Oceanside Sewer Improvements Program

Cultural Resources Technical Report

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Prepared for:

City of Oceanside
Water Utilities Department
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Report Title:	Cultural Resources Technical Report for the City of Oceanside Sewer Improvements Program, Oceanside, San Diego County, California
Submitted to:	City of Oceanside
Type of Study:	Cultural Resources Survey and Assessment
New Sites:	None
Updated Sites:	P-37-005445, P-37-006010, P-37-007787, P-37-011468, P-37-011470, P-37-012564, P-37-029336, P-37-033928, and P-37-037110
USGS Quad:	San Luis Rey 7.5' Quadrangle
Acreage:	240 acres
Key Words:	San Diego County, Oceanside; San Luis Rey; coastal; positive archaeological survey; archaeological testing; shell, ground stone, flaked stone, buried deposits, human remains; San Luis Rey Wastewater Treatment Plant; TCRs; Township 11 South, Range 4 West and 5 West.

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AD	anno Domini
APE	Area of Potential Effects
BP	Before Present
Caltrans	California Department Transportation
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
City	City of Oceanside
cm	centimeter(s)
CRHR	California Register of Historical Resources
DPR	Department of Parks and Recreation
F	Fahrenheit
FAR	fire-affected rock
FM	force main
g	grams
HDPE	high-density polyethylene
HELIX	HELIX Environmental Planning, Inc.
LF	linear feet
LO	Land Outfall
LSWWTP	La Salina Wastewater Treatment Plant
MALS FM	Mission Avenue Lift Station Force Main
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
OHP	Office of Historic Preservation
OMG FM	Oceanside Mesa Garrison Force Main
PRC	Public Resources Code
Program	Oceanside Sewer Improvements Program
Rincon	Rincon Band of Luiseño Indians

ACRONYMS AND ABBREVIATIONS (cont.)

SCIC	South Coastal Information Center
SDG&E	San Diego Gas & Electric
SLR	San Luis Rey
SLRWRF	San Luis Rey Water Reclamation Facility
SR	State Route
STP	shovel test pits
TCA	Traditionally and Culturally Affiliated
TCP	Traditional Cultural Properties
TCR	Tribal Cultural Resources
USGS	U.S. Geological Survey
Viejas	Viejas Band of Kumeyaay Indians
WWTP	Wastewater Treatment Plant

EXECUTIVE SUMMARY

Ardurra (formerly Infrastructure Engineering Corporation) contracted HELIX Environmental Planning, Inc. (HELIX) to conduct a cultural resources study for the City of Oceanside's (City's) Oceanside Sewer Improvements Program (Program) in the City of Oceanside, San Diego County, California. The cultural resources study builds on the cultural resources survey conducted for the Oceanside Condition Assessment and Access Improvements Project (HELIX 2017) and includes a records search update, an updated Sacred Lands File search, a review of historic aerial photographs and maps, a pedestrian survey of segments of the Program area that had not been surveyed for the Condition Assessment study, and archaeological testing at site P-37-012564 (CA-SDI-12564). This report details the methods and results of the cultural resources study and has been prepared to comply with the California Environmental Quality Act (CEQA), Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and City guidelines.

The records search conducted at the South Coastal Information Center (SCIC) in August 2017 and updated in May 2021 and December 2023 indicated that over 150 cultural resources studies have been conducted within the records search area (the Program alignments and a half-mile radius around them), over 50 of which cover portions of the Program area. At least half of the Program area has been surveyed for cultural resources in the past, based on the records search maps. Forty-eight archaeological resources have been recorded within the half-mile search radius, as well as numerous historic built environment resources. Several of the sites are associated with the ethnohistoric village of San Luis Rey. Small shell scatters and lithic scatter sites have been identified on the knolls and ridges overlooking the San Luis Rey River Valley and the Loma Alta Creek drainage. Bedrock milling features have been recorded in some areas, where suitable rock outcrops are present.

The field investigations included an intensive pedestrian survey of the Program area by HELIX archaeologists and Luiseño Native American monitors from Saving Sacred Sites in September 2017, with additional areas and alternative pipelines surveyed for cultural resources in August 2020, October 2020, and April 2022. A testing program was conducted at P-37-012564 (CA-SDI-12564) in March 2021 to assess the significance/eligibility of this resource.

In summary, of the eight cultural resources recorded within or adjacent to the Program area, three have been recommended as not eligible for the California Register of Historical Resources (CRHR) or National Register of Historic Places (NRHP): P-37-007787, P-37-012564, and P-37-037110. One site was not formally evaluated but was found during construction monitoring and appears to have been destroyed by that construction (P-37-029336). Impacts to these four sites do not constitute significant effects under CEQA or effects to historic properties under the NHPA.

One site is assumed eligible due to the recent discovery of intact subsurface deposits and human remains (P-37-005445). The remaining three sites have not been evaluated. Although not formally evaluated, P-37-011468 was recommended as not eligible, due to the amount of past disturbance and the paucity of cultural material. P-37-011470 also was not formally evaluated, but the historic structures were recommended for preservation and rehabilitation, and the historic component was assumed to be eligible. P-37-033928 was recorded in conjunction with the Oceanside Boulevard Lift Station, but it was not evaluated; during monitoring for that project, several artifacts were observed, but no intact deposits were noted.

In the area of P-37-005445, to minimize impacts to cultural resources, it is recommended that, to the extent feasible, pipeline replacement be done in the same trenches as the existing pipelines. Where this is not feasible, trench widths should be kept as narrow as feasible to accommodate the new or replacement pipelines. Archaeological and Native American monitors will direct the pace of trenching in the area of the site and will screen a sample of the soils excavated.

Sites P-37-011468, P-37-011470, and P-37-033928 all appear to be located at the edge of the Program Area of Potential Effects (APE) but outside the APE. In the event of post-review discoveries of resources during construction, the process and discovery protocol outlined in the Cultural Resources Post-Review Discovery and Monitoring Plan prepared for the program would be implemented so that appropriate measures to resolve potential adverse effects to subsurface historic properties that may be present within the APE and discovered during construction are followed.

Based on the high degree of cultural sensitivity of much of the Program area, the presence of known cultural resources, and the potential for buried cultural resources, it is recommended that an archaeological and Native American monitoring program be implemented for the Program. The monitoring program would include attendance by a Qualified Archaeologist and a Luiseño Native American monitor at preconstruction meetings, and monitoring by a Qualified Archaeologist and Luiseño Native American monitor during ground-disturbing activities in areas with moderate, moderate-high, or high cultural sensitivity, as identified in this report. Both archaeological and Native American monitors would have the authority to temporarily halt or redirect grading and other ground-disturbing activity in the event that cultural resources are encountered. If significant cultural material is encountered, the Qualified Archaeologist will coordinate with the Monitoring Tribe and City staff to develop and implement appropriate avoidance or mitigation measures.

1.0 INTRODUCTION

Ardurra (formerly Infrastructure Engineering Corporation) contracted HELIX Environmental Planning, Inc. (HELIX) to conduct a cultural resources study for the City of Oceanside's (City's) Oceanside Sewer Improvements Program (Program) in the City of Oceanside, San Diego County, California. The cultural resources study builds on the cultural resources survey conducted for the Oceanside Condition Assessment and Access Improvements Project (HELIX 2017) and includes a records search update, an updated Sacred Lands File search, a review of historic aerial photographs and maps, a pedestrian survey of segments of the Program that had not been surveyed for the Condition Assessment study, and archaeological testing at site P-37-012564 (CA-SDI-12564). This report details the methods and results of the cultural resources study and has been prepared to comply with the California Environmental Quality Act (CEQA), Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and City guidelines.

1.1 PROGRAM LOCATION

The Oceanside Sewer Improvements Program is located in the City of Oceanside in northwestern San Diego County (Figure 1, *Regional Location*). The Program is located within Sections 5, 6, 7, 8, 18, and 19 of Township 11 South, Range 4 West, and Sections 24, 25, 26, and 35 of Township 11 South, Range 5 West, on the U.S. Geological Survey (USGS) 7.5' San Luis Rey quadrangle (Figure 2, *USGS Topography*). The Program alignment spans approximately seven miles and initiates at the San Luis Rey Water Reclamation Facility (SLRWRF), located at 3950 North River Road. From this location, the Program study area extends southwest along Whalen Lake Road, crosses the San Luis Rey River corridor, continues to the south-southeast crossing of San Luis Rey Mission Expressway (State Route [SR] 76) and Mission Avenue, Hacienda Drive, Las Vegas Drive, and other residential streets, and continues southwest, eventually reaching Oceanside Boulevard. The Program alignment follows Oceanside Boulevard southwest for a few miles, then crosses into other residential streets, passes through the La Salina Wastewater Treatment Plant (LSWWTP), crosses South Coast Highway, and terminates at the Pacific Ocean.

1.2 PROGRAM DESCRIPTION

The proposed Program generally consists of implementing multiple individual sewer utility improvement projects spanning a linear alignment from the SLRWRF to the beginning of the Oceanside Ocean Outfall (OLO). The proposed Program includes underground improvements as well as above ground construction of a new lift station. Specific utility improvements are currently under design, and thus, no specific development or conservation footprints were identified in the survey area. Proposed Program components are shown conceptually on Figure 3, *Aerial Photograph*, and further described below.

Sewer improvement projects that have been identified as part of this programmatic effort thus far include the following:

- Oceanside Mesa Garrison (OMG) Lift Station;
- OMG Force Main (OMG FM) ;
- Land Outfall Replacement;
- Mission Avenue Lift Station Force Main (MALS FM) Replacement; and
- Mission Avenue Gravity Sewer Lining and Replacement.

1.2.1 Oceanside Mesa Garrison Lift Station Project

The proposed OMG Lift Station Project involves the design and construction of a five-million-gallon-per-day (MGD) sewer lift station near the intersection of Mesa Drive and Garrison Street. The new OMG Lift Station would accommodate gravity flows from Mesa Drive and Garrison Street via a 24-inch gravity sewer main. Flows from the OMG Lift Station would be conveyed north to the SLRWRF via the new OMG FM, which is described below.

The City has identified the permanently closed Garrison Elementary School property as the optimal location for the proposed OMG Lift Station due to reduced pumping costs, proximity to the convergence of major sewer pipelines that would connect at the intersection of Mesa Drive and Garrison Street, and avoidance of permanent structures under San Diego Gas & Electric (SDG&E) high voltage power lines. The lift station would be developed within approximately 3 acres of the 11.2-acre property, which includes a 28-foot-wide access road proposed along the eastern property line for future utilities and maintenance access. The access road would also allow vehicle access to the project site from the south and possibly the north because Garrison Street is not a through street between Oceanside Boulevard and Mesa Drive. The remaining former school property would be sold to a prospective developer.

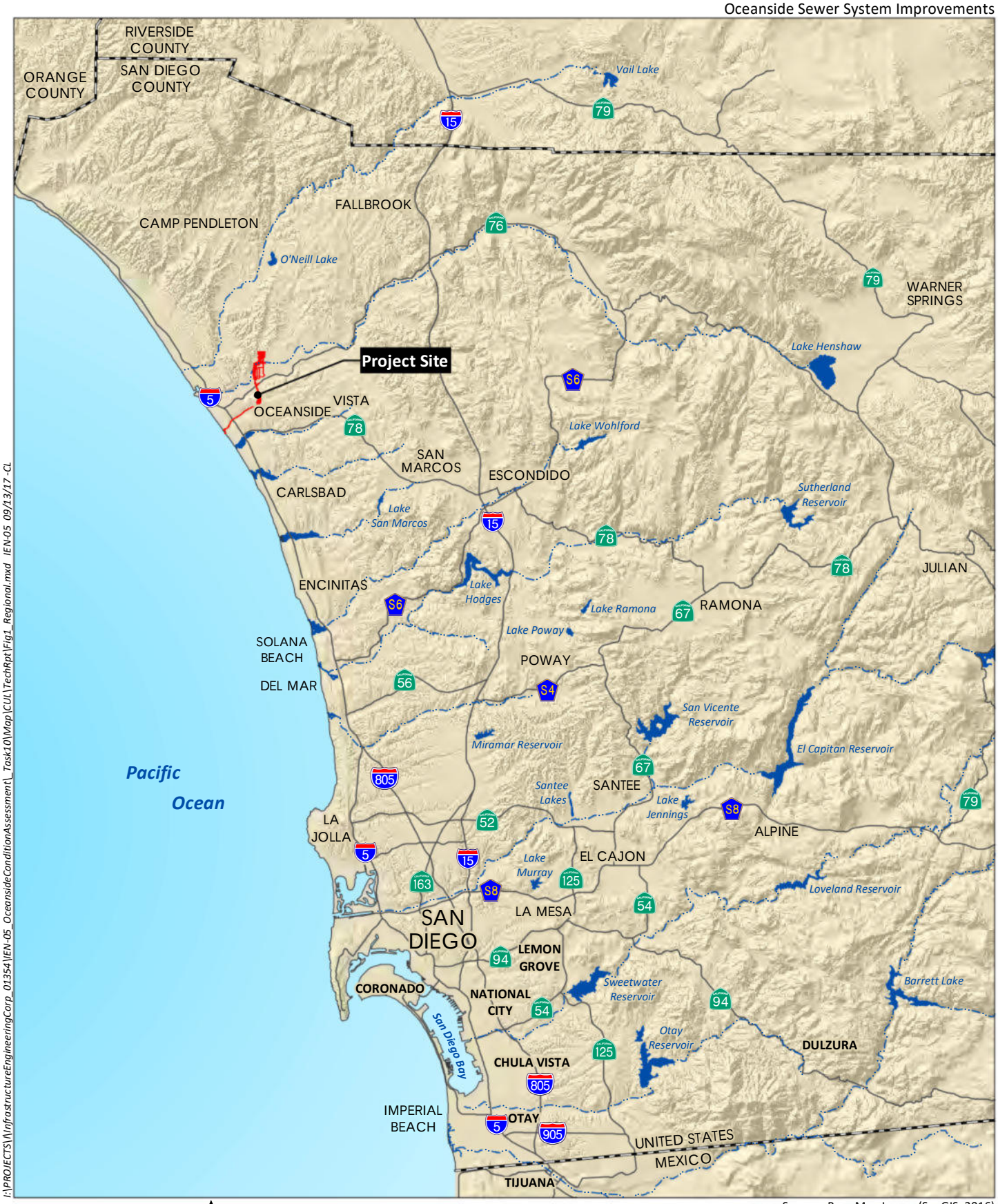
The proposed OMG Lift Station would include construction of the access road and lift station and associated components, including a wet well, emergency storage, future pipelines, parking, training (open area), chemicals storage, and equipment storage.

1.2.2 Oceanside Mesa Garrison Force Main Project

The OMG FM Project involves the design and construction of approximately 16,100 linear feet (LF) of 36-inch sewer force main that would carry wastewater flows from the OMG Lift Station, as well as flows from the existing Buena Vista FM, to the SLRWRF. The existing 36-inch/42-inch Trunk Main carries flows from the Buena Vista Lift Station (located near the Carlsbad Shopping Center at Jefferson Street and SR 78), and gravity flows from the Mesa-Garrison intersection to SLRWRF.

A substantial portion of the pipeline would occur within existing City easements outside of paved roadways. The OMG FM would commence at the OMG Lift Station. North of the lift station, the FM would continue north along Garrison Street to the intersection with Mesa Drive. Here, it would connect to and collect flows from the existing Buena Vista FM. The OMG FM would continue northwest along Mesa Drive and then north through the SDG&E/Kinder Morgan transmission corridor, northeast across the San Luis Rey River, and along Whalen Lake Road to the SLRWRF.

The new 36-inch OMG FM would parallel the existing Trunk Main and would utilize the existing Trunk Main piping within an approximately 800-LF portion of tunnel (“Tunnel”) near the SDG&E Substation that is west of El Camino Real and north of Mesa Drive. Piping within the Tunnel would not be replaced. The Trunk Main has few maintenance/access locations, which limits the City from cleaning and inspecting the pipe. Upon installation of the new OMG FM, the existing Trunk Main can be taken out of service, cleaned, inspected, and rehabilitated to safely serve as a redundant pipeline for the new OMG FM. To provide redundancy for the 36-inch pipe through the Tunnel section, an existing 22-inch high-density polyethylene (HDPE) pipe that currently carries Mesa-Garrison gravity flows through the Tunnel may be repurposed to handle the pressurized flow from the new OMG FM. Work would include



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0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1

- Oceanside Mesa Garrison Lift Station
- Land Outfall Replacement
- Existing Land Outfall (not proposed for replacement)
- Gravity Sewer Main to Oceanside Mesa Garrison Lift Station
- Mission Avenue Lift Station Force Main Replacement
- Oceanside Mesa Garrison Force Main
- Oceanside Mesa Garrison Force Main Extension
- Potential Staging and Access

CAMP PENDLETON

OCEANSIDE

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0 2,000 Feet

Source: SAN LUIS REY 7.5' Quad (USGS)

HELIX Environmental Planning

USGS Topography

Figure 2

Oceanside Mesa Garrison Lift Station
Land Outfall Replacement
Existing Land Outfall (not proposed for replacement)
Gravity Sewer Main to Oceanside Mesa Garrison Lift Station
Mission Avenue Lift Station Force Main Replacement
Oceanside Mesa Garrison Force Main
Oceanside Mesa Garrison Force Main Extension
Potential Staging and Access

CAMP PENDLETON
CITY OF OCEANSIDE
CITY OF CARLSBAD

North River Rd
Douglas Dr
Pala Rd
Los Arbolitos Blvd
Coco Palms Dr
N El Camino Real
Peyri Rd
Fireside St
Rancho Del Oro Dr
Benet Rd
Airport Rd
Mission Ave
El Camino Real
San Luis Rey Rd
Jones Rd
E Barnwell St
N Barnwell St
Foussat Rd
Mesa Dr
Garrison St
State Route 76 Wb
Neptune Way
Bush St
Archer St
Brooks St
Civic Center Dr
N Coast Hwy
Division St
Country Club Ln
Canyon Dr
Crouch St
Oceanside Blvd
Skylark Dr
Dunstan St
Grant St
Downs St
Laurel Rd
Fire Mountain Dr
Avocado Rd
Via Las Rosas
Ivy Rd
Vista Way
S Pacific St
Wisconsin Ave
S Coast Hwy
California St
Hunsaker St
Alvarado St
Cassidy St
S Coast Highway
Vista Way
Jefferson St
Monroe St
Marron Rd
Avenida De Anita
Carlsbad Village Dr

0 2,000 Feet

Source: Aerial (Maxar, 2023).

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HELIX Environmental Planning

Program Components

Figure 3

connecting and installing valves on the 22-inch HDPE pipe and replacing approximately 1,000 LF of lined gravity pipe north of the Tunnel.

An approximately 800-LF extension of the OMG FM is proposed to be constructed south of the OMG Lift Station to accommodate future system expansion and improved reliability. The OMG FM Extension would serve as a future system tie-in that could accommodate diversion of flows from the City's sewer collection system into the OMG FM. The OMG FM Extension would be constructed in conjunction with the OMG FM to minimize future construction costs and reduce potential service disruptions.

1.2.3 Land Outfall Replacement Project

The Land Outfall Replacement Project involves upsizing approximately 27,000 LF of the existing 24-inch OLO to 36-inch pipe between the SLRWRF and LSWWTP in various segments. The capacity increase would accommodate additional flows after the Fallbrook Public Utility District's connection to the OLO at Pala Road and future effluent flows diverted from LSWWTP. Approximately 19,000 LF of the OLO from SLRWRF to the OMG Lift Station site generally follow the same corridor as the OMG FM. This segment includes the 800 LF Tunnel section near the SDG&E Substation off El Camino Real north of Mesa Drive that would not be upsized. This upper reach of the Land Outfall that is in parallel with the OMG FM along with the Mission Ave Lift Station Force Main will be part of the Progressive Design-Build Project that is currently in design and expected to start construction in 2026. This upper reach is critical from an operational standpoint to accommodate future increased flows and provide spill control measures at SLRWRF. The upsized OLO would provide the reliability and capacity to divert effluent flows should the Pure Water (Advanced Water Treatment Facility) and Recycled Water production facilities be taken offline unexpectedly, as well as for maintenance purposes. This would also allow for future wastewater flow increases and potential coordination with nearby agencies that have expressed interest in sending more effluent through the OLO. Of the remaining 10,000 LF of pipe to be replaced, approximately 4,000 LF near the North County Transit District Railroad right-of-way was assessed in July 2021, and the condition was found to be extremely poor and requiring replacement. The other 6,000 LF in Oceanside Boulevard to Garrison Elementary School was not assessed, but upsizing would further alleviate capacity and operational issues.

OLO replacement components are as follows:

- Part A: Replacement of approximately 11,000 LF of 24-inch pipe with new 36-inch HDPE pipe between SLRWRF and Mission Basin Groundwater Purification Facility (MBGPF) in easements, including San Luis Rey River crossing. It would be constructed in a similar corridor as OMG FM.

- Part B: Replacement of approximately 5,600 LF of existing 24-inch Ductile Iron Pipe (DIP) pipe with new 36-inch HDPE pipe between MBGPF and the Tunnel north of Mesa Drive, within easements. This includes construction within the existing SDG&E corridor, private development, City facility, Caltrans right-of-way, and OMG FM corridor.

- Part C1: Replacement of approximately 1,350 LF of 24-inch pipe with new 36-inch HDPE pipe in Garrison Street from Garrison Elementary School to Oceanside Boulevard.

- Part C2: Replacement of approximately 4,500 LF of 24-inch pipe with new 36-inch HDPE pipe along Oceanside Boulevard between Garrison Street westward to the existing 36-inch HDPE OLO

at Canyon Drive, where a segment of the existing 24-inch pipe was replaced in 2015 due to its poor condition.

- Part D: Replacement of approximately 4,000 LF of 24-inch pipe with new 36-inch HDPE pipe in Oceanside Boulevard from the westerly terminus of 36-inch HDPE pipe to the LSWWTP through residential streets, including the North County Transit District crossing.

1.2.4 Mission Avenue Lift Station Force Main Replacement Project

The MALS FM Replacement Project involves the replacement of approximately 13,000 LF of the existing 24-inch sewer force main from the Mission Avenue Lift Station to SLRWRF with a new parallel pipeline. The pipeline would commence at the sewer lift station near Mission Avenue, where it would run north through the proposed Ocean KAMP development, the SDG&E/Kinder Morgan transmission corridor, the Mission Basin Groundwater Purification Facility, and north in an easement adjacent to SLR Fireside Pond under U.S. Army Corps of Engineers jurisdiction. The pipeline would continue north in a public easement through unpaved areas, where it would be incorporated into the private streets of the proposed 52-unit Cypress Point residential development at Pala Road before crossing under the San Luis Rey River along with the other proposed pipelines. There, the pipeline would continue to run northeast through unpaved areas, potentially around SLRWRF's holding ponds and to the plant's headworks. Once the new parallel pipe is constructed, the existing 24-inch MALS FM may be taken offline, cleaned, assessed, and repaired to serve as a backup force main to improve the reliability of the City's sewer system.

1.2.5 Mission Avenue Gravity Sewer Lining and Replacement Project

The Mission Avenue Gravity Sewer includes the cured-in-place lining of approximately 600 LF of 24-inch gravity sewer pipe starting at 3560 Mission Avenue at the terminus of the Market Place Del Rio Sewer Replacement project west to Fireside Street. From the Fireside Street and Mission Avenue intersection, approximately 1,600 LF of the 24-inch pipe along Mission Avenue to the west would need to be upsized to a 30-inch and/or 36-inch pipe. The existing sewer is located in private easements through a commercial shopping center and undeveloped parcels owned by the Ocean KAMP development. The new replacement pipe would likely be relocated into Mission Avenue, where feasible. The Ocean KAMP development is conditioned to upsize a portion of the sewer in Mission Avenue in front of the development.

1.3 REGULATORY FRAMEWORK

Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, and/or scientific importance. Significant resources are those resources that have been found eligible to the California Register of Historical Resources (CRHR) or National Register of Historic Places (NRHP), as applicable.

1.3.1 National Historic Preservation Act

Federal regulations that would be applicable to the Program, due to the federal nexus of funding from a federal agency, consist of the NHPA and its implementing regulations (16 United States Code 470 et seq., 36 Code of Federal Regulations [CFR] Part 800). Section 106 of the NHPA requires Federal agencies to consider the effects of their undertakings on "historic properties", that is, properties (either historic

or archaeological) that are eligible for the NRHP. To be eligible for the NRHP, a historic property must be significant at the local, state, or national level under one or more of the following four criteria:

A. associated with events that have made a significant contribution to the broad patterns of our history;

B. associated with the lives of persons significant in our past;

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

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

All resources nominated for listing must have integrity, which is the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Resources, therefore, must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. A resource must also be judged with reference to the particular criteria under which it is proposed for nomination.

1.3.2 California Environmental Quality Act

The CEQA Guidelines (§15064.5) address determining the significance of impacts to archaeological, historic, and tribal cultural resources. Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, and/or scientific importance (Office of Historic Preservation [OHP] 1995). Significant resources are designated as "historical resources," and are defined per Public Resources Code 21084.1 and CEQA Guidelines, California Code of Regulations (CCR) Title 14 Section 15064.5 as follows:

- Resource(s) listed or eligible for listing in the California Register of Historic Resources (CRHR) (14 CCR Section 15064.5[a][1])

- Resource(s) either listed in the National Register of Historic Places (NRHP) or in a "local register of historical resources" unless "the preponderance of evidence demonstrates that it is not historically or culturally significant" (14 CCR Section 15064.5[a][2])

- Resources identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code (14 CCR Section 15065.5[a][2])

For listing in the CRHR, a historical resource must be significant at the local, state, or national level under one or more of the following four criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;

2. It is associated with the lives of persons important to local, California, or national history;

3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; and

4. It has yielded or has the potential to yield information important to the prehistory or history of the local area, California, or the nation.

Under 14 CCR Section 15064.5(a)(3), the final category of "historical resources" may be determined at the discretion of the lead agency.

CEQA also addresses tribal cultural resources. Section 21074 of the statute reads:

(a) "Tribal cultural resources" are either of the following:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

(A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

(B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

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

(b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

(c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

1.3.3 City of Oceanside Regulations

The City's General Plan is currently undergoing an update; the existing General Plan has as one of its stated goals, "Encourage the conservation and protection of significant cultural resources for future scientific, historic, and educational purposes."

Chapter 14A of the City's Municipal Code addresses historic preservation. Sec. 14A.2 – Policy and purpose states:

> It is hereby declared as a matter of public policy that the recognition, preservation, enhancement, perpetuation and use of structures, landscape features, sites and areas within the City of Oceanside having historical, architectural, archeological, cultural or aesthetic

significance is required in the interest of the economic prosperity, cultural enrichment and general welfare of the people [City of Oceanside Code of Ordinances, Sec. 14A.2].

1.3.4 Native American Heritage Values

Federal and state laws mandate that consideration be given to the concerns of contemporary Native Americans with regard to potentially ancestral human remains, associated funerary objects, and items of cultural patrimony. Consequently, an important element in assessing the significance of the study area has been to evaluate the likelihood that these classes of items are present in areas that would be affected by the proposed Program.

Potentially relevant to prehistoric archaeological sites is the category termed Traditional Cultural Properties (TCP) in discussions of cultural resource management performed under federal auspices. According to Patricia L. Parker and Thomas F. King (1998), "Traditional" in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. Then, the traditional cultural significance of a historic property is significance derived from the role the property plays in a community's historically rooted beliefs, customs, and practices. Cultural resources can include TCPs, such as gathering areas, landmarks, and ethnographic locations, in addition to archaeological districts. Generally, a TCP may consist of a single site, or group of associated archaeological sites (district or traditional cultural landscape), or an area of cultural/ethnographic importance.

In California, the Traditional Tribal Cultural Places Bill of 2004 requires local governments to consult with Native American Tribes during the project planning process, specifically before adopting or amending a General Plan or a Specific Plan, or when designating land as open space for the purpose of protecting Native American cultural places. The intent of this legislation is to encourage consultation and assist in the preservation of Native American places of prehistoric, archaeological, cultural, spiritual, and ceremonial importance. State Assembly Bill (AB) 52, effective July 1, 2015, introduced the Tribal Cultural Resource (TCR) as a class of cultural resources and additional considerations relating to Native American consultation into CEQA. As a general concept, a TCR is similar to the federally defined TCP; however, it incorporates consideration of local and state significance and the required mitigation under CEQA. A TCR may be considered significant if included in a local or state register of historical resources; or determined by the lead agency to be significant pursuant to criteria set forth in Public Resources Code (PRC) §5024.1; or is a geographically defined cultural landscape that meets one or more of these criteria; or is a historical resource described in PRC §21084.1, a unique archaeological resource described PRC §21083.2; or is a non-unique archaeological resource if it conforms with the above criteria.

1.4 AREA OF POTENTIAL EFFECTS

Pursuant to 36 CFR 800.4(a)(1), the area of potential effects (APE) is the geographic area within which an undertaking may directly or indirectly alter the character or use of historic properties. For the purposes of this technical report analysis, the APE for the Program is defined as the pipeline alignments and a 150-foot buffer on each side of the proposed alignment centerline.

1.5 PROGRAM PERSONNEL

HELIX conducted a cultural resources study to assess the Program's effects on cultural resources. Mary Robbins-Wade, M.A., RPA, served as the principal investigator and is the primary author of this report.

Kassie Sugimoto, M.A., is the report co-author, and Theodore G. Cooley M.A., RPA, served as report contributor. Ms. Robbins-Wade, Ms. Sugimoto, and Mr. Cooley all meet the qualifications of the Secretary of Interior's Professional Qualifications Standards for Archaeology.

The 2017 field survey was conducted by HELIX archaeologists Andrew Giletti, Kristina Davison, and Andres Berdeja, with Luiseño Native American monitor John Chavez from Saving Sacred Sites (San Luis Rey Band of Mission Indians). Surveys of potential alignments and project features that were added subsequent to the 2017 fieldwork were conducted by HELIX archaeologist Mary Villalobos and Banning Taylor from Saving Sacred Sites in 2020, by James Turner of HELIX and Vaa Lerome of Saving Sacred Sites in 2020, and by Ms. Villalobos and Mr. Turner with Mario Herrera of Saving Sacred Sites in 2022. Testing at site P-37-012564 was conducted by HELIX field director Julie Roy and archaeologists Dominique Diaz de Leon, Kent Smolik, James Turner, Mary Villalobos, Amber Parron, and Allana O'Connor. Shanee Ventura, Ali'i Suiaunoa, and Jessica Alexander, Luiseño Native American monitors from Saving Sacred Sites, participated in all fieldwork during archaeological testing. Resumes for key Program personnel are presented in Appendix A.

2.0 PROGRAM SETTING

2.1 NATURAL SETTING

The Program area is in the coastal plains of northwestern San Diego County, where the climate is characterized as semi-arid, cool (Griner and Pryde 1976: Figure 3.4). Average annual temperatures range from a January low of about 44 degrees Fahrenheit (° F) to a July high of about 75° F, and annual rainfall averages around 10 inches (Griner and Pryde 1976). The Program alignments are located mainly in the San Luis Rey River Valley and the valley of Loma Alta Creek (Figures 2 and 3), travelling from the San Luis Rey WWTP, near Windmill Lake, in the northeast to the La Salina WWTP at the Pacific Ocean on the southwest.

Geologically, the Program alignments are underlain by young alluvial flood-plain deposits (Holocene and Late Pleistocene) in the San Luis Rey River Valley and alluvial flood-plain deposits (Late Holocene) along Loma Alta Creek, with the middle Eocene Santiago formation mapped on the mesas between the two valleys (Kennedy and Tan 2007). Vegetation communities mapped within the immediate vicinity of the Program include southern willow scrub, non-native grassland, and valley and foothill grassland, as well as freshwater emergent wetland, freshwater forested/shrub wetland, freshwater pond, lake, and riverine. Coastal sage scrub vegetation was undoubtedly present on nearby mesas and ridges in the past. Plants found in these vegetation communities are known to have been used by the Luiseño people for food, medicine, tools, shelter, ceremonial, and other uses (Bean and Shipek 1978; Sparkman 1908). Many of the animal species found in these communities would have been used by native populations as well. The proximity to the coast and the environments of Loma Alta Creek and the San Luis Rey River would have provided access to fish, shellfish, birds, and other resources as well.

2.2 CULTURAL SETTING

2.2.1 Prehistoric Period

The earliest well-documented sites in the San Diego area belong to the San Dieguito Tradition, dating to over 9,000 years ago (Warren 1967; Warren et al. 1998). The San Dieguito Tradition is thought by most

researchers to have an emphasis on big game hunting and coastal resources (Warren 1967). Diagnostic material culture associated with the San Dieguito complex includes scrapers, scraper planes, choppers, large blades, and large projectile points (Rogers 1939; Warren 1967). In the southern coastal region, the traditional view of San Diego's prehistory has the San Dieguito Tradition followed by the Archaic Period, dating from circa 8600 Before Present (BP) to circa 1300 BP (Warren et al. 1998).

A large number of archaeological site assemblages dating to this period have been identified at a range of coastal and inland sites. These assemblages, designated as the La Jolla/Pauma complexes, are considered part of Warren's (1968) "Encinitas tradition" and Wallace's (1955) "Early Milling Stone Horizon." The Encinitas tradition is generally "recognized by milling stone assemblages in shell middens, often near sloughs and lagoons" (Moratto 1984:147) and brings a shift toward a more generalized economy and an increased emphasis on seed resources, small game, and shellfish. The local cultural manifestations of the Archaic period are called the La Jollan complex along the coast and the Pauma complex inland. Pauma complex sites lack the shell that dominates many La Jollan complex site assemblages. Sites dating to the Archaic Period are numerous along the coast, near-coastal valleys, and around estuaries. In the inland areas of San Diego County, sites associated with the Archaic Period are less common relative to the Late Prehistoric complexes that succeed them (Cooley and Barrie 2004; Laylander and Christenson 1988; Raven-Jennings and Smith 1999; True 1970). The La Jolla complex tool assemblage is dominated by rough cobble tools, especially choppers and scrapers (Moriarty 1966). The La Jolla complex tool assemblage also includes manos and metates, terrestrial and marine mammal remains, flexed burials, doughnut stones, discoidals, stone balls, plummets, biface points, beads, and bone tools (True 1958, 1980).

While there has been considerable debate about whether San Dieguito and La Jollan patterns might represent the same people using different environments and subsistence techniques, or whether they are separate cultural patterns (e.g., Bull 1983; Ezell 1987; Gallegos 1987; Warren et al. 1998), abrupt shifts in subsistence and new tool technologies occur at the onset of the Late Prehistoric Period (1500 BP to anno Domini [AD] 1769). The Late Prehistoric period is characterized by higher population densities and intensification of social, political, and technological systems. The Late Prehistoric period is represented by the SLR complex in the northern portion of San Diego County and the Cuyamaca complex in the southern portion.

The SLR complex is divided into two phases: SLR I and SLR II. Elements of the SLR complex include small, triangular, pressure-flaked projectile points (generally Cottonwood series, but Desert Side-notched series also occurs); milling implements (mortars and pestles, manos and metates, and bedrock milling features); bone awls; Olivella shell beads; other stone and shell ornaments; and cremations (Meighan 1954; Moratto 1984; True et al. 1974). The later SLR II complex also includes several elements not found in the SLR I complex: "pottery vessels, cremation urns, red and black pictographs, and such nonaboriginal items as metal knives and glass beads" (Meighan 1954:223).

SLR I was originally thought to date from AD 1400 to AD 1750, with SLR II dating between AD 1750 and AD 1850 (Meighan 1954). However, that division assumed that the Luiseño did not practice pottery manufacture until just before the arrival of the Spanish. The chronology has since been revised due to evidence that pottery may have been introduced to the Luiseño circa AD 1200-1600. Ceramics were probably introduced from the Luiseños' southern neighbors, the Kumeyaay (True et al. 1974).

Based on ethnographic data, including the areas defined for the Hokan-based Yuman-speaking peoples (Kumeyaay) and the Takic-speaking peoples (Luiseño) at the time of contact, it is generally accepted that

the Cuyamaca complex is associated with the Kumeyaay people and the San Luis Rey complex with the Luiseño. The name Luiseño derives from Mission San Luis Rey de Francia and has been used to refer to the Native people associated with that mission, while the Kumeyaay people are also known as Ipai, Tipai, or Diegueño (named for Mission San Diego de Alcala). Agua Hedionda Creek is often described as the division between the territories of the Luiseño and the Kumeyaay people (Bean and Shipek 1978; Luomala 1978; White 1963), although various archaeologists and ethnographers use slightly different boundaries. Native people know their traditional use areas through traditional stories, songs, and other traditional knowledge.

2.2.2 Ethnohistory

The name Luiseño derives from Mission San Luis Rey de Francia and has been used to refer to the people associated with the mission. The Luiseño language belongs to the Cupan group of the Takic subfamily and is part of the widespread Uto-Aztecan language family (Bean and Shipek 1978; Sparkman 1908; White 1963). Neighboring groups that speak Cupan languages are Cupeño, Cahuilla, and Gabrielino (also Gabrieleño). The people associated with Mission San Juan Capistrano were called Juaneño by the Spanish; they are also known as Acjachemen. The language, culture, and territory of the Luiseño and Juaneño people are so closely related that the two are sometimes considered by ethnographers to be a single ethnic nationality (Bean and Shipek 1978; White 1963); however, the Luiseño and Juaneño people consider themselves to be separate tribes, as do some ethnographers (e.g., Kroeber 1976 [1925]). Cameron (1987:319-321) noted archaeological differences between the two groups.

Mission San Luis Rey is located approximately one mile north of the proposed Program alignments. Sparkman (1908) lists *Keish* as the name his Luiseño informants gave for San Luis Rey. Kelsey indicated that the Luiseño name for the village in the area of Mission San Luis was *Tacayme*, "although Pablo Tac recalls that the people called the area *Quechla*, the Indian name for the stone found there" (Kelsey 1990:26). Hudson (1964) noted that *Keish*, *Qee'sh*, and *Quechla* are all orthographic variants of the same village or place name (Franklin and Carrico 1978: 19).

The rancherias at San Luis Rey became integral parts of the Mission, supplying laborers as well as converts (Carrico 1977; Hewes and Hewes 1958). Kroeber (1976 [1925]: Plate 57) noted several villages along the San Luis Rey River, in addition to *Keish*, including one at the coast (*Wiawio*), two a short distance east of San Luis Rey (*Wiasamai* and *Wahaumai*), and two between this area and Pala (*Kwalam* and *Tomka*v). Kroeber (1976 [1925]:Plate 57) also shows a village called *Ikaimai* (Carrico 1977 calls it *Ikalmal*) at San Luis Rey.

When it came time to establish a Mission between San Diego and San Juan Capistrano, the site on the San Luis Rey River was chosen, and a Mission was established there on June 13, 1798 (Englehardt 1921:8). Father Antonio Peyri was the founder of the Mission and guided its construction. The site selected for the Mission had been a thriving Indian community and continued to be so during the mission period. Previous research at the Mission has dealt with the location of the Indian settlement, and the consensus seems to be that the main portion of the village was north of the Mission, toward the river, but that dwellings occurred in other places as well (Kelsey 1990:32; Magalousis and Kelsey 1992). There is evidence to indicate the presence of Indian houses east and southeast of the Mission. Indeed, the location of the settlement seems to have shifted through time (Oxendine 1983).

The Indian village of San Luis Rey was tallied as a separate entity in the 1860 census, containing 20 dwellings, with a population of 106. "[I]t is not certain whether the village listed between Visitation Numbers 175 and 194 was located in the immediate vicinity of the mission, in the vicinity of CA-SDI-5133/H…or scattered somewhere in between" (Swanson 1994:4:20). CA-SDI-5133/H is part of the Wanis complex addressed below.

The Wanis site complex, located on the west side of the San Luis Rey River from the Program area, includes CA-SDI-5130, CA-SDI-5133/H, CA-SDI-6014, and CA-SDI-6015 and probably represents the village of San Luis Rey or *Keish* (*Quechla*). This site complex includes a La Jolla period component, with radiocarbon samples yielding dates between 5310 ± 60 years BP and 6090 ± 90 BP (Quillen et al. 1984). Late Prehistoric use of the site has also been documented, and the site was occupied into the nineteenth century (see Moratto et al. 1994; Robbins-Wade 2000). Human remains have been found at the Wanis site complex as well. A number of other archaeological sites have been recorded in the Program vicinity, many associated with the occupation of Mission San Luis Rey or with the Wanis complex.

Based on historic and archaeological evidence, Oxendine (1983) suggested the following sequence of settlement locations by the Indians associated with Mission San Luis Rey:

> The sequence of San Luis Rey occupation may be as follows. Either SDi-6014 or SDi-5130, or perhaps both sites, could be the *rancheria* observed at the west end of San Luis Rey valley in 1769. Radiocarbon dates suggest that SDi-6014 was occupied at that time, and the deep midden observed by Franklin and Carrico at SDi-5130 suggest that it might also have a late occupation date. With the founding of Mission San Luis Rey in 1798, the Indians were moved from that village to the mission, and in 1827 were observed just north of it. In 1847, they were living at the site of SDi-5445, and in 1854, seem to have been at SDi-5130. They are reported to have been at SDi-5130 in 1873, at which date they moved to SDi-6009. By 1901, the Indians no longer lived in the vicinity of the mission [Oxendine 1983:115-116].

CA-SDI-5445 is a large village/habitation site (over 100 acres) on the southeast side of the river from the Wanis complex. It is crossed by the Program and is discussed in detail later in this report.

Following the Mission and Mexican periods, agricultural use of the San Luis Rey River valley by homesteaders began in the nineteenth century. Settlers included the Hubberts, Goldbaums, and Crouches (Corum 1991; Swanson 1994).

It must be noted that interpretations by archaeologists and linguistic anthropologists may differ from the traditional knowledge of the Luiseño people. Luiseño creation stories indicate that the Luiseño people have always been here, not migrating from elsewhere. The creation story of the Pechanga Band of the Luiseño tells that the world was created at Temecula. "The Káamalam [first people] moved to a place called Nachíivo Pomíisavo, but it was too small, so they moved to a place called 'exva Teméeku,' this place you now known as Temeku. Here they settled while everything was still in darkness (DuBois 1908)" (Masiel-Zamora 2013:2). A traditional Luiseño story tells of a great flood, and the people went to higher ground, where they were saved. The San Luis Rey Band say that this higher ground where the people were saved is Morro Hill, which is located several miles northeast of the Program area. Some Luiseño informants indicated the place in this story is a hill just east of Highway 395 in the San Luis Rey River Valley (Cupples and Hedges 1977).

2.2.3 Historical Background

2.2.3.1 Spanish Period

While Juan Rodriguez Cabrillo visited San Diego briefly in 1542, the beginning of the historic period in the San Diego area is generally given as 1769. It was that year that the Royal Presidio of San Diego was founded on a hill overlooking Mission Valley. The Mission San Diego de Alcala was constructed in its current location five years later. The Spanish Colonial period lasted until 1821 and was characterized by religious and military institutions bringing Spanish culture to the area and attempting to convert the Native American population to Christianity. Mission San Diego was the first mission founded in Southern California. Mission San Luis Rey, situated less than a mile northeast of the Program area, was founded in 1798. Asistencias (chapels) were later established at Pala (1816) and Santa Ysabel (1818).

2.2.3.2 Mexican Period

The Mexican period lasted from 1821, when Mexico gained its independence from Spain, to 1848, when Mexico ceded California to the United States under the Treaty of Guadalupe Hidalgo at the end of the Mexican-American War. Following the secularization of the missions in 1834, mission lands were given as large land grants to Mexican citizens as rewards for service to the Mexican government. The society made a transition from one dominated by the church and the military to a more civilian population, with people living on ranchos or in pueblos. With the numerous new ranchos in private hands, cattle ranching expanded and prevailed over agricultural activities.

2.2.3.3 American Period

The American period began in 1848, when California was ceded to the United States. The territory became a state in 1850. The terms of the Treaty of Guadalupe Hidalgo brought about the creation of the Lands Commission in response to the Homestead Act of 1851, which was adopted as a means of validating and settling land ownership claims throughout the state. Few of the large Mexican ranchos remained intact, due to legal costs and the difficulty of producing sufficient evidence to prove title claims. Much of the land that once constituted rancho holdings became available for settlement by immigrants to California. The influx of people to California and to the San Diego region resulted from several factors, including the discovery of gold in the state, the end of the Civil War, the availability of free land through the passage of the Homestead Act, and later, the importance of San Diego County as an agricultural area supported by roads, irrigation systems, and connecting railways. During the late nineteenth and early twentieth centuries, rural areas of San Diego County developed small agricultural communities centered on one-room schoolhouses. Such rural farming communities consisted of individuals and families tied together through geographical boundaries, a common schoolhouse, and a church. Farmers living in small rural communities were instrumental in the development of San Diego County. They fed the growing urban population and provided business for local markets. Rural farm school districts represented the most common type of community in the county from 1870 to 1930.

3.0 ARCHIVAL RESEARCH AND CONTACT PROGRAM

3.1 RECORDS SEARCH

HELIX requested a records search of the California Historical Resources Information System (CHRIS) from the South Coastal Information Center (SCIC) on August 4, 2017, which was completed and received on August 31, 2017, for the Oceanside Condition Assessment Project study. The records search covered 0.5 mile on either side of the pipeline alignment and included locations and records for archaeological and historical resources, historic addresses, locations and citations for previous cultural resources studies, and a review of the state OHP historic properties directory. An updated records search was conducted by SCIC staff on May 19, 2021, that included a half-mile radius around the current Program area. On December 4, 2023, HELIX conducted a records search update for the Program area. The records search summaries and maps are included as Appendix B (Confidential Appendices, bound separately).

SCIC has a record of over 150 cultural resources studies conducted within the records search area, over 50 of which cover portions of the Program area. At least half of the Program area has been surveyed for cultural resources in the past, based on the records search maps.

Forty-eight archaeological resources have been recorded within the half-mile search radius (see Table 1, *Previously Recorded Resources Within Half-Mile of the Project*), as well as numerous historic addresses. Many of the sites are associated with the ethnohistoric village of San Luis Rey, several of which have been called the Wanis site complex. While the Wanis sites are located on the west side of the San Luis Rey River (outside the Program survey area), directly across the river from Wanis, partially within the Program area, is P-37-005445 (CA-SDI-5445), which covers over 100 acres and includes buried deposits, as addressed in more detail below. Small shell scatters and lithic scatter sites have been identified on the knolls and ridges overlooking the San Luis Rey River Valley and the Loma Alta Creek drainage. Bedrock milling features have been recorded in some areas, where suitable rock outcrops are present. Several lithic scatters are located surrounding the development footprint, particularly within the northern half of the alignment. Furthermore, several habitation sites are located west of the proposed alignments, along the San Luis Rey River. A prehistoric hearth and a cache of fire-affected rock were recovered within the southern alignment, located on a knoll within 150 feet of the existing Land Outfall (not proposed for replacement); this site is no longer present, as it was destroyed by development following an excavation program (Giletti et al. 2008).

Table 1
PREVIOUSLY RECORDED RESOURCES WITHIN HALF-MILE OF THE PROJECT

Resource Number (P 37-#)	Resource Number (CA-SDI-#)	Description	Recorder, Date	Proximity to Program Area	Program Component
001246	1246	La Jollan occupation site that contained metate fragments, manos, hammerstones, cobble tools, flakes, discoidals, and faunal remains.	Kearns, 1971; Dominici, 1989; Robbins-Wade, Giletti, Meriwether, and Mojado, 2011	Within half-mile	OMG FM
				Within half-mile	Land Outfall Replacement
				Within half-mile	MALS FM Replacement
				Within half-mile	Mission Avenue Gravity Sewer Lining and Replacement

Resource Number (P 37-#)	Resource Number (CA-SDI-#)	Description	Recorder, Date	Proximity to Program Area	Program Component
001280	1280	Low knolls with cobble outcropping all over, a few scattered tools, probably a quarry or camp.	Kearns, 1971	Within quarter-mile	OMG FM
				Within quarter-mile	Land Outfall Replacement
005130	5130	Extensive multicomponent, stratified occupation site encompassing two other previously recorded sites, CA-SDI-5133/H and CA-SDI-6015.	Gibson, 1990	Within half-mile	OMG FM
				Within half-mile	MALS FM Replacement
				Within half-mile	Land Outfall Replacement
005131	5131	Historic occupation.	Drover, 1977	Within half-mile	OMG FM
				Within half-mile	MALS FM Replacement
				Within half-mile	Land Outfall Replacement
005132	5132	Localized area of shell fragments and few exotic lithics.	Drover, 1977	Within half-mile	OMG FM
				Within half-mile	MALS FM Replacement
				Within half-mile	Land Outfall Replacement
005133	5133	A postulated location of the Presley Hubbert adobe and an earlier Luiseño rancheria.	Drover, 1977; Colombo, 1990	Within half-mile	OMG FM
				Within half-mile	MALS FM Replacement
				Within half-mile	Land Outfall Replacement
005445	5445	Large site (over 100 acres) with marine shell, flaked stone and ground stone tools, debitage, fire-cracked rock, pottery, and adobe bricks. Subsurface deposit. Locus B found to have intact subsurface deposits. Some human remains identified.	Norwood, 1977; Carrico, 1978; Dominici, 1989; Hunte, 2002; Giletti, et al. 2006; Parron 2021	Intersects	OMG FM
				Intersects	Mission Avenue Lift Station Force Main Replacement
				Intersects	Land Outfall Replacement
				Intersects	Mission Avenue Gravity Sewer Lining and Replacement
005460	5460	Light scatter of shell with no subsurface deposition.	Norwood, 1977	Within quarter-mile	OMG FM
				Within quarter-mile	MALS FM Replacement
				Within half-mile	Land Outfall Replacement
005461	5461	The site consists of a light and widespread scatter of shell and one artifact. There is no subsurface deposit.	Norwood, 1977	Within quarter-mile	OMG FM
				Within quarter-mile	MALS FM Replacement
				Within quarter-mile	Land Outfall Replacement

Resource Number (P 37-#)	Resource Number (CA-SDI-#)	Description	Recorder, Date	Proximity to Program Area	Program Component
006009	6009	Knoll-top lithic and historic scatter with shellfish remains.	Franklin, 1978	Within quarter-mile	OMG FM
				Within quarter-mile	MALS FM Replacement
				Within quarter-mile	Land Outfall Replacement
006010	6010	Shell midden with associated artifacts.	Pigniolo and Collins, 1990	Within quarter-mile	Land Outfall Replacement
				Within quarter-mile	OMG FM
				Within quarter-mile	MALS FM Replacement
006136	6136	Lithic scatter.	Franklin and Theskin, 1978; Cordova, 2014	Within quarter-mile	OMG FM
				Within quarter-mile	Land Outfall Replacement
				Within half-mile	El Corazon Lift Station
006137	6137	Apparent shell midden with fire-affected rock; no artifacts noted.	Eckhardt, 1978	Within quarter-mile	OMG FM
				Within quarter-mile	Land Outfall Replacement
				Within quarter-mile	Gravity Sewer Main to El Corazon Lift Station
				Within quarter-mile	El Corazon Lift Station
006141	6141	Primarily a shell midden scatter; one Tizon sherd, one quartz flake.	Franklin and Rhodes, 1978	Within quarter-mile	OMG FM
				Within quarter-mile	Land Outfall Replacement
				Within quarter-mile	Mission Avenue Gravity Sewer Lining and Replacement
				Within quarter-mile	MALS FM Replacement
006882	6882	Moderate to heavy shell scatter and light tool scatter. Small amounts of marine shell were found during subsurface testing.	Pettus, 1979; Laylander, 2003; Hale, 2004; Stropes 2018	Within quarter-mile	Existing Land Outfall (not proposed for replacement)
				Within half-mile	Land Outfall Replacement
007787	7787	Slight shell scatter with debitage, a utilized flake, hammerstone, and ground stone fragment.	Goldberg, 1979; Dominici, 1989	Approximately 100 feet from pipeline	Mission Avenue Gravity Sewer Lining and Replacement
				Within quarter-mile	OMG FM
				Within quarter-mile	Land Outfall Replacement
				Within quarter-mile	MALS FM Replacement

Resource Number (P 37-#)	Resource Number (CA-SDI-#)	Description	Recorder, Date	Proximity to Program Area	Program Component
011468	11468	A light scatter of shell and lithics.	Robbins-Wade et al., 1989	Approximately 50 feet from pipeline	OMG FM
				Approximately 50 feet from pipeline	Land Outfall Replacement
				Approximately 50 feet from pipeline	MALS FM Replacement
011469	11469	Five possible mortars on two separate granitic outcrops.	Robbins- Wade et al., 1989	Within quarter-mile	OMG FM
				Within quarter-mile	MALS FM Replacement
011470	11470	Historic ranch complex owned by the Whelan Family. Prehistoric shell midden and fire-affected rock scatter.	Pigniolo and Collins 1990; Villalobos, 2015	Approximately 50 feet from pipeline	OMG FM
				Approximately 50 feet from pipeline	Land Outfall Replacement
				Approximately 50 feet from pipeline	MALS FM Replacement
012562	12562	Two small, sparse shell scatters and a single piece of debitage. A hearth and. numerous artifacts were exposed during grading	Strudwick and McIntosh, 1992; Robbins-Wade et al. 2005; Robbins-Wade, 2016	Within quarter-mile	OMG FM
				Within quarter-mile	Land Outfall Replacement
				Within half-mile	Mission Avenue Gravity Sewer Lining and Replacement
				Within half-mile	MALS FM Replacement
012563	12563	P-37-12562 subsumes P-37-12563.	Strudwick and McIntosh, 1992; Robbins-Wade et al. 2005; Robbins-Wade, 2016	Within quarter-mile	OMG FM
				Within quarter-mile	Land Outfall Replacement
				Within half-mile	Mission Avenue Gravity Sewer Lining and Replacement
				Within half-mile	MALS FM Replacement
012564	12564	Low density shell midden.	Strudwick and McIntosh, 1992	Intersects	OMG FM
				Intersects	Land Outfall Replacement
				Within quarter-mile	Mission Avenue Gravity Sewer Lining and Replacement
				Within quarter-mile	MALS FM Replacement

Resource Number (P 37-#)	Resource Number (CA-SDI-#)	Description	Recorder, Date	Proximity to Program Area	Program Component
012600	12600	Three small bedrock milling features, a concentrated surface scatter of marine shell (mostly *Donax)* and lithic production waste, and a small, shallow subsurface deposit.	Brian F. Smith, 1992	Within quarter-mile	Land Outfall Replacement
013212	13212	Low density shell scatter and historic trash dump. This site had been previously identified as not significant and has now been destroyed.	Pigniolo and Mealey 1993; Guerrero et al, 2001	Within quarter-mile	Land Outfall Replacement
014227	14059	Primarily a shell scatter consisting of a dense concentration of *Donax* shell, a fire-affected rock, and a fragment of fire-affected rock that may have been used as a mano.	Pigniolo and Beck, 1994	Within quarter-mile	Land Outfall Replacement
016291	14785	Small artifact scatter consisting of a metate fragment and approximately six pieces of debitage.	Tift and Caldwell, 1998	Within half-mile	Land Outfall Replacement
016292	14786	Historic trash scatter, and possible historic structure location.	Tift, et al., 1998	Within half-mile	Land Outfall Replacement
016293	--	Isolate: unifacial flake.	Tift and Caldwell, 1998	Within half-mile	Land Outfall Replacement
016294	--	Isolate: quartzite flake.	Gallegos & Associates 1998	Within half-mile	Land Outfall Replacement
019190	15877	Shell and lithic scatter of about five pieces of angular debris and shatter, along with one hammerstone.	Gross, 2002; Robbins-Wade and Bignell, 2000	Within quarter-mile	Land Outfall Replacement
025318	16795	Historic trash scatter of primarily domestic items.	Harris, 2003	Within half-mile	Land Outfall Replacement
				Within half-mile	OMG FM
				Within half-mile	MALS FM Replacement
029336	18767	Hearth feature (disturbed), fire-affected rock and associated artifacts; found in construction monitoring.	Giletti, et al., 2008	Approximately 150 feet from pipeline (site is no longer present)	Existing Land Outfall Replacement (not proposed for replacement)

Resource Number (P 37-#)	Resource Number (CA-SDI-#)	Description	Recorder, Date	Proximity to Program Area	Program Component
030570	19433	Three historic trash scatters and a few scattered historic artifacts associated with a former structure, possibly a barn, built in the 1930s and removed by the 1960s.	de Barros, 2009; Quach and Hernandez, 2017	Within quarter-mile	Land Outfall Replacement
031804	22819	Small lithic scatter, with ground stone implements and a glass bead.	Giletti and Meriwether, 2011; Roy, Villalobos, and Pati, 2019; Roy and Villalobos, 2019; Roy, Villalobos, Rolland, and Chavez, 2019	Within half-mile	Mission Avenue Gravity Sewer Lining and Replacement
033869	--	Secondary deposit in an imported sand pile on-site. A light scatter of marine shell. One Piedra de Lumbre chert flake and one bifacial metavolcanic cobble mano.	Davison and Castañeda, 2014	Within quarter-mile	Land Outfall Replacement
033928	21313	Small shell scatter.	Pigniolo, 2014	Approximately 30 feet from pipeline	Land Outfall Replacement
035464	--	One-story, vernacular car garage and tire shop.	Bechtel and Tibbet, 2014	Within quarter-mile	Land Outfall Replacement
036018	--	California ranch-style historic housing complex of two residences. The residences date to between 1938 and 1946.	Van Wormer and Falvey, 2016; Mengers, 2018	Within quarter-mile	Existing Land Outfall (not proposed for replacement)
036019	--	Historic single-family residence dating to between 1947 and 1953.	Van Wormer and Falvey, 2016	Within half-mile	Existing Land Outfall (not proposed for replacement)
036355	--	A single *Chione* shell fragment.	Quach, et al., 2014	Within half-mile	Land Outfall Replacement
	--	The San Luis Rey Wastewater Treatment Plant, constructed in 1972 and expanded between 1972 and 2014.	Zamudio-Gurrola, 2017	Intersects	OMG FM
				Intersects	Land Outfall Replacement
				Intersects	MALS FM Replacement
037136	--	A one-story multifamily Minimal Traditional property constructed in 1955.	Davis, 2012	Within half-mile	Land Outfall Replacement

Resource Number (P 37-#)	Resource Number (CA-SDI-#)	Description	Recorder, Date	Proximity to Program Area	Program Component
037137	--	A one- and a-half story single family property built in 1954 in the French Normandie style.	Davis, 2012	Within half-mile	Land Outfall Replacement
037138	--	A single-story multifamily residence constructed in the Minimal Tradition in 1950.	Davis, 2012	Within half-mile	Land Outfall Replacement
037139	--	A two-story single-family property built in 1947.	Davis, 2012	Within half-mile	Land Outfall Replacement
037158	--	A one- to three-story commercial building built in 1967.	Davis, 2012	Within half-mile	Land Outfall Replacement
037159	--	A two-story multifamily property built in the Tiki/Polynesian architecture style in 1968.	Davis, 2012	Within half-mile	Land Outfall Replacement
040535	---	Isolated hand stone.	Quach, 2022	Within quarter-mile	Existing Land Outfall (not proposed for replacement)

Historic resources recorded within the records search radius include homesteads associated with pioneer families, such as the Hubberts, as well as the Pico family and the Whelan family. One site consists of historic trash scatters apparently associated with a structure built in the 1930s, and two resources consist of residences from the late 1930s to the early 1950s. In addition to these mapped historic resources with Primary numbers, there are 73 historic addresses recorded within the search radius, with construction dates ranging from 1880 to 1956. Some of these historic buildings are contributors to historic districts, while others are significant in their own right. Most of the properties are of local significance, but at least two are listed on the NRHP, and many are categorized as “appear eligible for listing” on either the NRHP or CRHR. Several historic structures are documented within the southern half of the Program area, near the developed coastal areas, on the east side of the proposed alignment. In the northern portion of the Program area, the San Luis Rey Mission and associated structures, such as building remnants and historic burial grounds, are located within a mile east of the proposed Program. Furthermore, historic refuse has been found near the Program alignment near the El Corazon Lift Station.

Eight archaeological sites or historic built environment resources have been recorded within 150 feet of the proposed pipeline alignments and are described below.

3.1.1 P-37-005445 (CA-SDI-5445)

P-37-005445 is a very large (over 100 acres) site that has been the subject of a number of survey, testing, and monitoring programs covering various portions of the site. A history of work at this site through 2012 is included in the archaeological study for the Mission Cove project (Robbins-Wade 2012) and is not repeated here. The most salient details regarding this site are that an extensive subsurface deposit was recorded and excavated in conjunction with the development of SR 76. Despite the large

amount of cultural material recovered, the site was determined not to be a significant resource (not eligible for the NRHP), due to the great degree of disturbance over many years, which served to drastically affect the integrity of the resource (Corum 1991). A second locus (Locus B) was identified at P-37-005445 in 2002 and assessed as significant, due to the apparent presence of intact subsurface deposits below the plow zone, which extended to about 70 centimeters in depth (Tuma and Guerrero 2002). A hearth feature was identified at a depth of approximately one meter during backhoe trenching, but few artifacts were observed; the deposit was mainly shell (Robbins-Wade 2012). A data recovery program was undertaken at Locus B; the report is in progress. During monitoring in conjunction with the Mission Cove project, additional subsurface features were encountered, and shell and artifact deposits were found beneath Mission Road to a depth of eight feet in some places. A cranial fragment was identified as bone that was collected during the California Department Transportation (Caltrans) excavation, and a small amount of bone recovered during the data recovery program was identified as possibly human. Although not reflected in the records search, significant cultural deposits, including human remains, were observed at P-37-005445 during monitoring in conjunction with the proposed Ocean Kamp development, during grading adjacent to the APE. The site is of importance to the Luiseño community.

3.1.2 P-37-007787 (CA-SDI-7787)

P-37-007787 was recorded in 1979 as a surface scatter of shell with some ground stone and flaked stone artifacts. A 1989 site record update in conjunction with SR 76 noted the site as a slight shell scatter with debitage, a utilized flake, a hammerstone, and a ground stone fragment. An extended Phase I study in 1990 found that the site consisted of a sparse lithic and shell scatter with no subsurface component; therefore, the site was assessed as not NRHP-eligible (Corum 1990). It may have been destroyed by the construction of SR 76. The scatter is mapped within 100 feet of the Mission Avenue Gravity Sewer Lining and Replacement alignment.

3.1.3 P-37-011468 (CA-SDI-11468)

This site was recorded in 1989 in conjunction with an archaeological survey for the City's Whelan Property Acquisition project (Robbins-Wade and Leeper 1989). P-37-011468 was described as a "small, light density scatter of shell and flaked stone artifacts on the southern edge of the dairy portion of the property" (Robbins-Wade and Leeper 1989:12). In addition, occasional shell and flakes were noted along the dirt road running west from the site. The site was not formally evaluated; however, the survey report noted: "Due to the amount of disturbance and the paucity of cultural material, Whelan-1 [P-37-011468] is not considered to be an important cultural resource" (Robbins-Wade and Leeper 1989). The site was just outside the study area of a 1999 survey for improvements at the San Luis Rey WWTP (now the SLRWRF) and thus was not evaluated for that project (Cheever 1999). The site is mapped about 50 feet outside the proposed pipeline alignment.

3.1.4 P-37-011470 (CA-SDI-11470)

This site, too, was recorded during the cultural resources survey for the Whelan Property Acquisition project. It was originally described as a complex of houses, barns, and outbuildings, some of which were relatively recent (1980s); others appeared to have been built in the mid-twentieth century. One house appeared to be the one shown on topographic maps from the 1890s. "This house was most likely built by members of the Pico family, possibly as early as the 1850s" (Robbins-Wade and Leeper 1989:20). Historic archival research was conducted to address P-37-011470, as well as interviews with local

residents and individuals with knowledge of the property. The site was recommended as a significant resource, due to the association of the Pico family with the land from the 1840s through the end of the nineteenth century, the research potential of the buildings and of potential archaeological deposits, as well as the importance of the site to the community (Robbins-Wade and Leeper 1989). The site was recorded in 1992 as part of the City's Historical Resources Inventory. Additional documentation of the buildings was done in 1992 and 1993; preservation and rehabilitation of the buildings was recommended (Gross 1993). A large amount of marine shell and fire-affected rock was recorded at P-37-011470 in 1990. There is no record that the site has been formally evaluated, but as noted above, it appears to be a significant resource.

3.1.5 P-37-012564 (CA-SDI-12564)

This site was recorded in 1992 as a low-density shell midden; no artifacts or features were observed. The site dimensions were given as 90 meters by 50 meters. The site record noted that the material was on a "barely noticeable rise of 1 to 2 feet" (Strudwick and McIntosh 1992).

3.1.6 P-37-029336 (CA-SDI-18767)

This site was encountered during construction monitoring in 2008 and consisted of a hearth feature (disturbed), fire-affected rock, and associated artifacts, including eight hammerstones, 17 manos, three metates, seven cores, 11 flakes, seven pieces of angular debris, and a large biface/preform (Giletti et al .2008). The site was destroyed as a result of construction.

3.1.7 P-37-033928 (CA-SDI-21313)

P-37-033928 was recorded in 2014 as a small shell scatter of "Donax (bean clam) with Chione (Venus clam) as a second species" (Pigniolo 2014). No associated artifacts were observed, but it was noted that there is natural quartz in the area. The presence of shell in rodent back dirt suggested that subsurface material may be present.

3.1.8 P-37-037110

P-37-037110, recorded in 2017, is the San Luis Rey Wastewater Treatment Plant, built between 1972 and 1975. The approximately 48-acre property (now the SLRWRF) contains various buildings and structures that are used to perform wastewater treatment through the process of primary sedimentation and biological treatment using activated sludge followed by secondary clarification. The plant was established in 1972, but the buildings and associated facilities have been upgraded to accommodate the need for increased capacity and new advancements in water treatment technology. The wastewater treatment plant reflects broader national and state-wide trends in increased urban sanitation but does not meet the criteria to qualify as a historical resource under CEQA, nor is it considered a historic property, as defined in Section 106 of the NHPA (Zamudio-Gurrola 2017).

3.2 OTHER ARCHIVAL RESEARCH

Various additional archival sources were also consulted, including historic topographic maps and aerial imagery. These include historic aerials from 1938, 1946, 1953, 1964, 1967, 1978, 1980, 1981, 1982, 1983, 1984, 1984, 1985, 1986, 1987, and 1988. (NETR Online 2021) and several historic USGS topographic maps, including the 15-minute San Luis Rey topographic maps from 1893, 1897, 1901, 1907,

1911, 1920, 1925, 1931, 1939, 1947, 1971, and 1978, the 7.5-minute San Luis Rey topographic maps from 1949, 1955, 1961, 1966, and 1969. The purpose of this research was to identify historic structures and land use in the area.

Early historic aerials show the northern half of the proposed alignments as agricultural fields. The San Luis Rey Mission is visible in the 1938 aerial, but no buildings appear in the northern half of the Program area until 1964. The 1948 topographic map shows the Academy of the Little Flower (Academy) located east of the Mission. The Academy was previously known as the Old Mission School before being converted to the San Luis Rey Boarding School in 1928. The boarding school changed its name to The Academy of Little Flower in 1942 and remained in operation until 1977. Mission Avenue was used as the primary road to access the Mission, developed in 1901. The structures visible in these early twentieth-century topographic maps are all associated with the Mission. During the 1940s, farms and agricultural structures expanded within the area north of the Mission, east of the proposed alignments, but the area was primarily used for agricultural purposes.

The 1938, 1946, and 1953 historic aerials show the proposed Program located within agricultural fields. Residential tracts started to be developed near the proposed Program, east of the San Luis Rey River, starting in the 1960s. The first housing tracts within the northern half of the proposed Program were situated on the north and south sides of the existing SR 76. By 1967, a string of housing tracts was developed along Mission Avenue, the primary road within the area.

The San Luis Rey Wastewater Treatment Plant is visible on the 1978 aerial, but much of the surrounding area remained as agricultural land. However, the first housing tract within the proposed alignment south of the San Luis Rey Wastewater Treatment Plant was present by 1978, developed between Hunter Street and Los Arbolitos Boulevard. The residential homes located along Los Arbolitos Boulevard, north of Pala Road and within the OMG FM and MALS FM Replacement alignments, were developed by 1980. The existing dirt road located south of the San Luis Rey River, north of the OMG FM and MALS FM Replacement alignments, was developed by 1980 during the shift from agricultural fields to a residential community. Development in this area spread east throughout the area; by the mid-1980s, the existing residential tracts located east of the proposed Program were fully developed.

One of the potential alignment alternatives travels east along present-day Heritage Street and north along Fireside Avenue. This area was used for agricultural purposes until the early 1970s. A structure was developed west of the potential alignment alternative and the Land Outfall Replacement alignment by 1964. Grading for the residential tract located east of Fireside Street was initiated in 1964; the housing tract was completed by 1978. Fireside Park was developed by 1983, containing landscaped areas and a walking path. South of this area, within the portions of OMG FM, MALS FM Replacement, and Land Outfall Replacement alignments that are bisected by SR 76 and Mission Avenue, the area has remained relatively undeveloped. This area was also used for agricultural purposes until the residential tracts to the northwest of this alignment were developed in the 1960s. Oceanside Flea Market Access Road, right off Mission Avenue, was developed in 1996. In the subsequent year, grading for SR 76 began. The portion of SR 76 that intersects with the proposed Program was paved by 1999.

The proposed Mission Avenue Gravity Sewer Lining and Replacement alignment is situated along Mission Avenue. The intersection of this alignment with the proposed OMG FM, Land Outfall Replacement, and MALS FM Replacement has been used as the primary road to access the San Luis Rey Mission since 1901, as evident on the 1901 historic topographic map (NETR Online 2021). A small farm with several agricultural structures is present on the 1938 historic aerial, located on the northeast end of

the Mission Avenue Gravity Sewer Lining and Replacement alignment, west of Fireside Street; these structures were demolished in 1953. By 1964, this area was developed into a residential tract; the western boundary of the residential tract is adjacent to the eastern boundary of this historic farmstead. The proposed alignments also bisect a residential community located south of Mission Avenue; these houses were developed between 1953 and 1964. The historic use of Mission Avenue, as well as the presence of farm and rural residential structures in the first half of the twentieth century, heightens the potential for buried historic archaeological resources.

Near the central portion of the proposed alignments, the Oceanside Municipal Airport is visible on the 1964 aerial. Development in this area started to expand from the coastal areas in the mid-1940s. By 1964, the area southeast of the San Luis Rey River was scattered with residential tracts. The OMG FM and Land Outfall Replacement alignments travel along Mesa Drive and Garrison Street. The proposed El Corazon Lift Station is located west of Garrison Street. This area used to be a secondary highway that traveled southwest-northeast to connect with Mission Avenue, as visible on the 1938 historic aerial. The portion of Garrison Street that overlaps with the proposed alignments was built over this secondary highway. However, South El Camino Real [County Route (S) 11] was developed by 1953 to provide a more direct way to travel north. Although this highway remained visible in the 1953, 1964, and 1967 aerials, it appears the maintenance and use of this roadway slowly declined until the residential homes flanking Mesa Drive and Garrison Street were developed in 1980, and the road was converted to Garrison Street.

The 1893, 1897, and 1901 historic topographic maps show another dirt road situated in between the existing residential tracts along the existing Leeward Court and the homes flanking Mesa Drive and Garrison Street. The dirt road was located where the El Corazon Lift Station is proposed. However, this road is not present on the 1949 topographic map or aerials. Furthermore, the 1893 topographic map shows a structure located where the existing paved parking lot is situated, located northwest of Garrison Street. This structure was demolished in the early to mid-1940s, probably during the development of the secondary highway.

The segment of the Land Outfall Replacement alignment along Oceanside Boulevard, west of Garrison Street, is currently developed with residential and commercial buildings. Oceanside Boulevard is visible on aerials as early as 1938. The 1839 topographic map shows a single-track railroad, the Southern California Railroad, located south of Oceanside Drive along what is currently known as Skylark Drive. A structure, most likely associated with a farmstead, was located on the south side of Oceanside Drive at the intersection of the existing Mac Donald Street. A dirt road leading from the structure to the northwest was present by 1897. By 1901, a second dirt road leading from the structure to the north was present. Early forms of the existing Mac Donald Street and Coroto Street were present by 1938. This area was used for agricultural purposes until residential developments north of Oceanside Boulevard were developed in the mid-1960s. During this same time, larger structures south of Oceanside Boulevard were developed in between Loma Alta Creek and Oceanside Boulevard.

The intersection of Oceanside Boulevard and Crouch Street was present by 1938, as well. The Southern California Railroad ran directly adjacent to Oceanside Boulevard from Crouch Street to present-day Vine Street. Development in the coastal area began early, with structures scattered throughout the coastal region as early as 1893. The historic aerials show this area being used for agricultural purposes, but development of the coastal area developed quickly by the mid-1940s. Early coastal development was planned around Loma Alta Creek; by the mid-1960s, residential and commercial structures utilized both the northern and southern banks of the creek.

3.3 NATIVE AMERICAN CONTACT PROGRAM

HELIX contacted the Native American Heritage Commission (NAHC) on September 13, 2017, to request a search of its Sacred Lands File and a list of Native American individuals and organizations that might have knowledge of, or concerns regarding, cultural resources within the Program area. Because the NAHC indicated that the San Luis Rey Band of Mission Indians (San Luis Rey; Tribe) has identified significant cultural resources in the immediate vicinity of the Program, HELIX solicited input from the Tribe as part of the 2017 study to adequately assess cultural sensitivity of the area and identify potential constraints to the Program.

HELIX contacted the NAHC for a Sacred Lands File search again on November 16, 2020. The response, received on January 14, 2021, recommended contacting the La Jolla Band of Luiseño Indians, as well as San Luis Rey; however, HELIX was unsuccessful in reaching the La Jolla Band for comments.

HELIX Principal Investigator Mary Robbins-Wade contacted Cami Mojado of the San Luis Rey Band regarding the Program and concerns regarding the Program area. Merri Lopez-Keifer, responding on behalf of the Tribe, indicated in a letter dated October 10, 2017, that the entire Program area is within "multiple areas of traditional cultural significance and incredibly high sensitivity for the Tribe and the Luiseño people." This is due to the presence of known archaeological sites that have documented burial areas, as well as the "overall use of the land in the areas that the Project will impact." Given the sensitivity of the area, the Tribe stressed the importance of a Luiseño Native American monitor being present for all ground-disturbing activity. In addition, the Tribe would like to discuss proposed construction methods with City staff. "The Tribe has specific recommendations regarding culturally appropriate measures to be taken in these situations and would appreciate the opportunity to share our recommendations directly with the City of Oceanside."

The City sent the Notice of Preparation of the Program Environmental Impact Report for the Oceanside Sewer Improvements Program to potentially interested parties in March 2021. The Viejas Band of Kumeyaay Indians (Viejas) responded via email on April 2, 2021, that Viejas "has reviewed the proposed project and at this time we have determined that the project site has cultural significance or ties to the Kumeyaay Nation". Viejas recommended that the City contact the San Pasqual Band of Mission Indians (San Pasqual). In addition, Viejas requested that the Program follow all National Environmental Policy Act/CEQA/Native American Graves Protection and Repatriation Act laws and immediately contact San Pasqual on any Program changes or inadvertent discoveries.

The City is undertaking consultation under AB 52 with the three tribes who requested consultation: San Luis Rey, the Rincon Band of Luiseño Indians (Rincon), and San Pasqual. Information resulting from these consultations will be used to help assess Program impacts and will be incorporated into this report, as appropriate (only non-confidential material will be included).

Correspondence with the NAHC is included as Appendix C (Confidential Appendices, bound separately).

4.0 FIELD METHODS

4.1 SURVEY METHODS

The alignments addressed in the Condition Assessment study were surveyed for cultural resources by HELIX archaeologists Andrew Giletti (September 15, 2017), Kristina Davison (September 18, 2017), and

Andres Berdeja (September 15 and 18, 2017), along with Luiseño Native American monitor John Chavez from Saving Sacred Sites, who was present for both survey days. The survey area included 50 feet on each side of the existing pipeline alignments, as shown in Figure 3. To the extent feasible, the survey area was walked in parallel transects spaced 10 feet apart; however, thick vegetation and wet conditions in some areas hampered this effort.

On October 2, 2020, HELIX archaeologist Mary Villalobos, along with Luiseño Native American monitor Banning Taylor from Saving Sacred Sites, surveyed CA-SDI-11470 and three alternative project alignments for the OMG FM. The survey area included 50 feet on each side of the proposed pipeline alignments. To the extent feasible, the survey area was walked in parallel transects spaced 10 feet apart; however, thick vegetation in some areas hampered this effort. Two additional open fields next to the project alignment at the intersection of Pala Road and the San Luis Rey River were surveyed as well. The 10-acre area was heavily disturbed and bisected by bicycle paths. Visibility in this area was highly variable, with dense vegetation obscuring surface visibility completely in some areas. Where feasible, this area was walked in parallel transects spaced 15 meters apart.

HELIX archaeologist James Turner surveyed the area of the El Corazon Lift Station and an additional OMG FM alternative alignment on August 4, 2020, accompanied by Luiseño Native American monitor Vaa Lerome of Saving Sacred Sites. The survey area was walked in parallel transects spaced 20 to 25 feet apart on both sides of the alignment. Due to the apartments and existing roadways, the southern portion of the existing line was surveyed in five- to six-foot transects. Visibility in the survey area was highly variable, with dense vegetation obscuring surface visibility completely in some areas. Visibility in the western portion of the survey area was low but increased to 90 percent within the existing dirt road that bisected the area. Visibility in the eastern portion of the survey area was fully obscured by the developed hardscapes.

On April 27, 2022, Ms. Villalobos and Mr. Turner, along with Luiseño Native American monitor Mario Herrera from Saving Sacred Sites, surveyed several areas for potential alignments and project components associated with the El Corazon Lift Station and associated pipeline, as well as areas at the far northern end of the Program area, in and around the SLRWRF and adjacent to Whelan Lake. The survey methods were the same as those of the previous surveys.

4.2 TESTING METHODS

HELIX conducted archaeological testing at site P-37-012564 (CA-SDI-12564) to determine the horizontal and vertical extent of the site and to evaluate its significance to assess the potential effects from the Program. Fieldwork for the testing Program at P-37-012564 was conducted by HELIX archaeologists Julie Roy, Kent Smolik, James Turner, Mary Villalobos, Dominique Diaz de Leon, Amber Parron, and Allana O'Connor, and Native American monitors Shanee Ventura, Ali'i Suiaunoa and Jessica Alexander from Saving Sacred Sites (San Luis Rey Band) between March 1 and March 16, 2021. Before beginning fieldwork, HELIX Field Director Julie Roy met in the field with representatives from SDG&E, Kinder Morgan, and the City to flag areas to be avoided during fieldwork due to buried lines (gas, electric, water, sewer). A series of 25 auger holes were hand-excavated across the field between Hacienda Drive and Las Vegas Drive, generally west of the existing powerline, to identify subsurface cultural material. Based on positive results in some auger holes, an initial series of four shovel test pits (STPs) was excavated to better examine the soil conditions and collect a larger sample of cultural material. Three test units were excavated in areas that yielded concentrations of marine shell and/or artifacts. In Unit 1, a shell lens was encountered; so, the unit was extended further to better assess this lens. Some of the

augers yielded little to no cultural material, and there seemed to be a break in the cultural material between two loci, one at the south end of the site and one at the north end. Additional augers were added to refine site and locus boundaries.

The auger holes measured approximately 10 centimeters (cm) in diameter and were excavated in 10-cm levels. STPs were 30 cm in diameter and excavated in 10-cm levels. Units 1 and 3 each measured 1 meter by 1 meter, with an extension of Unit 1 (Unit 1A) measuring 0.5 meter by 0.5 meter. Unit 2 measured 1 meter by 0.5 meter. The test units were also excavated in 10-cm levels. Excavated soil was passed through 1/8-inch mesh screens, and cultural material was collected and taken to the HELIX archaeological laboratory where it was cleaned, sorted, and cataloged. Artifacts were cataloged by artifact type and material, and shell was sorted and cataloged by taxa.

4.3 DOCUMENTATION

Cultural resources identified during the survey were updated on appropriate Department of Parks and Recreation (DPR) 523 forms. All completed DPR site forms were submitted to the SCIC.

5.0 RESULTS

No previously unrecorded resources were identified during the surveys conducted by HELIX and Saving Sacred Sites in September 2017 or during the subsequent surveys in August and October 2020 and April 2022. As summarized in Table 2 (*Cultural Resources Identified Within or Adjacent to Program Area/APE*) and illustrated in Figure 4 (*Cultural Resources Within or Adjacent to APE*), eight cultural resources were identified as intersecting or located within 150 feet of the proposed Program. Three of these previously recorded resources were observed during the archaeological surveys: P-37-011470, P-37-012564, and P-37-037110. Five other previously recorded sites (P-37-005445, P-37-007787, P-37-011468, P-37-029336, and P-37-033928) were not seen within the Program study area during the surveys for the Program; however, significant cultural deposits at P-37-005445 were observed during monitoring of the proposed Ocean Kamp development during 2019. The sites are described in greater detail below.

HELIX conducted a testing program at P-37-012564 (CA-SDI-12564) to assess site significance/eligibility to the CRHR and NRHP, as this site had not previously been evaluated. The results of the testing are discussed in Section 5.2, P-012564 Testing Results.

Table 2
CULTURAL RESOURCES IDENTIFIED WITHIN OR ADJACENT TO PROGRAM AREA/APE

Resource Number	Age	Description	Status	Program Component
P-37-005445 (CA-SDI-5445)	Prehistoric	Large habitation site.	Not reidentified within the APE during survey, although significant buried deposits are known just outside the APE	OMG FM, MALS FM Replacement, Land Outfall Replacement, Mission Avenue Gravity Sewer Lining and Replacement

Resource Number	Age	Description	Status	Program Component
P-37-007787 (CA-SDI-7787)	Prehistoric	Slight shell scatter with debitage, a utilized flake, hammerstone, and ground stone fragment.	Not reidentified within the APE during survey; possibly destroyed in conjunction with construction of SR 76; recorded south of Mission Avenue, approximately 100 feet from pipeline	Mission Avenue Gravity Sewer Lining and Replacement
P-37-011468 (CA-SDI-11468)	Prehistoric	A light scatter of shell and lithics	Not reidentified within the APE during surveys, possibly due to poor visibility; mapped just outside the APE	OMG FM, Land Outfall Replacement, MALS FM Replacement
P-37-011470 (CA-SDI-11470)	Multi-component	Historic ranch complex owned by the Whelan Family. Prehistoric shell midden and fire-affected rock scatter.	Reidentified adjacent to the APE; sparsely scattered shell observed on the surface	OMG FM, Land Outfall Replacement, MALS FM Replacement
P-37-012564 (CA-SDI-12564)	Prehistoric	Low density shell scatter.	Reidentified within the APE; sparsely scattered shell observed on the surface; testing conducted	OMG FM, Land Outfall Replacement
P-37-029336 (CA-SDI-18767)	Prehistoric	Hearth feature (disturbed), fire-affected rock and associated artifacts; found in construction monitoring.	Not reidentified within the APE during survey; recorded on knoll north of APE; apparently destroyed by construction	Existing Land Outfall (not proposed for replacement)
P-37-033928 (CA-SDI-21313)	Prehistoric	Small shell scatter.	Not reidentified within the APE during survey; a few artifacts observed during monitoring for Oceanside Boulevard Lift Station on knoll above APE	Land Outfall Replacement
P-37-037110	Historic	The San Luis Rey Wastewater Treatment Plant, constructed in 1972 and expanded between 1972 and 2014.	Reidentified within the APE during survey	OMG FM, Land Outfall Replacement, MALS FM

5.1 SITE DESCRIPTIONS

5.1.1 P-37-005445 (CA-SDI-5445)

As discussed in Section 3.1.1 under the Records Search discussion, this site covers over 100 acres and includes deep subsurface deposits. The vast majority of the site, including the portion crossed by the Program alignments, was assessed as not significant, due to its lack of integrity following decades of disturbances from agricultural use and development (Corum 1991); however, significant buried deposits

and human remains were encountered during monitoring of a private development adjacent to the APE in 2019. Controlled grading immediately adjacent to the SDG&E corridor in which the pipeline alignments are located did not yield significant cultural material; the deposits encountered during grading were located further west of this corridor. No excavation has been undertaken within the SDG&E right-of-way. Another locus of the site that had been determined to be significant under CEQA (Locus B) is located 2,000 feet west of the Program alignments, on the south side of Mission Avenue and SR 76. Although the pipeline alignment crosses P-37-005445, no evidence of the site was observed within the APE. The portion of the site that is crossed by the pipeline alignment has been subject to a great deal of disturbance for many decades; however, there remains a potential for subsurface cultural resources to be encountered, based on the alluvial setting and the results of monitoring just to the west of the APE. The Land Outfall Replacement and OMG FM cross the site.

5.1.2 P-37-007787 (CA-SDI-7787)

P-37-007787 was described as a slight shell scatter with debitage, a utilized flake, a hammerstone, and a ground stone fragment; the site was found to have no subsurface component and assessed as not eligible for the NRHP (Corum 1990). The scatter is mapped within 100 feet of the Mission Avenue Gravity Sewer Lining and Replacement alignment; this site was not reidentified during the pedestrian survey and may have been destroyed by the construction of SR 76.

5.1.3 P-37-011468 (CA-SDI-11468)

This small, light-density shell and lithic scatter was previously recommended as lacking the research potential to make it a significant resource. The mapped location of the site is immediately adjacent to the survey area for the Land Outfall Replacement, OMG FM, and MALS FM Replacement, approximately 50 feet from the pipeline alignment centerline. Ground visibility in this area was poor during the 2017 survey and the recheck in 2022, and no cultural materials were observed in the mapped site location or within the Program survey area.

5.1.4 P-37-011470 (CA-SDI-11470)

The historic buildings at the site are outside the survey buffer, but the site also includes a shell scatter and potentially contains subsurface historic deposits. The pipeline alignment is adjacent to the site, as it is mapped. During the 2017 survey, ground visibility in this area was extremely poor, except within existing dirt roads. Disturbed marine shell was observed within the road in the mapped area of P-37-011470 and between this site and P-37-006010. Although the records search map shows the site as extending into and slightly across (east of) Whalen Lake Road, the maps with the site records do not show the site as extending this far; see Figure 5 (*P-37-011470 [CA-SDI-11470] Sketch Map)* in Appendix E, confidential, bound separately). While a 2015 site record shows the site boundary as extending slightly beyond the road, to the east, the text of the site record indicates that this area was not surveyed; surveys that did include the area east of the road do not show the site extending that far. During the 2020 and 2022 surveys for the current Program, the site was revisited and systematically surveyed; ground visibility ranged from zero to 90 percent. Historic and prehistoric cultural material and shell were noted in proximity to the house and barn, as well as on the south-facing slope, but not within the APE. Material found in rodent back dirt piles suggests a potential for subsurface cultural material. The site is adjacent to the APE for the Land Outfall Replacement, OMG FM, and MALS FM Replacement.

5.1.5 P-37-012564 (CA-SDI-12564)

As previously noted, this site was recorded in 1992 as a low-density shell midden with no artifacts, covering an area of 90 meters by 50 meters. During the 2017 survey, marine shell was noted over a much larger north-south area than previously recorded. The 2017 Condition Assessment report noted the potential for subsurface cultural deposits, given the alluvial setting; P-37-005445 Locus B, located approximately 2,000 feet west of the Program alignments, had a similar surface presentation and contained intact subsurface deposits below the plow zone, including intact hearths and a few pieces of human bone. In addition, recent monitoring at the main portion of P-37-005445 has revealed significant subsurface deposits and human remains on the north side of Mission Avenue and SR 76. The proposed OMG FM and Land Outfall Replacement alignments cross through the length of the site. The results of the testing program conducted for this Program are described in Section 5.2, P-012564 Testing Results.

5.1.6 P-37-029336 (CA-SDI-18767)

This site was encountered during construction monitoring in 2008 and was apparently destroyed as a result of that construction project. Although it is mapped outside the survey area (approximately 150 feet from the Existing Land Outfall pipeline), the proximity of the resource highlights the potential for subsurface cultural resources in the vicinity. No evidence of the resource was found during the 2017 survey.

5.1.7 P-37-033928 (CA-SDI-21313)

This small, light-density shell scatter was recorded in 2014 and is mapped as located within the survey buffer. The area was covered by dense grass at the time the site was recorded in 2014, and approximately 20 shell fragments were noted The site could not be found during the 2017 survey; grasses in the area obscured the ground surface, severely limiting visibility. Monitoring by HELIX and Saving Sacred Sites in conjunction with the Oceanside Boulevard Lift Station Project in 2020-2021 found a few artifacts associated with this site, but no intact cultural deposits were observed. The site is mapped at the edge of the proposed Land Outfall Replacement alignment; however, the pipeline alignment is entirely within Oceanside Boulevard, which is at the base of the knoll on which the site is located, and the site does not extend into the roadway, as shown in Figure 6 (*P-37-033928 [CA-SDI-21313] Sketch Map)* in Appendix E, confidential, bound separately).

5.1.8 P-37-037110

P-37-037110, the San Luis Rey WWTP (now the SLRWRF), was built between 1972 and 1975. The Land Outfall Replacement, OMG FM, and MALS FM Replacement alignments cross the site; however, the Program does not include direct impacts to the existing facilities. Although the wastewater treatment plant reflects broader national and state-wide trends in increased urban sanitation, the site was recorded as ineligible as a historical resource or a historic property, as defined by CEQA and Section 106 of the NHPA.

5.2 P-37-012564 TESTING RESULTS

As discussed in Section 4.2, Testing Methods, augers and STPs were excavated to assess the horizontal and vertical extent of P-37-012564 and the presence of subsurface cultural material; the results of the initial augers and STPs guided the placement of test excavation units. The locations of augers, STPs, and

test units are illustrated in Figure 7, *P-37-012564 Testing Map*. An overview of the site area is shown in Plate 1.



Plate 1. Site overview from northerly end of site, view to south.

As summarized in Table 3 (*P-37-012564 Artifact and Ecofact Recovery*), the archaeological testing program at P-37-012564 recovered fewer than 20 prehistoric artifacts, yielding almost 7,800 grams (g) of marine shell and 20.6 g of animal bone, some of which is modern/recent. Twenty-nine historic items were collected, including wire-cut (square) nails, which probably predate the twentieth century, as well as more recent or modern material (glass and metal). Twenty-two pieces (975.3 g) of fire-affected rock (FAR), which could represent remnants of fire hearths, were also recovered; no intact features were encountered.

Table 3
P-37-012564 ARTIFACT AND ECOFACT RECOVERY

Artifact Class	Item	Count	% Count	Weight (g)	% Weight
Prehistoric Artifacts					
Flaked stone	Debitage	8	47.1%	58.1	4.4%
Flaked stone	Projectile point	1	5.9%	2.5	0.2%
Ground stone	Mano	5	29.4%	701.9	54.5%
Ground stone	Metate	1	5.9%	236.4	18.3%
Ground stone	Multi-use tool	1	5.9%	217.5	16.9%
Ground stone	Unidentified fragment	1	5.9%	72.6	5.6%
	Subtotal	**17**	**100.0%**	**1289.0**	**100.0%**

Artifact Class	Item	Count	% Count	Weight (g)	% Weight
Faunal*					
Bone, non-human	Bulk, unmodified	--*	--*	20.6	0.3%
Shell	Bulk, unmodified	--*	--*	7769.7	99.7%
	Subtotal	**--***	**--***	**7790.3**	**100.0%**
Historic Artifacts					
Ceramic	Earthenware	1	3.4%	1.5	1.7%
Glass	Bottle	15	51.7%	45.3	52.4%
Glass	Other	1	3.4%	0.3	0.3%
Metal	Nail	9	31.0%	20.9	24.2%
Metal	Other	1	3.4%	14.8	17.1%
Metal	Unknown	2	6.9%	3.7	4.3%
	Subtotal	**29**	**100.0%**	**86.5**	**100.0%**
	TOTAL	**46***	**100.0%**	**9633.1**	**100.0%**

* Faunal material not included in count total

Marine shell was by far the most prevalent cultural material recovered, occurring across the entire site, with a break in diversity between the northern portion of the site (Locus A), where the shellfish assemblage is dominated by rocky beach taxa, such as Chione, scallop, and oyster, and the southern portion of the site (Locus B), where Donax, a sandy beach clam, is the predominant species. While a large amount of the animal bone collected was rodent, much of it recent, some of the bone was burned, as would be expected for food bone, and two otoliths (fish ear bones) were recovered.

The most common artifact recovered was debitage, including six flakes and two pieces of angular debris, which account for almost half of the prehistoric artifact assemblage. Manos make up almost 30 percent of the assemblage, with five recovered. Other ground stone artifacts include a metate fragment, a multi-use tool, and a fragment of an undetermined type. One quartz projectile point fragment was the only flaked stone item recovered other than debitage.

5.2.1 Vertical Distribution

Cultural material was found to a depth of over a meter in some areas, although the amount of material at these depths was not great in most areas (Plate 2, *Vertical Distribution of Cultural Material at P-37-012564*.) Since shell was the most frequently recovered cultural material, the horizontal and vertical distribution of cultural material will be explored using the weight of shell material recovered from the augers, STPs, test units, and surface collections.

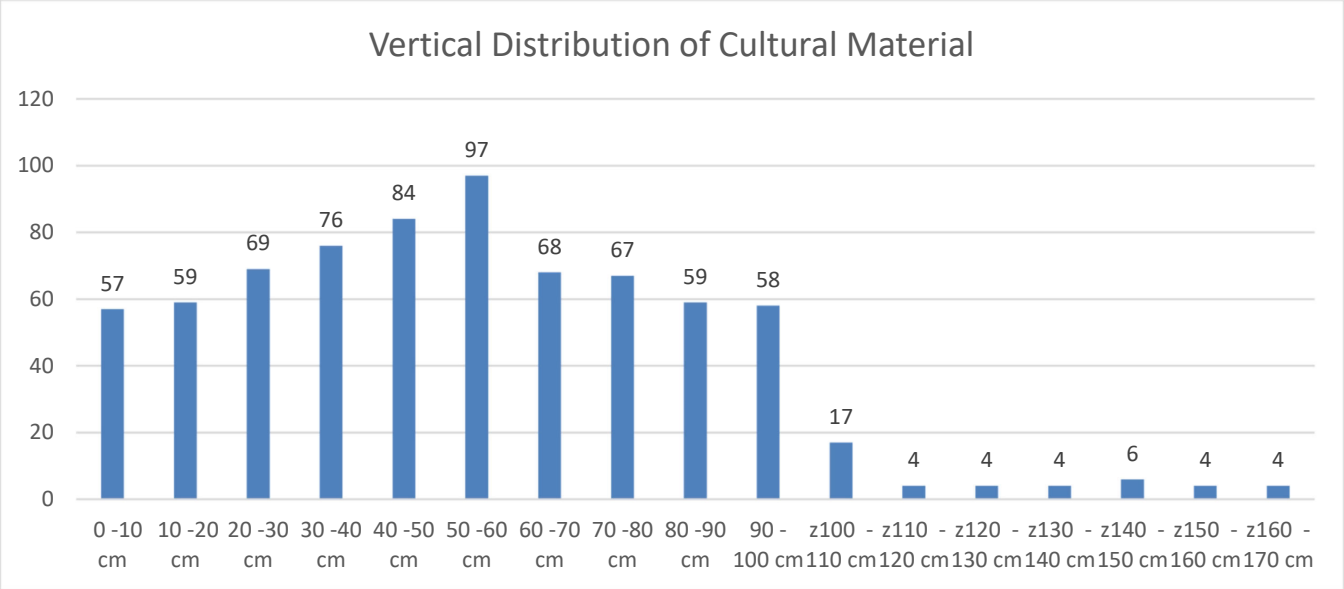


Plate 2 Vertical Distribution of Cultural Material at P-37-012564.

The vertical distribution of shell was assessed by measuring the total weight of marine shell recovered from P-37-012564 by the depositional level, measured in centimeters, from which it was recovered. Shell was not recovered below one meter below ground surface. Although shell was recovered within the surficial levels, the majority of shell was recovered from between 30 cm and 80 cm (Plate 3, *Vertical Distribution of Shell*). Below 80 cm, the distribution of material is reduced by more than half. The distribution of non-shell material is consistent with the vertical distribution for shell. Prehistoric materials, consisting of flaked and ground stone, yielded 17 artifacts; 70 percent (12 artifacts) were recovered between 30 cm and 80 cm. Only one artifact, a debitage flake, was recovered from deeper levels. Conversely, historic artifacts (glass, metal, and ceramics artifacts) were more common in levels above 30 cm in depth.

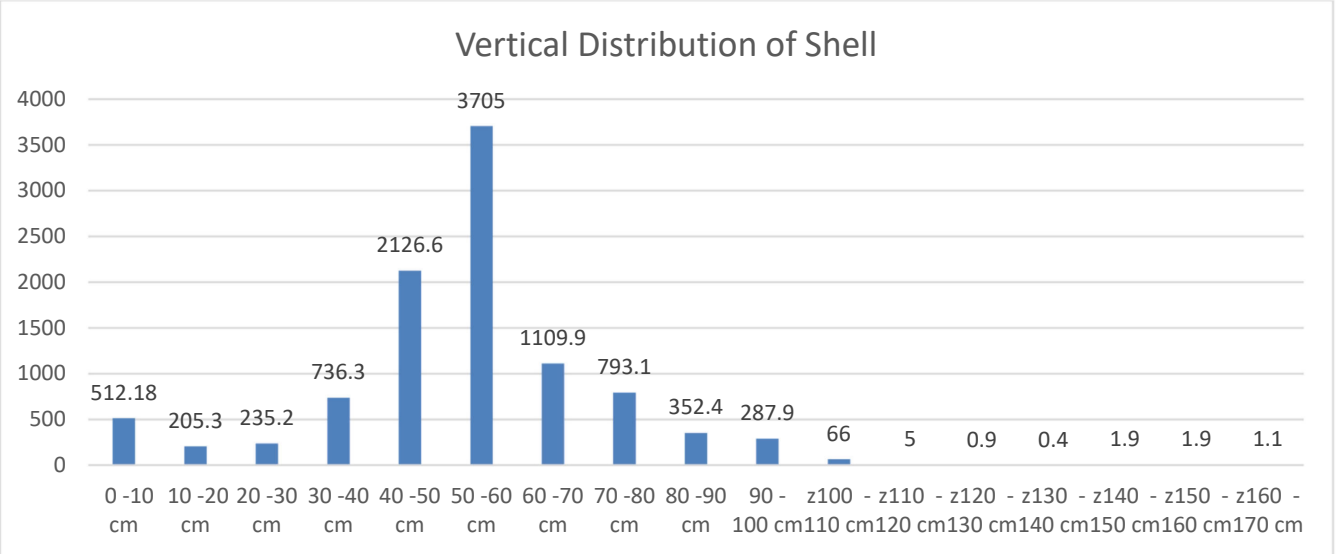


Plate 3 Vertical Distribution of Shell.

5.2.2 Horizontal Distribution

A series of augers and STPs were distributed throughout the site to assess the horizontal boundaries of P-37-012564. As discussed above, some of the augers yielded little to no cultural material. The distribution of shell among the augers was clustered in two loci, centered around Auger 1 and Auger 15 (Plate 4, *Distribution of Shell in Auger Testing*.) On the northern half of the site, augers 1, 2, and 3 yielded the most shell. However, Auger 26, located just north of Auger 1, yielded very little shell. Augers 4 and 29 were situated north and south of Auger 2, respectively; however, these two augers recovered very little shell. No shell was recovered from Auger 29, but STP 13 (Plate 5, *Distribution of Shell in STPs*), located between augers 1 and 29, recovered a large amount of shell. Furthermore, testing in Unit 1 also recovered a large amount of shell (Plate 6, *Distribution of Shell in Test Units.*)

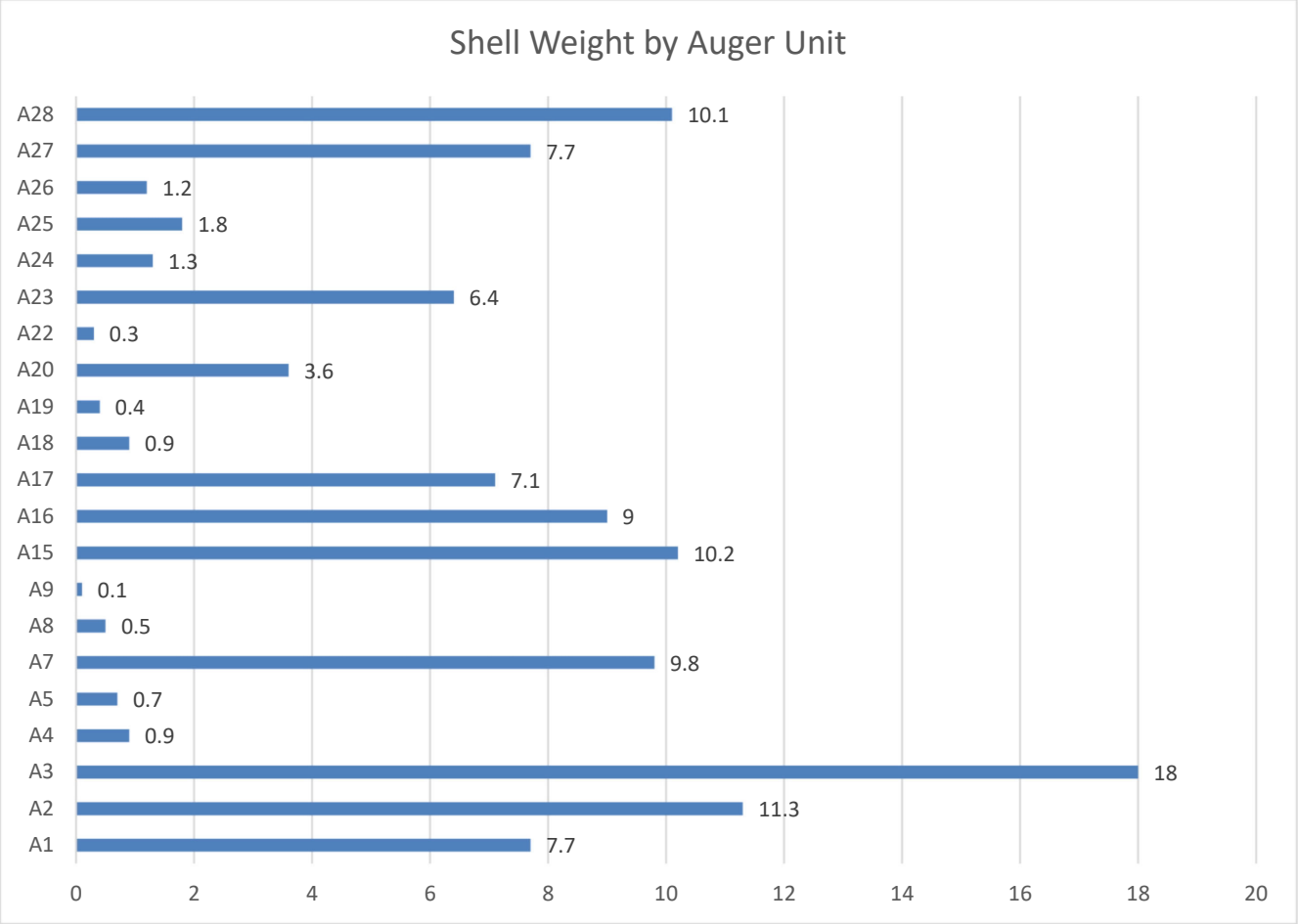


Plate 4 Distribution of Shell in Auger Testing.

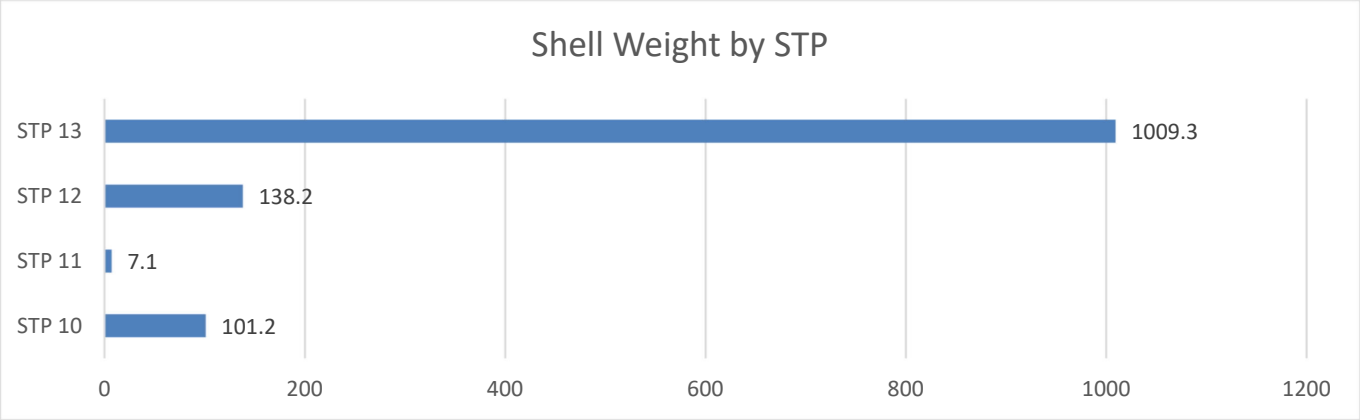


Plate 5 Distribution of Shell in STPs.

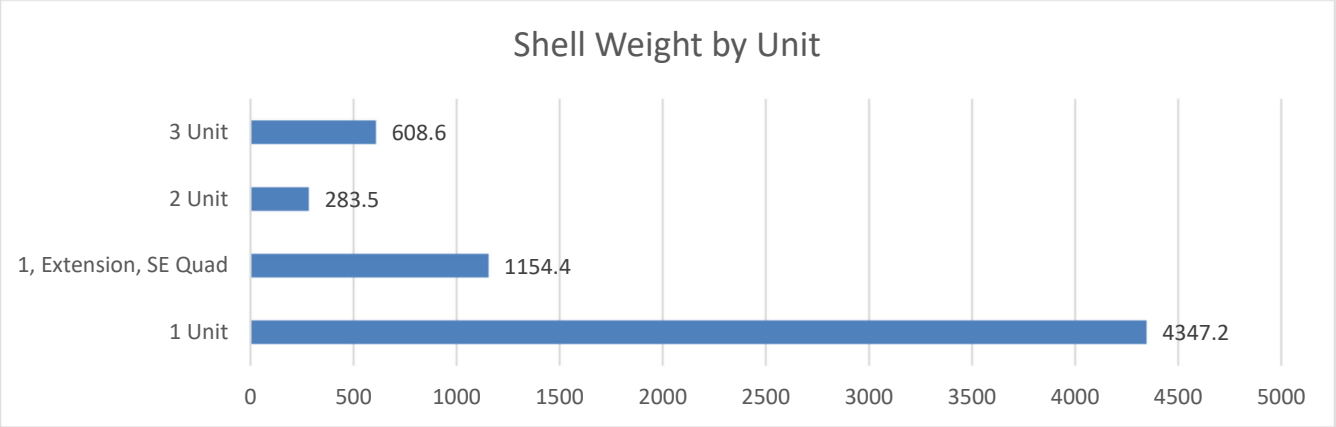


Plate 6 Distribution of Shell in Test Units.

The center of the site was tested by augers 4, 5, 6, 8, 27, and 28. Augers 27 and 28 yielded considerably more shell than augers 4, 5, 6, and 8. Unit 3 was used to test the boundaries of this deposit; while Unit 3 tested positive for shell deposits, it was not to the extent observed in Unit 1.

The southern end of the site was clustered around augers 15, 16, and 17. STP 10 and Unit 2 were strategically placed between these three augers to test the density of shell deposits. Although Unit 3 and STP 10 were positive for shell, the density of shell was considerably less when compared to the north end of the site. The augers in the far north, augers 23, 24, and 25, produced relatively low amounts of shell.

5.2.3 Testing Results Summary

The distribution of shell was scattered throughout P-37-012564, with two clear clusters on the north and south ends. The vertical distribution of the site illustrated two patterns: first, historic artifacts were most prevalent within the first 30 cm below ground surface; prehistoric resources, primarily consisting of shell, but also including lithic debitage, ground stone, and FAR, were observed in higher densities between 30 cm and 80 cm below ground surface. Although cultural material was encountered below one meter in depth, the density of these deposits was very sparse and probably a result of rodent bioturbation or post-depositional movement.

Although the marine shell can provide useful information regarding the site in terms of its uses, its chronology, and its place in the overall subsistence and settlement system, the limited artifact assemblage, in both quantity and variety, limits the research value of the resource. The presence of modern trash throughout the depths of the units and STPs evidences the modern disturbance to the site, affecting its integrity; extensive rodent bioturbation was also noted. Based on this, the site does not meet the criteria for inclusion in the California Register of Historical Resources or National Register of Historic Places and, thus, is not a significant resource (historical resource) under CEQA or historic property under the NHPA. Due to its proximity to the significant cultural resource P-37-005445 and the ethnohistoric village of San Luis Rey, cultural material from the site can provide insight into the lifeways of the Luiseño people and their forebears, but the analysis of cultural material recovered during the testing program should be adequate for this purpose, and no additional excavation is recommended. The potential for encountering significant deposits or features, including human remains, during excavation/trenching for the Oceanside Sewer Improvements Program remains high. Therefore, monitoring by an archaeologist and a Native American monitor should be required for ground-disturbing activity related to projects undertaken under the Program.

5.3 NATIVE AMERICAN CONCERNS AND TRIBAL CULTURAL RESOURCES

As previously noted, much of the Program area is in the San Luis Rey River Valley, in proximity to Mission San Luis Rey and to ethnohistoric Luiseño village sites. The Wanis site complex, located a short distance west of the Program area, and P-37-005445, which is crossed by the Program, both contain significant deposits and both have been speculated to be the village of San Luis Rey that appeared in the 1860 census and possibly the ethnohistoric village of *Keish* or *Quechla*. The area has been identified by both the San Luis Rey Band of Mission Indians and the Rincon Band of Luiseño Indians as of cultural significance. The City is undertaking consultation under AB 52 with those tribes who have responded to the City about their interest in the Program. Consultation will be ongoing throughout the design and construction of the Program to avoid impacts to tribal cultural resources to the extent feasible and maintain communication regarding adequate mitigation of those impacts that cannot be avoided.

6.0 SUMMARY AND MANAGEMENT RECOMMENDATIONS

A study was undertaken to identify cultural resources that are present in the Oceanside Sewer Improvements Program to determine the effects of the program on historical resources per CEQA and historic properties per the NHPA. Eight cultural resource sites have been identified within or adjacent to the Program APE, as described throughout this report; no newly identified resources have been recorded as a result of this study. While the Program has the potential to affect historical resources/historic properties, several sites have been assessed as not being historical resources/historic properties, and three others have yet to be evaluated, as discussed below. If impacts cannot be avoided through Program design, testing will be conducted to assess site significance at these resources, and adverse effects will be mitigated through the implementation of a data recovery program as appropriate, per the mitigation measures identified in Section 6.3, below.

6.1 ELIGIBILITY RECOMMENDATIONS AND PROGRAM EFFECTS

Eligibility recommendations for the cultural resources identified within and adjacent to the APE are provided in Table 4, *CRHR/NRHP Eligibility Recommendations*. In summary, of the eight cultural resources recorded within or adjacent to the Program APE, three have been recommended as not eligible for the CRHR or NRHP (P-37-007787, P-37-012564, and P-37-037110). One site was not formally evaluated but was found during construction monitoring and appears to have been destroyed by construction (P-37-029336). Impacts to these four sites do not constitute significant effects under CEQA or effects to historic properties under the NHPA.

One site is assumed eligible due to the recent discovery of intact subsurface deposits and human remains (P-37-005445). The remaining three sites have not been evaluated. Although not formally evaluated, P-37-011468 was recommended as not eligible due to the amount of past disturbance and the paucity of cultural material (Robbins-Wade and Leeper 1989). P-37-011470 also was not formally evaluated, but the historic structures were recommended for preservation and rehabilitation (Gross 1993), and the historic component was assumed to be eligible. P-37-033928 was recorded in conjunction with the Oceanside Boulevard Lift Station but it was not evaluated; during monitoring for that project, several artifacts were observed, but no intact deposits were noted (HELIX 2021).

Table 4
CRHR/NRHP ELIGIBILITY RECOMMENDATIONS

Resource Number	Description	NRHP/CRHR Eligibility Recommendation	Program Component	Status
P-37-005445 (CA-SDI-5445)	Large habitation site with subsurface deposits and human remains.	Assumed eligible based on recent discoveries of intact subsurface deposits and human remains.	OMG FM, MALS FM Replacement, Land Outfall Replacement.	Not reidentified within the APE; significant buried deposits are known just outside the APE.
P-37-007787 (CA-SDI-7787)	Slight shell scatter with debitage, a utilized flake, hammerstone, and ground stone fragment.	Previously assessed as not eligible (Corum 1990).	Mission Avenue Gravity Sewer Lining and Replacement.	Not reidentified; possibly destroyed.
P-37-011468 (CA-SDI-11468)	A light scatter of shell and lithics	Not formally evaluated; previously recommended as not eligible (Robbins-Wade and Leeper 1989).	OMG FM, Land Outfall Replacement, MALS FM Replacement	Not reidentified within the APE during surveys; mapped adjacent to the APE
P-37-011470 (CA-SDI-11470)	Historic ranch complex owned by the Whelan Family. Prehistoric shell midden and fire-affected rock scatter.	Not formally evaluated; historic component recommended as eligible.	OMG FM, Land Outfall Replacement, MALS FM Replacement	Reidentified adjacent to the APE; sparsely scattered shell observed on the surface
P-37-012564 (CA-SDI-12564)	Low density shell scatter.	Evaluated for current study; recommended not eligible.	OMG FM, Land Outfall Replacement.	Within APE

Resource Number	Description	NRHP/CRHR Eligibility Recommendation	Program Component	Status
P-37-029336 (CA-SDI-18767)	Hearth feature (disturbed), fire-affected rock and associated artifacts; found in construction monitoring.	Not formally evaluated; found in construction monitoring.	Existing Land Outfall (not proposed for replacement).	Not reidentified within the APE during survey; apparently destroyed by past construction
P-37-033928 (CA-SDI-21313)	Small shell scatter.	Not evaluated.	Land Outfall Replacement	Not reidentified within the APE during survey; mapped adjacent to the APE; however, APE is within the existing roadway, at a lower elevation than the site
P-37-037110	The San Luis Rey Wastewater Treatment Plant, constructed in 1972 and expanded between 1972 and 2014.	Previously evaluated as not eligible (Zamudio-Gurrola 2017).	OMG FM, Land Outfall Replacement, MALS FM Replacement	Within APE; no effects to built environment anticipated.

6.2 CULTURAL SENSITIVITY

As illustrated in Figure 8, *Cultural Sensitivity*, several stretches of the Program area are highly sensitive in terms of cultural resources. One such segment is in proximity to sites P-37-006010 and P-37-011470, which have been identified as significant/NRHP-eligible and probably significant, respectively. There is a scatter of shell and flaked lithic material between the mapped boundaries of these two sites, and there is a high potential for subsurface cultural resources. Another area of high cultural sensitivity is just north and just south of Mission Avenue due to the presence of known cultural resources (P-37-005445 and P-37-012564) and the high potential for buried cultural resources in these areas.

Several segments of the Program have moderate-to-high cultural sensitivity (Figure 8) due to the presence of known cultural resources, as well as the potential for buried cultural resources in these areas.

The very northern and southern ends of the Program are categorized as low-to-moderate sensitivity (Figure 8) due to the high degree of past disturbance and developed nature of these areas and the lack of previously recorded cultural material. Cultural sensitivity for the remainder of the Program area is moderate; there is a potential for buried cultural resources in the alluvial soils, but no cultural resources sites have been previously identified in the areas of moderate sensitivity.

6.3 MANAGEMENT RECOMMENDATIONS AND MITIGATION MEASURES

As discussed above, four of the eight cultural resources identified within or adjacent to the APE do not qualify as historical resources/historic properties; thus, there would be no effects related to these resources (P-37-007787, P-37-012564, P-37-029336, and P-37-037110).

P-37-005445, which is assumed eligible, is crossed by the proposed Oceanside Mesa Garrison Force Main, Mission Avenue Lift Station Force Main Replacement, and the Land Outfall Replacement. Although no evidence of this resource was observed on the surface, there is a high potential for subsurface cultural resources associated with the site to be encountered within the APE. To minimize impacts to cultural resources, it is recommended that, to the extent feasible, pipeline replacement be done in the same trenches as the existing pipelines. Where this is not feasible, trench widths should be kept as narrow as feasible to accommodate the new or replacement pipelines. All ground disturbance will be monitored by an archaeologist and a Native American monitor, with screening of a sample of the soils where the trenching crosses the site. The monitors will direct the pace of excavation in this area to allow sufficient time to thoroughly examine the soils and the trench sidewalls.

P-37-011468, P-37-011470, and P-37-033928 all appear to be located at the edge of the Program APE but outside of it; no evidence of these sites was found within the APE. In the event of post-review discoveries of resources during construction, the process and discovery protocol outlined in the Cultural Resources Post-Review Discovery and Monitoring Plan prepared for the program would be implemented so that appropriate measures to resolve potential adverse effects to subsurface historic properties that may be present within the APE and discovered during construction are followed.

Based on the high degree of cultural sensitivity of much of the Program area, the presence of known cultural resources, and the potential for buried cultural resources, it is recommended that an archaeological and Native American monitoring program be implemented for ground-disturbing activities in areas with moderate, moderate-high, or high cultural sensitivity, as shown in Figure 8.

CUL-1 Before the issuance of the Notice to Proceed for each Project Component, the City of Oceanside (City; Owner) or its Designated Representative(s) shall enter into a pre-excavation agreement, otherwise known as a Tribal Cultural Resources Treatment and Tribal Monitoring Agreement (Pre-Excavation Agreement) with the "Traditionally and Culturally Affiliated (TCA) Native American Monitor(s) associated with the TCA Luiseño Tribe(s)." A copy of the Agreement shall be included in the Grading Plan Submittals for the Grading Permit. The purpose of this Agreement shall be to formalize protocols and procedures between the City and the "TCA Native American Monitor(s) associated with the TCA Luiseño Tribe(s)" for the treatment of known cultural resources; the designation, responsibilities, and participation of professional tribal monitors during grading, excavation, and ground disturbing activities; project scheduling; terms of compensation for the monitors; and treatment and final disposition of any cultural resources, sacred sites, and human remains, including but not limited to, Native American human remains, funerary objects, cultural and religious landscapes, ceremonial items, traditional gathering areas and tribal cultural resources, located and/or discovered through a monitoring program in conjunction with the construction of the proposed project, including additional archaeological surveys and/or studies, excavations, geotechnical investigations, grading, and all other ground-disturbing activities.



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0 2,000 Feet

Source: Aerial (SanGIS, 2014).

HELIX Environmental Planning

Cultural Sensitivity

Figure 8

CUL-2 At least 45 days prior to the issuance of the Notice to Proceed for each Project Component, the City of Oceanside Water Utilities Department or its Designated Representative(s) shall provide a written and signed letter to the City of Oceanside Planning Division stating that a Qualified Archaeologist and Luiseño Native American Monitor(s) have been retained at the City or Contractor's expense to implement the monitoring program, as described in the Pre-Excavation Agreement and the project's Cultural Resources Post-Review Discovery and Monitoring Plan prepared for the EPA (HELIX 2025). The Qualified Archaeologist shall meet the Secretary of the Interior's (SOI) Professional Qualifications Standards (48 Federal Register 44738-39). The archaeological monitor will conduct the construction monitoring under the oversight of the Qualified Archaeologist.

CUL-3 The Qualified Archaeologist shall maintain ongoing collaborative consultation with the Luiseño Native American monitor(s) during all ground-disturbing activities. The requirement for the monitoring program shall be noted on all applicable construction documents, including demolition plans, grading plans, etc. The Contractor shall notify the City of Oceanside Water Utilities Department of the start and end of all ground-disturbing activities.

CUL-4 The archaeological monitor and Luiseño Native American Monitor(s) shall attend all applicable pre-construction meetings with the Contractor and/or associated Subcontractors to present a Cultural Resources Awareness and Sensitivity Training and discuss the construction schedule and the protocols for an inadvertent discoveries. The Contractor must give a 48-hour notice of any scheduled pre-construction meetings and monitoring.

The archaeological monitor and Luiseño Native American Monitor(s) shall follow the protocols outlined in the project's Cultural Resources Post-Review Discovery and Monitoring Plan prepared for the EPA (HELIX 2025), and the Pre-Excavation Agreement including: being present on-site full-time during grubbing, grading, and/or other ground-altering activities, including the placement of imported fill materials or fill used from other areas of the project site, to identify any evidence of potential archaeological or tribal cultural resources. All fill materials shall be absent of any and all tribal cultural resources. To ensure that all TCA Luiseño Tribe(s) have an equal opportunity for representation, tribal monitors from each TCA Luiseño Tribe(s), that request to provide monitoring, will be systematically rotated on a schedule established by the City.

CUL-5 In order for potentially significant archaeological artifact deposits and/or cultural resources to be readily detected during mitigation monitoring, a written "Controlled Grade Procedure" shall be prepared by a Qualified Archaeologist, in consultation with the TCA Luiseño Tribe(s) that have participated in the state-prescribed process for the Program, subject to the approval of the City or its Designated Representative(s), in accordance with the Cultural Resources Post-Review Discovery and Monitoring Plan prepared for the EPA (HELIX 2025)

The Controlled Grade Procedure shall establish requirements for any ground-disturbing work with machinery occurring in and around areas the Qualified Archaeologist and Luiseño Native American monitor(s) determine to be sensitive through the cultural resource mitigation monitoring process. The Controlled Grade Procedure shall include, but not be limited to, appropriate operating pace, increments of removal, weight, and other characteristics of the earth-disturbing equipment. A copy of the Controlled Grade Procedure

shall be included in the Engineering Plans for each Program Component prior to construction.

CUL-6 During the monitoring program, all ground disturbance (trenching/excavation/drilling) occurring within the boundaries of P-37-005445 should be monitored full-time by the archaeological monitor and Luiseño Native American Monitor, with screening of a sample of the soils occurring. The monitors will direct the pace of excavation within the archaeological site in order to allow sufficient time to thoroughly examine the soils and the trench sidewalls. In addition, to minimize impacts to cultural resources, it is recommended that trench widths be kept as narrow as feasible to accommodate the new or replacement pipelines.

CUL-7 The archaeological monitor or the Luiseño Native American monitor may halt ground-disturbing activities if unknown tribal cultural resources, archaeological artifact deposits, or cultural features are discovered. Ground-disturbing activities shall be directed away from these deposits and at least a 25-foot radius, to allow a determination of potential importance. Isolates and clearly non-significant deposits will be minimally documented in the field, and before grading proceeds, these items shall be secured until they can be repatriated. If items cannot be securely stored on the project site, they may be stored in off-site facilities located in San Diego County.

Any newly discovered cultural resource(s) shall be subject to evaluation. If the Qualified Archaeologist and Luiseño Native American monitor(s) determine that the unearthed tribal cultural resource, artifact deposits, or cultural features are considered potentially significant, TCA Luiseño Tribe(s) that have participated in the state-prescribed consultation process for this project shall be notified and consulted regarding the respectful and dignified treatment of those resources. Pursuant to California Public Resources Code Section 21083.2(b) avoidance and protection of a significant tribal cultural resource and/or unique archaeological resource is the preferred method of preservation. If, however, it is determined by the City that avoidance of the resource is infeasible, the Qualified Archaeologist and the TCA Luiseño Tribe(s) shall make recommendations to the City on the measures that will be implemented to protect the newly discovered cultural resource(s), including but not limited to, excavation, relocation, and further evaluation of the discoveries in accordance with CEQA.

If it is determined that a data recovery plan is necessary by the City as the Lead Agency under CEQA, TCA Luiseño Tribes that have participated in the state-prescribed consultation process for this project shall be notified and consulted regarding the drafting and finalization of any such recovery plan. For significant tribal cultural resources, artifact deposits, or cultural features that are part of a data recovery plan, an adequate artifact sample to address research avenues previously identified for sites in the area will be collected using professional archaeological collection methods. The data recovery plan shall also incorporate and reflect the tribal values of the TCA Luiseño Tribe(s) that have participated in the state-prescribed consultation process for this project. If the Qualified Archaeologist collects such resources, the Luiseño Native American monitor(s) must be present during any testing or cataloging of those resources. Moreover, if the archaeological monitor does not collect the tribal cultural resources that are unearthed during the ground-disturbing activities, the Luiseño Native American monitor, may at their discretion, collect

said resources and provide them to the appropriate TCA Luiseño Tribe(s), as determined through the appropriate process, for respectful and dignified treatment in accordance with the Tribe's cultural and spiritual traditions. Ground-disturbing activities shall not resume until the Qualified Archaeologist, in consultation with the Luiseño Native American Monitor, deems the cultural resource or feature has been appropriately documented and/or protected.

If the City, the Qualified Archaeologist, and the TCA Tribe(s) cannot agree on the significance or the mitigation for the newly discovered cultural resource(s), these issues will be presented to the City for decision. The City shall make the determination based on the provisions of CEQA with respect to cultural resources and shall take into account the religious beliefs, customs, and practices of the TCA Tribe(s).

CUL-8 The landowner shall relinquish ownership of all tribal cultural resources unearthed during the cultural resource mitigation monitoring conducted during all ground-disturbing activities, and from any previous archaeological studies or excavations on the project site to the appropriate TCA Luiseño Tribe(s), as determined through the appropriate process, for respectful and dignified treatment and disposition, including reburial at a protected location on-site, in accordance with the TCA Luiseño Tribe(s),'s cultural and spiritual traditions.

Excluding sacred items, human remains, and grave goods, project archaeologists will be allowed to retain the cultural resource(s) at their office to document and photograph the cultural resource(s) for inclusion in the final monitoring report. Within 90 days after all monitoring is completed, the Qualified Archaeologist must return all cultural resources to the TCA Tribe(s). During those 90 days, the TCA Tribe(s) will work with the City to select a location for reburial that will be free from any disturbance including but not limited to development, excavation, any landscaping that exceeds the depth of the resources, above- or below-ground utility installation, flooding, etc. Upon return of the cultural resources, the City will allow the TCA Tribe(s) a reasonable timeframe in which to access the agreed upon area. The TCA Tribe(s) will document the reburial location with GPS coordinates, add the data to internal GIS systems, and complete a form for submittal to the Native American Heritage Commission (NAHC).

Prior to filing the Notice of Completion, the City and the TCA Tribe(s) shall complete a Long-Term Preservation Plan for the reburial location. This Preservation Plan shall describe the open space easement within which the resources are located, which will be transferred to the TCA Tribe(s).

All cultural materials that are associated with burial and/or funerary goods will be repatriated to the Most Likely Descendant as determined by the NAHC per California Public Resources Code Section 5097.98. No tribal cultural resources shall be subject to curation.

Any archaeological resources unearth during the monitoring which the TCA Tribe(s) does wish to be given ownership of, such as diagnostic historic archaeological items, should be curated at a curation facility, that meets federal standards per 36 CFR Part 79. Non-diagnostic items do not need to be curated.

CUL-9 Prior to filing the Notice of Completion, a monitoring report and/or evaluation report, if appropriate, which describes the results, analysis, and conclusions of the archaeological

monitoring program (e.g., data recovery plan), any associated California Department of Parks and Recreation 523 Forms and/or confidential maps, details of the location of the final disposition of cultural resources, any issues or problems that occurred during monitoring, and any other pertinent information shall be submitted by the Qualified Archaeologist, along with the TCA Tribe(s) monitoring notes and comments, to the City of Oceanside or its Designated Representative(s) for approval. Upon approval by the City, a complete final report shall be submitted to the appropriate Information Center, the TCA Tribe(s), any relevant curation facility, and the landowner, as applicable.

CUL-10 As specified by California Health and Safety Code Section 7050.5, if human remains are found on the project site during construction or during archaeological work, the person responsible for the excavation, or his or her authorized representative, shall immediately notify the San Diego County Office of the Medical Examiner by telephone. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains, for at least a 25-foot radius, shall occur until the Medical Examiner has made the necessary findings as to origin and disposition pursuant to California Public Resources Code 5097.98. If such a discovery occurs, a temporary construction exclusion zone shall be established surrounding the area of the discovery so that the area would be protected, and consultation and treatment could occur as prescribed by law. If suspected Native American remains are discovered, the remains shall be kept in-situ, or in a secure location in close proximity to where they were found, and the analysis of the remains shall only occur on-site in the presence of a Luiseño Native American monitor. By law, the Medical Examiner will determine within two working days of being notified if the remains are subject to their authority. If the Medical Examiner identifies the remains to be of Native American ancestry, he or she shall contact the NAHC within 24 hours. The NAHC shall make a determination as to the Most Likely Descendent.

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Appendix A

Resumes

MARY ROBBINS-WADE, RPA

Cultural Resources Group Manager



Ms. Robbins-Wade is HELIX's Cultural Resources Group Manager and Principal Archaeologist. With 43 years of experience, she manages and oversees archaeological, historic, and interpretive studies and programs, including contract management; design and implementation of survey, research, data recovery, and construction monitoring programs; preservation plans and report preparation. Ms. Robbins-Wade has experience with a broad range of project types, including private developments and public infrastructure. She manages the preparation of cultural resources studies both as stand-alone reports and also in support of CEQA and NEPA compliance efforts. Ms. Robbins-Wade has a strong working knowledge of local, state, and federal laws addressing the protection of archaeological and historical resources. Her Native American consultation experience includes coordinating Native American tribal consultations conducted pursuant to CEQA as revised by Assembly Bill 52 (2014 Session), as well as providing support for federal agency government-to-government consultations with federally recognized tribes pursuant to Section 106 of the National Historic Preservation Act (NHPA). Ms. Robbins-Wade is a Registered Professional Archaeologist (RPA) and meets the U.S. Secretary of the Interior's Professional Qualifications for prehistoric and historic archaeology.

San Nicolas Island High Explosives Magazine Archaeological Monitoring (2023). Principal Investigator for archaeological monitoring during construction of a high-explosives magazine on the west side of San Nicolas Island within the boundaries of a known archaeological site with human remains. San Nicolas Island is considered a Traditional Cultural Property by associated Native American tribes and, as such, includes extremely sensitive cultural sites. Worked with Navy and Luiseno and Chumash tribes to determine the appropriate treatment for finds made during monitoring. Reviewed project deliverables, including work plans, a Worker's Environmental Awareness Program, mapping, and field reporting. The work complies with NHPA and NAGPRA and is ongoing. Performed for Reyes Construction under contract to the US Navy.

San Nicolas Island Missile Assembly Bunker Archaeological Monitoring (2023). Principal Investigator for archaeological monitoring during construction of a high-explosives magazine on the west side of San Nicolas. San Nicolas Island is considered a Traditional Cultural Property by associated Native American tribes and, as such, includes extremely sensitive cultural sites. Worked with Navy and Luiseno and Chumash tribes to determine the appropriate treatment for finds made during monitoring. Reviewed project deliverables, including work plans, a Worker's Environmental Awareness Program, mapping, and field reporting. The work complies with NHPA and NAGPRA and is ongoing. Performed for Soltec under contract to the US Navy.

EDUCATION

Master of Arts, Anthropology, San Diego State University, 1990

Bachelor of Arts, Anthropology, University of California, Santa Barbara, 1981

REGISTRATIONS/ CERTIFICATIONS

Registered Professional Archaeologist No. 10294

Caltrans, Professionally Qualified Staff-Equivalent Principal Investigator for Prehistoric Archaeology

Bureau of Land Management Statewide Cultural Resource Use Permit (California), FLPMA Permit No. CA-18-35

County of San Diego, Approved CEQA Consultant for Archaeological Resources

Orange County Approved Archaeologist

Riverside County Approved Cultural Resources Consultant

PROFESSIONAL AFFILIATIONS

Society for American Archaeology

Society for California Archaeology

San Diego Archaeological Center

San Diego History Center

San Diego Museum of Us

San Diego County Archaeological Society

On Geneva Controlled Grading and Archaeological Monitoring (2022-2023). Principal Investigator for a controlled grading program in southwestern Oceanside for a private residential development. Survey of the property identified a prehistoric site within the area to be developed. Acted as Principal Investigator for a testing program, which found the site to be ineligible for listing in the CRHR. Worked with San Luis Rey to determine a location for artifact reburial within the project limits. Work performed for On Geneva, LLC.

One Alexandria Square Environmental Consulting (2019 - 2024). Principal Investigator/Cultural Resources Lead for a cultural resources study for a redevelopment project of existing office/scientific research uses to include additional office/lab space (including underground parking), a parking structure, and retail uses. Due to the presence of a known significant archaeological/cultural resource, responsibilities included researching previous archaeological studies, working with the project team to design the project so as to preserve over 75 percent of the significant resource, developing a research design and data recovery plan to mitigate impacts that could not be avoided through project design, and listing the resource on the City's Historical Landmarks list, as well as serving as senior report author.

Carlsbad Trails Master Plan Constraints Analysis and IS/MND (2015 - 2016). Cultural Resources Task Manager for the analysis of the Carlsbad Trails Master Plan, which includes existing and proposed recreational trails throughout the City. Conducted an initial screening of potential cultural resources issues that may affect discrete projects within the Trails Master Plan. Also developed protocols for addressing cultural resources under the Trails Master Plan. Work performed for the City of Carlsbad.

El Camino Real Road Widening-Archaeological Monitoring (2015 - 2016). Project Manager/ Principal Investigator for an archaeological monitoring project for the City of Carlsbad in a culturally sensitive area. Project required close coordination with Native American representatives, City staff, construction crews, and another cultural resources firm to ensure that there are no impacts to significant cultural resources. Work performed for the City of Carlsbad.

University and Innovation District Environmental Impact Report (2015 - 2016). Cultural Resources Task Manager/Principal Investigator for the 375-acre, four-year University and Regional Technology Park in the Otay Ranch and Eastlake III neighborhoods of Chula Vista, San Diego County. Responsible for preparation of the cultural resources technical report and managing cultural resources surveys, including Native American outreach, in support of the EIR. HELIX is managing grading studies, technical studies, and the CEQA documentation, as well as providing input to the Sectional Planning Area Plan. The University will feature academic space, academic support space, physical education facilities, student housing, and parking areas sized to serve up to 20,000 full-time equivalent students. The Regional Technology Park is envisioned as a higher-value manufacturing and research park with both independent uses and programmatic links to the university. Work performed for City of Chula Vista. Cultural resources task leader for the University Innovation District Sectional Planning Area project that would direct the implementation of a four-year university and supporting uses in the Otay Ranch and Eastlake III neighborhoods in the City of Chula Vista. The University will feature academic space, academic support space, physical education facilities, student housing, and parking areas to be sized to serve up to 20,000 full-time equivalent (FTE) students. Tasks included supervising the background research, field surveys, recording of cultural resources, and report preparation. Was also responsible for Native American outreach.

Cemetery Area Water Pipeline Replacement-Construction Monitoring (2015 - 2016). Project Manager/Principal Investigator for a water pipeline replacement project in eastern Escondido, located partially within a historic cemetery. Initial work included a cultural resources survey and a historic study of the cemetery; HELIX later conducted cultural resources monitoring during construction. Oversaw historic study, cultural resources survey,

and monitoring. Responsible for Native American outreach and report preparation. Work performed for the City of Escondido.

Southwest Sewer Realignment Project - Monitoring Services (2016 - 2018). Project Manager/Principal Investigator for cultural resources monitoring during construction of a sewer realignment project in western Escondido, adjacent to an ethnohistoric village site. The project is located in an area that is sensitive to both the Kumeyaay and Luiseño people, requiring close coordination with Native American monitors from both groups. Oversaw monitoring program; responsible for Native American outreach/ coordination, site record updates to reflect the finding of additional bedrock milling features, and report preparation. Work performed for the City of Escondido.

Emergency Storage Pond Project (2018 - 2018). Project Manager/Principal Investigator for a cultural resources testing program in conjunction with the Escondido Recycled Water Distribution System - Phase 1. Two cultural resources sites that could not be avoided through project design were evaluated to assess site significance and significance of project impacts. Work included documentation of bedrock milling features, mapping of features and surface artifacts, excavation of a series of shovel test pits at each site, cataloging and analysis of cultural material recovered, and report preparation. The project is located in an area that is sensitive to both the Kumeyaay and Luiseño people, requiring close coordination with Native American monitors from both groups. Work performed for the City of Escondido.

Escondido Brine Line Project (2018 - 2019). Project Manager/Principal Investigator for cultural resources monitoring during construction of approximately 2.3 miles of a 15-inch brine return pipeline in the City of Escondido. The project, which is part of the City's Agricultural Recycled Water and Potable Reuse Program, enables discharge of brine recovered from a reverse osmosis facility that is treating recycled water; it is one part of the larger proposed expansion of Escondido's recycled water distribution to serve eastern and northern agricultural land. The project is located in an area that is sensitive to both the Kumeyaay and Luiseño people, requiring close coordination with Native American monitors from both groups. Oversaw monitoring program, including Worker Environmental Awareness Training; responsible for Native American outreach/coordination, coordination with City staff and construction crews, and general project management. Work performed for the City of Escondido.

Blended Reverse Osmosis (RO) Line Project (2018 - 2019). Project Manager/ Principal Investigator for cultural resources monitoring during construction of a 24-inch recycled water pipeline in the City of Escondido. The project is located in an area that is sensitive to both the Kumeyaay and Luiseño people, requiring close coordination with Native American monitors from both groups. Oversaw monitoring program, including Worker Environmental Awareness Program (WEAP) training; responsible for Native American outreach/coordination, coordination with City staff and construction crews, and general project management. Work performed for the City of Escondido.

Oceanside Water Utilities Department As-Needed Environmental Consulting Services, 2013-2015 (2015 - 2016). Cultural Resources Task Lead/Principal Investigator for an on-call contract with the City of Oceanside Water Utilities Department. HELIX is providing on-call environmental consulting services, including CEQA compliance documents, surveys, studies, construction monitoring, and related services. Project types include reservoirs, pump stations, lift stations, pipelines, and treatment plants. Work performed for the City of Oceanside Water Utilities Department.

Oceanside Water Utilities Department On-Call Environmental Consulting Services 2016-2017 (2016 - 2017). Cultural Resources Task Lead/Principal Investigator for an on-call contract with the City of Oceanside Water Utilities Department. HELIX is providing on-call environmental consulting services, including CEQA compliance documents, surveys, studies, construction monitoring, and related services. Project types include reservoirs,

pump stations, lift stations, pipelines, and treatment plants. Work performed for the City of Oceanside Water Utilities Department.

Oceanside Water Utilities Dept On-Call Environmental Consulting Services, 2017-2022 (2018 - 2021). Cultural Resources Task Lead/Principal Investigator for three consecutive on-call contracts with the City of Oceanside Water Utilities Department. Oversaw the preparation of cultural resource reports, coordinates with Native American tribes, and directed construction monitoring teams for projects as part of this contract. Project types include reservoirs, pump stations, lift stations, pipelines, and treatment plants.

Haymar Easement Protection Project (2020 -). Cultural Resources Task Lead/Principal Investigator for an emergency repair project to protect a trunk sewer and associated access path badly damaged by erosion. Overseeing cultural resources monitoring during construction in this highly culturally sensitive area, including coordination with Luiseño tribal monitors and City staff.

Pottery Canyon Mitigation Monitoring (2014 - 2016). Project Manager/Principal Investigator for a cultural resources monitoring program in conjunction with contaminated soils remediation program at a significant historic archaeological site in Pottery Canyon Park in the City of San Diego. The project included review of the previous testing report and the remediation plan, assessment of the capping program to ensure its compliance with the approved preservation measures, monitoring of capping, collection and cataloging of artifacts outside the capped area, and preparation of a monitoring report. Work performed for the City of San Diego Department of Park and Recreation under an as-needed contract.

28th Street between Island Avenue and Clay Avenue Utilities Undergrounding Archaeological Monitoring (2014 - 2018). Project Manager/Principal Investigator for a utilities undergrounding project in a historic neighborhood of East San Diego. Responsible for project management; coordination of archaeological and Native American monitors; coordination with forensic anthropologist, Native American representative/Most Likely Descendent, and City staff regarding treatment of possible human remains; oversaw identification of artifacts and cultural features, report preparation, and resource documentation. Work performed for the City of San Diego.

Vista Vineyards (2014 - 2015). Project Manager/Principal Investigator in a cultural resources survey and testing program for a proposed residential development in the City of Vista. The 15.2-acre project is located along Buena Vista Creek, in an area that is culturally sensitive to the Luiseño people, and two archaeological sites within the project had previously been assessed as significant cultural resources. Overseeing background research, field survey, testing, recording archaeological sites, Native American outreach and coordination, and report preparation. The aim of the cultural resources study was to supplement the previous testing work, in order to guide the data recovery program at one site and to develop a preservation plan for the second site. In addition, the project included a historic study to provide the context and framework for recording a historic archaeological site associated with a significant pioneering family in Vista. Due to the project's location and the known significant cultural resources, the cultural resources study included outreach and coordination with the Luiseño community. The project addresses preservation of the significant resources. Work performed for City of Vista.

Camino Largo / PC6-056 (2014 - 2015). Project Manager/Principal Investigator for a cultural resources survey and testing program for a proposed residential development in the City of Vista. Oversaw background research, field survey, testing, site recordation, Native American coordination, and report preparation. Work performed for City of Vista.

Vista Grande (2015 - 2016). Project Manager/Principal Investigator for a cultural resources survey and testing project for a proposed residential development in the City of Vista. Work included testing/assessment of an

archaeological site identified during the survey, as well as evaluation of a historic residence. Work performed for City of Vista.

Cultural Resources Study - P16-0310 Pheasant Hill MND (2017 - 2017). Project Manager/Principal Investigator for a cultural resources survey and testing program for a proposed residential development in the City of Vista. Oversaw background research, field survey, testing, site recordation, Native American coordination, and report preparation. Work performed for City of Vista.

Olive Avenue 15-Lot TSM/ANX Project (P17-0388) (2019 -). Project Manager for a cultural resources survey report for a 15-lot residential subdivision on a property to be annexed to the City of Vista. The cultural resources study included historic evaluation of a house and barn constructed in the 1930s. The project vicinity was identified as sensitive for cultural resources, and HELIX worked with tribal representatives to address potential impacts and mitigation measures. Work performed for the City of Vista.

Erosion Repair at Modjeska Canyon Road (2020 -). Cultural Resources Task Lead/Principal Investigator for proposed repairs of erosion damage to Modjeska Canyon Road. Oversaw fieldwork and report preparation. Responsible for Native American outreach and coordination; coauthored report and provided quality control of report deliverable. Work performed for Orange County Department of Public Works.

Erosion Repair at Silverado Canyon (2020 -). Cultural Resources Task Lead/Principal Investigator for proposed repairs of erosion damage to Silverado Canyon Road. Oversaw fieldwork and report preparation. Responsible for Native American outreach and coordination; coauthored report and provided quality control of report deliverable. Work performed for Orange County Department of Public Works.

Borrego Springs Community Library IS/MND (2015 - 2016). Cultural Resources Task Manager/ Principal Investigator for a cultural resources survey for a proposed development consisting of a public library, park, and police substation for the County of San Diego. The project is proposed on a 20.5-acre site on undeveloped land in the Borrego Springs community.

Pamo Bridge (North) Geotech Boring Project (2017 - 2017). Cultural Resources Task Lead for environmental monitoring in conjunction with geotechnical borings for this proposed bridge replacement project in the Pamo Valley area of San Diego County. The project site is within a significant cultural resources site, CA-SDI-7933/H. This site, which covers almost 50 acres and encompasses the entire project area, has been described as part of the ethnographic Kumeyaay village of Pauha. It also includes historic features and artifacts related to a Civilian Conservation Corps (CCC) camp and US Forest Service Ranger Station. Cultural resources monitoring of geotechnical borings was required to ensure that there were no inadvertent impacts to this significant resource. Responsible for coordinating monitoring efforts by a subconsultant to HELIX and the Kumeyaay Native American monitors, as well as preconstruction sensitivity training and post-construction reporting.

Lake Elsinore Honda (Archaeological Services) (2018 - 2018). Project Manager/Principal Investigator for a cultural resources survey of a proposed auto dealership project in the City of Lake Elsinore. Oversaw background research and field survey; responsible for Native American coordination and report preparation. Work performed for David Evans Associates, with the City of Lake Elsinore as the lead agency.

Diaz Road Expansion, PW17-25 (2020 -). Principal Investigator/Cultural Resources Task Lead for cultural resources survey in support of an IS/MND for proposed city infrastructure improvements associated with the widening and construction of Diaz Road in the City of Temecula. The cultural resources study included tribal outreach and coordination to address the cultural sensitivity of the project area. Oversaw cultural resources study; responsible for tribal outreach and senior oversight on technical report. Work performed for David Evans and Associates, with the City of Temecula as the lead agency.

Marshall Avenue Industrial Park Project (2020 -). Principal Archaeologist for an industrial development project located on 9.3 acres within the City of El Cajon. The project includes up to approximately 111,000 square feet of multi-tenant industrial space over seven buildings. Oversaw the cultural resources technical study that supported the IS/MND that was also prepared by HELIX, along with technical studies of biological resources and GHG emissions. Work was performed for Dentt Development, with the City of El Cajon as the lead agency.

Judson Potable Water Storage Tank and Transmission Pipeline IS/MND (2016 - 2019). Cultural Resources Task Lead for this project in the City of Moreno Valley. Eastern Municipal Water District is proposing the construction and operation of a steel, 2.2-million-gallon (MG) potable water storage tank, approximately 2,300 linear feet of 18-inch-diameter transmission pipeline, a paved access road, a detention basin, and other appurtenances to support tank operations. Oversaw background research and field survey. Responsible for Native American outreach for cultural resources survey and co-authored technical report. Assisted District with Native American outreach and consultation under AB 52. Work performed under an as-needed contract for Eastern Municipal Water District.

EMWD Fox Tank Replacement IS/MND (2017 - 2018). Cultural Resources Task Lead for this project in the Mead Valley community of unincorporated Riverside County. Eastern Municipal Water District proposed to construct and operate a new 1.0-million-gallon (MG) welded steel water tank and 0.15-MG detention basin, install a new 12-inch-diameter pipeline within Fox Street and Ellis Road to connect the new tank to the existing water distribution network, and demolish the existing 0.15-MG Orange Tank. Oversaw background research, field survey, and report preparation. Responsible for Native American outreach for cultural resources survey. Assisted District with Native American outreach and consultation under AB 52. Work performed under an as-needed contract for Eastern Municipal Water District.

Cactus II Feeder Transmission Pipeline IS/MND (2017 - 2018). Cultural Resources Task Lead for this project in the City of Moreno Valley. Eastern Municipal Water District proposed to construct approximately five miles of new 30-inch to 42 inch-diameter pipeline; the project would address existing system deficiencies within the City and provide supply for developing areas. Oversaw background research, field survey, and report preparation. Responsible for Native American outreach for cultural resources survey. Assisted District with Native American outreach and consultation under AB 52. Work performed under an as-needed contract for Eastern Municipal Water District.

Sky Canyon Sewer Environmental Consulting (2018 - 2019). Cultural Resources Task Lead for this project adjacent to the City of Murrieta in southwestern Riverside County. Eastern Municipal Water District (District) proposed to implement the Sky Canyon Sewer Main Extension Project to construct approximately 6,700 linear feet of new gravity-fed 36-inch-diameter sewer main to provide additional sewer capacity for planned development. The proposed 36-inch-diameter sewer main would extend the existing 36-inch-diameter French Valley Sewer at Winchester Road further downstream to Murrieta Hot Springs Road. Oversaw background research and field survey for the cultural resources study in support of the IS/MND. Responsible for Native American outreach for cultural resources survey and co-authored technical report. Assisted District with Native American outreach and consultation under AB 52. Work performed under an as-needed contract for Eastern Municipal Water District.

964 Urania Avenue (2016). Project Manager/Principal Investigator for a cultural resources survey and testing program for a proposed residential development in the City of Solana Beach. Oversaw background research, field survey, testing, site recordation, Native American coordination, and report preparation. Work performed for Hall Land Company.

Anza Street Townhomes Project (2020 -). Project Manager for a cultural resources study for a residential subdivision in the El Cajon area of the County of San Diego. Project included Native American outreach and coordination as part of the archaeological study. Work performed for Hallmark Communities.

SR-76 East Mitigation Monitoring - Cultural Monitoring (2015 - 2019). Project Manager/Principal Investigator for a cultural resources monitoring project for roadway improvements at the SR-76/I-15 Interchange and on SR-76 along the San Luis Rey River in the Bonsall area of San Diego County. The area along the San Luis Rey River is quite sensitive in terms of cultural resources. Oversaw field monitoring, report preparation, and monitor coordination with Caltrans field staff. Responsible for Native American coordination and coordination with Caltrans cultural resources staff. Work performed for Caltrans and SANDAG.

Downtown Riverside Metrolink Station Track & Platform Project (2019 - 2023). Cultural Resources Task Lead for this project involving changes to and expansion of the Downtown Metrolink Station in Riverside. Oversaw records search and background information, archaeological survey, and report preparation; served as primary report author. Responsible for coordination with Native American Heritage Commission, Riverside County Transportation Commission (RCTC), and Federal Transportation Authority (FTA) on Native American outreach. Work performed for Riverside County Transportation Commission as a subconsultant to HNTB Corporation.

Villa Storia (2014 - 2015). Project Manager/Principal Investigator of a cultural resources survey for a proposed residential development in the City of Oceanside. Oversaw background research, field survey, Native American coordination, and report preparation. The project is in proximity to Mission San Luis Rey, in an area of great cultural significance to the Luiseño people, as well as archaeological sensitivity. The cultural resources study included background research, survey of the project area, archaeological testing/assessment, and coordination with the Native American community. Work performed for Integral Partners Funding, LLC.

Valiano Cultural Resources (2014 - 2015). Project Manager/Principal Investigator of a cultural resources survey and testing program for a 239-acre residential planned community in the Escondido area of the County of San Diego. Oversaw background research, field survey, testing, recording archaeological sites and assessment of historic structures, Native American outreach and coordination, and report preparation. Archaeological testing was conducted at several sites that could not be avoided through project design. The project site is in an area that is of cultural importance to both the Kumeyaay and Luiseño people; HELIX archaeologists worked with Native American representatives from both groups. Coordination was conducted to determine the feasibility of preserving bedrock milling features by moving them to open space areas within the project. Other archaeological sites were retained in open space through project design. Work performed for Integral Partners Funding, LLC.

Otay Crossings Commerce Park EIR (2016 - 2019). Project Manager/Principal Investigator for a cultural resources program including testing, data recovery, and monitoring for a 311.5-acre project in the County of San Diego. Served as Project Manager/Principal Investigator for the cultural resources study that addressed 14 sites, including testing at the 10 sites that not been previously assessed. Work performed for Kearny PCCP Otay 311, LLC, with County of San Diego as the lead agency.

Jackson Street Recycled Water Pipeline Project (RPU - SWRCB Financial Application Water Recycling Funding Program) (2017 - 2017). Cultural Resources Task Lead/Principal Investigator for the proposed installation of pipelines to expand the City of Riverside's Recycled Water System. Managed completion of a records search and a Sacred Lands File search, tribal outreach, a review of historic maps and aerial photographs, an intensive field survey by a HELIX archaeologist and co-authored the draft and final reports. The study met the CEQA-Plus requirements of the State Water Resources Control Board for receiving State Revolving Funds. Work performed for Kennedy/Jenks Consultants, with the City of Riverside as the lead agency.

Heritage Bluffs II (2014 - 2015). Project Manager/Principal Investigator for a cultural resources survey of approximately 170 acres and testing program at two archaeological sites, for a proposed residential development in the City of San Diego. Worked with project applicant and Red Tail on project design that would avoid impacts to a site area with cultural features and cremated human remains. Much of the work was completed prior to coming to HELIX, between 2007 and 2014. Work performed for Project Design Consultants.

EVMWD Near Term Water Supply Program, On-call Professional Environmental Services (2016 - 2019). Cultural Resources Task Lead/Principal Investigator for an on-call services contract to provide environmental services for water supply projects. Work performed for Elsinore Valley Municipal Water District. Diamond Regional Lift Station and Pipeline Project (2016 - 2018). Cultural Resources Task Lead/Principal Investigator for a cultural resources survey of the proposed Diamond Regional Lift Station project in the City of Lake Elsinore, located at the confluence of the San Jacinto River at the eastern shoreline of Lake Elsinore. Oversaw background research, field survey, site record updates, Native American coordination, and report preparation. Coordinated with Pechanga Cultural Resources on Native American concerns and development of mitigation measures for the project. Work performed for Elsinore Valley Municipal Water District (EVMWD). Regional Agricultural Pipeline Conversion Project (2016 - 2018). Cultural Resources Task Lead for the cultural resources study and archaeological monitoring for the proposed Ag Pipeline Conversion project, a three-agency partnership between Elsinore Valley Municipal Water District (EVMWD), the City of Lake Elsinore, and the Riverside County Flood Control and Water Conservation District (RCFCWCD). In conjunction with the cultural resources study, met with Pechanga Cultural Resources staff several times to discuss Native American concerns and alternative project approaches, due to the presence of extremely sensitive cultural resources. Assisted EVMWD with AB 52 consultation. Worked closely with tribal cultural monitors from two Tribes during construction monitoring. Work performed EVMWD. Palomar Well Replacement Project (2018). Cultural Resources Task Lead/Principal Investigator for a cultural resources survey of a proposed well replacement site in the City of Wildomar. Oversaw background research and field survey; responsible for Native American coordination and report preparation. Work performed EVMWD.

City of Oceanside's Condition Assessment and Access Improvements (2017 - 2019). Cultural Resources Task Lead/Principal Investigator for cultural resource survey, testing/assessment, and monitoring for constraints study/sensitivity analysis, as well as preparation of a technical report in support of a Program EIR for major sewer improvements, including a new lift station, new force main, and replacement of several sections of two pipelines in the raw sewage collection system and one secondary-treated effluent pipeline (Gravity Line, Force Main, and Land Outfall pipelines). Assisted the City of Oceanside with tribal consultation, as well. Work performed as a subconsultant to Infrastructure Engineering Corporation, with the City of Oceanside Water Utilities Department as the lead agency.

City of Oceanside Pure Water Lower 1 Recycled Water Conveyance System (2020 -). Cultural Resources Task Lead/Principal Investigator for cultural resources monitoring during construction of a recycled water pipeline in the City of Oceanside. Overseeing mitigation monitoring program, including Worker Environmental Awareness Program (WEAP) training; responsible for Native American outreach/coordination, coordination with construction management staff and construction crews, and general project management for the cultural resources task. Work was performed as a subconsultant to Infrastructure Engineering Corporation, with the City of Oceanside as the lead agency.

Vista Flume - Historic Documentation (2016 - 2017). Project Manager for the Historic American Engineering Record-level documentation of the Vista Irrigation District Main Water Conveyance System (Vista Flume). Constructed between 1925 and 1927, the Vista Irrigation District bench flumes, tunnels, and siphon segments qualify for listing on the National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR). As the District's main water conduit for over 85 years, the structures have been indispensable

in the area's development. In addition, the flumes and siphon are considered to be eligible for their unique design and method of construction. Work performed for the Vista Irrigation District.

Lilac Hills Ranch (2014 - 2017). Project Manager/Principal Investigator of a cultural resources survey and testing program for an approximately 608-acre mixed-use development in the Valley Center area. Oversaw background research, field survey, testing, recording of archaeological sites and historic structures, and report preparation. Responsible for development of the research design and data recovery program, preparation of the preservation plan, and Native American outreach and coordination. The project also included recording historic structures, development of a research design and data recovery program for a significant archaeological site, and coordination with the Native American community and the client to develop a preservation plan for a significant cultural resource. The project changed over time, so additional survey areas were included, and a variety of off-site improvement alternatives were addressed. Work performed for Accretive Investments, Inc. with County of San Diego as the lead agency.

Peacock Hill Cultural Resources (2014 - 2017). Project Manager/Principal Investigator of a cultural resources study update for a residential development in Lakeside. Oversaw updated research, fieldwork, lab work, analysis by forensic anthropologists, report preparation, and Native American coordination. In the course of outreach and coordination with the Native American (Kumeyaay) community, possible human remains were identified, prompting additional fieldwork, as well as coordination with the Native American community and forensic anthropologists. Work performed for Peacock Hill, Inc.

Vista Ridge Apartment Project (2014 - 2015). Project Manager/Principal Investigator for a cultural resources survey and a testing program at the previously recorded site CA-SDI-5345 to assess the significance of cultural resources within the project area and determine the significance of potential impacts. Given the amount of past disturbance and the paucity of cultural material, CA-SDI-5345 was determined not to be a significant archaeological resource under CEQA. Worked closely with the San Luis Rey Band and the Pechanga Band to address cultural concerns regarding the project area. Work performed for FF Realty, LLC, with the City of Vista as the lead agency.

Mission Cove Data Recovery (2014 - 2015). Project Manager/Principal Investigator for a cultural resources data recovery program at a significant archaeological site with cultural significance to the Luiseño people in the City of Oceanside. Prior to the data recovery program, worked with the client and the San Luis Rey Band of Mission Indians to redesign the project (an affordable housing/mixed-use development) to avoid impacts to cultural resources to the extent feasible. Oversaw background research, excavation and related fieldwork, cataloging and analysis, coordination of ancillary studies (e.g. radiocarbon analysis and shell analysis), Native American coordination, and report preparation. Analysis and report preparation are currently underway. The data recovery program was conducted to mitigate impacts that could not be avoided through project design. Work performed for National Community Renaissance.

Mission Cove Monitoring (2014 - 2018). Project Manager/Principal Investigator of an archaeological monitoring program for the 14.47 acre Mission Cove Affordable Housing mixed-use project area in the City of Oceanside. Oversaw field monitoring and documentation of finds. A significant archaeological and cultural resource is within the project, and there was a potential for unknown buried resources, given the alluvial setting. A hearth feature was recorded, as well as subsurface cultural deposits. Work performed for National Community Renaissance. Work performed for the City of Oceanside.

EDUCATION

Master of Arts, Anthropology, San Diego State University, 2018

Bachelor of Arts, Biology and Anthropology, San Diego State University, 2015

REGISTRATIONS/ CERTIFICATIONS

Registered Professional Archaeologist No. 17338

PROFESSIONAL AFFILIATIONS

Society for Historical Archaeology

Society for California Archaeology

JAMES TURNER

Staff Archaeologist



Mr. Turner is a Registered Professional Archaeologist (RPA) with a Master's degree in Anthropology and field and college-level teaching experience in archaeology. He has five years of experience in Section 106, the Native American Graves Protection and Repatriation Act (NAGPRA) and writing detailed reports. Mr. Turner has archaeological research and fieldwork expertise throughout southern California. He has also received training in identifying and analyzing animal remains in archaeological contexts, historic artifact identification, and technical writing. Mr. Tuner's experience meets the Secretary of the Interior's Professional Qualification Standards for archaeology.

Coronado Strand Main Replacement. Archaeologist for a 46,300 linear-foot water main replacement in the City of Coronado, San Diego County. Prepared the cultural resource survey report. Work performed for Brown and Caldwell.

Casa de las Campanas Project. Archaeologist for a 10.1-acre expansion of the Casa de las Campanas Continuing Care Facility in San Diego, California. Conducted a field survey of the proposed project areas, as well as assisted with the production of the Archaeological Resources Report Form. Work completed for Casa de las Campanas.

Haymar Easement Protection Project. Archaeologist for an emergency easement erosion prevention project. Prepared cultural resources monitoring report. Work performed for the United States Army Corps of Engineers.

Ocean Beach Dog Beach Accessibility Improvements. Archaeologist for the implementation of Americans with Disabilities Act upgrades to an existing pathway at the Ocean Beach Dog Beach, located in the City of San Diego. Created Monitoring Work Plan. Work performed for the City of San Diego.

Southcrest Green Infrastructure Project. Staff Archaeologist for the replacement and installation of new storm drains and green infrastructure facilities in the community of Southcrest, San Diego. Prepared Native American Heritage Commission Sacred Land File search request. Work performed for the City of San Diego.

Sewer and AC Group 793. Staff Archaeologist for sewer line replacements and improvements in the City of San Diego. Prepared Native American Heritage Commission Sacred Land File Search request letter. Work performed for the City of San Diego.

Bounty & Waring Navajo Canyon Long Term Access Project. Archaeologist for the repair of erosion on a long-term access path for the sewer infrastructure in Navajo Canyon. Performed an intensive pedestrian survey of the project area. Work performed for the City of San Diego.

Stowe Trail Cultural Resources Assessment. Archaeologist for a proposed trail alignment in the Mission Trails Regional Park. Performed background research and assisted with report writing. Work performed for the City of San Diego Parks and Recreation Department.

Clairemont Community Plan Update EIR Phase 1. Archaeologist for the Clairemont Community Plan Update. Performed background research and assisted with preparing the Community Plan Update cultural resources section. Work performed for the City of San Diego.

Aliso Creek Canyon Restoration Project. Archaeologist for an erosion repair project in Lake Forest. Conducted a field survey of the project area, performed background research, and produced a cultural resources report. Work performed for the Orange County Department of Public Works.

Peutz Valley Preserve Cultural Surveys and Report. Archaeologist for the proposed construction of an ecological preserve located in the community of Alpine. Conducted historical and archival research regarding the area surrounding the proposed preserve. Work conducted for the County of San Diego.

Santa Ysabel Nature Center Monitoring. Archaeologist for a proposed 3-mile hiking trail in the unincorporated community of Julian. Performed background research and assisted with report writing. Work performed for the County of San Diego Department of Parks and Recreation.

Lakeside Equestrian Facility Monitoring. Archaeologist for the construction of a 13.91-acre equestrian facility in Lakeside, California. Created cultural resources monitoring plan. Work performed for the County of San Diego.

Greg Cox Bike Skills Park Construction Monitoring. Archaeologist for the construction of a 3.2-acre bike park facility in the Otay Valley Regional Park, San Diego, California. Created cultural resources monitoring plan. Work performed for the County of San Diego.

Diaz Road Expansion, PW17-25. Archaeologist for proposed city infrastructure improvements associated with the widening and/or construction of Diaz Road in the city of Temecula. Prepared cultural resources survey report. Work performed for David Evans and Associates, Inc.

San Jacinto Las Colinas DD. Archaeologist for a development project in the community of San Jacinto. Prepared a due diligence cultural assessment. Work performed for David Evans and Associates, Inc.

Downtown Riverside Metrolink Station Track & Platform Project. Archaeologist for the construction of an additional rail platform and tracks and extension of an existing pedestrian bridge at the existing Riverside-Downtown Station, Riverside. Assisted with report preparation. Work performed for the Riverside County Transportation Commission.

Painted Hills. Archaeologist for a proposed bridge repair program in the Temescal Valley area in Riverside County. Prepared the Phase IV cultural resources monitoring report. Work performed for KB Home.

Temescal Canyon - TR 37153. Archaeologist for a due diligence constraints assessment related to cultural resources for an approximately 14.8-acre property located in an unincorporated area of Riverside County, California. Performed constraints assessment and produced a due diligence report. Work performed for KB Home.

Wasson Canyon Project. Archaeologist for a due diligence constraints assessment related to cultural resources for an approximately 74.6-acre property located in the City of Lake Elsinore, Riverside County, California. Performed constraints assessment and produced a due diligence report. Work performed for KB Home.

Rosetta Hills Project. Archaeologist for a due diligence constraints assessment related to cultural resources for an approximately 49.6-acre property located in the City of Lake Elsinore, Riverside County, California. Performed constraints assessment and produced a due diligence report. Work performed for KB Home.

Lake Morena's Oak Shores Eastside Pipeline Looping Project. Archaeologist for the Lake Morena's Oak Shores Mutual Water Company Eastside Pipeline Looping and Pipeline Abandonment Project. The project consisted of improvements to the existing water distribution system. Conducted archaeological monitoring and wrote a letter report summarizing the methods and results of the monitoring program. Work performed for Lake Morena's Oak Shores Mutual Water Company.

Escondido Country Club. Archaeological monitor for the redevelopment of the Escondido Country Club. Performed construction monitoring. Work performed for Lennar Homes.

Broadway Channel Improvements - Phase A. Archaeologist for an earthen channel improvement project in the city of El Cajon. Performed background research and prepared cultural resource survey report. Work performed for City of El Cajon.

Seawater Controls Project. Archaeologist for a proposed tank installation near the Scripps Institute of Oceanography in La Jolla. Performed monitoring of geotech borings and conducted a site survey. Work performed for University of California, San Diego.

Carmel Mountain Road Life Sciences Project. Archaeologist for a proposed commercial development project in the Torrey Hills Community Plan area. Responsibilities included performing background and archival research and producing an archaeological resources report. Work performed for Allen Matkins Leck Gabme Mallory & Natsis, LLP.

Parkway Drive and Alvarado Road Trunk Sewer Phase 3 Upgrade Project. Archaeologist for a sewer infrastructure improvement project in the city of La Mesa, San Diego County. Performed construction monitoring. Work performed for the City of La Mesa.

Diamond Sports Complex. Archaeologist for the construction of a sports complex in Lake Elsinore. Assisted with report preparation. Work performed for the City of Lake Elsinore.

City of Escondido's Trunk Sewer Main Replacement Environmental Services. Archaeologist for the replacement of the City of Escondido's trunk sewer main. Wrote a memo summarizing the methods and results for the records search and Sacred Lands File search. Work performed for Infrastructure Engineering Corporation, with the City of Escondido as the lead agency.

Mountain View Connector Pipeline Cultural Monitoring. Archaeologist for a waterline replacement project in the community of Alpine. Conducted cultural resource monitoring and prepared the final monitoring report. Work performed for Padre Dam Municipal Water District.

Cordial Road Pipeline. Archaeologist for a pipeline replacement project in the unincorporated portion of the City of El Cajon. Performed background research and field survey. Other responsibilities included the production of a letter report detailing the methods and results of the survey, as well as the completion of a site record update to submit to the South Coastal Information Center. Work performed for the Padre Dam Municipal Water District.

The Triangle Project. Archaeologist for an approximately 40.6-acre development center consisting of restaurant, commercial/retail, theater/entertainment, hotel, and office uses in Temecula, Riverside County, California. Prepared the cultural resources study update report and the records search update memo. Work performed for Domenigoni-Barton Properties, LLC.

EDUCATION
Bachelor of Arts, Anthropology, concentration in Archaeology, University of California, San Diego, 2013

REGISTRATIONS/ CERTIFICATIONS
Technical Safety Institute, HAZWOPER 40 Hour, Hazardous Waste Operations and Emergency Response, Issue No. F183292

MARY VILLALOBOS

Staff Archaeologist



Ms. Villalobos serves as a field archaeologist on a number of cultural resource projects in southern California, including surveys, testing programs, and monitoring. She has also served as a laboratory assistant for major universities, museums, and archaeological centers. She has nine years of expertise in cultural resource surveying, cataloging site excavation data, and monitoring. Ms. Villalobos' experience includes international work for a key archaeological project in Peru focused on a temple excavation.

Emergency Storage Pond Project. Staff Archaeologist for a cultural resources survey and testing program for an emergency storage pond as part of the City of Escondido's recycled water program. Responsibilities include pedestrian survey of the project area, excavating shovel test pits, identification and recovery of cultural resources and features, laboratory analysis, photographs, and assist with report. Work performed for City of Escondido.

Enchanted Hills Sports Park Environmental Services. Staff Archaeologist for a pedestrian survey for a proposed multi-use park in the City of Perris. Responsibilities include coordination with Native American monitors, an intensive pedestrian survey, photographs, identification of cultural resources and features. Work performed for the City of Perris.

Vista Grande. Field Archaeologist for a testing program at an archaeological site near Rancho Guajome in the City of Vista, County of San Diego, CA. Responsibilities included excavation of test units, identification of cultural material, and preparation of field notes. Work performed for the City of Vista.

S. Santa Fe Heights Project (PC14-310). Staff Archaeologist for a survey on a 3.51 acre parcel of land located in the City of Vista. Responsibilities include coordination with Native American monitors, pedestrian survey, identification and recording of cultural resources, photographs, and notes.

Olive Avenue 15-Lot TSM/ANX Project (P17-0388). Staff Archaeologist for a cultural resources study for a residential development project near Loma Alta Creek in the City of Vista, CA. Responsibilities include coordination with Native American monitors, intensive pedestrian survey, identification of cultural material and features, photographs, and survey notes. Work performed for City of Vista.

Erosion Repair at Modjeska Canyon Road. Staff Archaeologist for a cultural resources study for the proposed repair of Modjeska Canyon Road, in the County of Orange, CA. Responsibilities include coordination with Native American Monitors, an intensive pedestrian survey, identification of cultural material and features, photographs, and notes. Work performed for County of Orange.

Erosion Repair at Silverado Canyon. Staff Archaeologist for a cultural resources study for the proposed repair of Silverado Canyon Road, in the County of Orange, CA.

Responsibilities include coordination with Native American Monitors, an intensive pedestrian survey, identification of cultural material and features, photographs, and notes. Work performed for County of Orange.

Bridge Preventative Maintenance Project No. 6 Focused Surveys . Staff Archaeologist during a survey for a bridge maintenance project located within Pala reservation. Responsibilities include coordination with Native American monitors, identification and recording cultural resources and features, and photographs. Work performed for County of San Diego. Lead agency City of San Diego.

Lake Elsinore Honda (Archaeological Services). Staff Archaeologist for a cultural resources study on the site of the proposed Lake Elsinore Honda project in the City of Lake Elsinore, CA. Responsibilities include coordination with Native American monitors, an intensive pedestrian survey, identification of cultural material and features, photographs, and survey notes. Work performed for David Evans and Associates, Inc. Lead agency City of Lake Elsinore.

Sweetwater Vistas Technical Reports . Staff Archaeologist for a cultural resources study for a proposed residential development in the County of San Diego. Responsibilities include intensive pedestrian survey, identification of cultural material and features, photographs, and notes. Word performed for Douglas Wilson Companies. Lead agency County of San Diego.

Cactus II Feeder Transmission Pipeline IS/MND . Staff Archaeologist on a survey for a proposed feeder transmission pipeline. Responsibilities include pedestrian survey, identification and recording of cultural material and features, and photographs. Work performed for Eastern Municipal Water District. Lead agency Eastern Municipal Water District.

Sky Canyon Sewer Environmental Consulting. Staff Archaeologist for a cultural resources study for a proposed sewer pipeline project in the County of Riverside. Responsibilities include coordination with Native American monitors, intensive pedestrian survey, identification of cultural material and features, photographs, and field notes. Word performed for Eastern Municipal Water District.

Dale 2199C Pressure Zone Looping Pipeline Project. Staff Archaeologist for a cultural resources study in Moreno Valley. Responsibilities include coordination with Native American monitors, intensive pedestrian survey, identification of cultural materials and features, photographs, field notes, and assist with report. Work performed for Eastern Municipal Water District.

Purified Water Replenishment Environmental Impact Report. Staff Archaeologist for a pedestrian survey in the City of San Jacinto, CA. Responsibilities include coordination with Native American monitors, an intensive pedestrian survey, identification of cultural resources and features. Work performed for Eastern Municipal Water District.

Oceanpointe Cultural Resources. Staff Archaeologist for a cultural resources study for a 36 acre property in the City of Oceanside, CA. Responsibilities include coordination with Native American monitors, an intensive pedestrian survey, identification of cultural material and features, photographs, and field notes. Work performed for Hallmark Communities, Inc. Lead agency United States Army Corps of Engineers.

Villa Storia. Staff Archaeologist for a testing program at an important archaeological site near Mission San Luis Rey in the City of Oceanside, County of San Diego, CA. Responsibilities included excavation of test units, identification of cultural material, photographs, and preparation of field notes. Work performed for Integral Partners Funding, LLC.

Bouquet Canyon Road Project. Staff Archaeologist for a pedestrian survey conducted for a proposed private residential development project in the City of Santa Clarita, CA. Responsibilities include coordination with Native

American monitors, an intensive pedestrian survey, photographs, identification of cultural resources and features. Work performed for Integral Partners Funding, LLC. Lead agency City of Santa Clarita.

Padre Dam Municipal Water District East County Advanced Water Purification Program Year 2. Staff Archaeologist for a cultural resources study for the proposed East County Advanced Water Purification Program project, located in the City of Santee, County of San Diego, and unincorporated community of Lakeside, CA. Responsibilities include coordination with Native American monitors, an intensive pedestrian survey, identification of cultural material and features, photographs, and field notes. Work performed for Kennedy/Jenks Consultants. Lead agency is Padre Dam Municipal Water District.

Rosamond Community Services District Wetland Conceptual Design Services Environmental Surveys and Documentation. Staff Archaeologist for a cultural resources study of a project located on the western edge of Edwards Air Force Base in the city of Rosamond, CA. The project is located in a culturally sensitive area of the western Mojave Desert near Lake Rosamond. Responsibilities include an intensive pedestrian survey, identification and recording of cultural material, field DPRs and notes, photographs, laboratory analysis and generation of tables. Work performed for Kennedy/Jenks Consultants.

San Elijo Joint Powers Authority Roadway and Trail Addendum and Permitting. Staff Archaeologist for a cultural resources study for the proposed San Elijo Water Reclamation Facility Upgrades Project in the City of Encinitas. Responsibilities include coordination with Native American monitors, excavation of shovel test pits and half units, identification of cultural material and features, photographs, taking GPS points, notes, laboratory analysis, generating artifact tables, and assist with report. Work performed for Kimley-Horn & Associates, Inc.

The Enclave at Delpy's Corner Project. Staff Archaeologist for a monitoring and data recovery program for a residential development project located in a culturally sensitive area in the City of Vista, CA. Responsibilities include, coordination with construction crew and Native American monitors, field monitoring, daily field notes, excavation of shovel test pits and half units, identification of cultural material and features, taking GPS points, notes for test pits and half units, laboratory analysis and residue testing, generation of artifact tables, photographs, and assist with report. Work performed for CalAtlantic Homes.

Moulton Niguel Water District Regional Lift Station Force Main Replacement. Staff Archaeologist for a cultural resources study for a proposed water main replacement project in the County of Orange, CA. Responsibilities include coordination with Native American monitors, intensive pedestrian survey, identification of cultural material and features, photographs, and notes. Work performed for Tetra Tech, Inc. Lead agency County of Orange.

Rancho Jamul Ecological Reserve Project. Staff Archaeologist for archaeological testing on a habitat restoration project in a culturally sensitive area located in south San Diego County. Responsibilities include excavation of shovel test pits, identification and recovery of cultural material, record keeping of shovel test pits and artifacts, photographs, and laboratory analysis. Work performed for Wildlands, Inc. Lead agency U.S. Army Corps of Engineers.

Disney Lane. Staff Archaeologist for a cultural resources study for a proposed water pipe installation in the City of Fallbrook, CA. Responsibilities include coordination with Native American monitors, an intensive pedestrian survey, identification of cultural material and features, photographs, and notes. Work performed for Rainbow Municipal Water District.

Hutton Pump Station. Staff Archaeologist for a cultural resources study for the proposed construction of a water pump station in the City of Fallbrook CA. Responsibilities include coordination with Native American monitors, an intensive pedestrian survey, identification of cultural material and features, photographs, and notes. Work performed for Rainbow Municipal Water District.

Turner Pump Station. Staff Archaeologist for a cultural resources study for a proposed pump station in the city of Fallbrook, CA. Responsibilities include coordination with Native American monitors, intensive pedestrian survey, identification of cultural material and features, photographs, and notes. Word performed for Rainbow Municipal Water District.

Telespan Lake Wohlford. Staff Archaeologist for a testing program to determine the northern extent of an important archaeological site near Lake Wohlford in the community of Bear Valley in the County of San Diego, California. Responsibilities included excavation of test units, identification of cultural material, and preparation of field notes. Work performed for DePratti, Inc. Lead agency is County of San Diego.

Kelly Drive and Park Drive Complete Street Improvements. Staff Archaeologist on a cultural resources study for a proposed multi-use trail project adjacent to Agua Hedionda Lagoon in the City of Carlsbad. Responsibilities include excavation of shovel test pits (STPs), identification and recovery of cultural material, completing STP forms, photographs, notes, laboratory analysis, and assisting with the report. Work performed for GHD, Inc. Lead agency City of Carlsbad.

Moulton Niguel Water District Pipeline Alignment at I-5 and Oso Creek. Staff Archaeologist for a cultural resources study for a potable and recycled pipeline replacements project located in the City of Mission Viejo. Responsibilities include coordination with Native American monitors, an intensive pedestrian survey, identification of cultural material and features, photographs, and field notes. Work performed for GHD, Inc.

City of Vista Crescent Drive Sewer Improvements Project. Staff Archaeologist for a cultural resources study for a project to support stabilization of a historic irrigation ditch in order to protect an existing sewer line that runs along it, located in the City of Vista. Responsibilities include coordination with Native American monitors, an intensive pedestrian survey, identification of cultural material and features, photographs, and field notes. Work performed for Gannett Fleming, Inc. Lead agency is City of Vista.

12 Oaks Winery Resort. Staff Archaeologist for survey and testing of an approximately 600-acre project near Temecula in Riverside County, CA. Responsibilities included identification of cultural resources during field survey and testing, recording of resources and features, and photographs. Work performed for Standard Portfolio Temecula, LLC, with County of Riverside as the lead agency.

Cottonwood Sand Mine EIR. Staff Archaeologist for a cultural resources study for a proposed sand mine located on Cottonwood Golf Course in southeastern San Diego County. Responsibilities include coordination with Native American monitors, excavation of shovel test pits, field notes, taking GPS points, photographs, laboratory analysis, generating artifact tables, assist with the report. Work performed for Cambra Realty.

SR-203 Sidewalk Improvements (N. Main Street and W. Minaret Road). Staff Archaeologist for a cultural resources testing and data recovery project for a proposed sidewalk improvement project in the City of Mammoth Lakes, CA. Responsibilities include, excavation of shovel test pits and units, identification and recovery of cultural resources, notes and unit drawings, and photographs. Work performed for Triad Holmes Associates.

Monte Mar Center Project (P16-0276). Staff archaeologist for a cultural resources study on a proposed commercial building project in the City of Vista, CA. Responsibilities include coordination with Native American monitors, intensive pedestrian survey, identification of cultural material and features, photographs, and survey notes. Work performed for J&T Business Management. Lead agency City of Vista.

Green Oak Villas Technical Reports. Staff Archaeologist on a cultural resources study for a proposed residential development project in the City of Vista. Responsibilities include excavation of shovel test pits, identification, recovery, and sorting cultural material, filling in testing forms, photographs, and notes. Work performed for Providence Capital Group, Inc. Lead agency City of Vista.

Moreno Valley Tentative Tract Map 36760 Project. Staff Archaeologist for a cultural resources survey in the Moreno Valley area of Riverside County. Responsibilities include identification and recording of cultural resources and features, photographs, and coordinate with Native American monitors. Work performed for Mission Pacific Land Company.

Newage Carlsbad Luxury Resort Technical Studies. Staff Archaeologist for a cultural resources study for a proposed hotel along the ocean in the City of Carlsbad, CA. Responsibilities include coordination with Native American monitors, an intensive pedestrian survey, identification of cultural material and features, photographs, and notes. Work performed for Kam Sang Company, Inc.

Orlic Residence Project (PDS2018-LDGRMJ-30153). Staff Archaeologist for a cultural resources study on 16 acres, in the City of San Diego, CA, to determine if cultural resources will be impacted by importing 84,000 cubic yards of soil to be placed on the property. Responsibilities include coordination with Native American monitors, an intensive pedestrian survey, identification of cultural material and features, photographs, and field notes. Work performed for Ivan Delgado Orlic. Lead agency is City of San Diego.

San Jacinto Property Project. Staff Archaeologist for a cultural resources study for a proposed residential subdivision project, located in a culturally sensitive area, in the City of San Jacinto, CA. Responsibilities include, Coordination with Native American monitors, an intensive pedestrian survey, identification of cultural material and features, photographs, field notes, and assist with report. Work performed for Walton International Group.

PREVIOUS PROJECT EXPERIENCE

San Diego County Archaeological Center. Lab Volunteer under the direction of Ad Muniz at the San Diego Archaeological Center. Duties include identification and cataloging of collections obtained from cultural resource management firms, governmental agencies and private donations, entering the data into spreadsheets. The collections include cultural artifacts ranging from prehistoric to historic period and include Native and non-Native artifacts. Additionally, conduct educational sessions for school children visiting the center on field trips.

University of California San Diego. Lab Volunteer for the Andean Archaeology Lab of Dr. Paul Goldstein at the University of California San Diego. Worked with several graduate students to enter excavation data into spreadsheets, cataloging site excavation photographs and transferring unit information to Geographic Information Systems (GIS). Responsibilities included scanning, redrawing and labeling unit information using the Inkscape vector drawing program.

OMO M10/Rio Muerto Archaeology Project. Field Archaeologist for a field school located in Moqegua, Peru that is associated with the University of California San Diego and is headed by Dr. Paul Goldstein. This project focused on the excavation of a temple located within the remains of a Tiwanaku colony. Learned methods of excavating, specimen analysis, and surveying using the Total Station.

Museo Contisuyu. Volunteer for a museum associated with the OMO M10/Rio Muerto Archaeology Project and dedicated to the Peruvian people of rural Moquegua to help connect them to their past. The museum collections included mummies, lithics, pottery, tools and textiles. Conducted pottery analysis and reconstruction.

Appendix B

Records Search Results
(confidential, bound separately)

Appendix C

Native American Correspondence
(confidential, bound separately)

Appendix D

DPR Site Forms
(confidential, bound separately)

Appendix E

Cultural Resources Maps
(confidential, bound separately)