in person with the Tribe at their office to consult on the project. The consultation was conducted as part of the Department's monthly coordination meeting with the Tribe. During the meeting, the following was discussed: Mr. Salas and Mr. Teutimez identified the project location and vicinity as highly sensitive for Tribal cultural resources. The project lies within the Ballona Creek area where Native American burials and numerous archaeological sites have been recorded and studied. They shared a map showing locations of archaeological sites within and in the vicinity of the project location and referenced one of the more comprehensive archaeological studies that covers this region (*People in a Changing Land: The Archaeology*
			Email	July 2, 2019	
			Phone	July 9, 2019	
			In person meeting	July 9, 2019	

Tribal Organization	Ethnographic Affiliation	Contact	Correspondence	Date	Response
					and History of the Ballona in Los Angeles, California. Statistical Research, Inc., Technical Series 94). Ms. Dahdul let Mr. Salas and Mr. Teutimez know that the Department has a copy of this report, which will help inform the current cultural studies. Ms. Dahdul also stated that the Department is seeking any additional information from the Tribe that may not already be known so that it may be incorporated into the studies. Mr. Salas and Mr. Teutimez stated that they will be providing more information as the Department, in coordination with Psomas (archaeological consulting firm), continues consultation with the Tribe. Mr. Salas also expressed interest in, and concerns with, the kinds of cultural investigations that will be conducted for the project and the inclusion of the Tribe and other interested parties in these investigations. Ms. Dahdul informed Mr. Salas that the Department will conduct an Extended Phase I (XPI) investigation in its efforts to identify subsurface cultural deposits; additional archaeological studies should buried deposits be encountered; and monitoring during project construction. Ms. Dahdul further stated that these various phases of ground disturbing activities will require the participation of Native American monitors. Mr. Salas requested that the Tribe be involved in monitoring efforts. Ms. Dahdul explained that the Tribe will certainly have the opportunity to monitor these efforts, but that a rotation system may need to be implemented if other Tribal communities have similar concerns with the project and request to

Tribal Organization	Ethnographic Affiliation	Contact	Correspondence	Date	Response
					monitor. Mr. Salas and Mr. Teutimez understood the need to rotate Tribal monitoring efforts to include interested communities; however, the Tribe is concerned that once the project is under construction or that a rotation system has been agreed to, that any community expressing an interest in monitoring will be able to request participation in the monitoring efforts. Ms. Dahdul explained that it will all depend on how the Department can accommodate such requests, but that it is highly unlikely that we would disrupt a previously agreed-to rotation system. With that said, the Department has a responsibility to consult with any, and all, interested communities throughout the life of the project upon request. Mr. Salas understood and asked whether, during such a rotation system, his Tribe could monitor without compensation during the times that other Tribal communities are scheduled to monitor. Ms. Dahdul stated that this may be acceptable, and that the Department would develop guidelines for monitoring to ensure that these efforts are undertaken in accordance with Caltrans policy while respecting Tribal wishes. Curation was also discussed; specifically, the Tribe expressed the need to have an agreement in place to ensure the proper treatment and curation of any artifacts uncovered. Ms. Dahdul assured Mr. Salas and Mr. Teutimez that the Department is committed to having a plan in place that details all process and procedures for archaeological investigations, archaeological and Native American monitoring, discovery of human remains, and curation of any artifacts collected. Ms. Dahdul specifically stated that it is the Department's

Tribal Organization	Ethnographic Affiliation	Contact	Correspondence	Date	Response
					general policy to curate all collections from archaeological sites excavated as part of our projects.
			Email	December 15, 2022	Caltrans followed up with Andy Salas in an email dated December 15, 2021, in response to the XPI proposal sent to all tribal representatives on the contact list on November 9, 2021. The December email from Caltrans shared the following information with Mr. Salas. The XPI fieldwork was tentatively scheduled for February 2022 and to confirm his participation. Mr. Salas responded on December 22, 2021, with comments to the XPI proposal but did not ask to monitor the fieldwork. Caltrans addressed Mr. Salas' comments and emailed the revised XPI proposal on January 3, 2022. Caltrans also informed Mr. Salas of the intent to move forward with the upcoming fieldwork while keeping the tribe appraised of any findings.

Tribal Organization	Ethnographic Affiliation	Contact	Correspondence	Date	Response
			Email	February 14, 2023	On February 14, 2023, a secure email was sent to the tribal representative. The email included a summary letter of the results from both the Archaeological Survey Report (ASR) and the Extended Phase I (XPI) study. Both the ASR and the XPI were also included as attachments. No comments were received from the tribal representative.
Gabrieleno/Tongva San Gabriel Band of Mission Indians	Gabrieleno	Anthony Morales	Letter	June 21, 2019	On June 21, 2019, a certified letter was sent to the tribal representative. On July 2, 2019, a follow-up email was sent to the tribal representative asking if the tribal representative received the letter. A teleconference call between Mr. Morales and Psomas occurred on July 9, 2019. Mr. Morales identified the APE as extremely sensitive for prehistoric archaeology, including human remains. He also believes the area has significant spiritual value to the Gabrieleno. Mr. Morales is requesting an archaeologist and Tribal Representative be onsite during ground disturbance.
			Email	July 2, 2019	
			Phone	July 9, 2019	
			Email	August 8, 2019	
			Email	February 14, 2023	On February 14, 2023, a secure email was sent to the tribal representative. The email included a summary letter of the results from both the Archaeological Survey Report (ASR) and the Extended Phase I (XPI) study. Both the ASR and the XPI were also included as attachments. No comments were received from the tribal representative.

Tribal Organization	Ethnographic Affiliation	Contact	Correspondence	Date	Response
Gabrielino Tongva Indians of California Tribal Council	Gabrielino	Robert Dorame	Letter	June 21, 2019	On July 3, 2019, Robert Dorame, on behalf of the Gabrielino Tongva Indians of California Tribal Council via teleconference identified the Project APE as within a highly sensitive area for prehistoric cultural resources, and requested a tribal representative be onsite during all excavations. Mr. Dorame also mentioned that his organization had prepared and submitted a treatment for this area to Caltrans several years ago and suggested the plan be reexamined and updated for this project. Mr. Dorame is referring to information he provided during a consultation meeting with Caltrans on October 17, 2018, for a project situated at the intersection of State Route 90 (SR-90) and Culver Boulevard (approximately 1,500 feet north-northeast of this project's APE). This information is detailed in the attached Archaeological Survey Report (Attachment 6 of this HPSR).
			Email	July 2, 2019	
			Phone	July 3, 2019	
			Email	August 8, 2019	
			Email	December 15, 2021	Caltrans followed up with Robert Dorame in an email dated December 15, 2021, in response to the XPI proposal sent to all tribal representatives on the contact list on November 9, 2021. The December email from Caltrans shared the following information with Mr. Dorame. The XPI fieldwork was tentatively scheduled for February 2022 and to confirm his participation. Mr. Dorame replied on the same day confirming his availability to monitor.

Tribal Organization	Ethnographic Affiliation	Contact	Correspondence	Date	Response
				October 2022	The XPI fieldwork was conducted between October 5 and October 24, 2022, and Mr. Robert Dorame participated in the entirety of the work. Mr. Dorame believes both an archaeologist and Native American of Gabrielino/Tongva descent should monitor construction occurring in native sediments/soils despite no cultural resource deposits being identified as a result of the XPI study.
			Email	February 14, 2023	On February 14, 2023, a secure email was sent to the tribal representative. The email included a summary letter of the results from both the Archaeological Survey Report (ASR) and the Extended Phase I (XPI) study. Both the ASR and the XPI were also included as attachments. No comments were received from the tribal representative.
Gabrielino/Tongva Nation	Gabrielino	Sandonne Goad	Letter	June 21, 2019	On June 21, 2019, a certified letter was sent to the tribal representative. On July 2, 2019, a follow-up email was sent to the tribal representative asking if the tribal representative received the letter. On July 9, 2019, Psomas left a voicemail for Sandonne Goad. To date, Psomas has notified Ms. Goad by certified mail, a follow-up email, and left a voicemail.
			Email	July 2, 2019	
				July 9, 2019	

Tribal Organization	Ethnographic Affiliation	Contact	Correspondence	Date	Response
			Email	February 14, 2023	On February 14, 2023, a secure email was sent to the tribal representative. The email included a summary letter of the results from both the Archaeological Survey Report (ASR) and the Extended Phase I (XPI) study. Both the ASR and the XPI were also included as attachments. No comments were received from the tribal representative.
Gabrielino-Tongva Tribe	Gabrielino	Charles Alvarez	Letter	June 21, 2019	On June 21, 2019, a certified letter was sent to the tribal representative. On July 2, 2019, a follow-up email was sent to the tribal representative asking if the tribal representative received the letter. On July 9, 2019, Psomas left a voicemail for Charles Alvarez. To date, Psomas has notified Mr. Alvarez by certified mail, a follow-up email, and left a voicemail.
			Email	July 2, 2019	
				July 9, 2019	
			Email	February 14, 2023	On February 14, 2023, a secure email was sent to the tribal representative. The email included a summary letter of the results from both the Archaeological Survey Report (ASR) and the Extended Phase I (XPI) study. Both the ASR and the XPI were also included as attachments. No comments were received from the tribal representative.

Tribal Organization	Ethnographic Affiliation	Contact	Correspondence	Date	Response
San Fernando Band of Mission Indians	Kitanemuk; Serrano; Tataviam	John Valenzuela	Letter	June 21, 2019	On June 21, 2019, a certified letter was sent to the tribal representative. On July 2, 2019, a follow-up email was sent to the tribal representative asking if the tribal representative received the letter. On July 9, 2019, Psomas attempted to leave a voicemail for John Valenzuela; however, the mailbox is full and will not accept any more messages. To date, Psomas has attempted to notify Mr. Valenzuela by certified mail, a follow-up email, and phone.
			Email	July 2, 2019	
				July 9, 2019	
			Email	February 14, 2023	On February 14, 2023, a secure email was sent to the tribal representative. The email included a summary letter of the results from both the Archaeological Survey Report (ASR) and the Extended Phase I (XPI) study. Both the ASR and the XPI were also included as attachments. No comments were received from the tribal representative.

ATTACHMENT 6

POST-REVIEW DISCOVERY PLAN (PRDP)

EXTENDED PHASE I REPORT FOR THE STATE ROUTE 1 (LINCOLN BOULEVARD) MULTIMODAL IMPROVEMENT PROJECT, CITY OF LOS ANGELES, LOS ANGELES COUNTY, CALIFORNIA

POSTMILES 30.16 TO 30.74
EA# 07-33880

EFIS No. 0717000061

Approved by:

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Prepared by:

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Psomas
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February 2023

NADB Data: Lincoln Bridge, XPI Work Plan, U.S. Geological Survey (USGS) 7.5' *Venice* Topographic Quadrangle of the San Bernardino Baseline and Meridian

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this Project are being, or have been, carried out by Caltrans pursuant to 23 U.S.C. 327 and the Memorandum of Understanding dated December 23, 2016, and executed by FHWA and Caltrans.

POST-REVIEW DISCOVERY AND MONITORING PLAN

STATE ROUTE 1 (LINCOLN BOULEVARD) MULTIMODAL IMPROVEMENT PROJECT
CITY OF LOS ANGELES
LOS ANGELES COUNTY, CALIFORNIA

POSTMILES 30.16 TO 30.74
EA# 07-33880
EFIS# 0717000061

Prepared by:

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Los Angeles, California

Approved by:

_____

Claudia Harbert
Environmental Branch Chief, Cultural Resources Unit
Division of Environmental Planning
California Department of Transportation, District 7
Los Angeles, California

March 2023

NADB Data: Lincoln Bridge, Discovery Plan, U.S. Geological Survey (USGS) 7.5' *Venice* Topographic Quadrangle of the San Bernardino Baseline and Meridian

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S.C. 327 and the Memorandum of Understanding dated December 23, 2016, and executed by FHWA and Caltrans.

CONFIDENTIALITY

Archaeological and other heritage resources can be damaged or destroyed through uncontrolled public disclosure of information regarding their location. This document contains sensitive information regarding the nature and location of archaeological sites that should not be disclosed to unauthorized persons.

Information regarding the location, character or ownership of a historic resource is exempt from the Freedom of Information Act pursuant to 16 United States Code (U.S.C.) 470w-3 (National Historic Preservation Act), 16 U.S.C. § 470hh (Archaeological Resources Protection Act), and California State Government Code, Section 6254.10.

If any information in this document is to be released for public review, all locational information associated with archaeological resources must be redacted before distribution.

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APPENDICES

Appendix

1.0 INTRODUCTION

The City of Los Angeles is proposing to improve circulation and safety along Lincoln Boulevard by constructing an additional southbound lane, installing sidewalks and protected bicycle lanes, and implementing complete streets and other related improvements along an approximate 0.61-mile-long segment of Lincoln Boulevard between Jefferson Boulevard (Post Mile [PM] 30.16) and just south of Fiji Way (PM 30.74). The State Route 1 (Lincoln Boulevard) Multimodal Improvement Project (Project) primarily occurs within the City and County of Los Angeles and within the unincorporated seaside community of Marina del Rey, with potential temporary construction easements and partial right-of-way acquisitions needed in adjacent parcels in unincorporated Los Angeles County (see Project Area of Potential Effects [APE] map in Attachment 1 of the Historic Property Survey Report [HPSR]). The Project APE intersects the Ballona Creek Channel and is located within the Ballona Wetlands Ecological Reserve.

The proposed Project is an undertaking as defined in 36 Code of Federal Regulations (CFR) § 800.16(y) (200). The California Department of Transportation (Caltrans), acting as the federal lead agency as assigned by the Federal Highway Administration (FHWA), is providing Project oversight. The studies for the undertaking were carried out in a manner consistent with Caltrans' regulatory responsibilities under National Environmental Policy Act (NEPA) of 1969 and Section 106 of the National Historic Preservation Act (NHPA [36 CFR Part 800]) and pursuant to the January 1, 2014, *First Amended Section 106 Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation* (Section 106 PA).

As part of the environmental studies for the Project, a cultural resources investigation was conducted of the proposed Project area. Identification efforts included a review of existing literature, historic maps, a records search at the South Central Coastal Information Center (SCCIC), Native American consultation and search of the Native American Heritage Commission's (NAHC) Sacred Lands File, and an archaeological survey of the APE. The results of these identification efforts are presented in detail in the Archaeological Survey Report (ASR) that is Attachment 3 of the HPSR.

Record search results showed that 32 cultural resources have been recorded within a one-mile radius of the APE. The Project APE intersects the Ballona Creek Channel and is located within the Ballona Wetlands Ecological Reserve. One archaeological resource, CA-LAN-1698, had been previously recorded in the APE. Initially identified in 1989 as a precontact shell scatter, later revisit by Statistical Research Incorporated (SRI) in 1990 found that the shell scatter was the result of redeposited fill and not cultural in origin. A second precontract archaeological resource, CA-LAN-2676, was identified slightly outside of the Project APE near the intersection of Lincoln Boulevard and West Jefferson Boulevard. The resource was originally described as a precontact habitation site with human burials. However, during a data recovery investigation conducted by SRI, it was determined that the site consisted of redeposited cultural material rather than intact archaeological deposits (Grenda et al. 2016:7).

The pedestrian survey conducted by Psomas found no evidence of surficial archaeological materials within the APE. However, record search results indicate that the Project's APE is sensitive for precontact buried archaeological deposits. Furthermore, outreach with the local Native American community has identified the Project APE as being highly sensitive for archaeological resources important to the Native American community (Attachment 5 of the HPSR).

Based on these findings, an Extended Phase I (XPI) study was conducted to provide presence/absence information on subsurface archaeological deposits in the APE (Attachment 4 of the HPSR). No evidence of subsurface archaeological resources were identified in the XPI study.

Moreover, surficial deposits within the APE appear to be heavily disturbed with imported fill in some areas exceeding two meters in depth. Finally, a geoarchaeological analysis determined that during the precontact period, the APE was characterized by alluvial floodplain and estuarine environments, neither of which was well-suited for long-term habitation sites. Although the Project APE was not suitable for long-term habitation, it is possible that the area was used during the precontact period for resource gathering or processing purposes. The XPI study and analysis of project construction features concluded that undisturbed portions of the APE have a low sensitivity for containing precontract resources associated with resource gathering and processing.

However, out of an abundance of caution and in deference to Native American concerns, the City of Los Angeles, in coordination with Caltrans, will implement an archaeological and Native American monitoring program. This PRDM Plan specifies the procedures to be followed during construction activities in case of unanticipated discoveries.

This PRDM Plan was prepared by Charles W. Cisneros according to the guidelines presented in Caltrans *Standard Environmental Reference, Volume 2: Cultural Resources* (2019). Mr. Cisneros has an M.S. degree in Archaeology with an emphasis in precontact archaeology and nearly two decades of professional experience. He is a Registered Professional Archaeologist (RPA) qualified under the Secretary of the Interior's Professional Qualifications Standards (1983) and is the PQS equivalent of Principal Investigator – Prehistoric Archaeology. Please refer to Appendix A for Charles Cisneros's qualifications.

It is Caltrans' policy to avoid cultural resources whenever possible. Further investigations may be needed if site[s] cannot be avoided by the Project. If buried cultural materials are encountered during construction, it is Caltrans' policy that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find. Additional studies will be required if the Project changes to include areas not previously covered.

2.0 PROJECT DESCRIPTION

2.1 PROJECT DESCRIPTION

City of Los Angeles, in cooperation with Caltrans, proposes to improve circulation and safety along Lincoln Boulevard by constructing an additional southbound lane, installing sidewalks and protected bicycle lanes, and implementing complete streets and other related improvements along an approximate 0.61-mile segment of Lincoln Boulevard between Jefferson Boulevard (PM 30.16) and just south of Fiji Way (PM 30.74). The Project primarily occurs in the City of Los Angeles, with potential temporary construction easements and partial right-of-way acquisitions needed in the north and northwest within parcels that are within unincorporated Los Angeles County.

The Project purpose is to achieve a consistent roadway design, while also enhancing safety and mobility for pedestrians, bicyclists, automobiles, and transit vehicles on Lincoln Boulevard in the vicinity of Ballona Creek. The Project purpose is also to increase southbound roadway capacity along Lincoln Boulevard within the Project limits at a location where Lincoln Boulevard bottlenecks from three lanes to two lanes in the southbound direction.

The Project's build alternative includes: realignment of the Lincoln Boulevard centerline approximately 50 feet to the east; addition of one southbound lane along Lincoln Boulevard for a length of approximately 1,800 feet; demolition, replacement, and widening of the Lincoln Boulevard Bridge over Ballona Creek; demolition, replacement, and widening of the Culver Boulevard Bridge over Lincoln Boulevard; demolition, replacement, and realignment of the connector ramps between Lincoln Boulevard and Culver Boulevard; construction of active transportation improvements including sidewalks, Class IV protected bicycle lanes on both sides of Lincoln Boulevard, ADA-compliant curb ramps, and signal upgrades at intersections within the Project limits. The Project would also include: utility relocation; landscaping; low-intensity street lighting, striping, signage, drainage, and water quality improvements. The Project would install a striped center median that would allow space to accommodate a future center-running transit facility within the Project limits, which is not included as part of the Project. Construction of the Project build alternative would result in three through lanes in the northbound and southbound directions of Lincoln Boulevard between Fiji Way and Jefferson Boulevard, with additional turning lanes at intersections. Project right-of-way needs are still being refined for the build alternative, but it is likely that partial right-of-way acquisition and/or temporary construction easements would be required from approximately 20 parcels. No full right-of-way takes, residential displacements, or business displacements would be required under the build alternative; however, local parking and driveways may need to be reconfigured for parcels where partial right-of-way acquisition occur to accommodate the Project.

Under the build alternative, the replacement Lincoln Boulevard Bridge over Ballona Creek would include three 12-foot travel lanes in each direction, a 12-foot center median, and 2-foot lane buffers, 8-foot shoulders including 6-foot-wide, Class IV protected bicycle lanes, 6-foot sidewalks, and 1-foot edge barriers on both sides of the roadway.

Under the build alternative, the replacement Culver Boulevard Bridge would include one 12-foot travel lane in each direction as well as 5-foot shoulders, 6-foot sidewalks, and 1-foot bridge barriers on both sides of the roadway.

3.0 ARCHAEOLOGICAL SENSITIVITY AND RATIONALE FOR DISCOVERY PLAN

To determine the potential for encountering subsurface archaeological deposits during Project construction, Caltrans has taken into consideration various datasets. These include the results of the record searches at the SCCIC, Native American consultation, field survey and XPI investigations.

3.1 RECORDS SEARCH

Research at the SCCIC was conducted on January 9, 2018. Results of the SCCIC search indicate that 32 cultural resources have been recorded within a one-mile radius of the Project APE. One archaeological resource, CA-LAN-1698, had been previously recorded in the APE. Initially identified in 1989 as a precontact shell scatter, later revisit by Statistical Research Incorporated (SRI) in 1990 found that the shell scatter was the result of redeposited fill and not cultural in origin. A second precontract archaeological resource, CA-LAN-2676, was identified slightly outside of the Project APE near the intersection of Lincoln Boulevard and West Jefferson Boulevard. The resource was originally described as a precontact habitation site with human burials. However, during a data recovery investigation conducted by SRI, it was determined that the site consisted of redeposited cultural material rather than intact archaeological deposits (Grenda et al. 2016:7).

3.2 NATIVE AMERICAN CONSULTATION

Psomas contacted the Native American Heritage Commission (NAHC) on February 23, 2018 (Cisneros 2019) and requested the NAHC conduct a Sacred Lands File database search for sacred lands and sites. Though the results from the Sacred Land File search did not determine the Project APE area as sacred, the NAHC noted the area was sensitive for cultural resources (e.g., ancestral human remains, village sites) important to the local Native American community. Therefore, the NAHC provided a list of 10 Native American representatives from the Fernandeño Tataviam Band of Mission Indians, Gabrieleno Band of Mission Indians – Kizh Nation, Gabrieleno/Tongva San Gabriel Band of Mission Indians, Gabrielino Tongva Indians of California Tribal Council, Gabrielino-Tongva Tribe, and San Fernando Band of Mission Indians. that should be contacted for further information. These individuals were contacted via letter on June 21, 2019 with follow-up emails and phone calls conducted on July 2, 2019 and July 9, 2019. Several of the Native American representatives identified the Project APE as being highly sensitive for archaeological resources important to the Native American community. The full details of Caltrans' consultation efforts can be found in Attachment 5 of the HPSR.

3.3 FIELD SURVEY

Psomas completed a field survey of the APE on June 14, 2019. Portions of the APE within the Ballona wetlands were not surveyed as no permission was provided by the California Department of Fish and Wildlife for right of entry. When feasible the survey was conducted in parallel transects that were spaced no farther than 2 to 4 meters. Most of the Project APE lies on active roadway, with much of the ground surface covered in asphalt or concrete. No precontact or historical archaeological resources were identified within the accessible portions of the Project APE.

3.4 XPI STUDY

An XPI study was conducted to provide presence/absence information on subsurface archaeological deposits in the APE (Attachment 4 of the HPSR). The investigation consisted of the excavation of backhoe trenches and shovel test pits. No evidence of subsurface archaeological resources was identified in the XPI study. Moreover, surficial deposits within the APE appear to be heavily disturbed with imported fill in some areas exceeding two meters in

depth. Finally, a geoarchaeological analysis determined that during the precontact period, the APE was characterized by alluvial floodplain and estuarine environments, neither of which was well-suited for long-term habitation sites. Although the Project APE was not suitable for long-term habitation, it is possible that the area was used during the precontact period for resource gathering or processing purposes. However, the XPI study and analysis of project construction elements concluded that undisturbed portions of the APE have a low sensitivity for containing precontact resources associated with resource gathering and processing.

The potential for construction to uncover intact cultural deposits within the proposed Project footprint is unlikely. However, out of an abundance of caution and to assuage Native American concerns regarding cultural resources, the City of Los Angeles (in coordination with Caltrans) will implement an archaeological and Native American monitoring program.

4.0 ENVIRONMENTAL AND ARCHAEOLOGICAL CONTEXT

The following sections provide the environmental and archaeological context for the Project location. Since nearly all the archaeological sites in the vicinity of the Project APE date to the precontact period and are contributors to the Ballona Lagoon Archaeological District (BLAD), this overview focuses on those aspects of precontact history that are most pertinent to our understanding of precontact history in the area. The information provided below is largely derived from information presented in the ASR (Attachment 3 of the HPSR).

The Project APE lies within the larger BLAD. The BLAD was first defined in 1991 by SRI as a collection of archaeological resources within the Ballona wetlands (Altschul et al. 1991). At the time of its delineation, the BLAD boundary was arbitrarily set to coincide with the boundaries of the nearby Playa Vista Project. As described in the original discussion of the BLAD (Altschul et al. 1991), the resource contained seven National Register-eligible archaeological sites. None of these sites are located within the Project APE.

The BLAD has not been formally documented on Department of Parks and Recreation (DPR) 523 forms and a California Historic Resources Information System (CHRIS) primary resource number has not been assigned. Nonetheless, the BLAD has been treated as an archaeological district in regulatory compliance documents. Indeed, as part of a Programmatic Agreement for a previous project in the Ballona wetlands, the BLAD was determined eligible for listing in the National Register by the U.S. Corps of Engineers (USACE), with concurrence from the State Historic Preservation Officer (SHPO) (USACE 1991). The BLAD is considered a National Register-eligible archaeological district for purposes of this Project. The original formulation of the BLAD recognized that additional sites could be added at a future date, should they provide data appropriate to the theme of the district.

4.1 ENVIRONMENT

The Project is situated in the Los Angeles Basin and within the Peninsular Ranges Geomorphic Province, which consists of a series of ranges separated by northwest trending valleys and composed of granitic rock intruding into older metamorphic rocks (Saucedo et al. 2016; Yerkes et al. 1965). Soils in the region consist of Tertiary-Quaternary Alluvium composed of sandy loam and clay resulting from cyclical flooding of the Los Angeles, San Gabriel, and Rio Hondo rivers and their tributaries.

The Project APE itself is situated within portions of the Ballona Creek Wetlands Ecological Reserve and developed and urbanized areas. Much of the Project APE consists of fill soils from the construction of the Ballona Creek Channel and developments such as Marina del Rey, the Pacific Electric Railroad, the raising of Culver Boulevard, and State Route 90. Before the arrival of European colonists, the wetlands were a vast 2,120-acre marshland providing salt and freshwater aquatic resources from estuaries and wetland habitats. Today, the wetlands — the second-largest open space within the city limits of Los Angeles — is confined to less than 600 acres of land.

Summer temperatures in the area can reach as high as 84˚F, whereas winter temperatures can drop to as low as 49˚F. The basin is part of the Coastal Sage Scrub plant community. Typical native plants include California barley, purple needlegrass, alkali ryegrass, salt grass, pickleweed, coyote bush, wild radish, salt march dodder, arrow grass, and glass wort. Animals common to the region include both local and migratory birds and a variety of species of fish, amphibians, reptiles, and small to medium-sized mammals.

4.2 ETHNOGRAPHY

4.2.1 Gabrielino/Tongva

At the time of Spanish contact, the Project area was inhabited by the Gabrielino near the eastern extent of their ancestral territory (see Kroeber 1925; Harrington 1933; Johnston 1962; Blackburn 1963; Heizer 1968; Bean and Smith 1978; McCawley 1996). The name "Gabrielino" identifies those people who came under the control of Mission San Gabriel Arcángel and included the inhabitants of most of current-day Los Angeles and Orange Counties and portions of Riverside and San Bernardino Counties. According to the ethnographic evidence, Gabrielino territory included the coastal plain of Los Angeles and Orange Counties, extending from Topanga Canyon in the north to Aliso Creek in the south and eastward of Mount Rubidoux in western Riverside County. Their territory also included Santa Catalina, San Clemente, and San Nicolas Islands.

Unfortunately, the Gabrielino are one of the least documented of the native peoples of California because they were one of the first groups to suffer the effects of foreign diseases brought by the Spanish and the subsequent migration of foreigners who arrived in the region (Bean and Smith 1978). Fortunately, however, ethnographic studies conducted by J.P. Harrington (1933), Alfred Kroeber (1925), and others in the early twentieth century provide some insight into the culture of the Gabrielino. More importantly, outreach and consultation with tribal representatives has provided relevant historical and cultural information for the Gabrielino community.

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

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

Permanent villages evolved in resource-rich areas near rivers, streams, and along the coast. Secondary, or satellite, villages were also established nearby. The Gabrielino traditionally constructed two types of dwellings: the subterranean pit house and the thatched lean-to. The pit house was constructed by excavating approximately 2 feet below the surface and constructing the walls and roof with wooden beams and earth around the excavation pit. The lean-to, or *wickiup*, was constructed of thatched walls and thatched roof surrounded by large converging poles. A hearth located inside the structure provided warmth. Hearths used for cooking were located outside. Sweathouses, or *temescals*, were used as a meeting place for the men (Kroeber 1925; Bean and Smith 1978).

The material culture of the Gabrielino reflected an elaborately developed artistic style and an adaptation to the various environments within their territory. This artistic style was often manifested in elaborate shell bead and asphaltum ornamentation on many utilitarian items (e.g., bone awl handles, bowls, mortar rims). Spear and bow and arrow were used for hunting, while

manos and metates, as well as mortars and pestles, were used for processing plant and animal material into food items. The Gabrielino were also known for their high quality of basketry made from rush stems (*Juncus* sp.), native grass (*Muhlenbergia rigens*), and squawbush (*Rhus trilobata*) (Bean and Smith 1978:542).

4.3 PREHISTORY

Southern California has a long history of human occupation, with dates of the earliest evidence of human occupation during the late Pleistocene, circa (ca.) 11,000 years B.C. (Glassow et al. 2007: 191). Prehistoric material culture in the state's southern region has been categorized according to periods or patterns that define technological, economic, social, and ideological elements. Within these periods, archaeologists have defined cultural patterns or complexes specific to prehistory within the state's southern region, including the Project APE.

The following text illustrates the chronological framework developed for Southern California. This framework is divided into four major periods: Paleoindian period (ca. 11,000–7000 B.C.), Milling Stone period (7000 B.C. – 3000 B.C.), Intermediate period (3000 B.C. – A.D. 500), and Late Prehistoric period (A.D. 500-Historic Contact). Within these broad temporal periods are variations in the timing and nomenclature of cultural complexes for the region. The timescales referenced in the following discussion are presented as calendar dates (years B.C. /A.D.).

4.3.1 Paleoindian Period (11,000 - 7000 B.C.)

Recent data from coastal and inland sites during this period indicate that the economy was a diverse mixture of hunting and gathering, with a major emphasis on aquatic resources in many coastal areas (Jones et al. 2002) and on Pleistocene lakeshores in eastern San Diego County (Moratto 1984:90–92). Although few Clovis-like or Folsom-like fluted points have been found in Southern California, it is widely thought that there was a greater emphasis on hunting at near-coastal and inland sites during the Paleoindian Period than in later periods (e.g., Dillon 2002; Erlandson et al. 1987). Subsistence patterns shifted around 6000 B.C., coincident with the gradual desiccation associated with the onset of the Altithermal, a warm and dry period that lasted for about 3,000 years. As the climate changed, a greater emphasis was placed on plant foods and small animals.

4.3.2 Milling Stone Period (7000 - 3000 B.C.)

The Milling Stone Period (Wallace 1955, 1978) is the earliest well-established period of occupation in Southern California (Glassow et al. 2007: 192). This period is characterized by an ecological adaptation to collecting, accompanied by a dependence on ground stone implements associated with the horizontal motion of grinding small seeds: milling stones (metates, slabs) and hand stones (manos, mullers). Milling stones are found in large numbers for the first time and become more numerous toward the end of this period. As evidenced by their tool kits and shell middens in coastal sites, people during this period practiced a mixed food-procurement strategy. Subsistence patterns became more specialized as groups became better adapted to their regional or local environments. Projectile points from the period are relatively rare, but are large and generally leaf-shaped, and were probably employed with darts or spears thrown with atlatls. Bone tools, such as awls, and items made from shell, including beads, pendants, and abalone dishes, are also quite uncommon. Evidence of weaving or basketry is present at a few sites. The mortar and pestle, associated with the vertical motion of pounding foods such as acorns, were introduced during the Milling Stone Period but do not become common until the Intermediate Period.

4.3.3 Intermediate Period (3000 B.C. - A.D. 500)

The Intermediate Period is characterized by a shift toward a hunting and maritime subsistence strategy, along with a wider use of plant foods. During this period, a pronounced trend toward greater adaptation to regional or local resources can be observed. For example, the remains of fish, land mammals, and marine mammals are increasingly abundant and diverse in sites along the Southern California coast. Chipped stone tools suitable for hunting are more common and both stylistically and technologically varied. Projectile points include large side-notched, stemmed, and lanceolate or leaf-shaped forms.

Koerper and Drover (1983) consider Gypsum Cave and Elko series points, which have a wide distribution in the Great Basin and Mojave Deserts between ca. 2000 B.C. to A.D. 500, diagnostic of this period. Larger knives, a variety of stone flake scrapers, and drill-like implements are common during this period. Shell fishhooks become an integral part of the tool kit. Bone tools, including awls, are more numerous than in the preceding period; and the use of asphaltum adhesive becomes more common.

4.3.4 Late Prehistoric Period (A.D. 500 - 1769)

During the Late Prehistoric Period, use of plant food resources increased in conjunction with land and marine mammal hunting. The variety and complexity of material culture also increased during this period, demonstrated by more diverse classes of artifacts. The recovery of many small, finely chipped projectile points, usually stemless with convex or concave bases, suggests an increased utilization of the bow and arrow for hunting rather than the atlatl and dart.

During this period, an increase in population size is accompanied by the advent of larger, more permanent villages with greater numbers of inhabitants (Wallace 1955:223). Some coastal and near coastal settlements were occupied by as many as 1,500 people. Many of these larger settlements were permanent villages where at least some people resided year-round. The populations of these villages may have also increased seasonally.

4.4 ARCHAEOLOGICAL CONTEXT

As previously discussed, the SCCIC record search results indicate 32 cultural resources have been recorded within a one-mile radius of the APE. Previously recorded archaeological resources located within the vicinity of the APE include prehistoric/Native American lithic scatters, habitation debris, shell middens, and burials, as well as historic period refuse scatters, remnants of railroads, and built environment resources. Several prehistoric archaeological sites within the one-mile radius of the APE are part of the BLAD.

One of the previously identified prehistoric resources (CA-LAN-1698) was mapped in the Project APE. Originally recorded in 1989 as a prehistoric shell scatter, CA-LAN-1698 was later revisited in 1990 by SRI as part of an archaeological field survey for the Playa Vista Archaeological and Historical Project. SRI determined that the shell scatter represented redeposited sediments from the dredging of the nearby Fiji drainage ditch. Based on these findings, SRI concluded that the shell scatter was not cultural in origin.

A second archaeological site, CA-LAN-2676, was recorded adjacent to the APE near the intersection of the Lincoln Boulevard and West Jefferson Boulevard. The site was originally described as a prehistoric habitation site with human burials. However, data recovery investigations at CA-LAN-2676 found that the site consisted of redeposited cultural material rather than an intact archaeological deposit (Grenda et al. 2016:7). In fact, CA-LAN-2676 is now referred to as a “runway site” because it was created by Hughes Aircraft Company during the extension

of its runway during World War II, using redeposited archaeological site material from two nearby sites situated along the base of the bluff in the Ballona Lagoon area.

4.5 EXPECTED RESOURCE TYPES AND FEATURES

For the purposes of this Project, an archaeological site is defined as "the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archaeological value regardless of the value of any existing structure" (Office of Historic Preservation 1995:3). Archaeological sites consist of one or more cultural deposits and/or feature(s). Sparse and isolated artifact scatters with no associated midden or feature are considered "Isolates" for the purposes of this project and, thus, exempt from archaeological evaluations pursuant to Attachment 4 of the Section 106 Programmatic Agreement (PA).

The results of the cultural resources investigation conducted for the proposed Project indicate that there is a low potential for the discovery of intact archaeological deposits within the Project footprint during ground-disturbing activities. However, out of an abundance of caution and in deference to Native American concerns, the City of Los Angeles in coordination with Caltrans is implementing an archaeological and Native American monitoring program. Expected resource types, features, and artifacts, if any, in the area of the APE are discussed below.

4.6 ARCHAEOLOGICAL RESOURCES, FEATURES, AND ARTIFACTS

Based on information from previously recorded archaeological resources in the vicinity of the Project APE, including archaeological resources associated with the BLAD, any archaeological remains unearthed during the Project construction would be associated with precontact/Native American resources. These resources would include habitation areas, features, and human remains.

4.6.1 Precontact Resources, Features, and Artifacts

Precontact habitation areas, features, and human remains have been previously identified at archaeological sites with the BLAD. A brief description of each of these resource types is provided below.

- **Habitation areas** will exhibit evidence for short or long-term use, such as house pit depressions and/or midden deposits. Shell middens are reported for nearly all nearby sites.
- **Features** are the non-portable evidence of human activity, such as hearths, rock art, caches of artifacts, bedrock milling stations, etc. Features identified at nearby sites include hearths, shellfish processing areas, and artifact caches.
- **Human remains** may be recovered from a variety of contexts and burial practices, and include inhumations, cremations, or isolated human bone fragments. Inhumations are common at nearby sites.

Artifacts reported from nearby archaeological sites include milling stones (metates, manos, mortars, pestles, and bowls); lithic materials (cores, flakes, debitage, bifaces, projectile points); shell and stone beads; and hammerstones. Ceramics are not common for the ethnographic tradition in this area and are not expected in any potential finds. Organic materials may include shell, animal bones, and plant remains.

As discussed earlier, much of the Project's APE has been subjected to disturbance with portions of the area covered with imported fill. Therefore, it is expected that any cultural deposits and/or artifacts encountered during Project construction will be from disturbed or secondary contexts. Secondary archaeological contexts can be identified by the lack of clear and consistent stratigraphy when examining wall profiles of excavation units, trenches, construction cuts, etc. The presence of modern and/or historic refuse intermixed with prehistoric (Native American) cultural artifacts is also an indicator of a secondary context.

5.0 RESEARCH DESIGN

Archaeology, according to Robert F. Heizer and John A. Graham (1968:4), is *a method for the recovery, study, and reconstruction of the past of humans*, through the analysis and interpretation of material culture and archaeological features. For precontact peoples living in the vicinity of the Project APE, these material remains may be represented by flaked stone tools (e.g., projectile points, blades) and debris (e.g., debitage, cores), milling stone tools (e.g., manos, metates, mortars, pestles), midden deposits, rock concentrations, cemeteries, and thermal features. Information obtained from the analysis of recovered archaeological remains may be used to address a variety of important research topics for the region. These topics include chronology, settlement and subsistence, and trade.

5.1 RESEARCH THEMES AND QUESTIONS

5.1.1 Chronology

Chronological information can be used to understand the trajectory and rate of cultural change and to establish relationships among sites at both a local and regional level. Much of what is known regarding the cultural chronology of southern California's coastal region comes from investigations of archaeological sites in the Santa Barbara Channel Islands. There have been few studies that have focused on precontract coastal occupations on the mainland and a large data gap exists for occupations prior to AD 1000. As such, archaeological deposits identified during Project construction have the potential to provide a chronometric information which may inform on the regional chronology for this area.

Chronology is of basic importance to any archaeological research endeavor because it provides a context for addressing many other research issues. Thus, the precision and accuracy of dates are critical because they form the baseline for the other research topics. For example, chronological data could potentially contribute to our understanding of the nature and timing of population movements in the area, and to establish relationships among sites in the local or broader region. Chronological determinations may also assist in refining regional or local culture historical sequences.

Any potential chronological or diagnostic artifact data recovered from archaeological finds will contribute to the understanding of the Native American land use and occupation period for this area. Data that may assist in forming this regional chronology includes the radiometric analysis of charcoal fragments or select organic remains from the site. The age of the site may also be inferred by the presence of temporally diagnostic artifacts such as projectile points or shell beads.

- Are materials suitable for cross-dating techniques present at within the Project APE?
- Can the archaeological deposit(s) and/or feature(s) be placed into a meaningful period of occupation?
- If stratified archaeological deposits are identified, do the strata suggest periodic occupation of the area or extended use over time?
- How do the archaeological deposit(s) and/or feature(s) relate to/compare with the occupation periods of other sites within the BLAD?

5.1.2 Subsistence and Settlement

To understand local prehistoric land use and settlement patterns, sufficient data must be recovered for the identification of site function, such as: village site, temporary camp, or resource processing and/or source area. Precontact coastal group settlement patterns are largely dictated

by the abundance of resources in a region. Typically, settlement patterns are focused on ecotones, or habitat interfaces, where access to multiple habitats provides a diversity of resources. Patterns of settlement are characterized by central permanent or semi-permanent habitation sites supported by outlying resource extraction or specialized activity sites that are occupied only ephemerally, since the nearby resources are depleted relatively quickly, prompting a group to move on to the next known site location or to establish a new site elsewhere. These activities form seasonal rounds, and this pattern of settlement in the region has persisted through time. Recorded precontact sites in the region consist almost entirely of village sites, cemeteries, estuary shell middens, household tools and lithic scatters, resulting either from domestic and subsistence activities or from tool production.

- Is evidence present for permanent or semi-permanent settlements, or was the area, including the Project APE only visited seasonally?
- Is evidence present for ancestral cemeteries?
- Is evidence present for types of subsistence resource exploitation, such as terrestrial resources, aquatic resources, or both types of exploitable resources?
- If evidence is present for settlement and subsistence are these resources contributors to the BLAD?

5.1.3 Trade

Archaeological evidence from the region suggests precontact inhabitants inhabiting the area engaged in trading, either by direct long-range contact or via down-the-line modes of resource transport. Items frequently traded include shellfish beads and other implements, asphaltum (tar) for seafaring vessels, food items, steatite, exotic lithic materials (e.g., obsidian), and other materials of value to the people. Demonstrating trade requires the presence of one or more exotic materials or objects not typically available in the region.

- Are exotic materials present at the sites? If so, what is the source of these non-local items?
- How do the archaeological materials compare with sites within the BLAD and what does this data reveal about precontact trade relationships?

5.2 THRESHOLDS FOR DETERMINING ELIGIBILITY

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

- **Criterion A:** It is associated with events that have made a significant contribution to the broad patterns of our history.
- **Criterion B:** It is associated with the lives of persons who are significant in our past.
- **Criterion C:** It embodies the distinctive characteristics of a type, period, or method of construction; represents the work of a master; possesses high artistic values; or

represents a significant and distinguishable entity whose components may lack individual distinction.

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

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

As stated above, in addition to meeting one or more of the National Register criteria, an archaeological resource must retain the quality of integrity in order to qualify for listing in the National Register. Integrity is usually interpreted as the "intactness" of the physical characteristics. However, in terms of the National Register, integrity indicates whether a property retains essential characteristics defined for that property under any one of the four criteria (A, B, C, and D). Thus, an archaeological property may retain sufficient integrity to qualify for the National Register even when severely disturbed, as long as the property retains the ability to yield information important to an understanding of history or prehistory under Criterion D, or still retains the ability to convey significance under any of the other criteria. The site must be capable of filling or substantively contributing to important data gaps or research questions. Archaeological evaluations will be conducted on all resources that are not exempt under Attachment 4 of the Section 106 PA.

For CEQA-compliance purposes, the State of California's Public Resources Code establishes the definitions and criteria for "historical resources," which require similar management to what Section 106 of the NHPA mandates for historic properties. CEQA guidelines state that the term "historical resource" applies to any resource listed in or determined to be eligible for listing in the California Register of Historical Resources, included in a local register of historical resources, or determined to be historically significant by the Lead Agency (Title 14 CCR 15064.5(a)(1)-(3)). Because the criteria for listing in the California Register are essentially similar to those for the National Register (Title 14 CCR 15064.5 (a)(3)), for this Project, Caltrans is applying the determinations of National Register-eligibility to its findings of historical significance under CEQA.

This PRDM Plan provides Caltrans District 7 a framework for evaluating archaeological properties uncovered during Project construction for National Register-eligibility under Criterion D only. Caltrans, in consultation with Native American communities and other stakeholders, must consider whether other National Register criteria apply to individual discoveries. The treatment of any cultural deposit (if not in a secondary context or consisting of isolated, scattered artifacts) identified within the Project's APE will follow the established procedures outlined below for the resolution of adverse effects. However, these procedures will be implemented only if the deposit(s) cannot be avoided during implementation of the undertaking. In all instances, consultation with the SHPO and other stakeholders (see section below), shall occur regarding the eligibility determination of any inadvertent discoveries. Procedures for treating cultural deposits found in secondary context or consisting of isolated, scattered artifacts are also outlined in this plan.

6.0 ARCHAEOLOGICAL RESOURCE MONITORING PROTOCOLS

The purpose of construction monitoring is to ensure proper treatment of historic properties/historical resources that may be encountered during construction. Archaeological construction monitoring is defined as on-the-ground, close-up observation of ground-disturbing activities by an archaeological monitor. Ground-disturbing activities may include, but are not limited to, mechanical boring, grubbing, scraping, grading, and excavating. Although the potential is low for encountering intact cultural deposits within the APE, the City of Los Angeles in coordination with Caltrans will implement an archaeological and Native American monitoring program.

6.1 ARCHAEOLOGICAL MONITORING PROCEDURES

- The procedures detailed below are intended to avoid or lessen impacts to any identified properties during Project implementation.

- At least one archaeological monitor and one Native American monitor will be on the Project site to observe ground-disturbing activities. The archaeological monitor will be the designated lead responsible for the successful implementation of all monitoring procedures and protocols.
- Monitors will observe all excavation activities and associated ground disturbance from a safe distance and within safely accessible portions of the Project area, as well as inspect back dirt piles for evidence of cultural materials.
- The monitors will observe grading and grubbing by following the construction equipment as it removes soil and/or vegetation, walking safely accessible areas after the machinery has cleared, or standing to the side and observing the soil removal activity.
- When deeper excavation or trenching is conducted, the monitors will observe the mechanical removal of soil and will carefully inspect all of the backdirt that is removed from the trench or pit. If it is safe to do so, the monitors will inspect the sidewalls of trenches and pits as they are exposed.
- The archaeological monitor will make periodic stratigraphic profile drawings of deep grading cuts, trenches, and pits along with geomorphologic descriptions and photographs as part of routine archaeological monitoring efforts of all ground disturbing activities.
- Archaeological and Native American monitors will keep field notes or logs of observations and other pertinent information (including observations on geology and soil types) obtained for each day monitored, and provide a copy of these on a weekly basis to Caltrans for keeping in the Project files.
- The archaeological monitor will provide photographic (digital) documentation during the monitoring program, along with photo logs and records of daily construction activities. Photo logs should identify the frame/time stamp, day, month, year, time, subject, an identifying object within the view frame, and direction of view.
- Should an archaeological feature and/or cultural deposit be encountered, monitors will have the authority to temporarily halt construction at the location of the find so that the nature and extent of the feature or deposit can be assessed. Construction is not to be halted in cases of isolated finds, i.e., locations containing less than three artifacts. When isolates are encountered, these should be immediately recorded and collected so as to allow Project construction to continue without delay.

- Monitors will follow the procedures outlined in this PRDM Plan (see sections below) whenever an archaeological feature and/or deposit, including human remains, are encountered and necessitate further investigation and/or management.

6.2 NATIVE AMERICAN PARTICIPATION

At least one Native American monitor will be provided through consultation between the City of Los Angeles, Caltrans and consulting Native American parties. It may be appropriate that a single designated Native American group takes the lead in tribal monitoring efforts and shares information with the other consulting tribes. Otherwise, should more than one Native American group express strong preference in participating in monitoring efforts, Caltrans will develop and implement a rotating system where the interested Native American groups will take turns in providing a tribal monitor.

The following protocol will ensure that information on construction activities and the need for Native American monitoring in safely accessible areas of the Project will be disseminated in a clear and timely fashion. City of Los Angeles will ensure that all requests for Native American monitoring are made at least 48 hours in advance.

- City of Los Angeles, in coordination with Caltrans, will request the presence of Native American monitors on the Project site when there is a need to monitor construction-related ground-disturbance in areas that can be safely accessed, e.g., locations of proposed retaining walls, sidewalks, bike lanes, and median.
- For safety and liability issues, Native American monitors are not allowed on the construction site without prior approval. Native American monitors are to report to the lead archaeological monitor when arriving on the Project site and upon their departure.
- The lead archaeological monitor for the Project will provide the Native American monitor with a list of planned activities for the week for those areas that require monitoring. Any changes to the planned activities will be promptly communicated.

In the event of a discovery, the Native American monitor will participate in and/or observe all archaeological investigations/fieldwork required to determine the nature and extent (as well as documentation) of the find. The Native American monitor will also provide input on the initial assessment of National Register eligibility for the find that is part of the required notification procedures (see below). As previously stated, this PRDM Plan provides Caltrans District 7 a framework for evaluating archaeological properties uncovered during Project construction for National Register-eligibility under Criterion D only. Upon notification of a discovery that includes the initial National Register eligibility assessment, Caltrans will consult with Native American communities and other stakeholders to consider whether other National Register criteria apply to individual discoveries.

6.3 ENVIRONMENTAL SENSITIVITY TRAINING

Before any ground disturbance related to the Project begins, Caltrans Professionally Qualified Staff (PQS) in the discipline of archaeology and the designated Native American monitor for the Project will hold a preconstruction meeting with the Project Manager, Resident Engineer (RE), construction foreman or manager, and construction crews for the purpose of sharing information related to cultural resources. Information will include, but will not be limited to, cultural resources monitoring roles, responsibilities, and authority; any restricted areas and approved vehicle corridors; the types of sites and artifacts that may be encountered; penalties for unauthorized collection of artifacts; and the need to temporarily halt construction at the location of any unanticipated discovery until it is adequately documented and treated. Once construction begins,

the archaeological monitor and Native American monitor will periodically (e.g., once a month) attend field construction meetings with the RE, construction foreman or manager, and construction crews to reiterate the above cultural resources information. This refresher is an opportunity for any new construction personnel to receive the environmental sensitivity training.

6.4 NOTIFICATION PROCEDURES

Should ground-disturbing activities uncover cultural deposits and/or features, the archaeological and/or Native American monitor shall immediately inform the RE in order to halt all work within 60 feet of the find so that the origin and integrity of the find can be determined. However, ground-disturbing activities may continue in areas that are not considered archaeologically sensitive. This halting of ground disturbance will be accomplished under the direction of the RE in consultation with the archaeological monitor and/or Caltrans PQS and will apply to cultural deposits and/or features from both primary and secondary contexts.

The location of the discovery should be secured at all times. Vehicles, equipment, and unauthorized personnel will not be permitted within 60 feet of the discovery until construction work is allowed to resume. This buffer zone is meant to include sufficient area to ensure that the resource is protected from impacts, and may be created by the monitor through the use of flagging or temporary fencing. Ground-disturbing activities and construction activities will remain halted near the discovery until the proper treatment, if any, for the find is delineated and implemented, including consultation with stakeholders.

Following the procedures delineated herein, archaeological monitors in consultation with the Native American monitor(s) and Caltrans PQS will investigate the find to assess whether it qualifies as a post-review discovery, i.e., may be eligible for listing in the National Register or the California Register. The Caltrans PQS has responsibility for the final eligibility assessment. Once the assessment is made, Caltrans PQS will notify the following parties within **48 hours** of the initial discovery:

- Caltrans Environmental Branch Chief;
- Consulting Native American parties;
- Caltrans Cultural Studies Office (CSO);
- Property owner (if other than Caltrans); and
- State Historic Preservation Officer (SHPO).

The notification to each party must include the following information:

- Description, location information, and photographs of the find;
- Map(s) illustrating the location of the find within the APE;
- Drawings and photographs of stratigraphic profiles necessary to document and interpret the physical context(s) of the find, including information on the depth at which the find was discovered, dimensions of the find, technical descriptions of the strata in these profiles, and any evident previous disturbance of the strata;
- Additional information regarding the geoarchaeological context(s) in which subsequent discoveries may be made;
- Action(s) taken to protect the find;
- An assessment of National Register eligibility of the find;

- Avoidance or minimization efforts, if feasible; and/or
- Measures for resolution of adverse effects if property will be adversely affected.

Upon receipt of the notification, all parties shall have **72 hours** to respond with comments and recommendations. Should Caltrans receive any comments and/or recommendations within this time frame, Caltrans will continue consultation with any commenting parties and will keep all parties informed on the nature, progress, and resolution of the consultation. Caltrans will determine the time frame for any further consultation, taking into account the qualities of the find, consequences of construction delays, and interests of consulting parties. Following conclusion of any further consultation, Caltrans will take all comments received into account and then carry out appropriate actions. Failure of any notified party to respond within 72 hours of notification shall not preclude Caltrans from proceeding with any proposed actions.

The above notification procedures apply to all finds, whether from primary or secondary contexts, but not for isolates (i.e., locations of fewer than three artifacts per 100 square meters).

6.5 HUMAN REMAINS PROCEDURES

In the case of human remains, these will be treated in accordance with the requirements of §7050.5(b) of the California Health and Safety Code. If, pursuant to §7050.5(c) of the California Health and Safety Code, the county coroner/medical examiner determines that the human remains are or may be of Native American origin, then the discovery shall be treated in accordance with the provisions of §5097.98 (a)-(d) of the California Public Resources Code (PRC).

The following procedures are to be followed if human remains are identified:

- All archaeological excavation or construction-related activities at the specific location of the discovery shall immediately stop and the remains will be covered with tarp or other materials (not rock or sediment) for temporary protection. There shall be no further excavation or disturbance of the specific location of the discovery or any nearby area reasonably suspected to overlie adjacent remains until the coroner has made his/her assessment(s) (see below).
- If archaeological and/or Native American monitors are not on-site, construction personnel must immediately notify the RE and the Caltrans PQS.
- Immediately following the discovery, City of Los Angeles in coordination with Caltrans will contact the Los Angeles County Coroner, who will have **two (2) working days** to determine whether the remains are subject to his/her authority or are those of a Native American (PRC §7050.5(b)).
- Caltrans will also notify the SHPO and consulting Native American groups/representatives within **24 hours** of the find.
- If the human remains are of a Native American, the Coroner will notify the NAHC by telephone **within 24 hours** (PRC §7050.5(c)); Caltrans may follow-up with the NAHC to verify that they have been contacted by the Coroner. The NAHC is responsible for identifying and immediately notifying the most likely descendent (MLD) regarding the discovery.
- The MLD shall be granted immediate access to the discovery location in order to examine the remains.

- Within **48 hours** of notification, the MLD will make recommendations to City of Los Angeles and Caltrans regarding the treatment and disposition of the human remains and any associated funerary items (PRC §5097.98(a)). Thereafter, MLD's recommendations and/or agreed treatment protocols will apply to any additional discoveries of human remains and associated funerary object(s) at the site.
- Caltrans will contact the SHPO and consulting Native American groups/representatives as a courtesy notification regarding the find and who was determined to be the MLD.
- Through consultation with the MLD, City of Los Angeles will facilitate identification of reburial location(s) and will assist in the reburial process as needed. If the reburial location is within the Project area, the location will be protected by fencing and designating the location as an Environmentally Sensitive Area (ESA) for the duration of Project construction.
- If the NAHC is (1) unable to identify an MLD, (2) the MLD identified fails to make a recommendation, or (3) a landowner on whose property the remains are identified rejects the recommendation of the MLD and mediation by the NAHC fails to provide measures acceptable to the landowner, City of Los Angeles or the landowner (or his/her authorized representative) shall re-inter the human remains and associated grave items with appropriate dignity on the property in a location that is not subject to further subsurface disturbance.
- Following the re-interment, City of Los Angeles in coordination with Caltrans will ensure that documentation is prepared describing the circumstances, nature, and location of the discovery; its treatment, including results of analysis (if permitted); and final disposition, including a confidential map showing the reburial location. A formal record about the discovery site will also be prepared to current California standards on Department of Parks and Recreation 523 form(s). Caltrans will ensure that copies of these documents are distributed to the SCCIC, the NAHC, and the MLD.

7.0 ARCHAEOLOGICAL FIELDWORK PROTOCOLS

7.1 FIELDWORK PROTOCOLS

The following guidelines will apply to all cultural features and deposits uncovered during construction activities, apart from the human remains procedures outlined above. However, should these guidelines prove infeasible, Caltrans PQS should exercise professional judgement in the treatment of post-review discoveries. The Caltrans PQS shall be responsible for resolving any issues relating to the treatment of post-review discoveries.

As stated earlier, should an archaeological feature or deposit be identified during construction-related earth-moving activities, all work within the vicinity of the find shall immediately stop and steps are to be taken to ensure that the area is protected from further disturbance, including informing relevant Caltrans, City of Los Angeles, and construction personnel. The area may be cordoned off with staking, fencing, and/or signage to further protect the find.

Upon identification, the lead archaeological monitor will assess the type and scope of the find in coordination with Caltrans PQS and Native American monitor. Further investigation may be required to determine whether the find may be eligible for listing in the National Register. Following that assessment, finds that meet the criteria of post-review discoveries will use the notification procedures listed in Section 6.4 above. Any resolution of adverse effects will be established through consultation. If the find cannot be avoided, the lead archaeological monitor in coordination with Caltrans PQS and Native American monitor will need to ascertain if the find could be subjected to archaeological data recovery efforts, such as archaeological test units and/or trenching. The following procedures shall be executed for each find as part of identification efforts, National Register-eligibility evaluations, and/or data recovery excavations.

- All artifacts will initially be left *in situ*.
- The archaeological monitor(s) will flag the find, and examine the surrounding area, temporarily marking materials with pin flags to determine the extent of the cultural material.
- A limited number of shovel test pits and/or augers may be excavated to collect basic information, such as dimensions of the feature or deposit as well as a description of the find.
- Shovel Test Pits (STPs) are excavated to determine the presence or absence of subsurface cultural deposits. These are also used to delineate the boundaries of previously unknown sites, site components, or large diffuse features should they be discovered during archaeological fieldwork or monitoring. STPs will measure approximately 50 x 50 centimeters, and will be excavated in incremental 10-centimeter levels. The number and distribution of STPs will depend on the size and geomorphic setting of the cultural find. STPs may be excavated to bedrock or to soil strata that are clearly not of a culturally relevant age, with the ground surface serving as reference for depth measurements. Excavated soil will be screened through 1/8-inch wire mesh, and recovered artifacts from exploratory STPs will be collected and bagged by level, with reference numbers assigned and typical labeling information provided. Stockpiled dirt will be returned to the STP upon completion, and shovel test forms will be completed for each unit.
- Auger excavations are used to define soil stratigraphy, to locate bedrock, or to test for the presence of cultural remains at greater depth, including potentially buried deposits. With extension handles, this procedure can accurately locate and trace soil strata at depths of several meters. Augers can be placed in the bottom of STPs or other excavation units to further test for depth of deposit when additional excavation is otherwise impossible.

However, the small volume of most auger borings limits the usefulness of this procedure for mapping the absence of subsurface cultural deposits with certainty. Auger excavations may or may not proceed using arbitrary levels (e.g., 10 or 20 centimeters in thickness), depending on the circumstances. Augered soils are typically screened through 1/8-inch mesh to recover cultural remains. Auger tests, if any, will be sequentially numbered, and recovered materials will be bagged, labeled, transported, and processed in the same manner as other excavated materials. Reference log numbers will be assigned to each provenance unit, and an auger form will be completed. Auger test locations will be plotted on site plan views, and auger holes will be covered upon completion with the dirt available from the initial screening reduction.

- Excavation Units (EUs), in general, will measure 1 x 1 meter, and adjacent units may be excavated in various configurations to develop block exposures. Should a unit exceed depths greater than 1.5 meter (5 feet), excavators will be required to open an adjacent unit for health and safety issues as well as facilitating excavation and recording. Also, additional exploration and exposure of a feature that extends beyond the boundaries of an EU may be necessary. Excavation of EUs will proceed by 10-centimeter arbitrary contour levels unless natural or cultural strata are present, in which case the levels will be subdivided to maintain these distinctions. Contour levels will be maintained by measuring depth from the existing surface. An excavation level record will be completed for each level. As appropriate, other records will be completed, including plan view sketches, profiles of test units, and descriptions of features. In addition, test units will be selectively photographed during excavation to show artifact and/or stratigraphic associations, profiles, features, or other data. EUs will be numbered by a sequential designation. The highest corner of each EU will be designated the unit datum for elevation control. This corner will be marked with a pin flag, chaining pin, or nail labeled with the test unit number. Depths of units will be determined by empirical site stratigraphy. In alluvial or aeolian deposits, units can range up to several meters below the surface of the site. Whenever possible, units will be excavated to bedrock or to sediments that are clearly culturally sterile.
- Any identified features will be exposed in plain view. If necessary, additional excavation units will be opened as a block. All feature components will be mapped and photographed. If appropriate, the feature will be bisected and profiled, and soil samples will be collected to allow for studies as discussed below.
- The use, if appropriate, of geomorphology in archaeological excavations has increased substantially over the last decade. The archaeological monitor(s) shall determine and discuss landform context and site formation processes, including the issue of disturbance, and will profile select trenches and excavation units. The archaeological monitor(s) may also help determine where trenches should be placed to obtain the best cross-section of the site stratigraphy. If feasible, sediment cores will be collected for analysis; this would require retaining the services of a qualified and experienced consulting firm.
- During the fieldwork activities, photographs will include site overviews to show a site's physiographic and environmental setting, hand and mechanical excavations in action, and features and unit wall profiles. As described below, a photo log of all photographs will be kept and shall include frame/time stamp, day, month, year, time, subject, an identifying object within the view frame, and direction of view.
- Sketches or illustrations of unique features and artifacts are also beneficial in depicting details that are sometimes not evident in photographs. These techniques will be used, as determined necessary, and described in the final monitoring report.

- Any identified intact archaeological deposit and/or feature will be recorded on California DPR 523 form, photographed, and depicted on a sketch map to be drawn based on the artifact distribution.
- The exact positions of any identified archaeological resource will be determined with sub-meter accuracy using global positioning system equipment.
- Monitors shall provide photographic (digital) documentation during the monitoring program, along with photo logs and records of daily construction activities. Photographs and site records will also be utilized to document all archaeological finds. Should any post-review discoveries proceed to data recovery, monitors should photograph the original setting and overview of the site, all excavations as they occur, and photographically document all feature/unit overviews and profiles. Photo logs should identify the frame/time stamp, day, month, year, time, subject, an identifying object within the view frame, and direction of view.

7.2 ISOLATES AND SECONDARY DEPOSITS

This PRDM Plan also provides procedures to be undertaken should Project construction activities uncover isolates and/or secondary archaeological deposits. Isolates consist of fewer than three artifacts per 100 square meters. Secondary archaeological deposits are those from contexts that lack clear and consistent stratigraphy when examining wall profiles of excavation units, trenches, construction cuts, etc. The presence of modern and/or historic refuse intermixed with prehistoric (Native American) cultural artifacts is also an indicator of a secondary context.

The following procedures will be implemented in the case of the discovery of isolates and secondary deposits.

- Any identified isolate or secondary archaeological deposits will be documented on the appropriate DPR form and will be sketched or photographed when appropriate.
- All isolated artifacts and cultural materials identified in disturbed/secondary contexts that cannot be avoided will be collected, bagged, and labeled with appropriate provenience information. These items will be sorted, cleaned, and catalogued but not analyzed.
- The final treatment of these materials will be determined in consultation with interested Native American consulting parties (also see Curation Procedures).

8.0 LABORATORY PROTOCOLS

All collected material will be bagged with all provenience information, and inventories of all material will be kept during and after fieldwork. Inventory logs will be kept with the collected material and transferred to the laboratory during analysis.

8.1 CLEANING

Following fieldwork, all material will be cleaned and stabilized by an archaeological laboratory. Some items may be washed or dry brushed, but each artifact type should be stabilized according to accepted laboratory procedures. Some examples of specimens that will not be cleaned, or require special treatment, include: wood, fabric, bone, antler, or shell; milling stones selected for pollen or residue analysis; and lithic material selected for obsidian hydration testing or residue analysis. Bone may be either dry brushed or gently brushed with water. Bone specimens should not be immersed in water. All archaeological material from a single provenience should be cleaned as a lot separately from other proveniences to avoid cross contamination.

Following cleaning and stabilization, artifacts should be bagged and clearly labeled using archival materials. Radiocarbon samples will be placed in either aluminum foil pouches or in glass vials, and bagged. Flotation, pollen, sediment, and other bulk samples will be stored in double polyethylene bags until they are processed.

8.2 SORTING AND CATALOGUING

Sorting and cataloguing methods will follow the requirements of the curation standards for a facility that will meet minimum federal requirements as published in 36 Code of Federal Regulations (CFR) Part 79.

Any recovered data will be separated into material class, artifact type, material, quantity, and weight. The material classes of artifacts include major categories such as stone, ceramic, bone, shell, glass, metal, etc. Artifact type separates items into subcategories according to the material class (debitage, biface, mano, or awl).

Catalogue information should include a catalogue number, artifact material class, type, material, count, and weight along with provenience information of locus, unit coordinates, depth/level, and unit. Modified lithics, bone, and shell material may be counted as well as weighed. Soil samples should be labeled with the feature number, sampling stratum designation, unit level or stratigraphy, and screening mesh size.

Identification tags will be attached or inserted with the bags and will include, at a minimum, catalogue number, artifact type, and provenance information. Each tag will show the catalogue number along with other pertinent information (e.g., site number, selected provenance information). Artifact catalogues should be digitized to facilitate data sharing, research, and data analysis.

8.3 ANALYSIS

Following stabilization and cataloguing, artifact and other cultural samples may undergo further analysis. Artifacts that may be subjected to analysis will be those from primary/undisturbed contexts and will include flaked and milling stone materials, shell and faunal assemblages, bulk soil flotation samples, and materials that can undergo some form of geochemical analysis. The information provided below is derived from Mason et al. (2019).

8.3.1 Flaked Stone Analysis

The analysis of flaked stone artifacts is directed toward developing classes of artifacts that are based on morphological, functional, and technological attributes. Finished bifacial tools include items such as points, knives, and drills. The production of lithic tools through biface reduction progressively thins an object to a planned form. Tools are often the result of incomplete or broken bifaces, such as scrapers. Lithic reduction artifacts include flakes, cores, tools, etc. Bifaces are classified according to the stage of manufacture, including primary flakes, secondary flakes, tertiary flakes, and tools. Tools and other modified material are described by the type of modification, such as unifacial or bifacial edges.

Analysis of flaked stone artifacts should include the manufacturing stage; lithic material; color, condition, and portion present; overall shape; base shape; maximum dimensions (length, width, and thickness), and weight of lots. Projectile points and other diagnostic lithic tools should be analyzed for typology and chronological position in established regional chronologies, and should be analyzed for lithic material, condition and portion present, blade edge form, blade shape, base shape, shoulder form, stem form, presence of serration, presence of basal notching, presence of side notching, cross-section, actual maximum dimensions (length, width, and thickness), length at longitudinal axis, actual width, position of maximum width, maximum blade width, basal width, maximum stem width, position of maximum stem width, shoulder height, proximal shoulder angle, distal shoulder angle, notch opening, side notch width, basal notch width, side notch depth, and basal notch depth. Allen (2013) has developed a debitage classification system that should be referred to for any analysis of lithic debitage.

Hammerstones will be considered a subset of flaked stone assemblages herein. These are typically composed of unmodified cobbles that exhibit battering on one or more edges. Hammerstone analysis should include descriptions of stone material, number of modified surfaces, and maximum measurements (length, width, thickness, and weight) that can be recorded.

8.3.2 Milling Stone Analysis

Milling stones are defined as lithic artifacts whose shape is modified by repeated friction of stone against stone (e.g., grinding), as opposed to chipping. Milling stone analysis should record the type, stone material, number of ground surfaces, and maximum measurements (length, width, thickness, and weight) of each artifact. In addition, evidence of formal shaping, rejuvenation, secondary use, and the presence and distribution of peck marks, polish, and striations can be recorded. Milling stone artifacts include metates, handstones or manos, mortars, and pestles. Protein residue analysis for a select sample of milling stones should also be conducted at an appropriate laboratory.

8.3.3 Faunal Analysis

Analysis of faunal remains will provide important insights to previous environmental conditions in the Ballona Creek Wetlands area as well as subsistence practices of past populations. Identification of faunal remains should be to genus and species, where possible, and should be made by comparison to a reference collection of specimens endemic to the area. Quantification methods should use both number of identified specimens (NISP) and minimum number of individuals (MNI). While both tend to numerically over-represent rare species within an assemblage and are subject to aggregation issues, relative frequency data are the most direct way to quantify such remains (Gifford-Gonzalez and Hildebrandt 2012:107). Other data to be recorded include evidence of burning, calcination, butchering, and other modifications. Taphonomic characteristics of the assemblage(s) must also be considered, including evidence

for weathering, gnawing, and trampling that can assist in separating depositional strata even when sediments appear uniform.

8.3.4 Paleoethnobotanical Analysis

Paleoethnobotanical data include micro- and macrobotanical data. Macrobotanical remains are those that can be seen through a light-magnifying scope and/or naked eye, and include complete or fragment of carbonized seeds, nuts, nutshells, corms, wood charcoal, leaves, stems, plant parts, and plant impressions. Macrobotanical remains are most often the direct remnants of plants consumed as food; although seed bearing plants used as fuel, fodder and building materials could also be part of the collection depending on the context. Microbotanical remains are visible only through a high magnification microscope and include pollen, phytoliths, residue analysis, and starch grains. Pollen data provide information on vegetation; phytoliths are often associated with parts of plants that are closely associated with habitation, while lipid residues and starch grains provide insight into perishable foods not represented in the macrobotanical remains (Marston et al. 2015). Starch grain and lipid residue analysis includes collecting residue washes from artifacts recovered in situ and from associated sediments. A rigorous and manageable sampling strategy is essential to any analysis of micro- and macrobotanical remains. For recovery methods refer to Lawlor (1996) and White and Shelton (2015); for sampling strategies see Lennstrom and Hastorf (1992) and Pearsal (2000); and for analysis refer to Martin and Barkley (1973), Musil (1963), Marston et al. (2015).

8.3.5 Shell Bead Analysis

Two type of shell beads (clam shell and *Olivella*) have been largely involved in both coastal and inland cultures of California, and in particular in the Chumash shell bead-based economy. Their prominence in the archaeological record has encouraged numerous studies and efforts to classify the different types of beads in search of any temporal indicators to better understand Native American groups. Whole *Olivella* shells should be classified by maximum diameter, maximum length, and maximum diameter of each perforation. Round and tube beads should be classified by maximum diameter or maximum length and width, maximum perforation diameter or length and width, thickness, and curvature (for *Olivella* beads).

8.3.6 Special Studies

Some assemblages may be identified as sources of data using molecular or other special analysis.

- Radiometric analysis should be performed on appropriate charcoal, shell, or other carbon samples (e.g., bone).
- Obsidian sourcing and hydration dating analyses may be performed on an appropriate sample of obsidian artifacts to provide chronological information. It should be noted that obsidian hydration is considered to be destructive as the artifact requires thin-sectioning to obtain rim measurements.
- Flotation samples should be processed as available to recover small artifacts and plant remains.
- Bioarchaeological analysis of human remains may be considered if approved by the MLD and other descendent community members.

8.4 CURATION PROCEDURES

Archaeological collections, final report, field notes, photographs, and other standard documentation collected during Project implementation shall be permanently curated at a facility that meets the California Office of Historic Preservation's *Guidelines for the Curation of Archaeological Collections* (California Department of Parks and Recreation 1993). The City of Los Angeles in coordination with Caltrans PQS will secure a written agreement with a recognized museum repository regarding the final disposition and permanent storage and maintenance of any unique archaeological resources recovered as a result of the archaeological monitoring, as well as provenance data that might result from the specified monitoring program, and any evaluation and data recovery archaeological investigations conducted. The written agreement shall specify the level of treatment (preparation, identification, curation, cataloguing) required before the collection would be accepted for storage.

For isolates and cultural artifacts recovered from secondary/disturbed contexts, City of Los Angeles and Caltrans will consult with interested Native American consulting parties on their final disposition.

9.0 FINAL DOCUMENTATION

A final Cultural Resources Monitoring Report detailing the results of the monitoring program will be completed according to the Secretary of Interior's Standards and Guidelines for Archaeological Documentation (Federal Register 1983:44734-44737) describing methods used, cultural material collected, and the results of the various lines of analyses. The report should follow the format according to Caltrans' Standard Environmental Reference handbook (Volume 2: Cultural Resources).

City of Los Angeles and Caltrans will ensure the preparation and subsequent distribution of the draft Cultural Resources Monitoring Report to consulting Native American parties for review and comment.

> A draft of the monitoring report will be provided to consulting Native American groups who will have thirty (30) calendar days to review and submit any written comments to Caltrans District 7. Should Caltrans District 7 receive any comments or statements of concern within the thirty (30) calendar day review and comment period, Caltrans will continue consultation with the commenting parties for a period of no more than thirty (30) calendar days. Following conclusion of this consultation, Caltrans will consider all comments and concerns in the revision of the report. Failure of the consulting Native American parties to respond within this time frame shall not preclude Caltrans from authorizing revisions to the draft technical report, as Caltrans District 7 deems appropriate. Caltrans will inform all consulting parties, including CSO and SHPO if needed, of comments and concerns received regarding the draft monitoring report and how these were addressed and resolved.

Once this process is followed, Caltrans District 7 will issue the technical report in final form and distribute the document to Consulting Native American parties (as well as CSO and SHPO if required) and the SCCIC of the California Historic Resources Information System.

10.0 RESPONSIBLE PARTIES

Caltrans Professionally Qualified Staff
Mariam Dahdul
mariam.dahdul@dot.ca.gov
(213) 266-6891

Caltrans Environmental Branch Chief
Claudia Harbert
claudia.harbert@dot.ca.gov
(213) 335-0124

Resident Engineer, City of Los Angeles
To be determined

Caltrans Environmental Construction Liaison
To be determined

Contractor:
To be determined

Native American Monitor
To be determined

County of Los Angeles Department of Medical Examiner-Coroner
Business hours: (323) 343-0512
After hours: (323) 343-0714

Native American Heritage Commission
(916) 373-3710

11.0 REFERENCES CITED

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APPENDIX A

PROFESSIONAL QUALIFICATIONS

Charles Cisneros, MS, RPA

Senior Project Manager/Senior Archaeologist

REGISTRATION

Registered Professional Archaeologist/Register of Professional Archaeologists 28575983

EDUCATION

2008/MS/European Archaeology/University of Edinburgh, United Kingdom,

2004/BA/Anthropology/California State University, Los Angeles

CERTIFICATIONS

Orange County Certified Archaeologist Certified Archaeologist

Riverside County Certified Archaeologist

PROFESSIONAL AFFILIATIONS

Society for American Archaeology

Society for California Archaeology

Western States Folklore Society

PRESENTATIONS/ PUBLICATIONS

Late Prehistoric Subsistence Practices and Landscape Archaeology in the Cronise Basin 03/13/2016 – Society for California Archaeology

Analyzing Sacred Sites and Cultural Landscapes under CEQA., 03/22/2014 – Society for California Archaeology

Uncovering the Life of the Barbecue King of the Antelope Valley., 03/22/2014 – Society for California Archaeology

When Worlds Collide: The Struggle for Power in the Mojave Desert., 03/10/2013 – Society for California Archaeology

Charles Cisneros is a registered professional archaeologist with 13 years of archaeological assessment and field experience in California and Nevada. He has directed numerous field projects in support of compliance with the CEQA the NEPA and Sections 106 and 110 of the National Historic Preservation Act (NHPA). Charles has managed a wide range of projects involving archaeological survey, testing, data recovery, monitoring, and laboratory analysis. He is skilled at research and data management, as well as maintaining and organizing digital and print publications. His training and background meet the U.S. Secretary of the Interior's Professional Qualifications Standards for prehistoric and historic archaeology and he is a California Energy Commission approved archaeologist for desert archaeology.

Experience

Concordia University Campus Master Build-Out Plan Update Environmental Impact Report, Irvine, CA: Senior Archaeologist for construction monitoring for the first phase of development pursuant to the approved Campus Master Build-Out Plan Update. The Campus Master Build-Out Plan Update will allow for existing buildings totaling approximately 71,231 square feet (sf) to be demolished and 8 new buildings or additions to existing buildings totaling approximately 148,880 sf to be constructed, along with a new residence hall. The project also includes new, relocated, and improved athletic facilities and outdoor space at the approximately 73-acre campus. Charles reviewed project plans and construction agendas to schedule cultural and tribal monitors over the course of the project.

Merrill Brownstones Initial Study/Mitigated Negative Declaration, Riverside, CA: Senior Archaeologist for the project, which is a proposed mixed-use development of 108 dwelling units with a leasing office, club room, swimming pool and spa, fitness center, and cabana. Charles prepared the cultural resources documentation and recommended mitigation measures for the project.

Triunfo Creek Vineyards Project Initial Study/Mitigated Negative Declaration, County of Los Angeles, CA: Senior Archaeologist for the project. Triunfo Creek Vineyards is a privately-owned property that hosts various events throughout the year, including but not limited to weddings and other celebration events, private and corporate events, and yoga classes. The project proposes three separate spaces within the 55 acres, each with specific purpose: a Special Events area; a wine tasting area; and a winery facility for processing wine and hosting smaller events/tastings. Charles is preparing the cultural resources documentation mitigation measures for the project based on past studies and current field studies

NorthLake Specific Plan Environmental Impact Report, Los Angeles County, CA: Senior Archaeologist for the development of an approximate 1,330-acre project site near Castaic Lake. This project involves the

TRAINING

Association of Environmental Professionals, CEQA Basics Workshop

Caltrans Introduction to Cultural Resources

CSULA San Nichols Island Archaeological Field School,

Riverside County Cultural Sensitivity Training (Certificate 338)

EXPERIENCE

With Psomas: 1 year/With Other Firms for: 13 years

development of a mix of single-family units; multi-family units; commercial, industrial, and recreational uses; open space; and school and park facilities. Charles revised the cultural resources documentation and responded to public comments related to the project's cultural resources task.

Glendale-Hyperion Complex of Bridges Improvement Project, Los Angeles, CA: Senior Archaeologist for the PR and PS&E for the rehabilitation of the interchange complex. Improvements include widening the Glendale Boulevard bridges, realigning the I-5 northbound off- and on-ramps and LA River bike path, adding a median barrier on the Hyperion Avenue Viaduct, retaining walls, traffic signals, drainage system improvements, infiltration basins, and improving pedestrian facilities. Charles is preparing required Caltrans cultural resources documentation for the project.

Elysian Park Lofts Project Environmental Impact Report, Los Angeles, CA: Senior Archaeologist for preparation of an Environmental Impact Report for the project, which involves the mixed-use redevelopment of an approximate 8.08-acre parcel with approximately 920 residential units, approximately 17,951 square feet (sf) of neighborhood-serving retail uses, and approximately 5,465 sf of leasing offices. The project site is located Central City North Community Plan Area near the Metro Gold Line railroad and the Los Angeles State Historic Park. The project is considered a transit-oriented development (TOD) due its proximity to a network of regional transportation facilities providing access to the greater metropolitan area and a City of Los Angeles designated transit priority area (TPA). Charles is preparing a cultural resources assessment.

I-10/Jefferson Street Interchange Improvement Project; Indio, California: Assistant Project Manager for prehistoric site investigations located near the archaeological sites of CA-RIV-6896 and CA-RIV-6897. He became familiar with artifacts from the Coachella Valley, plotted and created a map of all surrounding archaeological sites and ancient lake shores, created a table of radio carbon dates, and reviewed relevant reports.

Imperial Irrigation District (IID) Salton Seawater Marine Habitat Pilot Project; Imperial County, CA: Project Manager and Lead Archaeologist for the cultural resources and paleontological assessment study for the Sephton Water Technology and IID Salton Seawater Marine Habitat project located in Imperial County. His responsibilities include assessing the project for cultural and paleontological sensitivity and to develop strategies to minimize impacts to sensitive resources. Charles' other tasks include managing the project budget, correspondence with the IID environmental staff and advising IID with Assembly Bill (AB) 52 Tribal Cultural Resource (TRC) consultation.

Imperial Irrigation District (IID) Johnson's Landing Pilot Project and Boat Ramp; Imperial County, CA: Project Manager and Lead Archaeologist for the cultural resources survey for a 67-acre study on lands administered by the Bureau of Reclamation (BOR) for the IID Johnson's Landing Pilot Project and Boat Ramp located in Imperial County. His responsibilities include conducting the field study and to developing strategies to minimize impacts to sensitive resources. Charles' other tasks include managing the project budget, correspondence with the BOR and

Charles Cisneros, MS, RPA (Continued)

IID environmental staff and advising IID with Assembly Bill (AB) 52 Tribal Cultural Resource (TRC) consultation.

Beacon Solar Photovoltaic Project; Kern County, CA: Project Manager and Lead Archaeologist for the cultural resources monitoring and biological monitoring of Chambers Group personnel on behalf of BonTerra Psomas for the Beacon Solar Photovoltaic project located in Kern County. His responsibilities include assigning Chambers Group personnel to monitor for cultural and biological resources and to develop strategies to minimize impacts to culturally sensitive archaeological sites. Mr. Cisneros's other tasks include managing the project budget and correspondence with the BonTerra Psomas senior project manager.

East Kern Wind Resource Area (EKWRA) Project; Kern County, CA: Project Manager and Lead Archaeologist for the cultural resources monitoring for Southern California Edison's (SCE) East Kern Wind Resources Areas project located in Kern County. His responsibilities include assigning personnel to monitor for cultural resources and to develop strategies to minimize impacts to culturally sensitive archaeological sites. Charles' other tasks include managing the project budget, correspondence with the SCE project senior archaeologist, advising construction personnel and client, and attending to project engineering details.

Genesis Solar Solar Project; Riverside County, CA: Crew Chief, CEC Approved Archaeologist on a special studies data recovery team for the Genesis solar project on Bureau of Land Management property. His responsibilities included providing support for the investigation of cultural resources, GPS mapping, site recordation, ground penetrating radar surveys, and working with AECOM archaeologist and Soboba Tribal Monitors.

Solar Millenium Blythe Solar Project; Riverside County, CA: Crew Chief, CEC Approved Assistant Project Prehistoric Archaeologist on several intensive archaeological surveys and data recovery teams for the Solar Millennium's solar project on Bureau of Land Management property. His responsibilities included providing support for the investigation of cultural resources, GPS mapping, site recordation, ground penetrating radar surveys, and working with AECOM archaeologist and Aqua Caliente tribal monitors.

McCoy Solar Project; Blythe, CA: Crew Chief, CEC Approved Archaeologist for an archaeological survey on a 5000-acre project located on Bureau of Land Management property. Along with other archaeologists, he conducted the investigation of cultural resources, GPS mapping, site recordation and working with AECOM archaeologist and Aqua Caliente tribal monitors.

AT&T Fiber Optic Cable Maintenance Project, Halloran Summit Road to Slash X Ranch Segment, San Bernardino, County, CA: Ethnographer for the ethnographic study for a fiber-optic project located on public lands managed by the Bureau of Land Management (BLM). His responsibilities include researching the ethnographic literature and folklore for several tribes claiming ancestral ties to the land within the project area. Mr. Cisneros's other tasks include managing the project budget, correspondence with the Barstow BLM archaeologist, and completing a report analyzing the ethnographic data.

Charles Cisneros, MS, RPA (Continued)

AT&T Fiber Optic Cable Maintenance Project, Halloran Summit Road to Slash X Ranch Segment, San Bernardino, County, CA: Senior Archaeologist and Principal Investigator for the senior archaeologist and principal investigator for a fiber-optic project located on public lands managed by the Bureau of Land Management (BLM). His responsibilities include researching the archaeology and paleontology for the Mojave Desert and preparing research designs and management plans for cultural and paleontological resources. Mr. Cisneros's other tasks include managing the project budget, correspondence with the Barstow BLM archaeologist, local tribes, and completing a report analyzing the data generated from both the field surveys and mitigation monitoring.