

July 15, 2015

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Christine Rothman
Development Project Manager III
City of San Diego
Transportation and Storm Water Department, Operations and Maintenance
2781 Caminito Chollas, MS 44
San Diego, CA 92105

Subject: *Master Storm Water System Maintenance Program – Tijuana River Valley Channel Maintenance Project Individual Historical Assessment*

Dear Mrs. Rothman:

In conformance with the City of San Diego (City) modified Master Storm Water System Maintenance Program's (Master Maintenance Program or MMP) amended Site Development Permit (SDP) No. 1134892 and Program Environmental Impact Report (PEIR) Project No. 42891/SCH No. 2004101032, the attached *Individual Historical Assessment (IHA) Report (2013 IHA)* and *Cultural Resources Monitoring Report for the Tijuana River Valley Channel Maintenance Project (2014 Cultural Resources Monitoring Report)* documents are submitted as part of the Substantial Conformance Review (SCR) package for the Tijuana River Valley Channel Maintenance Project.

The 2013 IHA was originally submitted as part of the approved Tijuana River Valley Channel Maintenance Project SCR package in December 2013 (hereafter 2013 SCR). The 2014 Cultural Resources Monitoring Report was submitted following completion of monitoring activities associated with channel maintenance in the 2013-2014 season. Conditions related to cultural resources remain substantially similar to those described in the attached cultural resource reports. Accordingly, this letter provides a summary technical review of the IHA submitted as part of the 2013 SCR as it applies to current conditions in the Tijuana River Valley Channel Maintenance Project area. This letter and attachments serve as the basis for SCR determination for maintenance work in 2015-2016 as part of the Tijuana River Valley Channel Maintenance Project. The technical review was performed by a qualified professional in archeology and cultural resources.

Project History and Background

The Tijuana River Valley Channel Maintenance Project includes maintenance of the Pilot Channel and Smuggler's Gulch Channel as part of the MMP. The Pilot Channel is included on MMP Maps 138a through 138c and the Smuggler's Gulch Channel is included on MMP Maps 138 and 139 (City of San Diego 2011). The Pilot Channel and Smuggler's Gulch Channel maintenance project Individual Maintenance Plan (IMP) and Individual Assessment (IA) package received SCR approval in February 2013. Appropriate environmental permits were also issued

by the California Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board (RWQCB), United States Fish and Wildlife Service (USFWS), Army Corps of Engineers (ACOE), and the California Coastal Commission (CCC) in 2012 and 2013 based on the project scope, impacts, and mitigation. Maintenance activities in the Pilot Channel and Smuggler's Gulch Channel were conducted between September 23, 2013 and March 14, 2014. Appropriate construction-related Best Management Practices and concurrent wetland compensatory mitigation have been implemented as part of the comprehensive channel maintenance project.

Project Description

The currently proposed maintenance of the Pilot Channel and the Smuggler's Gulch Channel includes the mechanized removal of sediment, vegetation and trash and debris from the channels. Proposed maintenance procedures for channel clearing activities in 2015-2016 as part of the Tijuana River Valley Channel Maintenance Project remain substantially similar to procedures proposed as part of the 2013 SCR and implemented in the 2013-2014 maintenance period.

The periodic maintenance of both channels is needed to restore the channels' flood conveyance capacity to their original design condition and to protect the Tijuana River National Estuarine Research Reserve from impacts due to downstream transport of accumulated sediment and trash and debris from the project area. The project incorporates removal of approximately 10,000–30,000 cubic yards of material, occupying a total of 4.31 acres.

Current Conditions

Since channel maintenance work was conducted in 2014, natural and anthropogenic processes in the upstream watershed have resulted in additional sediment, trash and debris accumulation in the channel maintenance areas. Site conditions have returned to essentially pre-maintenance conditions evaluated as part of the 2013 SCR package. The 2013 SCR and current conditions have been reviewed and the 2013 IHA has been determined to be generally still applicable to the work anticipated this fall. Specific to the Tijuana River Channel Maintenance Project, the following conditions should be noted:

- The 2013 IHA, 2014 Cultural Resources Monitoring Report and other portions of the 2013 SCR were reviewed in May 2015 by Dudek.
- The 2013 IHA recommended cultural resource monitoring for ground disturbing channel maintenance activities during the 2013-2014 season in order to identify any potential cultural resources in the project area and to mitigate any potential impacts to those resources.
- The monitoring effort for the 2013-2014 season, as described in the 2014 Cultural Resources Monitoring Report, documented the identification of a few pieces of lithic debitage in a disturbed context; this debitage lacked archaeological context (i.e., primary context) and depositional integrity, and therefore did not constitute an archaeological discovery requiring recordation or other treatment. The report also documented that

all sediments encountered during the project were either previously disturbed (e.g., graded sediments in the staging area) or were transported into the project area through natural and anthropogenic forces (e.g., erosion from upslope locations into the channel and dumping).

- Fundamental to any archaeological investigation is the context of a potential discovery. Context refers to the location and position of a discovery relative to the location and position where it was originally deposited. Artifacts and other cultural resources which are in a primary context include those items which are found in the same location and position where they were originally deposited by the people or person who used/discarded them. Artifacts which are in secondary context are those which have been transported or moved through natural or anthropogenic forces from their original depositional location/position into a new location/position. Artifacts and other resources found in their primary context are the focus of archaeological studies, as they can be scientifically analyzed to answer research questions. Artifacts and resources in secondary context cannot be analyzed scientifically, as it is unknown where, when, or by whom they were deposited, and therefore cannot be compared to other archaeological collections.
- The monitoring report recommended that cultural resource monitoring for continued maintenance activities in the channels is not necessary, as there is no potential for identifying or impacting intact cultural resources during channel maintenance.
- An updated records search was performed at the South Coastal Information Center (SCIC) at San Diego State University for the project site and a ¼ mile radius around the project site in April 2015. The records search did not identify any new cultural resources, nor did it identify any substantial changes to existing resources from those identified in the previous study.
- As mentioned above, accumulated sediment and trash within the channel deposited since the 2013-2014 maintenance activities are generally the result of recent natural and anthropogenic forces (e.g., erosion, dumping). If artifacts or other resources are present within these sediments, then they would be in a secondary context and therefore do not constitute intact deposits.
- Based on current review of the 2013 IHA, 2014 Cultural Resources Monitoring Report and the updated records search, it is clear that conditions at the project site have not changed since the most recent archaeological study was performed. Therefore this review concurs with the previous recommendation in the 2014 Cultural Resources Monitoring Report that cultural resource monitoring is no longer necessary during channel maintenance activities as there is no potential to impact cultural resources.

In summary, evaluation of current conditions and review of the 2013 IHA and 2014 Cultural Resources Monitoring Report for the 2013-2014 season did not identify potentially significant environmental impacts to cultural resources that have not already been identified, addressed and/or mitigated by the required conditions set forth in the associated SDP and PEIR. Therefore


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the proposed maintenance would substantially conform to the existing permit and environmental document.

Please contact me by phone (760.479.4211) or by e-mail (bcomeau@dudek.com) with questions or requests for clarification.

Respectfully,



Brad Comeau, MSc, RPA

Archaeologist

Dudek

INDIVIDUAL HISTORICAL ASSESSMENT REPORT

Site Name/Facility: Tijuana River Pilot Channel and Smugglers Gulch Channel
138a, 138b, 138c (Tijuana River Pilot Channel) and
Master Program Map No.: 138 and 139 (Smugglers Gulch Channel)
Archaeologist Name: Arleen Garcia-Herbst, C.Phil., RPA – URS Corporation
Date: December 12, 2012
Native American Monitor Name: Howard Diaz - Red Tail Monitoring & Research, Inc.

Instructions: This form must be completed for each target facility identified in the Annual Maintenance Needs Assessment report and prior to any work on site. Attach additional sheets as needed.

EXISTING CONDITIONS
Site Conditions:
This section summarizes the Project description and existing conditions within the Project.
<u>Project Description</u> <p>The channels associated with this assessment report are located in the Tijuana River Valley (Valley), within the jurisdiction of the City of San Diego (City) (Figure 1). The Tijuana River watershed covers an area of approximately 1,725 square miles, of which 73 percent is located in Mexico and 27 percent in the United States. The main Tijuana River flows in a northwesterly direction from the international border into the Valley and City jurisdiction. Approximately 21.9 square miles of the watershed (~1% of the total watershed area) is within City jurisdiction.</p> <p>The Tijuana River National Estuarine Research Reserve (TRNERR) and a portion of the City of Imperial Beach are generally west of the project area located adjacent to the Tijuana River’s discharge to the Pacific Ocean. The Otay-Nestor community and the United States Naval Outlying Landing Field Imperial Beach are located north of the project area; and the community of San Ysidro is located to the east.</p> <p>The Pilot Channel is included on MMP Maps 138a through 138c and the SG Channel is included on MMP Maps 138 and 139 (City of San Diego 2011a). The Pilot and SG Channels are generally located in the Valley roughly bordered by Hollister Street to the east and Monument Road to the south. The Tijuana River low flow channel splits into what are commonly referred to as the Tijuana River’s Northern and Southern Channels approximately 800 feet east of Hollister Street. The Pilot Channel follows the Southern Channel.</p>

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The Valley, including the project area, is within the Federal Emergency Management Agency's (FEMA) Special Flood Hazard Areas Subject to Inundation by the 1-percent Annual Chance Flood (100-year floodplain). The project areas are zoned OF-1-1 (Open Space-Floodplain) and AR-1-1 (Agricultural/Residential); and are designated for Open Space and Agricultural land uses in the Tijuana River Valley Land Use Plan. In addition, the project area is within the boundaries of the County of San Diego's 2.7 square mile Tijuana River Valley Regional Park (Regional Park). The project area is also within the City's Multiple Species Conservation Program's Multi-Habitat Planning Area (MHPA)..

The project consists of maintenance and dredging of the Pilot and SG channels to remove anthropogenic-derived sediment and trash that accumulates as a result of development and other practices in the upstream watershed. The removal of sediment and trash is conducted to maintain flow conveyance capacities and reduce the risk of flooding to public and private infrastructure in the Valley.

Description of creek/channel geometry(length, width, and depth):

Pilot Channel

The Pilot Channel was originally excavated in 1993 within the Southern Channel. It has been irregularly maintained since that time as an earthen trapezoidal channel that is approximately 5 feet deep, with a 23-foot top width, and a 15-foot streambed width. According to the MMP, the Pilot Channel was constructed to divert wet-weather flows from 2- to 5-year storm events into the Southern Channel (City of San Diego 2011b). The Pilot Channel stretches from 100 feet east to 5,300 feet west of Hollister Street for a total length of 5,400 feet and it flows roughly in an east-west direction.

SG Channel

The SG Channel is an existing historical agricultural channel with manufactured berms. The contributing sub-watershed area is approximately 6.7 square miles, primarily located south of the international border within Canon de los Mataderos. The SG Channel, as originally constructed, is an earthen channel approximately 20 feet wide and 15 feet deep. The SG Channel is tributary to the South Channel and flows in a northerly direction, from the international border past Monument Road until it confluences with the Pilot Channel. The portion of the SG Channel maintained by the City extends for a distance of approximately 3,040 feet.

This section establishes the context for the evaluation of historical resources through an overview of the environmental setting, the prehistory, and the ethnographic identity of the Project area.

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Natural Environmental Setting

The Project Area of Potential Effects (APE) sits within Quaternary fill within the Tijuana River Valley (Strand 1962). This fill clearly contains modern alluvial deposits of an unknown depth. The Pacific Ocean is located approximately 2.2 miles west of the survey area.

Cultural Setting

The following sections have been excerpted from the Historical Resources Guidelines (City of San Diego 2001) and serves to provide a comparative framework for the prehistory of the region and context for this testing and evaluation report.

The history of San Diego can be divided into four prehistoric periods, one ethnohistoric period, and three historic periods.

EARLY MAN PERIOD (BEFORE 8500 BC)

No firm archaeological evidence for the occupation of San Diego County before 10,500 years ago has been discovered. The myths and history that is repeated by the local Native American groups now and at the time of earlier ethnographic research indicate both their presence here since the time of creation and, in some cases, migration from other areas. There are some researchers who advocate an occupation of Southern California prior to the Wisconsin Glaciation, around 80,000 to 100,000 years ago (Carter 1957, 1980; Minshall 1976). Local proposed Early Man sites include the Texas Street, Buchanan Canyon, and Brown sites, as well as Mission Valley (San Diego River Valley), Del Mar, and La Jolla (Bada et al. 1974; Carter 1957, 1980; Minshall 1976, 1983, 1989; Moriarty and Minshall 1972; Reeves 1985; Reeves et al. 1986). However, two problems have precluded general acceptance of these claims. First, artifacts recovered from several of the localities have been rejected by many archaeologists as natural products rather than cultural artifacts. Second, the techniques used for assigning early dates to the sites have been considered unsatisfactory (Moratto 1984; Taylor et al. 1985).

Careful scientific investigation of any possible Early Man archaeological remains in this region would be assigned a high research priority. Such a priority would reflect both the substantial popular interest in the issue and the general anthropological importance which any confirmation of a very early human presence in the western hemisphere would have. Anecdotal reports have surfaced over the years that Early Man deposits have been found in the lower levels of later sites in Mission Valley. However, no reports or analyses have been produced supporting these claims.

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PALEO-INDIAN PERIOD (8500-6000 BC)

The earliest generally-accepted archaeological culture of present-day San Diego County is the Paleo-Indian culture of the San Dieguito Complex. This complex is usually assigned to the Paleo-Indian Stage and dated to about 10,500 years ago. It would therefore appear to be contemporary with the better-known Fluted Point Tradition of the High Plains and elsewhere and the Western Pluvial Lakes Tradition of the Desert West. The San Dieguito Complex is believed to represent a nomadic hunting culture by some investigators of the complex (Davis et al. 1969; Moriarty 1969; Rogers 1929, 1966; Warren 1966, 1967), characterized by the use of a variety of scrapers, choppers, bifaces, large projectile points and crescentics; a scarcity or absence of milling implements; and a preference for fine-grained volcanic rock over metaquartzite.

Careful scientific investigation of San Dieguito Complex sites in the region would also be assigned a high research priority. Major research questions relating to the Paleo-Indian Period include confirmation of the presence of the Fluted Point Tradition in San Diego County (Davis and Shutler 1969); better chronological definition of the San Dieguito Complex; determination of whether the San Dieguito assemblages do in fact reflect an early occupation, rather than the remains from a specialized activity set belonging to an Early Archaic Period culture; clarification of the relationship of the San Dieguito Complex, if it represents a separate culture, to the subsequent Early Archaic Period cultures; determination of the subsistence and settlement systems which were associated with the San Dieguito Complex; and clarification of the relationship of the San Dieguito Complex to similar remains in the Mojave Desert, in northwestern and central California, in southern Arizona and in Baja California. The San Dieguito Complex was originally defined in an area centering on the San Dieguito River valley, north of the City of San Diego (Rogers 1929).

EARLY ARCHAIC PERIOD (6000 BC-AD 0)

As a result of climatic shifts and a major change in subsistence strategies, a new cultural pattern assignable to the Archaic Stage is thought by many archaeologists to have replaced the San Dieguito culture before 6000 BC. This new pattern, the Encinitas Tradition, is represented in San Diego County by the La Jolla and Pauma complexes. The coastal La Jolla Complex is characterized as a gathering culture which subsisted largely on shellfish and plant foods from the abundant littoral resources of the area. The La Jolla Complex is best known for its stone-on-stone grinding tools (mano and metate), relatively crude cobble-based flaked lithic technology, and flexed human burials. Inland Pauma Complex sites have been assigned to this period on the basis of extensive stone-on-stone grinding tools, Elko Series projectile points, and the absence of remains

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diagnostic of later cultures.

Among the research questions focusing on this period are the delineation of change or the demonstration of extreme continuity within the La Jolla and Pauma complexes; determination of whether coastal La Jolla sites represent permanent occupation areas or brief seasonal camps; the relationship of coastal and inland Archaic cultures; the scope and character of Archaic Period long-range exchange systems; the role of natural changes or culturally-induced stresses in altering subsistence strategies; and the termination of the Archaic Period in a cultural transformation, in an ethnic replacement, or in an occupational hiatus in western San Diego County.

LATE PREHISTORIC PERIOD (AD 0-1769)

The Late Prehistoric Period in San Diego County is represented by two distinct cultural patterns, the Yuman Tradition from the Colorado Desert region and the Shoshonean Tradition from the north. These cultural patterns are represented locally by the Cuyamaca Complex from the mountains of southern San Diego County and the San Luis Rey Complex of northern San Diego County. The people of the Cuyamaca and San Luis Rey Complexes are ancestral to the ethnohistoric Kumeyaay (Diegueño) and Luiseño, respectively. Prehistorically, the Kumeyaay were a hunting and gathering culture that adapted to a wide range of ecological zones from the coast to the Peninsular Range. A shift in grinding technology, reflected by the addition of the pestle and mortar to the mano and metate, signifying an increased emphasis on acorns as a primary food staple, as well as the introduction of the bow and arrow (i.e., small Cottonwood Triangular and Desert Side-notched projectile points), obsidian from the Obsidian Butte source in Imperial County and human cremation, serve to differentiate Late Prehistoric populations from earlier peoples. Pottery is also characteristic of the Cuyamaca Complex, but is absent from the San Luis Rey Complex until relatively late (post AD 1500).

Explanatory models applied to Late Prehistoric sites have drawn most heavily on the ethnographic record. Notable research opportunities for archaeological sites belonging to the Late Prehistoric period include refining chronology, examining the repercussions from environmental changes which were occurring in the deserts to the east, clarifying patterns of inter- and intra- regional exchange, testing the hypothesis of pre-contact horticultural/agricultural practices west of the desert, and testing ethnographic models for the Late Prehistoric settlement system. Hector (1984) focused on the Late Prehistoric Period to examine the use of special activity areas within large sites typical of this period. At issue was whether activities such as tool making, pottery manufacturing, and dining were conducted in specific areas within the site, or whether each family unit recreated these activity areas throughout the site. Her findings indicated that no specialized areas existed within Late Prehistoric sites, and furthermore, that tools made during this period

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served a variety of functions.

Late Prehistoric sites appear to be proportionately much less common than Archaic sites in the coastal plains subregion of southwestern San Diego County (Christenson 1990:134-135; Robbins-Wade 1990). These sites tend to be located on low alluvial terraces or at the mouths of coastal lagoons and drainages. Of particular interest is the observation that sites located in the mountains appear to be associated with the Late Prehistoric Period. This suggests that resource exploitation broadened during that time as populations grew and became more sedentary.

ETHNOHISTORIC PERIOD

The founding of Mission San Diego de Alcalá in 1769 by Father Junípero Serra and Mission San Luis Rey de Francia in 1798 by Father Lasuén brought about profound changes in the lives of the Yuman-speaking Kumeyaay (Diegueño) and Shoshonean-speaking Luiseño of San Diego County. The coastal Kumeyaay and Luiseño were quickly brought into their respective missions or died from introduced diseases. Ethnographic work, therefore, has concentrated on the mountain and desert peoples who were able to retain some of their aboriginal culture. As a result, ethnographic accounts of the coastal Kumeyaay and Luiseño are few. Today the descendants of the Kumeyaay bands are divided among 12 reservations in the south county and the descendants of the Luiseño bands among five reservations in the north county.

The Kumeyaay are generally considered to be a hunting-gathering society characterized by central-based nomadism. While a large variety of terrestrial and marine food sources were exploited, emphasis was placed on acorn procurement and processing as well as the capture of rabbit and deer. Shipek (1963, 1989b) has strongly suggested that the Kumeyaay, or at least some bands of the Kumeyaay, were practicing proto-agriculture at the time of Spanish contact. While the evidence is problematic, the Kumeyaay were certainly adept land and resource managers with a history of intensive plant husbandry.

Kumeyaay houses varied greatly according to locality, need, choice, and raw materials. Formal homes were built only in the winter as they took some time to build and were not really necessary in the summer. Summer camps needed only a windbreak and were usually located under convenient trees, a cave fronted with rocks, or an arbor built for protection from the sun. During the summer, the Kumeyaay moved from place to place, camping wherever they were. In the winter, they constructed small elliptically-shaped huts of poles covered with brush or bark. The floor of the house was usually sunk about two feet into the earth. In the foothills and mountains, *hiwat* brush or deer broom was applied in bundles tied on with strands of yucca. In cold weather, the brush was covered with earth to help keep the heat inside. Bundles of brush were tied together to make a door just large enough to crawl through.

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Most activities, such as cooking and eating, took place outside the house. The cooking arbor was a lean-to type structure or four posts with brush over the top. Village-owned structures were ceremonial and were the center of many activities. Sweathouses were built and used by the Kumeyaay men. They were built around four posts set in a square near a river or stream and usually had a dug-out floor. The sweathouse was also used sometimes as a place for treating illnesses.

As with most hunting-gathering societies, Kumeyaay social organization was formed in terms of kinship. The Kumeyaay had a patrilineal type of band organization (descent through the male line) with band exogamy (marriage outside of one's band) and patrilocal marital residence (married couple integrates into the male's band). The band is often considered as synonymous with a village or rancheria, which is a political entity.

Almstedt (1980:45) has suggested that the term rancheria should be applied to both a social and geographical unit, as well as to the particular population and territory held in common by a native group or band. She also stressed that the territory for a rancheria might comprise a 30-square-mile area. Many households would constitute a village or rancheria and several villages were part of a larger social system usually referred to as a consanguineal kin group called a *cimuL*. The members of the *cimuL* did not intermarry because of their presumed common ancestry, but they maintained close relations and often shared territory and resources (Luomala 1963:287-289).

Territorial divisions among Kumeyaay residential communities were normally set by the circuit of moves between villages by *cimuLs* in search of food. As Spier (1923:307) noted, the entire territory was not occupied at one time, but rather the communities moved between resources in such a manner that in the course of a year all of the recognized settlements may have been occupied. While a *cimuL* could own, or more correctly control, a tract of land with proscribed rights, no one from another *cimuL* was denied access to the resources of nature (Luomala 1963:285; Spier 1923:306); since no individual owned the resources, they were to be shared.

The Kumeyaay practiced many forms of spiritualism with the assistance of shamans and *cimuL* leaders. Spiritual leaders were neither elected to nor inherited their position, but achieved status because they knew all the songs involved in ceremonies (Shipek 1991) and had an inclination toward the supernatural. This could include visions, unusual powers, or other signs of communication with the worlds beyond. Important Kumeyaay ceremonies included male and female puberty rites, the fire ceremony, the whirling dance, the eclipse ceremony, the eagle dance, the cremation ceremony, and the yearly mourning ceremony (Spier 1923:311-326).

Important areas of research for the Ethnohistoric Period include identifying the location of Kumeyaay settlements at the time of historic contact and during the following 50 years of the Spanish Period; delineating the effects of contact on Kumeyaay settlement/

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subsistence patterns; investigating the extent to which the Kumeyaay accepted or adopted new technologies or material goods from the intrusive Spanish culture; and examining the changes to Kumeyaay religious practices as a result of contact.

SPANISH PERIOD (AD 1769-1822)

In spite of Juan Cabrillo's earlier landfall on Point Loma in 1542, the Spanish colonization of Alta California did not begin until 1769. Concerns over Russian and English interests in California motivated the Spanish government to send an expedition of soldiers, settlers, and missionaries to occupy and secure the northwestern borderlands of New Spain. This was to be accomplished through the establishment and cooperative inter-relationship of three institutions: the Presidio, Mission, and Pueblo. In 1769, a land expedition led by Gaspár de Portola reached San Diego Bay, where it met those who had survived the trip by sea on the *San Antonio* and the *San Carlos*. Initially camp was made on the shore of the bay in the area that is now downtown San Diego. Lack of water at this location, however, led to the movement of the camp on May 14, 1769 to a small hill closer to the San Diego River and near the Kumeyaay village of Cosoy. Father Junípero Serra arrived in July of the same year to find the Presidio serving mostly as a hospital. The Spanish built a primitive Mission and Presidio structure on the hill near the river. The first chapel was built of wooden stakes and had a roof made of tule reeds. Brush huts and temporary shelters were also built.

Bad feelings soon developed between the native Kumeyaay and the soldiers, resulting in construction of a stockade whose wall was made from sticks and reeds. By 1772, the stockade included barracks for the soldiers, a storehouse for supplies, a house for the missionaries, and the chapel, which had been improved. The log and brush huts were gradually replaced with buildings made of adobe bricks. Flat earthen roofs were eventually replaced by pitched roofs with rounded roof tiles. Clay floors were eventually lined with fired-brick.

In August 1774, the Spanish missionaries moved the Mission San Diego de Alcalá to its present location six miles up the San Diego River valley (modern Mission Valley) near the Kumeyaay village of Nipaguay. Begun as a thatched jacal chapel and compound built of willow poles, logs, and tules, the new Mission was sacked and burned in the Kumeyaay uprising of November 5, 1775. The first adobe chapel was completed in October 1776 and the present church was begun the following year. A succession of building programs through 1813 resulted in the final rectilinear plan that included the church, bell tower, sacristy, courtyard, residential complex, workshops, corrals, gardens, and cemetery (Neuerburg 1986). Orchards, reservoirs, and other agricultural installations were built to the south on the lower San Diego River alluvial terrace and were irrigated by a dam and aqueduct system.

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In 1798, the Spanish constructed the Mission San Luis Rey de Francia in northern San Diego County. They also established three smaller Mission outposts (asistencias) at Santa Ysabel, Pala, and Las Flores (Smythe 1908; Englehardt 1920; Pourade 1961). The Mission system had a great effect on all Native American groups from the coast to the inland areas and was a dominant force in San Diego County.

Life for the new settlers at the San Diego Presidio was isolated and difficult. The arid desert climate and aggressive Native American population made life hard for the Spanish settlers. They raised cattle and sheep, gathered fish and seafood, and did some subsistence farming in the San Diego River valley to generate enough food to keep the fledgling community of a few hundred Spaniards and hundreds of Native American neophytes alive. The situation for Spanish Period San Diegans was complicated by the Spanish government's insistence on making trade with foreign ships illegal. Although some smuggling of goods into San Diego was done, the amounts were likely small (Smythe 1908:81-99; Williams 1994).

Significant research topics for the Spanish Period involve the chronology and ecological impact caused by the introduction of Old World plants and the spread of New World domesticates in Southern California; the differences and similarities in the lifeways, access to resources, and responses to change between different Spanish institutions; the effect of Spanish colonization on the Kumeyaay population; and the effect of changing colonial economic policies and the frontier economic system on patterns of purchase, consumption, and discard.

MEXICAN PERIOD (AD 1822-1846)

In 1822, the political situation changed. Mexico won its independence from Spain and San Diego became part of the Mexican Republic. The Mexican Government opened California to foreign ships and a healthy trade soon developed, exchanging the fine California cattle hides for the manufactured goods of Europe and the eastern United States. Several of these American trading companies erected rough sawn wood-plank sheds at La Playa on the bay side of Point Loma. The merchants used these "hide-houses" for storing the hides before transport to the east coast (Robinson 1846:12; Smythe 1908:102). As the hide trade grew, so did the need for more grazing lands. Thus, the Mexican Government began issuing private land grants in the early 1820s, creating the rancho system of large agricultural estates. Much of the land came from the Spanish missions, which the Mexican government secularized in 1833. The Mission system, however, had begun to decline when the Mission Indians became eligible for Mexican citizenship and refused to work in the Mission fields. The ranchos dominated California life until the American takeover in 1846 (Smythe 1908:101-106; Robinson 1948; Killea 1966; Pourade 1963). The Mexican Period brought about the continued displacement and

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acculturation of the native populations.

Another change in Mexican San Diego was the decline of the Presidio and the rise of the civilian Pueblo. The establishment of Pueblos in California under the Spanish government met with only moderate success and none of the missions obtained their ultimate goal, which was to convert to a Pueblo. Pueblos did, however, begin to form somewhat spontaneously near the California Presidios. As early as 1791, Presidio commandants in California were given the authority to grant small house lots and garden plots to soldiers and their families (Richman 1911:346). Sometime after 1800, soldiers from the San Diego Presidio began to move themselves and their families from the Presidio buildings to the tableland down the hill near the San Diego River. Historian William Smythe noted that Don Blas Aguilar, who was born in 1811, remembered at least 15 such grants below Presidio Hill by 1821 (Smythe 1908:99). Of these 15 grants, only five within the boundaries of what would become Old Town had houses in 1821. These included the retired commandant Francisco Ruiz adobe (now known as the Carrillo Adobe), another building later owned by Henry Fitch on Calhoun Street, the Ybanes and Serrano houses on Juan Street near Washington Street, and a small adobe house on the main plaza owned by Juan Jose Maria Marron (*San Diego Union* 6-15-1873:3). By 1827, as many as 30 homes existed around the central plaza, and in 1835, Mexico granted San Diego official Pueblo (town) status. At this time the town had a population of nearly 500 residents, later reaching a peak of roughly 600 (Killea 1966:9-35). By 1835, the Presidio, once the center of life in Spanish San Diego, had been abandoned and lay in ruins. Mission San Diego de Alcalá fared little better. In 1842, 100 Indians lived under the care of the friars and only a few main buildings were habitable (Pourade 1963:11-12, 17-18). The town and the ship landing area (La Playa) were now the centers of activity in Mexican San Diego.

Adobe bricks were used as the primary building material of houses during the Mexican Period because wood was scarce and dirt and labor were plentiful. The technique had been brought to the New World from Spain, where it had been introduced by the Moors in the eighth century. Adobe bricks were made of a mixture of clay, water sticks, weeds, small rocks, and sand. The sticks, weeds, and small rocks held the bricks together and the sand gave the clay something to stick to. The mixture was poured into a wooden form measuring about 4 inches by 11 inches by 22 inches and allowed to dry. A one-room, single-story adobe required between 2,500 and 5,000 bricks. Walls were laid on the ground or built over foundations of cobblestone from the riverbed. To make walls, the adobe bricks were stacked and held together with a thick layer of mortar (mud mixed with sand). Walls were usually three-feet-thick and provided excellent insulation from the winter cold and summer heat. To protect the adobe bricks from washing away in the rain, a white lime plaster or mud slurry was applied to the walls by hand and smoothed with a rock plaster smoother. The lime for the lime plaster was made by burning

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seashells in a fire. The lime was then mixed with sand and water. Once the plaster had dried, it formed a hard shell that protected the adobe bricks. The roof was usually made of carrizo cane bound with rawhide strips. Floors were usually of hard packed dirt, although tile was also used.

The new Pueblo of San Diego did not prosper as did some other California towns during the Mexican Period. In 1834, the Mexican government secularized the San Diego and San Luis Rey missions. The secularization in San Diego County had the adverse effect of triggering increased Native American hostilities against the Californios during the late 1830s. The attacks on outlying ranchos, along with unstable political and economic factors helped San Diego's population decline to around 150 permanent residents by 1840. San Diego's official Pueblo status was removed by 1838 and it was made a subprefecture of the Los Angeles Pueblo. When the Americans took over after 1846, the situation had stabilized somewhat and the population had increased to roughly 350 non-Native American residents (Killea 1966:24-32; Hughes 1975:6-7).

Two important areas of research for the Mexican Period are the effect of the Mexican rancho system on the Kumeyaay population and the effect of changing colonial economic policies and the frontier economic system on patterns of purchase, consumption, and discard.

AMERICAN PERIOD (AD 1846-PRESENT)

When United States military forces occupied San Diego in July 1846, the town's residents split on their course of action. Many of the town's leaders sided with the Americans, while other prominent families opposed the United States invasion. A group of Californios under Andres Pico, the brother of the Governor Pio Pico, harassed the occupying forces in Los Angeles and San Diego during 1846. In December 1846, Pico's Californios engaged U.S. Army forces under General Stephen Kearney at the Battle of San Pasqual and inflicted many casualties. However, the Californio resistance was defeated in two small battles near Los Angeles and effectively ended by January 1847 (Harlow 1982; Pourade 1963).

The Americans raised the United States flag in San Diego in 1846 and assumed formal control with the Treaty of Guadalupe-Hidalgo in 1848. In the quarter of a century following 1848, they transformed the Hispanic community into a thoroughly Anglo-American one. They introduced Anglo culture and society, American political institutions, and especially American entrepreneurial commerce. By 1872, they even relocated the center of the city and community to a new location that was more accessible to the bay and to commerce (Newland 1992:8). Expansion of trade brought an increase in the availability of building materials. Wood buildings gradually replaced adobe structures. Some of the earliest buildings to be erected in the American Period

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were "pre-fab" houses which were built on the east coast of the United States, shipped in sections around Cape Horn, and reassembled in San Diego.

In 1850, the Americanization of San Diego began to develop rapidly. On February 18, 1850, the California State Legislature formally organized San Diego County. The first elections were held at San Diego and La Playa on April 1, 1850 for county officers. San Diego grew slowly during the next decade. San Diegans attempted to develop the town's interests through a transcontinental railroad plan and the development of a new town closer to the bay. The failure of these plans, in addition to the onset of the Civil War and a severe drought that crippled ranching, left San Diego as a remote frontier town. The troubles led to an actual drop in the town's population from 650 in 1850 to 539 in 1860 (Garcia 1975:77). Not until land speculator and developer Alonzo Horton arrived in 1867 did San Diego begin to develop fully into an active American town (MacPhail 1979).

Alonzo Horton's development of a New San Diego (modern downtown) in 1867 began to swing the community focus away from Old Town. After the county seat was moved in 1871 and a fire destroyed a major portion of the business block in April 1872, Old Town rapidly declined in importance.

American Period resources can be categorized into remains of the frontier era, rural farmsteads, and urban environments, with different research questions applicable to each category. Important research topics for the frontier era include studying the changing function of former Mexican ranchos between 1850 and 1940 and investigating the effect on lifestyles of the change from Hispanic to Anglo-American domination of the Pueblo of San Diego. Research domains for rural farmsteads include the definition of a common rural culture, comparing the definition of wealth and consumer preferences of successful rural farm families versus middle and upper-middle class urban dwellers, definition of the evolution and adaptation of rural vernacular architecture, and identification of the functions of external areas on farmsteads. Research questions for urban environments include definition of an urban subsistence pattern; definition of ethnic group maintenance and patterns of assimilation for identifiable ethnic groups; identification of specific adaptations to boom and bust cycles; definition of a common culture for working, middle, and upper-middle class urban residents; identification of adaptations to building techniques, architectural styles, technological change, and market fluctuations through analysis of industrial sites; and investigation of military sites to relate changes in armament technology and fortification expansion or reduction to changing priorities of national defense.

ARCHITECTURE

The built environment, including structures and landscapes, is a vital source of historical evidence on past lifeways, work, ideas, cultural values, and adaptations. The built

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environment is neither a product of random events nor a static phenomena. The rearrangement of structural features and land use are part of the way in which people organize their lives. Landscapes are lands that have been shaped and modified by human actions and conscious design to provide housing, accommodate production systems, develop communication and transportation networks, designate social inequalities, and express aesthetics (Rubertone 1989).

Vernacular architectural studies have demonstrated that pioneer farmers and urban dwellers used folk styles to meet specific needs. Analysis of these house types illustrates adaptation by households as a result of changing needs, lifestyle, and economic status. Studies of structural forms at military complexes have documented changes in technology and national defense priorities, and industrial site studies have documented technological innovation and adaptation. The spatial relationships of buildings and spaces, and changes in those relationships through time, also reflect cultural values and adaptive strategies (Carlson 1990; Stewart-Abernathy 1986).

San Diego's built environment spans over 200 years of architectural history. The real urbanization of the City as it is today began in 1869 when Alonzo Horton moved the center of commerce and government from Old Town (Old San Diego) to New Town (downtown). Development spread from downtown based on a variety of factors, including the availability of potable water and transportation corridors. Factors such as views, and access to public facilities affected land values, which in turn affected the character of neighborhoods that developed.

During the Victorian Era of the late 1800s and early 1900s, the areas of Golden Hill, Uptown, Banker's Hill, and Sherman Heights were developed. Examples of the Victorian Era architectural styles remain in those communities, as well as in Little Italy.

Little Italy developed in the same time period. The earliest development of the Little Italy area was by Chinese and Japanese fishermen who occupied stilt homes along the bay. After the 1905 earthquake in San Francisco, many Portuguese and Italian fishermen moved from San Francisco into the area; it was close to the water and the distance from downtown made land more affordable.

Barrio Logan began as a residential area, but because of proximity to rail freight and shipping freight docks the area became more mixed with conversion to industrial uses. This area was more suitable to the industrial uses because land values were not as high: topographically the area is more level and not as interesting in terms of views as the areas north of downtown. Various ethnic groups settled in the area because their land ownership was available to them.

San Ysidro began to be developed at about the same time, the turn of the century. The early settlers were followers of the Littlelanders movement. There, the pattern of development was lots designed to accommodate small plots of land for each homeowner

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to farm as part of a farming-residential cooperative community. Nearby Otay Mesa-Nestor began to be developed by farmers of Germanic and Swiss background. Some of the prime citrus groves in California were in the Otay Mesa-Nestor area. In addition, there were grape growers of Italian heritage who settled in the Otay River Valley and tributary canyons and produced wine for commercial purposes.

At the time downtown was being built, there began to be summer cottage/retreat developments in what are now the Beach communities and the La Jolla area. The early structures in these areas were not of substantial construction; they were primarily temporary vacation housing.

Development spread to the Greater North Park and Mission Hills areas during the early 1900s. The neighborhoods were built as small lots, a single lot at a time; there was not large tract housing development of those neighborhoods. These areas provided affordable housing away from the downtown area and development expanded as transportation improved.

There was farming and ranching in Mission Valley until the middle portion of the 20th century when the uses were converted to commercial and residential. There were dairy farms and chicken ranches adjacent to the San Diego River where now there are motels, restaurants, office complexes, and regional shopping malls.

There was little development north of the San Diego River until Linda Vista was developed as military housing in the 1940s. The federal government improved public facilities and extended water and sewer pipelines to the area. From Linda Vista, development spread north of Mission Valley to the Clairemont Mesa and Kearny Mesa areas. Development in these communities was mixed use and residential on moderate-size lots.

San Diego State University was established in the 1920s. Development of the state college area began then and the development of the Navajo community was outgrowth from the college area and from the west.

Tierrasanta, previously owned by the U.S. Navy, was developed in the 1970s. It was one of the first planned unit developments with segregation of uses. Tierrasanta and many of the communities that have developed since, such as Rancho Penasquitos and Rancho Bernardo, represent the typical development pattern in San Diego in the last 25 to 30 years: uses are well-segregated with commercial uses located along the main thoroughfares, and the residential uses are located in between. Industrial uses are located in planned industrial parks.

Examples of every major period and style remain, although few areas retain neighborhood-level architectural integrity due to several major building booms when older structures were demolished prior to preservation movements and stricter

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regulations regarding historic structures. Among the recognized styles in San Diego are Spanish Colonial, Pre-Railroad New England, National Vernacular, Victorian Italianate, Stick, Queen Anne, Colonial Revival, Neoclassical, Shingle, Folk Victorian, Mission, Craftsman, Monterey Revival, Italian Renaissance, Spanish Eclectic, Egyptian Revival, Tudor Revival, Modernistic, and International (McAlester and McAlester 1990).

Research interests related to the built environment include San Diego's railroad and maritime history; development in relationship to the automobile; the role of recreation in the development of specific industries, as well as the design and implementation of major regional planning and landscaping projects; the role of international fairs on architecture, landscape architecture, and city building; the development of industrial and military technologies between the two world wars; the relationship between climate, terrain, native plant material, local gardening, and horticultural practices; planning and subdivision practices from the turn of the century to the present day; and the post-war period of suburbanization.

Survey Methods and Date:

Area of Potential Effects (APE)

In accordance with Mitigation Measure 4.4.1, the Project APE includes access, staging, and maintenance areas for a total of approximately 15 acres.

METHODS

The following sections describe the methods that were used for the intensive pedestrian survey of the Project area.

Survey Methods

URS conducted archival research and reviewed Project related documents in order to survey the Project APE. The document review included the Master Storm Water System Maintenance Program, archaeological site records, and historical maps (Confidential Attachment 2).

Following the initial archival research, an intensive pedestrian survey was executed. The goal of the survey was complete coverage of the Project APE using linear transects, with surveyors spaced 10 to 15 meters apart (10-meter spacing with vegetation, 15-meter spacing with no vegetation). These thresholds provide complete coverage of the Project APE unless circumstances such as vegetation, steep slopes, or existing buildings obstruct ground surface visibility.

On November 14, 2012, the intensive pedestrian survey of the Project APE was conducted by URS. The survey was conducted by Arleen Garcia-Herbst, a Registered

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Professional Archaeologist from URS, and Native American Monitor, Howard Diaz, from Red Tail Monitoring and Research, Inc. Coverage was completed using transects, spaced at 5 to 15-meter wide intervals over the survey area (transect spacing was smaller in some areas of the Project due to dense vegetation filling in and narrowing the storm water channel). Ground visibility ranged from 100% in Staging Area B and the Pilot Channel Access Road areas to less than 10% in vegetated areas along the Pilot Channel and Staging Area D. Rodent burrowing activity was also present and aided in exposing the ground surface in otherwise dense vegetated areas.

The survey team was equipped with Trimble XH global positioning units, which were used to capture the geographic UTM coordinates and to record any new observations of cultural materials.

Record Search Results

This section summarizes the previous studies and cultural resources within the Project APE and within a half-mile radius.

Record Search Results

Two records searches for previously conducted investigations and previously recorded cultural resources were conducted at the South Coastal Information Center (SCIC) to determine previously recorded sites and cultural resource investigations within the Project APE and an additional half-mile search buffer (Figure 2). Results received from the SCIC contained specific information regarding all previously recorded prehistoric and historic sites and isolates with trinomial or primary numbers; site record forms and updates for all archaeological resources previously identified; and previous investigation boundaries and National Archaeological Database citations for associated reports, historic maps, and historic addresses. Also reviewed were the properties listed on the California Points of Historical Interest, California Historical Landmarks, California Historical Resources Inventory, local registries of historic properties, California Register of Historical Resources, and National Register of Historic Places (NRHP).

URS requested a records search from the SCIC on October 22, 2012 and on November 11, 2012. Results from the combined record searches revealed that 35 investigations have been previously conducted within the Project footprint and Project buffer (Attachment 1, Table 1). Of the 35 investigations, 20 investigations were conducted within the Project footprint. The SCIC identified a total of 21 previously recorded cultural resources (6 historic sites and 15 prehistoric sites) within the Project footprint and Project buffer (Attachment 1, Table 2 and Confidential Figure 3). Of the 21 previously recorded resources, three occur within the Project footprint (CA-SDI-10669, CA-SDI-13486/13527, and CA-SDI-17240). One resource (CA-SDI-8605), located in the Project buffer, was recommended as ineligible for the NRHP listing (6Y). One resource (CA-

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SDI-17240), located in the Project footprint, was recommended as eligible for listing on the NRHP (Criteria 3/C). The remaining 19 resources remain unevaluated for NRHP eligibility.			
Are any Native American Tribes expected to be concerned about the proposed maintenance?			
YES		NO	<input checked="" type="checkbox"/>
If yes, identify the tribe and their potential concerns:			
As per the Master Storm Water System Maintenance Program Appendix C, Mitigation Monitoring and Reporting Program, consultation with the Native American Heritage Commission and the local Native American community for input regarding possible impacts to historical resources within the Project APE, particularly as they relate to traditional cultural properties and areas of Native American sensitivity, was not required. However, Native American Monitor, Howard Diaz, from Red Tail Monitoring and Research, Inc. participated in the pedestrian survey of the Project and expressed no concerns regarding historical resources.			
Archaeological Survey Results:			
Three previously recorded sites were relocated and one newly discovered isolate was identified as a result of the intensive pedestrian survey (Confidential Attachment 3 and Confidential Figure 4).			
<i>CA-SDI-10669</i>			
Site CA-SDI-10669 was first recorded by Florence Shipek in 1976 as a possible location of the ethnographically-recorded Kumeyaay village of Mellejo. Since that time, an assortment of surface and subsurface discoveries has been attributed to CA-SDI-10669, resulting in the documentation of an extensive shell and lithic scatter by Seth Rosenberg in 2008. According to Rosenberg, the history of the property includes long term dumping of modern trash, recollection of the trash, compaction, and spreading out of the resulting milled-trash mixed with fill. The subsequent use of the property for agriculture included frequent disking over many years which likely resulted in the upward movement of subsurface deposits. Based on the recovery of a few artifacts outside of the prerecorded boundaries of the site by Rosenberg, the surface expression of the site was expanded to the north.			
Unfortunately, the predominance of mottled deposits including modern trash intermixed with elements of the prehistoric occupation of the area indicated that this portion of Site CA-SDI-10669 did not retain integrity. According to the site forms provided by the			

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SCIC, Site CA-SDI-10967 was thought to be a possible component of the ethnographically-recorded Kumeyaay village of Mellejo (CA-SDI-10669). However, given the very narrow range of artifacts recovered, it appeared to Rosenberg that Site CA-SDI-10967 was primarily a resource processing site for marine shell and lithic resources. The lack of a wider range of artifacts and any darkened midden soils indicative of long-term occupation negated the interpretation of a seasonal camp or village site. Due to the lack of integrity and narrow breadth of artifacts and ecofacts, the site did not possess further research potential.

During the current 2012 survey, Ms. Garcia-Herbst and Mr. Diaz observed a metavolcanic lithic scatter within the boundaries of the site but outside the Project APE on the slope next to a graded recreational hiking trail through the site; a volcanic flake, marine shell (mussel), and fire affected rock within the active storm water drainage channel (disturbed context); and a volcanic flake and possible glass flake within an existing graded area to be used for staging, the latter two locations being part of the Project APE. The observance of cultural materials no longer in situ in the storm water channel coupled with significant grading and mounding of site sediments to create the storm water channel berms and adjacent recreational hiking trails indicated that the portion of Site CA-SDI-10669 present in the Project APE did not retain integrity nor possess further research potential.

CA-SDI-13486/13527

This prehistoric site was originally recorded by Richard Coleman in 1992 as a “sparse scatter of stone tools and marine shell.” Artifacts recorded include one unidirectional core and two flakes of fine-grained meta-volcanic material (green felsite) and one oxidized and cracked piece of thermally-altered rock (TAR). In 2010, N. Blotner, J. Berryman, and S. Rosenberg revisited the southwestern portion of the site as part of a cultural resources survey for the W-9/W-15 RVSS Towers Project. A dispersed smear of marine shell (*Chione* sp. and unidentifiable) and six surface artifacts (one medium-grained metavolcanic scraper, two granite manos, one medium-grained metavolcanic core, one fine-grained metavolcanic flake, and one fine-grained metavolcanic debitage fragment) were identified. Shell was also identified on the north side of the fence. Based on the thin scatter, it is likely that the shell was dragged from CA-SDI-13486 and represents a disturbed portion of the site.

Twelve shovel test pits (STPs 1-12) and one excavation unit (EU 1) were excavated in July 2010 to determine the extent and structure of any possible subsurface cultural deposits. Four of the 12 STPs excavated were positive for cultural recovery. STP 4, STP 7, and STP 8 all contained moderate amounts of marine shell from 0-40 centimeters (cm) below ground surface. STP 4 also contained a single flake and STP 7 contained three

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faunal bone fragments. STP 9 contained large amounts of marine shell from 0-60 cm below ground surface, with the highest concentrations of shell between 30 and 50 cm. In addition to marine shell, modern disturbances such as concrete, glass, and plastic fragments were identified throughout the STPs, primarily at depths of 0-40 cm below ground surface.

The -by-1meter excavation unit was excavated in 10-cm levels following the ground surface contour. Positive cultural recovery occurred at stratigraphic levels ranging from 0-50 cm below ground level. Soil was culturally sterile from 50-70 cm. Large amounts of marine shell were recovered from depths of 0-50 cm, with the highest concentrations of shell between 20 and 50 cm. In addition to marine shell, modern disturbances such as concrete, glass, and plastic fragments were identified throughout the EU, primarily at depths of 0-40 cm below ground surface. The modern disturbances were thoroughly intermixed with the marine shell fragments at all levels, and thus indicated a lack of a culturally-intact deposit.

Soils in the site area were recorded as very dark greyish-brown silty sand with few alluvial pebbles. Vegetation in the immediate area of the shell and artifact scatter was sparse and consisted primarily of coastal sage scrub and chaparral.

During the current survey in 2012, Ms. Garcia-Herbst and Mr. Diaz observed that the portion of the site within the Project APE has been disturbed by grading and rodent burrowing. Additionally, several modern concrete-lined drainage channels and an electrical meter station have been constructed near the site within the Project APE. No prehistoric or historic cultural materials were observed within the site boundary during the survey. A modern rock ring was observed within the site boundary. The observance of modern disturbance by prior archaeological excavation in 1992 and subsequent grading and rodent burrowing indicated that the portion of Site CA-SDI-13486 present in the Project APE did not retain integrity nor possess further research potential.

CA-SDI-17240

This historic site consists of the 800-foot-long Hollister Street Bridge, a viaduct over the Tijuana River channel and basin. It is a mid-twentieth century engineering structure that represents traditional wood-pile, wood-beam, wood-guardrail bridge construction, and carries a historic road from San Diego south into the Tijuana River Valley for farm, school, and international traffic. When it was first recorded in 2004 by James Steeley, the bridge appeared to be intact from its original construction with typical repairs and component replacements associated with this bridge type. Official Caltrans documentation listed a 1953 construction date, which was likely a major rehabilitation of an existing bridge, according to Steeley.

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<p>The Hollister Street Bridge was recommended as eligible for listing on the NRHP (Criteria 3/C) as a mid-twentieth century engineering structure and the site record has a Status Code of 3 (appears eligible for listing to the National Register and California Register through survey evaluation). However, Caltrans determined the bridge was not eligible for the NRHP as part of their historic bridge inventory completed in 1986 and updated in 2010 (See "Historical Significance – Local Agency Bridges" at http://www.dot.ca.gov/hq/structur/strmaint/historic.htm).</p> <p>During the current survey in 2012, Ms. Garcia-Herbst and Mr. Diaz observed that the bridge remains in the same condition as documented by Steeley in 2004.</p> <p><i>AGH-ISO-001</i></p> <p>During the current survey in 2012, Ms. Garcia-Herbst and Mr. Diaz observed this prehistoric isolate that includes a metavolcanic and volcanic core, as well as a metavolcanic flake. All cultural materials were located in the active storm water drainage and are in a disturbed context.</p>

MAINTENANCE IMPACTS				
<p>Is there a moderate or high potential for archaeological resources to occur in or adjacent to the impact area:</p>				
<table border="1"> <tr> <td>YES</td> <td><input type="checkbox"/></td> <td>NO</td> <td><input checked="" type="checkbox"/></td> </tr> </table>	YES	<input type="checkbox"/>	NO	<input checked="" type="checkbox"/>
YES	<input type="checkbox"/>	NO	<input checked="" type="checkbox"/>	

MITIGATION
<p>Environmental Mitigation Requirements:</p>
<p>HIST-1 Flag, cap or fence all historical resource areas prior to initiation of maintenance activities.</p> <p>HIST-2 Conduct a pre-maintenance meeting on-site prior to any activity that may occur within or adjacent to sensitive historical resources. The qualified archaeologist shall point out sensitive historical resources to be avoided during maintenance, identify any specific measures which should be implemented to minimize impacts, and direct crews or other personnel to protect sensitive historical resources as necessary.</p>
<p>What, if any, PEIR mitigation measures are applicable?</p>
<p>Historical Resources 4.4.3 Applicable PEIR Mitigation Measures have been included in entirety in Attachment 4.</p>

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MITIGATION	
What, if any, other measures are required?	
See site specific recommendations below.	
ADDITIONAL COMMENTS OR RECOMMENDATIONS	
Recommendations:	
<p>Cultural resources and Native American monitoring is recommended for portions of the channel dredging that previously cut through Site CA-SDI-10669. Following the monitoring of activities in this area, a monitoring report will be submitted to the City of San Diego that provides recommendations concerning the need for future monitoring during subsequent maintenance of the Project APE within the site boundary. Cultural resources monitoring will mitigate potential impacts to buried cultural materials to a less than significant level.</p> <p>Provided that there are no excavations conducted within the Project APE within the site boundary, no further work is recommended for Site CA-SDI-13486.</p> <p>No further work is recommended for CA-SDI-17240 and AGH-ISO-001. The proposed maintenance would not alter or disturb CA-SDI-17240 and AGH-ISO-001 is in a disturbed context within the active drainage.</p>	
Individual Biological Assessment Report Attachments:	
Attachment 1	Records Search Results Summary
Attachment 2	Records Search Results (Confidential)
Attachment 3	Photo Log and Department of Parks and Recreation Forms (Confidential)
Attachment 4	Applicable PEIR Mitigation Measures
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ADDITIONAL COMMENTS OR RECOMMENDATIONS

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**Tijuana River Pilot Channel & Smuggler's Gulch Channel
Appendix C - Individual Historic Assessment Report**

ADDITIONAL COMMENTS OR RECOMMENDATIONS

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**Tijuana River Pilot Channel & Smuggler's Gulch Channel
Appendix C - Individual Historic Assessment Report**

ADDITIONAL COMMENTS OR RECOMMENDATIONS

Warren, Claude N.

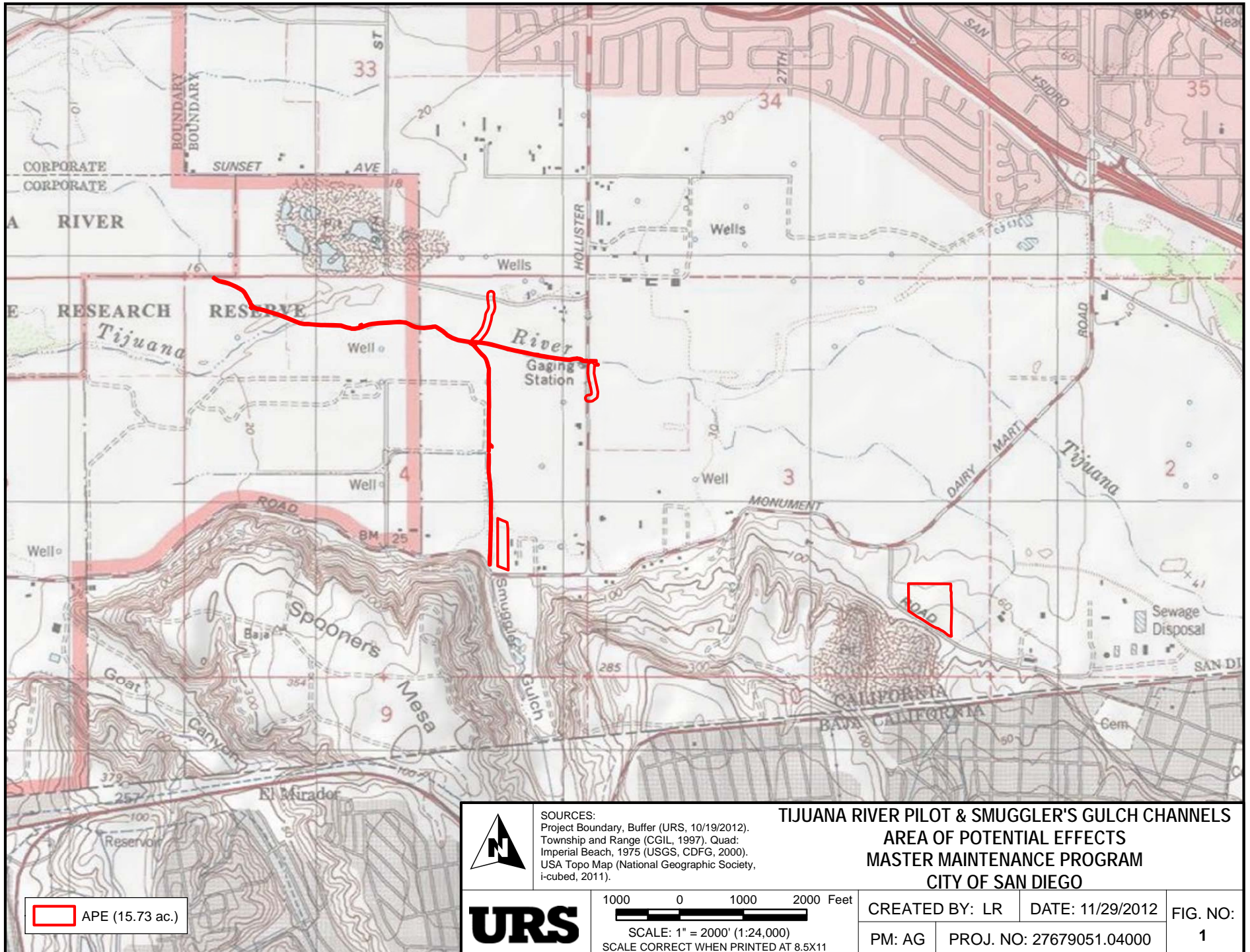
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 APE (15.73 ac.)



SOURCES:
 Project Boundary, Buffer (URS, 10/19/2012).
 Township and Range (CGIL, 1997). Quad:
 Imperial Beach, 1975 (USGS, CDFG, 2000).
 USA Topo Map (National Geographic Society,
 i-cubed, 2011).

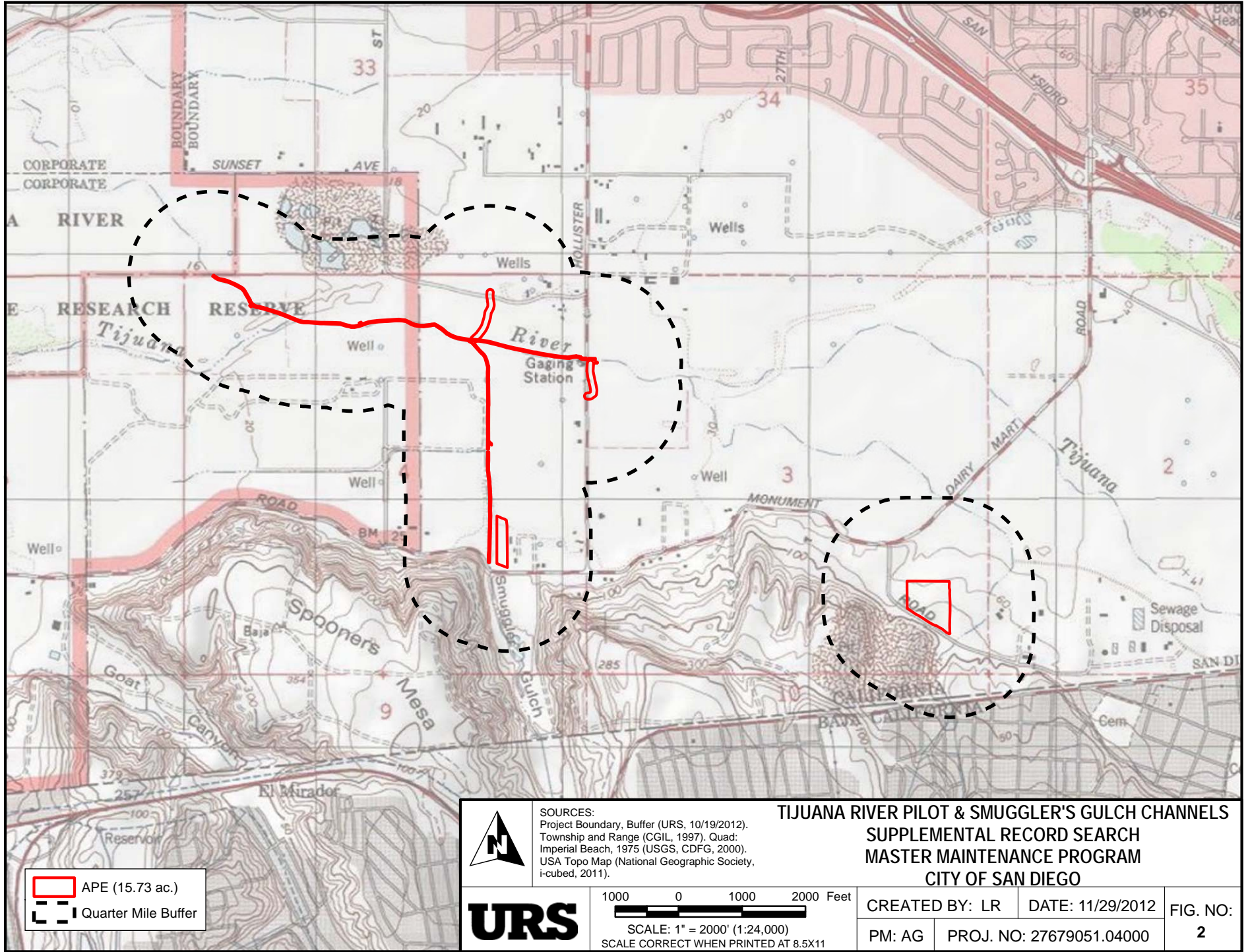
**TIJUANA RIVER PILOT & SMUGGLER'S GULCH CHANNELS
 AREA OF POTENTIAL EFFECTS
 MASTER MAINTENANCE PROGRAM
 CITY OF SAN DIEGO**





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 SCALE: 1" = 2000' (1:24,000)
 SCALE CORRECT WHEN PRINTED AT 8.5x11

CREATED BY: LR	DATE: 11/29/2012	FIG. NO:
PM: AG	PROJ. NO: 27679051.04000	1

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 APE (15.73 ac.)
 Quarter Mile Buffer



SOURCES:
 Project Boundary, Buffer (URS, 10/19/2012).
 Township and Range (CGIL, 1997). Quad:
 Imperial Beach, 1975 (USGS, CDFG, 2000).
 USA Topo Map (National Geographic Society,
 i-cubed, 2011).

TIJUANA RIVER PILOT & SMUGGLER'S GULCH CHANNELS
SUPPLEMENTAL RECORD SEARCH
MASTER MAINTENANCE PROGRAM
CITY OF SAN DIEGO



1000 0 1000 2000 Feet

 SCALE: 1" = 2000' (1:24,000)
 SCALE CORRECT WHEN PRINTED AT 8.5X11

CREATED BY: LR	DATE: 11/29/2012	FIG. NO:
PM: AG	PROJ. NO: 27679051.04000	2

Table 1. Previous Investigations Within a ½-mile Radius of the Project Area

N.A.D.B #/RI #	Report Title	Date Prepared	Prepared By	Prepared For	Quadrangle	Within Project Footprint/Feature or Search Buffer
1120790	Cultural Resource Survey for the Smuggler Gulch Surface Flow Collection Facility, San Diego, California. WESTEC Services, Inc.	1987	Cheever, Dayle and Dennis Gallegos	International Boundary & Water Commission.	Imperial Beach	Search Buffer
1121342	An Archaeological Reconnaissance of Border Highlands San Diego, California. Heritage Environmental Services.	1981	Polan, H. Keith	City of San Diego Planning Departments	Imperial Beach	Project Footprint
1122885	ARCHAEOLOGICAL INVESTIGATIONS AT THE PROPOSED INTERNATIONAL WASTEWATER TREATMENT PLANT SITE: CULTURAL RESOURCE IDENTIFICATION AND GEOTECHNICAL TEST MONITORING.	1994	HIGGINS, HOWARD C.	INTERNATIONAL BOUNDARY AND WATER COMMISSION, U.S. SECTION.	Imperial Beach	Search Buffer
1122886	ARCHAEOLOGICAL MONITORING OF THE INTERNATIONAL WASTEWATER TREATMENT PLANT LAND OUTFALL TRENCH. SAN DIEGO COUNTY, CALIFORNIA.	1994	HIGGINS, HOWARD C.	INTERNATIONAL BOUNDARY AND WATER COMMISSION, U.S. SECTION	Imperial Beach	Project Footprint
1122955	SUPPLEMENTAL REPORT: ARCHAEOLOGICAL SURVEY AND GEOTECHNICAL TEST MONITORING OF THE INTERNATIONAL WASTEWATER TREATMENT PLANT OCEAN OUTFALL TUNNEL.	1994	ADAMS, KATHLEEN AND CHRISTOPHER A TURNBOW	INTERNATIONAL BOUNDARY AND WATER COMMISSION U.S. SECTION	Imperial Beach	Search Buffer
1123282	HISTORIC ASSESSMENT OF PROPERTIES ON 3 PARCELS ON MONUMENT ROAD, SAN DIEGO CALIFORNIA. WILLIAM MANLEY CONSULTING.	1993	MANLEY, WILLIAM	WILLIAM R. WALKER.	Imperial Beach	Project Footprint
1123646	ARCHAEOLOGICAL INVESTIGATIONS AT SOUTH BAY INTERNATIONAL WASTEWATER TREATMENT PLANT SITE AND OUTFALL FACILITIES, CULTURAL RESOURCE IDENTIFICATION AND GEOTECHNICAL TEST MONITORING	1994	HIGGINS, HOWARD C., RICHARD W. COLEMAN, GARY M. BROWN, RICHARD A. ANDUZE, AND MEADE F. KEMRER	INTERNATIONAL BOUNDARY AND WATER COMMISSION, U.S. SECTION.	Imperial Beach	Search Buffer
1123709	ARCHAEOLOGICAL MONITORING OF THE SOUTH BAY LAND OUTFALL TRENCH, SAN DIEGO COUNTY, CALIFORNIA.	1993	HIGGINS, HOWARD C. AND CHRISTOPHER A. TURNBOW, GARY M. BROWN, RICHARD W. COLEMAN, RUSSELL O. COLLET, CHRISTOPHER R. LINTZ, PETER B. MIRES,	INTERNATIONAL BOUNDARY AND WATER COMMISSION U.S. SECTION.	Imperial Beach	Search Buffer
1123713	ARCHAEOLOGICAL TESTING OF THREE SITES FOR THE INTERNATIONAL WASTEWATER TREATMENT PLANT PROJECT SAN DIEGO COUNTY, CALIFORNIA.	1995	TURNBOW, CHRISTOPHER A. AND KATHLEEN A. ADAMS, JOHN A. EVASKOVICH, HOWARD C. HIGGINS	INTERNATIONAL BOUNDARY AND WATER COMMISSION, U.S. SECTION.	Imperial Beach	Search Buffer

Table 1. Previous Investigations Within a ½-mile Radius of the Project Area

N.A.D.B #/RI #	Report Title	Date Prepared	Prepared By	Prepared For	Quadrangle	Within Project Footprint/Feature or Search Buffer
1124225	ARCHAEOLOGICAL SURVEY AND SIGNIFICANCE EVALUATION PROGRAM FOR THE BORDER HIGHLANDS PROJECT. ASM AFFILIATES.	1989	ASM AFFILIATES	NEW HORIZONS PLANNING CONSULTING INC.	Imperial Beach	Project Footprint
1124393	NEGATIVE ARCHAEOLOGICAL SURVEY REPORT: THE HOLLISTER STREET PROJECT.	1996	BAKSH, MICHAEL	DEPARTMENT OF TRANSPORTATION.	Imperial Beach	Project Footprint
1124608	PUBLIC NOTICE OF PROPOSED NEGATIVE DECLARATION. CITY OF SAN DIEGO.	1994	CITY OF SAN DIEGO	CITY OF SAN DIEGO.	Imperial Beach	Project Footprint
1125027	Cultural Resouce Monitoring Report for the Hollister Street Bailey Bridge Replacement Project, San Diego County, CA. Tierra Environmental.	2001	Pigniolo, Andrew	City of San Diego	Imperial Beach	Project Footprint
1125507	Historic Properties Inventory for Secondary Treatment Clean Water Program for Greater San Diego: Confidential Appendices. RECON	1990	WADE, SUE	City of San Diego	Imperial Beach	Project Footprint
1125934	An Archaeological Reconnaissance of Border Highlands San Diego. Heritage Environmental Services.	1981	POLAN, KEITH	City of San Diego	Imperial Beach	Search Buffer
1125935	Cultural Resource Survey and Significance Testing for the International Waste Water Project. Westec Service, Inc	1986	GALLEGOS, DENNIS	Luke-Dudek, Civic Engineers, Inc.	Imperial Beach	Project Footprint
1126635	HISTORIC PROPERTY SURVEY-BAILEY BRIDGE HOLLISTER STREET.	1996	ROSEN, MARTIN	CALTRANS.	Imperial Beach	Project Footprint
1127136	FINAL CULTURAL AND PALEONTOLOGICAL RESOURCE STUDY FOR THE TIJUANA RIVER VALLEY REGIONAL PARK TRAILS AND HABITAT RESTORATION ENHANCEMENT PROJECT, SAN DIEGO COUNTY, CALIFORNIA. SWCA ENVIRONMENTAL CONSULTANS.	2004	SWCA ENVIRONMENTAL CONSULTANTS	COUNTY OF SAN DIEGO, DEP. OF PARKS AND RECREATION.	Imperial Beach	Project Footprint
1129177	CULTURAL RESOURCES SURVEY OF THE TIJUANA RIVER WETLAND MITIGATION PROJECT SAN DIEGO COUNTY, CALIFORNIA. EDAW, INC	2004	UNDERWOOD, JACKSON & CARRIE GREGORY	SAN DIEGO COUNTY WATER AUTHORITY.	Imperial Beach	Project Footprint
1130423	CULTURAL RESOURCES SURVEY OF THE TIJUANA RIVER VALLEY CHANNEL DREDGING PROJECT. ASM AFFILIATES.	2006	HECTOR, SUSAN M.	DUDEK & ASSOCIATES	Imperial Beach	Search Buffer
1131503	INITIAL STUDY FOR THE TIJUANA RIVER VALLEY WETLANDS MITIGATION PROJECT. DUDEK	2007	Dudek	SAN DIEGO WATER AUTHORITY	Imperial Beach	Project Footprint

Table 1. Previous Investigations Within a ½-mile Radius of the Project Area

N.A.D.B #/RI #	Report Title	Date Prepared	Prepared By	Prepared For	Quadrangle	Within Project Footprint/Feature or Search Buffer
1131688	A CULTURAL RESOURCES SURVEY AND ARCHAEOLOGICAL SITE EVALUATION FOR THE SAN DIEGO COUNTY WATER AUTHORITY TIJUANA RIVER VALLEY WETLAND MITIGATION PROJECT, SAN DIEGO COUNTY, CALIFORNIA, APNS 668-011-04-00 AND 663-011-12-00. BRIAN F. SMITH AND ASSOCIATES.	2008	SMITH, BRIAN F. AND SETH A. ROSENBERG	SAN DIEGO WATER AUTHORITY.	Imperial Beach	Project Footprint
1131826	ARCHAEOLOGICAL RESOURCES ANALYSIS FOR THE MASTER STORMWATER SYSTEM MAINTENANCE PROGRAM, SAN DIEGO, CALIFORNIA PROJECT. NO. 42891. AFFINIS	2008	ROBBINS-WADE, MARY	HELIX ENVIRONMENTAL PLANNING	Imperial Beach	Project Footprint
1121225	Archaeological Survey of Border Highland Borrow Pit Site	1976	Carrico, Richard	Able Parra	Imperial Beach	Project Footprint
1123266	ARCHAEOLOGICAL SURVEY FOR THE JOINT TASK FORCE-SIX BORDER ROAD REPAIR PROJECT, OTAY MOUNTAIN, CALIFORNIA	1996	GROSS, TIMOTHY AND RUTH ALTER, MARY ROBBINS-WADE	GEO-MARINE, INC	Imperial Beach	Search Buffer
1123462	CULTURAL RESOURCES EVALUTATION FOR THE SOUTH BAY WATER RECLAMATION PLANT AND DAIRY MART ROAD AND BRIDGE IMPROVEMENTS, SAN DIEGO, CALIFORNIA	1996	CARRICO, RICHARD, ROBERT CASE, AND CAROL SERR	CITY OF SAN DIEGO METROPOLITAN WASTEWATER DEPARTMENT	Imperial Beach	Search Buffer
1123707	WORK PLAN FOR ARCHAEOLOGICAL SERVICES AT SOUTH BAY INTERNATIONAL WASTEWATER TREATMENT PLANT AND OUTFALL FACILITIES. INTERNATIONAL BOUNDARY AND WATER COMMISSION U.S. SECTION	1992	BROWN, GARY M. AND HOWARD C. HIGGINS	MARIAH ASSOCIATES, INC	Imperial Beach	Search Buffer
1123766	CULTURAL RESOURCES EVALUATION FOR THE SOUTH BAY WATER RECLAMATION PLANT AND DAIRY MART ROAD AND BRIDGE IMPROVEMENTS, SAN DIEGO COUNTY, CALIFORNIA	1996	CARRICO, RICHARD L. AND CAROL SERR	CITY OF SAN DIEGO	Imperial Beach	Project Footprint
1124396	DAIRY MART ROAD REALIGNMENT PROJECT	1996	CASE, ROBERT	DOT	Imperial Beach	Project Footprint
1125291	CULTURAL RESOURCES EVALUATION WITHIN THE SOUTH BAY WATER RECLAMATION PLANT SAN DIEGO COUNTY, CALIFORNIA.	1996	CARRICO, RICHARD & ROBERT CASE & CAROL SERR	CITY OF SAN DIEGO METROPOLITAN WASTE WATER DEPT	Imperial Beach	Project Footprint
1125438	Draft Environmental Assessment U.S. Section International Boundary and Water Commission IBWC Interceptors San Diego County, California	1985	IBWC, U.S. SECTION	na	Imperial Beach	Project Footprint
1126641	NEGATIVE ARCHAEOLOGICAL SURVEY REPORT-DAIRY MART ROAD REALIGNMENT	1996	CARRICO, RICHARD L.	CALTRANS	Imperial Beach	Search Buffer

Table 1. Previous Investigations Within a ½-mile Radius of the Project Area

N.A.D.B #/RI #	Report Title	Date Prepared	Prepared By	Prepared For	Quadrangle	Within Project Footprint/Feature or Search Buffer
1127219	HISTORIC PROPERTY SURVEY REPORT - NEGATIVE FINDINGS; DAIRY MART ROAD SITES CA-SDI-4933 AND CA-SDI-12,527.	1996	CARRICO, RICHARD L.	na	Imperial Beach	Search Buffer
1128599	HISTORIC PROPERTIES INVENTORY FOR THE SOUTHEAST OTAY MESA SLUDGE PROCESSING FACILITIES AND PIPELINE (SOUTHERN SLUDGE PROCESSING FACILITY TO SOUTHEAST OTAY MESA SLUDGE PROCESSING FACILITY) SAN DIEGO, CALIFORNIA. BUTLER/ROACH GROUP.	1990	ROBBINS-WADE, MARY AND G. TIMOTHY GROSS	CITY OF SAN DIEGO	Imperial Beach	Search Buffer
1132853	CULTURAL RESOURCES SURVEY REPORT PROPOSED RVSS TOWER W-9 AT RUSSIAN HILL. HDR/E2M	2010	BERRYMAN, JUDY A. AND SETH ROSENBERG	U.S. CUSTOMS AND BORDER PROTECTION	Imperial Beach	Search Buffer

Table 2. Previously Recorded Sites Within a ¼-mile Radius of the Project Area

Resource Identifier	Description	Site Type (Prehistoric, Historic, or Multi-Component)	Significance/ Eligibility Status	Date Recorded and Recorder/Evaluator	Within project footprint (Project Site, T-line) or Search Buffer?	Additional Comments	IC/Search Date
CA-SDI-02611	Lithic Scatter	Prehistoric	Unevaluated	1973/James R. Moriarty III & G.F. Carter	Project Footprint	Merges with SDI-10669 & SDI-12023	SCIC/10-25-2012
CA-SDI-08597	Lithic Scatter	Prehistoric	Unevaluated	1981/K. Polan	Search Buffer		SCIC/10-25-2012
CA-SDI-08605	Quarry Workshop/Lithic Scatter	Prehistoric	Recommended Ineligible/6Y	1998/ Johnna Buysee & Matter Waters 1992/K. Polan & Richard Coleman 1992/Richard Coleman, Mariah Associates Inc. 1990/ Frank Ritz & Mac Davis 1981/K. Polan 1970/Mike Poe	Search Buffer		SCIC/10-25-2012
CA-SDI-10487	Shell and Lithic Scatter	Prehistoric	Unevaluated	2004/SWCA Environmental Consultants 1998/ John Dietler & Patrick McGinnis 1990/Russell O. Collett & Sue A. Wade 1986/Andrew Pignoli & Lynne Christenson	Search Buffer		SCIC/10-25-2012
CA-SDI-10669	2 in-situ fire pits, shell midden and lithic scatter	Prehistoric	Unevaluated	1994/Richard Perry 1992/Richard W. Coleman & M.H. Bilsbarrow 1990/Russell O. Collett & Sue A. Wade 1976/Florence Shipek	Project Footprint	Merges with SDI-02611 & SDI-12023	SCIC/10-25-2012
CA-SDI-10967	Shell Midden and Lithic Scatter	Prehistoric	Unevaluated	2002/J. Underwood, C. Gregory, S. Diaz, & M. Carroll 2002/C. Gregory 1980/ M/ Roeder	Search Buffer		SCIC/10-25-2012
CA-SDI-11096	Historic Structure - Single story shotgun-style house and associated out buildings	Historic	Unevaluated	1994,1992,1989/S. Van Wormer & Richard W. Coleman	Search Buffer		SCIC/10-25-2012
CA-SDI-11948	Historic Structures - Series of Terraces	Historic	Unevaluated	1990/Richard Coleman 1980/Frank Ritz & Mac Davis	Search Buffer		SCIC/10-25-2012
CA-SDI-12023	Historic Structure - Early twentieth century cross gabled, 1.5 story farm house	Historic	Unevaluated	1990/Russell O. Collett, Sue A. Wade, & Steve Van Wormer	Project Footprint	Merges with SDI-02611 & SDI-10669	SCIC/10-25-2012
CA-SDI-17098	Lithic Scatter	Prehistoric	Unevaluated	2002/Dr. J. Underwood, C. Gregory, S. Diaz, & M. Carroll	Search Buffer		SCIC/10-25-2012
CA-SDI-17239	Shell and Lithic Scatter	Prehistoric	Unevaluated	2005, 2004/SWCA Environmental Consultants	Search Buffer		SCIC/10-25-2012
CA-SDI-17240	Historic Structure - Hollister Street Bridge	Historic	Appears Eligible for Listing/3	2004/James Steely	Project Footprint		SCIC/10-25-2012
CA-SDI-18500	Shell Midden and Lithic Scatter	Prehistoric	Unevaluated	2004/W. Craig Kierulff	Project Footprint		SCIC/10-25-2012
P-37-015395	One Metavolcanic flake	Prehistoric	Unevaluated	1993/Kay Adams	Search Buffer		SCIC/10-25-2012
P-37-025704	Historic Structure - Pump House and Well with Water Storage Tank	Historic	Unevaluated	2008/Seth A. Rosenberg 2002/Dr. J. Underwood, C. Gregory, S. Diaz, & M. Carroll	Search Buffer		SCIC/10-25-2012
P-37-025705	Historic Structures - Farmhouse and associated structures	Historic	Unevaluated	2008/Seth A. Rosenberg 2002/Dr. J. Underwood, C. Gregory, S. Diaz, & M. Carroll	Search Buffer		SCIC/10-25-2012

Table 2. Previously Recorded Sites Within a ¼-mile Radius of the Project Area

Resource Identifier	Description	Site Type (Prehistoric, Historic, or Multi-Component)	Significance/ Eligibility Status	Date Recorded and Recorder/Evaluator	Within project footprint (Project Site, T-line) or Search Buffer?	Additional Comments	IC/Search Date
CA-SDI-04933	Occupation site- cores, flakes, 3 possible hearths, cobble pile, shell fragments, thermally altered rock	Prehistoric	Unevaluated	1992/Richard Coleman 1990/Russell O. Collett and Sue A. Wade 1976/Hanna 1974/Ronald V. May	Search Buffer	Testing was scheduled, then cancelled when construction project was cancelled	SCIC/11-14-2012
CA-SDI-11945	Lithic Scatter	Prehistoric	Unevaluated	1992/Richard Coleman 1990/Frank Ritz and Mac Davis	Search Buffer		SCIC/11-14-2012
CA-SDI-11946	Lithic Scatter	Prehistoric	Unevaluated	1990/Frank Ritz and Mac Davis	Search Buffer		SCIC/11-14-2012
CA-SDI-13486	Production area-Marine shell, thermally altered rock, scraper, manos, core, flake and debitage	Prehistoric	Unevaluated	2010/N. Blotner, J. Berryman and S. Rosenberg 1992/Richard Coleman	Project Footprint	July 2010 12 test pits and 1 excavation unit put in site and results came back positive for subsurface materials	SCIC/11-14-2012
CA-SDI-13527	Lithic scatter, thermally altered rock	Prehistoric	Unevaluated	1992/Richard Coleman	Search Buffer		SCIC/11-14-2012



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CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM RECORDS SEARCH

Company: URS
Company Representative: Dimitra Zalarvis-Chase
Date Processed: 10/25/2012
Project Identification: URS Project No. 27679051.04000
Search Radius: 1/4 mile

Historical Resources: NJD
Trinomial and Primary site maps have been reviewed. All sites within the project boundaries and the specified radius of the project area have been plotted. Copies of the site record forms have been included for all recorded sites.

Previous Survey Report Boundaries: NJD
Project boundary maps have been reviewed. National Archaeological Database (NADB) citations for reports within the project boundaries and within the specified radius of the project area have been included.

Historic Addresses: NJD
A map and database of historic properties (formerly Geofinder) has been included.

Historic Maps: NJD
The historic maps on file at the South Coastal Information Center have been reviewed, and copies have been included.

Summary of SHRC Approved CHRIS IC Records Search Elements	
RSID:	499
RUSH:	no
Hours:	1
Spatial Features:	45
Address-Mapped Shapes:	no
Digital Database Records:	0
Quads:	1
Aerial Photos:	0
PDFs:	Yes
PDF Pages:	175



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CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM RECORDS SEARCH

Company: URS
Company Representative: Arleen Garcia-Herbst
Date Processed: 11/14/2012
Project Identification: Tijuana River Valley #27679051.04000
Search Radius: 1/4 mile

Historical Resources: NJD
Trinomial and Primary site maps have been reviewed. All sites within the project boundaries and the specified radius of the project area have been plotted. Copies of the site record forms have been included for all recorded sites.

Previous Survey Report Boundaries: NJD
Project boundary maps have been reviewed. National Archaeological Database (NADB) citations for reports within the project boundaries and within the specified radius of the project area have been included.

Historic Addresses: NJD
A map and database of historic properties (formerly Geofinder) has been included.

Historic Maps: NJD
The historic maps on file at the South Coastal Information Center have been reviewed, and copies have been included.

Summary of SHRC Approved CHRIS IC Records Search Elements	
RSID:	507
RUSH:	yes
Hours:	1
Spatial Features:	31
Address-Mapped Shapes:	no
Digital Database Records:	0
Quads:	1
Aerial Photos:	0
PDFs:	No
PDF Pages:	67



SAN DIEGO NATURAL HISTORY MUSEUM
BALBOA PARK - SAN DIEGO SOCIETY OF NATURAL HISTORY - ESTABLISHED 1874

9 November 2012

Arleen Garcia-Herbst
URS Corporation
4225 Executive Square, Suite 1600
La Jolla, CA 92037

RE: Tijuana River Channel Paleontological Record Search (URS Project No. 27679051.04000)

Dear Ms. Garcia-Herbst:

This letter presents the results of a paleontological record search conducted for the Tijuana River Channel project (URS Project No. 27679051.04000), which is partially located within the eastern portion of the Tijuana River National Estuarine Research Reserve along the Tijuana River located 1.5 miles north of the California-Mexico border. The project site begins near Hollister Street in the east and runs west along the Tijuana River for approximately 1.2 miles. An additional portion of the project runs north along the drainage out of Smugglers Gulch starting at Monument Road for approximately 0.8 miles, crossing the Tijuana River at 0.6 miles. The project covers approximately 12.05 acres. The sedimentary rocks underlying the vast majority of the project site have been mapped by Kennedy and Tan (1977) as Holocene-age (less than 10,000 years old) young alluvial flood plain deposits. A small portion of the project site to the north and northeast are underlain by the Pleistocene-aged (70 to 500 thousand years old) Bay Point Formation.

The San Diego Natural History Museum has no recorded fossil localities within a one-quarter mile radius of the project site (see attached map). However, numerous localities have been found in southwestern San Diego in the shallow marine Bay Point Formation. These localities have produced a wide array of marine invertebrates (e.g., barnacles, crabs, ostracods, gastropods, clams, scallops, and echinoderms), as well as marine vertebrates (sharks, rays, and fish). Trenching activities associated with the proposed Tijuana River Channel project have the potential to impact sedimentary deposits of the Bay Point Formation. Based on numerous fossil localities in the region, Deméré and Walsh (1993) have assigned the Bay Point Formation to have a high paleontological sensitivity. Any fossils recovered from exposures made into the Bay Point Formation along the project site are likely to be scientifically significant.

Due to their young age, Deméré and Walsh (1993) have assigned the young, Holocene-age alluvial deposits to have a low paleontological sensitivity. Any biological remains found within these young alluvial deposits will therefore likely be modern to subfossil. However, there is one notable exception to this, as the teeth and limb bones of a mammoth were found in the floodplain deposits of the Tijuana River Valley. For the reasons outlined above, it is recommended that the implementation of a full paleontological mitigation program be put in place.

The information contained within this paleontological record search should be considered private and is the sole property of the San Diego Natural History Museum. Any use or reprocessing of information contained within this document beyond the scope of the Tijuana River Channel project (URS Project No. 27679051.04000) is prohibited.

If you have any questions concerning these findings please feel free to contact me at 619-255-0320 or nanderson@sdnhm.org.

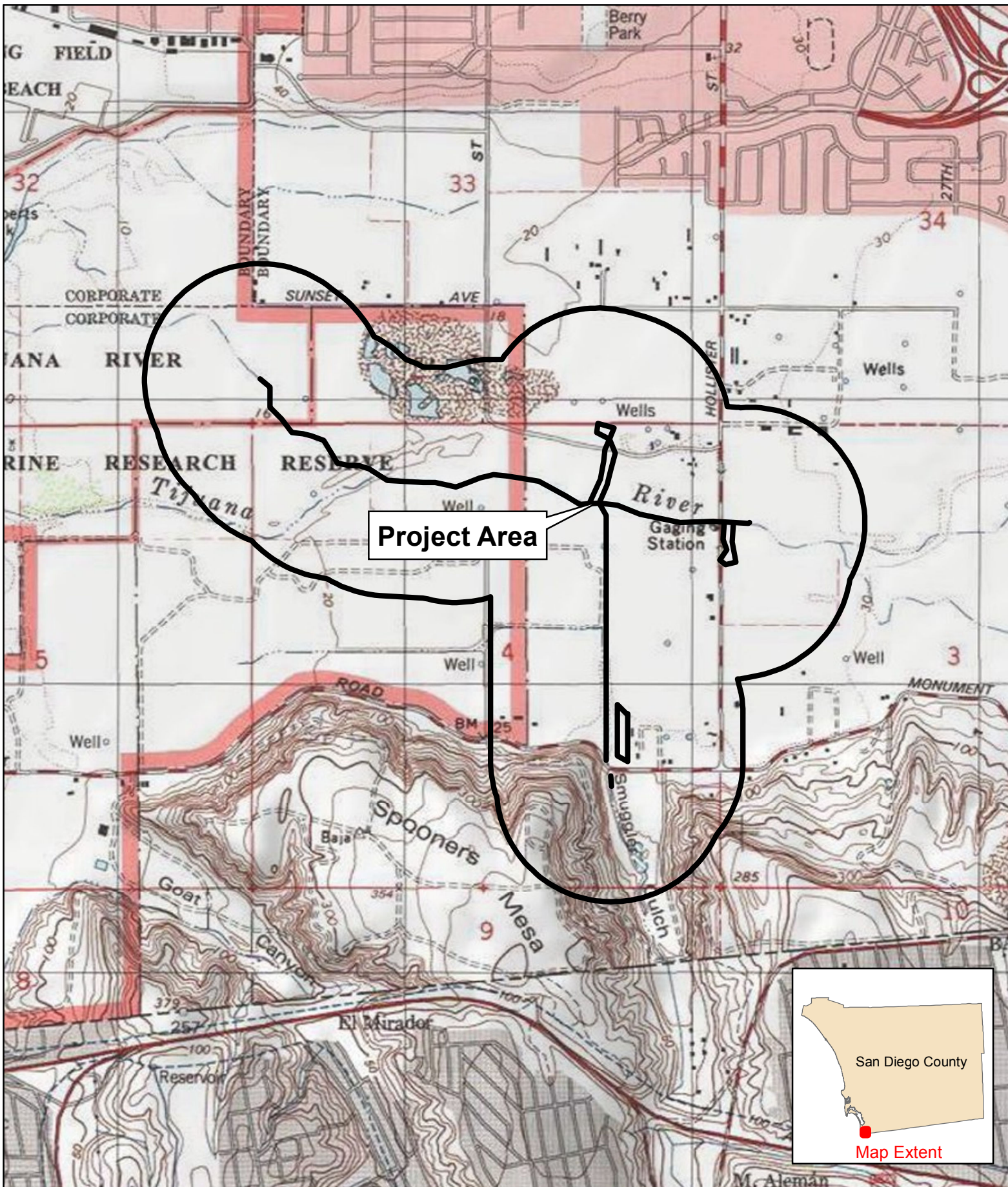
Sincerely,

A handwritten signature in black ink, appearing to read "Nikki Anderson", with a long horizontal flourish extending to the right.

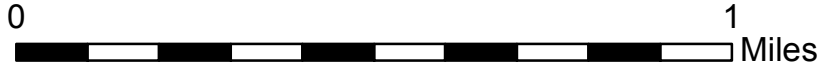
Nikki Anderson
Lead Fossil Preparator
Department of PaleoServices

Literature Cited:

- Deméré, T. A. and S. L. Walsh. 1993. Paleontological Resources, County of San Diego. Prepared for the San Diego Planning Commission: 1-68.
- Kennedy, M.P. and Tan. S. S. 1975. Geology of the National City, Imperial Beach and Otay Mesa Quadrangles, Southern San Diego Metropolitan Area, California. California Division of Mines and Geology, Map Sheet 29.



SDNHM fossil localities within one-quarter mile of the Tijuana River Channel Project site (URS Project No. 27679051.04000).
 (Base map USGS Topographic Map of the Imperial Beach 7.5' Quadrangle, California)



Attachment 4

Applicable PEIR Mitigation Measures

GENERAL

General Mitigation 1: Prior to commencement of work, the Assistant Deputy Director (ADD) Environmental Designee of the Entitlements Division shall verify that mitigation measures for impacts to biological resources (Mitigation Measures 4.3.1 through 4.3.20), historical resources (Mitigation Measures 4.4.1 and 4.4.2), land use policy (Mitigation Measures 4.1.1 through 4.1.13), paleontological resources (Mitigation Measure 4.7.1), and water quality (Mitigation Measures 4.8.1 through 4.8.3) have been included in entirety on the submitted maintenance documents and contract specifications, and included under the heading, "Environmental Mitigation Requirements." In addition, the requirements for a Pre-maintenance Meeting shall be noted on all maintenance documents.

General Mitigation 2: Prior to the commencement of work, a Pre-maintenance Meeting shall be conducted and include, as appropriate, the MMC, SWD Project Manager, Biological Monitor, Historical Monitor, Paleontological Monitor, Water Quality Specialist, and Maintenance Contractor, and other parties of interest.

General Mitigation 3: Prior to the commencement of work, evidence of compliance with other permitting authorities is required, if applicable. Evidence shall include either copies of permits issued, letters of resolution issued by the Responsible Agency documenting compliance, or other evidence documenting compliance and deemed acceptable by the ADD Environmental Designee.

HISTORICAL RESOURCES

Mitigation Measure 4.4.3: Prior to initiating any maintenance activity where the IHA identifies a moderate to high potential for the occurrence of significant historical resources within the APE, the following actions shall be taken:

4.4.3.1 Prior to Permit Issuance or Bid Opening/Bid Award

A. Entitlements Plan Check

1. Prior to permit issuance or Bid Opening/Bid Award, whichever is applicable, the Assistant Deputy Director (ADD) Environmental designee shall verify that the requirements for Archaeological Monitoring and Native American monitoring have been noted on the applicable maintenance documents through the plan check process.

B. Letters of Qualification have been submitted to ADD 1. Prior to Bid Award, the applicant shall submit a letter of verification to Mitigation Monitoring Coordination (MMC) identifying the Principal Investigator (PI) for the project and the names of all persons involved in the archaeological monitoring program, as defined in the City of San Diego Historical Resources Guidelines

1. (HRG). If applicable, individuals involved in the archaeological monitoring program must have completed the 40-hour HAZWOPER training with certification documentation.

2. MMC will provide a letter to the applicant confirming the qualifications of the PI and all persons involved in the archaeological monitoring of the project meet the qualifications established in the HRG.

3. Prior to the start of work, the applicant must obtain written approval from MMC for any personnel changes associated with the monitoring program.

4.4.3.2 Prior to Start of Maintenance

A. Verification of Records Search

1. The PI shall provide verification to MMC that a site specific records search (1/4 mile radius) has been completed. Verification includes, but is not limited to a copy of a confirmation letter from South Coastal Information Center, or, if the search was in-house, a letter of verification from the PI stating that the search was completed.

2. The letter shall introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities.

3. The PI may submit a detailed letter to MMC requesting a reduction to the ¼ mile radius.

B. PI Shall Attend Pre-maintenance Meetings

1. Prior to beginning any work that requires monitoring; the Applicant shall arrange a Pre-maintenance Meeting that shall include the PI, Native American consultant/monitor (where Native American resources may be impacted), Maintenance Manager (MM) and/or Grading Contractor, Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC. The qualified Archaeologist and Native American Monitor shall attend any grading/excavation related Pre-maintenance Meetings to make comments and/or suggestions concerning the Archaeological Monitoring program with the Maintenance Manager and/or Grading Contractor.

a. If the PI is unable to attend the Pre-maintenance Meeting, the Applicant shall schedule a focused Pre-maintenance Meeting with MMC, the PI, RE, MM or BI, if appropriate, prior to the start of any work that requires monitoring.

2. Acknowledgement of Responsibility for Curation (CIP or Other Public Projects)

The applicant shall submit a letter to MMC acknowledging their responsibility for the cost of curation associated with all phases of the archaeological monitoring program.

3. Identify Areas to be Monitored

Prior to the start of any work that requires monitoring, the PI shall submit an Archaeological Monitoring Exhibit (AME) (with verification that the AME has been reviewed and approved by the Native American consultant/monitor when Native American resources may be impacted) based on the appropriate maintenance documents (reduced to 11x17) to MMC identifying the areas to be monitored including the delineation of grading/excavation limits.

The AME shall be based on the results of a site specific records search as well as information regarding the age of existing pipelines, laterals and associated appurtenances and/or any known soil conditions (native or formation). MMC shall notify the PI that the AME has been approved.

4. When Monitoring Will Occur

a. Prior to the start of any work, the PI shall also submit a maintenance schedule to MMC through

the RE indicating when and where monitoring will occur.

b. The PI may submit a detailed letter to MMC prior to the start of work or during maintenance requesting a modification to the monitoring program.

This request shall be based on relevant information such as review of final maintenance documents which indicate conditions such as age of existing pipe to be replaced, depth of excavation and/or site graded to bedrock, etc., which may reduce or increase the potential for resources to be present.

5. Approval of AME and Maintenance Schedule

After approval of the AME by MMC, the PI shall submit to MMC written authorization of the AME and Maintenance Schedule from the MM.

4.4.3.3 During Maintenance

A. Monitor Shall be Present During Grading/Excavation/Trenching

1. The Archaeological Monitor shall be present full-time during all soil disturbing and grading/excavation/trenching activities which could result in impacts to archaeological resources as identified on the AME. **The Maintenance Manager is responsible for notifying the RE, PI, and MMC of changes to any maintenance activities such as in the case of a potential safety concern within the area being monitored. In certain circumstances OSHA safety requirements may necessitate modification of the AME.**

2. The Native American consultant/monitor shall determine the extent of their presence during soil disturbing and grading/excavation/trenching activities based on the AME and provide that information to the PI and MMC. If prehistoric resources are encountered during the Native American consultant/monitor's absence, work shall stop and the Discovery Notification Process detailed in Sections 4.4.3.3.B-C and 4.4.3.4-A-D shall commence.

3. The PI may submit a detailed letter to MMC during maintenance requesting a modification to the monitoring program when a field condition such as modern disturbance post-dating the previous grading/trenching activities, presence of fossil formations, or when native soils are encountered that may reduce or increase the potential for resources to be present.

4. The archaeological and Native American consultant/monitor shall document field activity via the Consultant Site Visit Record (CSVR). The CSVR's shall be faxed by the MM to the RE the first day of monitoring, the last day of monitoring, monthly (**Notification of Monitoring Completion**), and in the case of ANY discoveries. The RE shall forward copies to MMC.

B. Discovery Notification Process

1. In the event of a discovery, the Archaeological Monitor shall direct the contractor to temporarily divert all soil disturbing activities, including but not limited to digging, trenching, excavating or grading activities in the area of discovery and in the area reasonably suspected to overlay adjacent resources and immediately notify the RE or BI, as appropriate.

2. The Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.

3. The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by fax or email with photos of the resource in context, if possible.

4. No soil shall be exported off-site until a determination can be made regarding the significance of the resource specifically if Native American resources are encountered.

C. Determination of Significance

1. The PI and Native American consultant/monitor, where Native American resources are discovered shall evaluate the significance of the resource. If Human Remains are involved, follow protocol in Section 4.4.3.4 below.

a. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required.

b. If the resource is significant, the PI shall submit an Archaeological Data Recovery Program (ADRP) and obtain written approval of the program from MMC, MM and RE. ADRP and any mitigation must be approved by MMC, RE and/or MM before ground disturbing activities in the area of discovery will be allowed to resume. **Note: If a unique archaeological site is also an historical resource as defined in CEQA Section 15064.5, then the limits on the amount(s) that a project applicant may be required to pay to cover mitigation costs as indicated in CEQA Section 21083.2 shall not apply.**

(1). Note: For pipeline trenching and other linear projects in the public Right-of-Way, the PI shall implement the Discovery Process for Pipeline Trenching projects identified below under “D.”

c. If the resource is not significant, the PI shall submit a letter to MMC indicating that artifacts will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that that no further work is required.

(1). Note: For Pipeline Trenching and other linear projects in the public Right-of-Way, if the deposit is limited in size, both in length and depth; the information value is limited and is not associated with any other resource; and there are no unique features/artifacts associated with the deposit, the discovery should be considered not significant.

(2). Note, for Pipeline Trenching and other linear projects in the public Right-of-Way, if significance cannot be determined, the Final Monitoring Report and Site Record (DPR Form 523A/B) shall identify the discovery as Potentially Significant.

D. Discovery Process for Significant Resources - Pipeline Trenching and other Linear Projects in the Public Right-of-Way The following procedure constitutes adequate mitigation of a significant discovery encountered during pipeline trenching activities or for other linear project types within the Public Right-of-Way including but not limited to excavation for jacking pits, receiving pits, laterals, and manholes to reduce impacts to below a level of significance:

1. Procedures for documentation, curation and reporting

a. One hundred percent of the artifacts within the trench alignment and width shall be documented in-situ, to include photographic records, plan view of the trench and profiles of side walls, recovered, photographed after cleaning and analyzed and curated. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact.

b. The PI shall prepare a Draft Monitoring Report and submit to MMC via the RE as indicated in Section 4.4.3.6-A.

c. The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) the resource(s) encountered during the Archaeological

Monitoring Program in accordance with the City's Historical Resources Guidelines. The DPR forms shall be submitted to the South Coastal Information Center for either a Primary Record or SDI Number and included in the Final Monitoring Report.

d. The Final Monitoring Report shall include a recommendation for monitoring of any future work in the vicinity of the resource.

4.4.3.4 Discovery of Human Remains

If human remains are discovered, work shall halt in that area and no soil shall be exported off-site until a determination can be made regarding the provenance of the human remains; and the following procedures as set forth in CEQA Section 15064.5(e), the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) shall be undertaken:

A. Notification

1. Archaeological Monitor shall notify the RE or BI as appropriate, MMC, and the PI, if the Monitor is not qualified as a PI. MMC will notify the appropriate Senior Planner in the Environmental Analysis Section (EAS) of the Development Services Department to assist with the discovery notification process.

2. The PI shall notify the Medical Examiner after consultation with the RE, either in person or via telephone.

B. Isolate discovery site

1. Work shall be directed away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner in consultation with the PI concerning the provenience of the remains.

2. The Medical Examiner, in consultation with the PI, will determine the need for a field examination to determine the provenience.

3. If a field examination is not warranted, the Medical Examiner will determine with input from the PI, if the remains are or are most likely to be of Native American origin.

C. If Human Remains **ARE determined to be Native American**

1. The Medical Examiner will notify the Native American Heritage Commission (NAHC) within 24 hours. By law, **ONLY** the Medical Examiner can make this call.

2. NAHC will immediately identify the person or persons determined to be the Most Likely Descendent (MLD) and provide contact information.

3. The MLD will contact the PI within 24 hours or sooner after the Medical Examiner has completed coordination, to begin the consultation process in accordance with CEQA Section 15064.5(e), the California Public Resources and Health & Safety Codes.

4. The MLD will have 48 hours to make recommendations to the property owner or representative, for the treatment or disposition with proper dignity, of the human remains and associated grave goods.

5. Disposition of Native American Human Remains will be determined between the MLD and the PI, and, if:

- a. The NAHC is unable to identify the MLD, OR the MLD failed to make a recommendation within 48 hours after being notified by the Commission, OR;
- b. The landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner, THEN
- c. To protect these sites, the landowner shall do one or more of the following:
 - (1) Record the site with the NAHC;
 - (2) Record an open space or conservation easement; or
 - (3) Record a document with the County.
- d. Upon the discovery of multiple Native American human remains during a ground disturbing land development activity, the landowner may agree that additional conferral with descendants is necessary to consider culturally appropriate treatment of multiple Native American human remains. Culturally appropriate treatment of such a discovery may be ascertained from review of the site utilizing cultural and archaeological standards. Where the parties are unable to agree on the appropriate treatment measures the human remains and buried with Native American human remains shall be reinterred with appropriate dignity, pursuant to Section 4.4.3.5.c., above.

D. If Human Remains are NOT Native American

1. The PI shall contact the Medical Examiner and notify them of the historic era context of the burial.
2. The Medical Examiner will determine the appropriate course of action with the PI and City staff (PRC 5097.98).
3. If the remains are of historic origin, they shall be appropriately removed and conveyed to the San Diego Museum of Man for analysis. The decision for internment of the human remains shall be made in consultation with MMC, EAS, the applicant/landowner, any known descendant group, and the San Diego Museum of Man.

4.4.3.5 Night and/or Weekend Work

A. If night and/or weekend work is included in the contract

1. When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the Pre-maintenance meeting.
2. The following procedures shall be followed.

a. No Discoveries

In the event that no discoveries were encountered during night and/or weekend work, the PI shall record the information on the CSV and submit to MMC via fax by 8AM of the next business day.

b. Discoveries

All discoveries shall be processed and documented using the existing procedures detailed in Sections 4.4.3.3 - During Maintenance, and 4.4.3.4 – Discovery of Human Remains. Discovery of human remains shall always be treated as a significant discovery.

c. Potentially Significant Discoveries

If the PI determines that a potentially significant discovery has been made, the procedures detailed under Sections 4.4.3.3 During Maintenance and 4.4.3.4-Discovery of Human Remains shall be followed.

d. The PI shall immediately contact the RE and MMC, or by 8AM of the next business day to report and discuss the findings as indicated in Section 4.4.3.3-B, unless other specific arrangements have been made.

B. If night and/or weekend work becomes necessary during the course of maintenance

1. The Maintenance Manager shall notify the RE, or BI, as appropriate, a minimum of 24 hours before the work is to begin.

2. The RE, or BI, as appropriate, shall notify MMC immediately.

C. All other procedures described above shall apply, as appropriate.

4.4.3.6 Post Maintenance

A. Submittal of Draft Monitoring Report

1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), prepared in accordance with the Historical Resources Guidelines (Appendix C/D) which describes the results, analysis, and conclusions of all phases of the Archaeological Monitoring Program (with appropriate graphics) to MMC via the RE for review and approval within 90 days following the completion of monitoring. **It should be noted that if the PI is unable to submit the Draft Monitoring Report within the allotted 90-day timeframe as a result of delays with analysis, special study results or other complex issues, a schedule shall be submitted to MMC establishing agreed due dates and the provision for submittal of monthly status reports until this measure can be met.**

a. For significant archaeological resources encountered during monitoring, the Archaeological Data Recovery Program or Pipeline Trenching Discovery Process shall be included in the Draft Monitoring Report.

b. Recording Sites with State of California Department of Parks and Recreation The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the South Coastal Information Center with the Final Monitoring Report.

2. MMC shall return the Draft Monitoring Report to the PI via the RE for revision or, for preparation of the Final Report.

3. The PI shall submit revised Draft Monitoring Report to MMC via the RE for approval.

4. MMC shall provide written verification to the PI of the approved report.

5. MMC shall notify the RE or BI, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals.

B. Handling of Artifacts

1. The PI shall be responsible for ensuring that all cultural remains collected are cleaned and catalogued.

2. The PI shall be responsible for ensuring that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate.

C. Curation of artifacts: Accession Agreement and Acceptance Verification

1. The PI shall be responsible for ensuring that all artifacts associated with the survey, testing and/or data recovery for this project are permanently curated with an appropriate institution. This shall be completed in consultation with MMC and the Native American representative, as applicable.

2. When applicable to the situation, the PI shall include written verification from the Native American consultant/monitor indicating that Native American resources were treated in accordance with state law and/or applicable agreements. If the resources were reinterred, verification shall be provided to show what protective measures were taken to ensure no further disturbance occurs in accordance with Section 4.4.3.4 – Discovery of Human Remains, Subsection C.

3. The PI shall submit the Accession Agreement and catalogue record(s) to the RE or BI, as appropriate for donor signature with a copy submitted to MMC.

4. The RE or BI, as appropriate shall obtain signature on the Accession Agreement and shall return to PI with copy submitted to MMC.

5. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE or BI and MMC.

D. Final Monitoring Report(s)

1. The PI shall submit one copy of the approved Final Monitoring Report to the RE or BI as appropriate, and one copy to MMC (even if negative), within 90 days after notification from MMC of the approved report.

2. The RE shall, in no case, issue the Notice of Completion until receiving a copy of the approved Final Monitoring Report from MMC which includes the Acceptance Verification from the curation institution.

**NEGATIVE CULTURAL RESOURCES
MONITORING REPORT
FOR THE TIJUANA RIVER VALLEY CHANNEL
MAINTENANCE PROJECT, CITY OF SAN DIEGO,
SAN DIEGO COUNTY, CALIFORNIA
Dudek Project No. 7643-10**

Prepared for:

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605 Third Street
Encinitas, California 92024
Contact: Brad Comeau, M.Sc., RPA

MAY 2014

Type of Study: Cultural and Paleontological Resource Monitoring

USGS Quadrangle: Imperial Beach, CA-BCN (1996) 7.5', T19S, R2W, Sections 3 and 4

Area: 15.73 acres

Key Words: Negative, SDI-10669; SDI-13486, SDI-17240; disturbed, redeposited, channel maintenance; Kumeyaay; not significant; not eligible; Smuggler's Gulch Channel; Pilot Channel

Negative Cultural Resources Monitoring Report For the Tijuana River Valley Channel Maintenance Project

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APPENDIX

- A Figure 3: Historic Resource Location Map (bound separately)

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For the Tijuana River Valley Channel Maintenance Project**

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Negative Cultural Resources Monitoring Report For the Tijuana River Valley Channel Maintenance Project

1 PROJECT DESCRIPTION AND LOCATION

The Tijuana River Valley Channel Maintenance Project (Project) site is located in the City of San Diego California in the U.S. Geological Survey 7.5-minute Imperial Beach quadrangle, Section 4, Township 19 South, Range 2 West (Figures 1 and 2) and on properties owned by the County of San Diego and the City of San Diego.

This negative cultural resources monitoring report summarizes monitoring conducted during channel maintenance activities completed between September 23, 2013 and January 31, 2014. The purpose of this report is to demonstrate compliance with the permit conditions set forth in the following the Site Development Permit issued by the City of San Diego Development Services Department based on the Programmatic Environmental Impact Report (PEIR) for the Master Maintenance Program (MMP) and Mitigation, Monitoring and Reporting Program (MMRP) No. 42891 (LDR/PTS #42891 and #320787, SDP No. 1134892, IO No. 21002863). This report, in-lieu of the form, is consistent and meets the requirements outlined in the City's Land Development Manual's Historical Resource Guidelines (September 2001) Appendix and MMRP No. 42891 Mitigation Measure 4.4.3.6.

The Project proponent is the City of San Diego Transportation & Storm Water Department (City). The Project involved channel maintenance activities to restore flood control facilities in the Tijuana River Valley during the 2013-2014 season to reduce the chance of flooding that threatens surrounding life and properties. Specifically, the Project included the excavation of Smuggler's Gulch Channel (Smuggler's Gulch) and the Tijuana River Pilot Channel (Pilot Channel) to facilitate channel flows and prevent flooding (Figure 3; Confidential Appendix A). Also included in the project was repair and maintenance of two previously built turnarounds within the Pilot Channel, as well as an access ramp into Smuggler's Gulch. A third turnaround, in the eastern section of the Pilot Channel, was established as part of this year's maintenance work.

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For the Tijuana River Valley Channel Maintenance Project**

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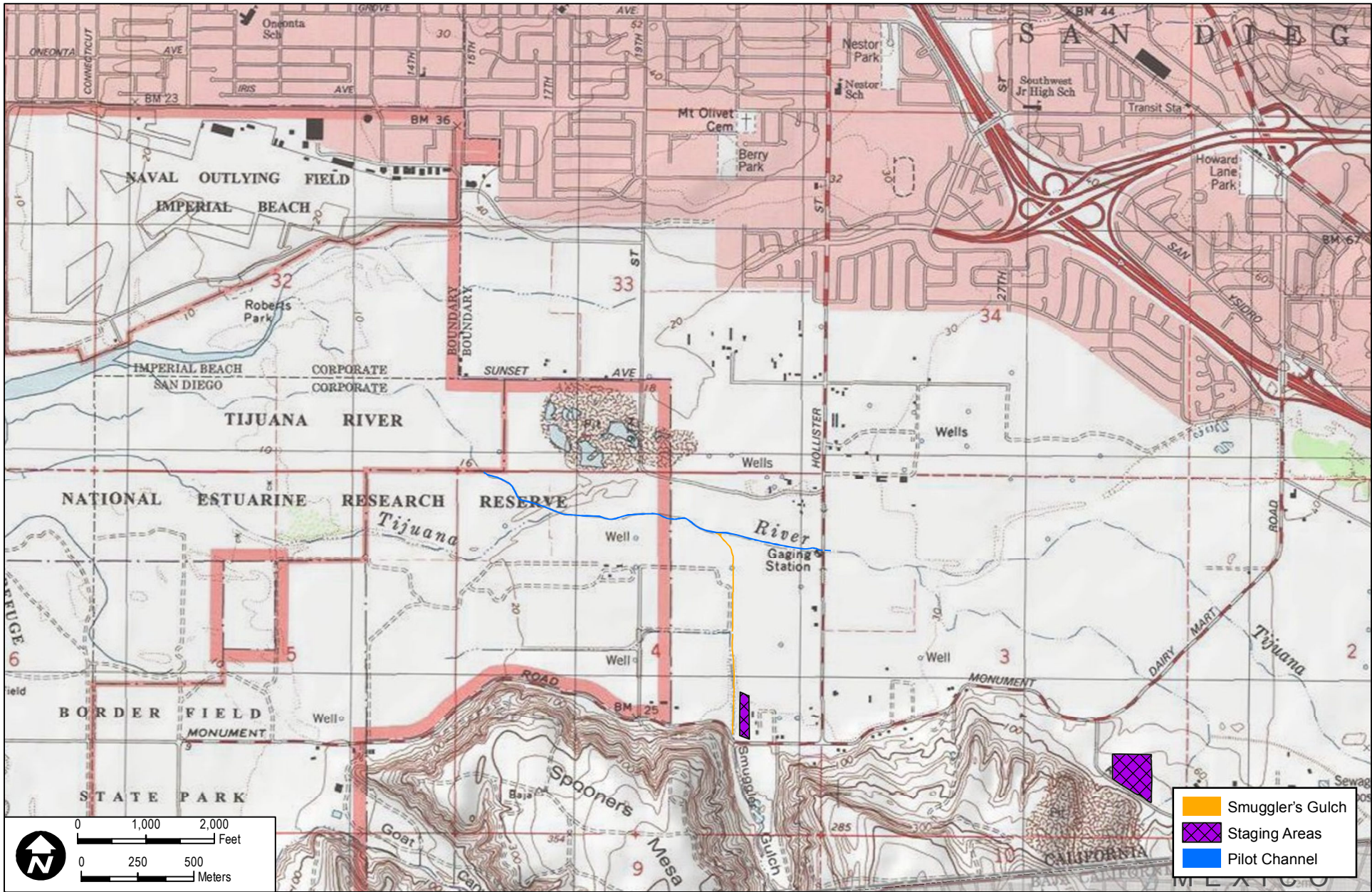
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MAY 2014

Tijuana River Valley Channel Maintenance Project - 2013-2014 Cultural Resources Monitoring Report

FIGURE 1
Regional Map

**Negative Cultural Resources Monitoring Report
For the Tijuana River Valley Channel Maintenance Project**

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SOURCE: URS 2012; USGS 7.5-Minute Series Imperial Beach Quadrangle.

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Tijuana River Valley Channel Maintenance Project - 2013-2014 Cultural Resources Monitoring Report

FIGURE 2
Vicinity Map

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For the Tijuana River Valley Channel Maintenance Project**

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Negative Cultural Resources Monitoring Report For the Tijuana River Valley Channel Maintenance Project

2 SETTING

2.1 Natural Environment

The project area is typical of river valley environment, having relatively flat topography at or slightly elevated above mean sea level (amsl). Located in the coastal plains of the Peninsula Range geomorphic province (Abbott 1999), the Tijuana River drains surrounding alluvial plains into the Pacific Ocean through the current project area. Geologically, the project area consists of Quaternary alluvium and marine deposits (Jennings et al 1977).

The natural environment of the project area has been significantly altered over time, particularly from agriculture and the removal of native vegetation. Disturbed soil vegetation is visible throughout and surrounding the project parcel. These areas are dominated by black mustard (*Brassica nigra*), wild radish (*Raphanus sativus*), fennel (*Foeniculum vulgare*), artichoke thistle (*Cynara cardunculus*) and various grasses. Other plant communities in the surrounding area include coastal sage scrub, mulefat scrub, southern willow scrub, and tamarisk scrub. Common plants within these communities consist of California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum* var. *foliolosum*), bush sunflower (*Encelia californica*), saltgrass (*Distichlis spicata*), arrow-weed (*Pluchea sericea*), black willow (*Salix gooddingii*) and red willow (*S. laevigata*).

Common animals within this area may include coyote (*Canis latrans*), California ground squirrel (*Spermophilus beecheyi*), striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginica*), cottontail (*Sylvilagus audubonit*), black-tailed jackrabbit (*Lepus californicus bennettii*), deer mouse (*Peromyscus maniculatus*) sparrow (*Melospiza melodia*), lesser goldfinch (*Carduelis psaltria*), common yellowthroat (*Geothlypis trichas*), as well as a number of other species of birds, mammals, reptiles and amphibians.

2.2 Cultural Context

Evidence for continuous human occupation in the San Diego region spans the last 10,000 years. Various attempts to parse out variability in archaeological assemblages over this broad time frame have led to the development of several cultural chronologies; some of these are based on geologic time, most are based on temporal trends in archaeological assemblages, and others are interpretive reconstructions. Each of these reconstructions describes essentially similar trends in assemblage composition in more or less detail. This research employs a common set of generalized terms used to describe chronological trends in assemblage composition: Paleoindian (pre-5500 BC), Archaic (8000 BC.–AD 500), Late Prehistoric (AD 500–1750), and Ethnohistoric (post-AD 1750).

Negative Cultural Resources Monitoring Report For the Tijuana River Valley Channel Maintenance Project

2.2.1 Paleoindian (pre-5500 BC)

Evidence for Paleoindian occupation in coastal Southern California is tenuous, especially considering the fact that the oldest dated archaeological assemblages look nothing like the Paleoindian artifacts from the Great Basin. One of the earliest dated archaeological assemblages in coastal Southern California (excluding the Channel Islands) derives from SDI-4669/W-12, in La Jolla. A human burial from SDI-4669 was radiocarbon dated to 9,590–9,920 years before present (95.4% probability) (Hector 2007). The burial is part of a larger site complex that contained more than 29 human burials associated with an assemblage that fits the Archaic profile (i.e., large amounts of groundstone, battered cobbles, and expedient flake tools). In contrast, typical Paleoindian assemblages include large stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of groundstone tools. Prime examples of this pattern are sites that were studied by Emma Lou Davis (1978) on China Lake Naval Air Weapons Station near Ridgecrest, California. These sites contained fluted and unfluted stemmed points and large numbers of formal flake tools (e.g., shaped scrapers, blades). Other typical Paleoindian sites include the Komodo site (MNO-679)—a multicomponent fluted point site, and MNO-680—a single component Great Basined Stemmed point site (Basgall et al. 2002). At MNO-679 and MNO-680, groundstone tools were rare while finely made projectile points were common.

Turning back to coastal Southern California, the fact that some of the earliest dated assemblages are dominated by processing tools runs counter to traditional notions of mobile hunter-gatherers traversing the landscape for highly valued prey. Evidence for the latter—that is, typical Paleoindian assemblages—may have been located along the coastal margin at one time, prior to glacial desiccation and a rapid rise in sea level during the early Holocene (pre-7500 BP) that submerged as much as 1.8 kilometers of the San Diego coastline. If this were true, however, it would also be expected that such sites would be located on older landforms near the current coastline. Some sites, such as SDI-210 along Agua Hedionda Lagoon, contained stemmed points similar in form to Silver Lake and Lake Mojave projectile points (pre-8000 BP) that are commonly found at sites in California's high desert (Basgall and Hall 1990). SDI-210 yielded one corrected radiocarbon date of 8520–9520 BP (Warren et al. 2004). However, sites of this nature are extremely rare and cannot be separated from large numbers of milling tools that intermingle with old projectile point forms.

Warren et al. (2004) claimed that a biface manufacturing tradition present at the Harris site complex (SDI-149) is representative of typical Paleoindian occupation in the San Diego region that possibly dates between 10,365 and 8200 BC (Warren et al. 2004, p. 26). Termed San Dieguito (Rogers 1945), assemblages at the Harris site are qualitatively distinct from most others in the San Diego region because the site has large numbers of finely made bifaces (including

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projectile points), formal flake tools, a biface reduction trajectory, and relatively small amounts of processing tools (Warren 1964, 1968). Despite the unique assemblage composition, the definition of San Dieguito as a separate cultural tradition is hotly debated. Gallegos (1987) suggested that the San Dieguito pattern is simply an inland manifestation of a broader economic pattern. Gallegos' interpretation of San Dieguito has been widely accepted in recent years, in part because of the difficulty in distinguishing San Dieguito components from other assemblage constituents. In other words, it is easier to ignore San Dieguito as a distinct socioeconomic pattern than it is to draw it out of mixed assemblages.

The large number of finished bifaces (i.e., projectile points and non-projectile blades), along with large numbers of formal flake tools at the Harris site complex, is very different than nearly all other assemblages throughout the San Diego region, regardless of age. Warren et al. (2004) made this point, tabulating basic assemblage constituents for key early-Holocene sites. Producing finely made bifaces and formal flake tools implies that relatively large amounts of time were spent for tool manufacture. Such a strategy contrasts with the expedient flake-based tools and cobble-core reduction strategy that typifies non-San Dieguito Archaic sites. It can be inferred from the uniquely high degree of San Dieguito assemblage formality that the Harris site complex represents a distinct economic strategy from non-San Dieguito assemblages.

If San Dieguito truly represents a distinct socioeconomic strategy from the non-San Dieguito Archaic processing regime, its rarity implies that it was not only short-lived, but that it was not as economically successful as the Archaic strategy. Such a conclusion would fit with other trends in southern California deserts, wherein hunting-related tools are replaced by processing tools during the early Holocene (Basgall and Hall 1993).

2.2.2 Archaic (8000 BC–AD 500)

The more than 1500-year overlap between the presumed age of Paleoindian occupations and the Archaic period highlights the difficulty in defining a cultural chronology in the San Diego region. If San Dieguito is the only recognized Paleoindian component in the San Diego region, then the dominance of hunting tools implies that it derives from Great Basin adaptive strategies and is not necessarily a local adaptation. Warren et al. (2004) admitted as much, citing strong desert connections with San Dieguito. Thus, the Archaic pattern is the earliest local socioeconomic adaptation in the San Diego region (Hale 2001, 2009).

The Archaic pattern is relatively easy to define with assemblages that consist primarily of processing tools: millingstones, handstones, battered cobbles, heavy crude scrapers, incipient flake-based tools, and cobble-core reduction. These assemblages occur in all environments across the San Diego region, with little variability in tool composition. Low assemblage

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variability over time and space among Archaic sites has been equated with cultural conservatism (Byrd and Reddy 2002; Warren 1968; Warren et al. 2004). Despite enormous amounts of archaeological work at Archaic sites, little change in assemblage composition occurs until the bow and arrow is adopted at around AD 500, as well as ceramics at approximately the same time (Griset 1996; Hale 2009). Even then, assemblage formality remains low. After the bow is adopted, small arrow points appear in large quantities and already low amounts of formal flake tools are replaced by increasing amounts of expedient flake tools. Similarly, shaped millingstones and handstones decrease in proportion relative to expedient, unshaped groundstone tools (Hale 2009). Thus, the terminus of the Archaic period is equally as hard to define as its beginning because basic assemblage constituents and patterns of manufacturing investment remain stable, complimented only by the addition of the bow and ceramics.

2.2.3 Late Prehistoric (AD 500–1750)

The period of time following the Archaic and prior to Ethnohistoric times (AD 1750) is commonly referred to as the Late Prehistoric (M. Rogers 1945; Wallace 1955; Warren et al. 2004). However, several other subdivisions continue to be used to describe various shifts in assemblage composition, including the addition of ceramics and cremation practices. In northern San Diego County, the post-AD 1450 period is called the San Luis Rey Complex (True 1978), while the same period in southern San Diego County is called the Cuyamaca Complex and is thought to extend from AD 500 until Ethnohistoric times (Meighan 1959). Rogers (1929) also subdivided the last 1,000 years into the Yuman II and III cultures, based on the distribution of ceramics. Despite these regional complexes, each is defined by the addition of arrow points and ceramics, and the widespread use of bedrock mortars. Vagaries in the appearance of the bow and arrow and ceramics make the temporal resolution of the San Luis Rey and Cuyamaca complexes difficult. For this reason, the term Late Prehistoric is well-suited to describe the last 1,500 years of prehistory in the San Diego region.

Temporal trends in socioeconomic adaptations during the Late Prehistoric period are poorly understood. This is partly due to the fact that the fundamental Late Prehistoric assemblage is very similar to the Archaic pattern, but includes arrow points and large quantities of fine debitage from producing arrow points, ceramics, and cremations. The appearance of mortars and pestles is difficult to place in time because most mortars are on bedrock surfaces; bowl mortars are actually rare in the San Diego region. Some argue that the Ethnohistoric intensive acorn economy extends as far back as AD 500 (Bean and Shipek 1978). However, there is no substantial evidence that reliance on acorns, and the accompanying use of mortars and pestles, occurred prior to AD 1400. True (1980) argued that acorn processing and ceramic use in the northern San Diego region did not occur until the San Luis Rey pattern emerged after approximately AD 1450. For southern San Diego County, the picture is less clear. The Cuyamaca Complex is the southern counterpart to the

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San Luis Rey pattern, however, and is most recognizable after AD 1450 (Hector 1984). Similar to True (1980), Hale (2009) argued that an acorn economy did not appear in the southern San Diego region until just prior to Ethnohistoric times, and that when it did occur, a major shift in social organization followed.

2.2.4 Ethnohistoric (post-AD 1750)

The history of the Native American communities prior to the mid-1700s has largely been reconstructed through later mission-period and early ethnographic accounts. The first records of the Native American inhabitants of the San Diego region come predominantly from European merchants, missionaries, military personnel, and explorers. These brief, and generally peripheral, accounts were prepared with the intent of furthering respective colonial and economic aims and were combined with observations of the landscape. They were not intended to be unbiased accounts regarding the cultural structures and community practices of the newly encountered cultural groups. The establishment of the missions in the San Diego region brought more extensive documentation of Native American communities, though these groups did not become the focus of formal and in-depth ethnographic study until the early twentieth century (Boscana 1846; Fages 1937; Geiger and Meighan 1976; Harrington 1934; Laylander 2000). The principal intent of these researchers was to record the precontact, culturally specific practices, ideologies, and languages that had survived the destabilizing effects of missionization and colonialism. This research, often understood as “salvage ethnography,” was driven by the understanding that traditional knowledge was being lost due to the impacts of modernization and cultural assimilation. Alfred Kroeber applied his “memory culture” approach (Lightfoot 2005, p. 32) by recording languages and oral histories within the San Diego region. Kroeber’s 1925 assessment of the impacts of Spanish missionization on local Native American populations supported Kumeyaay traditional cultural continuity (Kroeber 1925, p. 711):

San Diego was the first mission founded in upper California; but the geographical limits of its influence were the narrowest of any, and its effects on the natives comparatively light. There seem to be two reasons for this: first, the stubbornly resisting temper of the natives; and second, a failure of the rigorous concentration policy enforced elsewhere.

In some ways this interpretation led to the belief that many California Native American groups simply escaped the harmful effects of contact and colonization all together. This, of course, is untrue. Ethnographic research by Dubois, Kroeber, Harrington, Spier, and others during the early twentieth century seemed to indicate that traditional cultural practices and beliefs survived among local Native American communities. These accounts supported, and were supported by, previous governmental decisions which made San Diego County the location of more federally

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recognized tribes than anywhere else in the United States: 18 tribes on 18 reservations that cover more than 116,000 acres (CSP 2009).

Based on ethnographic information, it is believed that at least 88 different languages were spoken from Baja California Sur to the southern Oregon state border at the time of Spanish contact (Johnson and Lorenz 2006, p. 34). The distribution of recorded Native American languages has been dispersed as a geographic mosaic across California through six primary language families (Golla 2007, p. 71). The Native American inhabitants of the region surrounding the current project area spoke using the Tipai language subgroup of the Yuman language group. Ipai and Tipai, spoken respectively by the northern and southern Kumeyaay communities, are mutually intelligible. For this reason, these two are often treated as dialects of a larger Kumeyaay tribal group rather than as distinctive languages, though this has been debated (Luomala 1978; Laylander 2010).

Victor Golla has contended that one can interpret the amount of variability within specific language groups as being associated with the relative “time depth” of the speaking populations (Golla 2007, p. 80). A large amount of variation within the language of a group represents a greater time depth than a group’s language with less internal diversity. One method that he has employed is by drawing comparisons with historically documented changes in Germanic and Romantic language groups. Golla has observed that the “absolute chronology of the internal diversification within a language family” can be correlated with archaeological dates (2007, p. 71). This type of interpretation is modeled on concepts of genetic drift and gene flows that are associated with migration and population isolation in the biological sciences.

Golla suggested that there are two language families associated with Native American groups who traditionally lived throughout the San Diego County region. The northern San Diego tribes have traditionally spoken Takic languages that may be assigned to the larger Uto–Aztecan family (Golla 2007, p. 74). These groups include the Luiseño, Cupeño, and Cahuilla. Golla has interpreted the amount of internal diversity within these language-speaking communities to reflect a time depth of approximately 2,000 years. Other researchers have contended that Takic may have diverged from Uto–Aztecan ca. 2600 BC–AD 1, which was later followed by the diversification within the Takic speaking San Diego tribes, occurring approximately 1500 BC–AD 1000 (Laylander 2010). The majority of Native American tribal groups in southern San Diego region have traditionally spoken Yuman languages, a subgroup of the Hokan Phylum. Golla has suggested that the time depth of Hokan is approximately 8,000 years (Golla 2007, p. 74). The Kumeyaay tribal communities share a common language group with the Cocopa, Quechan, Maricopa, Mojave, and others to east, and the Kiliwa to the south. The time depth for both the Ipai (north of the San Diego River, from Escondido to Lake Henshaw) and the Tipai (south of the San Diego River, the Laguna Mountains through Ensenada) is approximated to be

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2,000 years at the most. Laylander has contended that previous research indicates a divergence between Ipai and Tipai to have occurred approximately AD 600–1200 (Laylander 1985). Despite the distinct linguistic differences between the Takic-speaking tribes to the north, the Ipai-speaking communities in central San Diego, and the Tipai southern Kumeyaay, attempts to illustrate the distinctions between these groups based solely on cultural material alone have had only limited success (Pigniolo 2004; True 1966).

The Kumeyaay generally lived in smaller family subgroups that would inhabit two or more locations over the course of the year. While less common, there is sufficient evidence that there were also permanently occupied villages, and that some members may have remained at these locations throughout the year (Owen 1965; Shipek 1982; Shipek 1985; Spier 1923). Each autonomous triblet was internally socially stratified, commonly including higher status individuals such as a tribal head (Kwaaypay), shaman (Kuseyaay), and general members with various responsibilities and skills (Shipek 1982). Higher-status individuals tended to have greater rights to land resources, and owned more goods, such as shell money and beads, decorative items, and clothing. To some degree, titles were passed along family lines; however, tangible goods were generally ceremonially burned or destroyed following the deaths of their owners (Luomala 1978). Remains were cremated over a pyre and then relocated to a cremation ceramic vessel that was placed in a removed or hidden location. A broken metate was commonly placed at the location of the cremated remains, with the intent of providing aid and further use after death. At maturity, tribal members often left to other bands in order to find a partner. The families formed networks of communication and exchange around such partnerships.

Areas or regions, identified by known physical landmarks, could be recognized as band-specific territories that might be violently defended against use by other members of the Kumeyaay. Other areas or resources, such as water sources and other locations that were rich in natural resources, were generally understood as communal land to be shared amongst all the Kumeyaay (Loumala 1978). Shipek has observed that among these shared territories were Silver Strand (located just northwest of the project area), the sand bar in front of San Diego Bay, and the Mission Beach sand bar (1982, p. 301). The project area is located approximately 25 miles west of Tecate Peak and 15 miles west of Otay Mountain. Both of these locations figure strongly in Kumeyaay cosmological world views and creation stories. Tecate peak was called “Kuuchamaa,” and was understood to be a shamanic location for acquiring power. Shipek observed that, while there were other named mountains of cultural significance, “Kuuchania was the central place, more sacred and more powerful than any other” (Shipek 1985). Just west of this sacred peak is the Otay Mountain, known in Tipai as HUU,” or “the nose.” The village of Milejo, or “MuUehuu” in Tipai, meaning “meadow at the base of the nostrils,” was has been thought to be located in the area surrounding the project. This

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description may be explained by the fact that the Tijuana Slough and the La Punta area to the south are both characterized by the convergence of a number of drainages from Otay Mountain, terminating in marshy alluvial environments at the marine shore.

The coastal Kumeyaay exchanged a number of local goods, such as seafood, coastal plants, and various types of shell for items including acorns, agave, mesquite beans, gourds, and other more interior plants of use (Luomala 1978). The project area is located south of San Diego Bay, which for at least 9,000 years BP has provided readily available marine resources (Pigniolo 2005). Shellfish would have been procured from three primary environments, including the sandy open coast, bay and lagoon, and rocky open coast. The availability of these marine resources changed with the rising sea levels, siltation of lagoon and bay environments, changing climatic conditions, and intensity of use by humans and animals (Gallegos and Kyle 1988; Pigniolo 2005; Warren and Pavesic 1963). Shellfish from sandy environments included *Donax*, *Saxidomas*, *Tivela*, and others. Rocky coast shellfish dietary contributions consisted of *Pseudochama*, *Megastraea*, *Saxidomus*, *Protothaca*, *Megathura*, and others. Lastly, the bay environment north of the project area would have provided *Argopecten*, *Chione*, *Ostrea*, *Neverita*, *Macoma*, *Tagelus*, and others. While marine resources were obviously consumed, terrestrial animals and other resources likely provided a large portion of sustenance. Game animals consisted of rabbits, hares (*Leporidae*), birds, ground squirrels, woodrats (*Neotoma*), deer, bears, mountain lions (*Puma concolor*), bobcats (*Lynx rufus*), coyotes (*Canus latrans*), and others. In lesser numbers, reptiles and amphibians may have been consumed.

A number of local plants were used for food and medicine. These were exploited seasonally, and were both traded between regional groups and gathered as a single triblet moved between habitation areas. Some of the more common of these that might have been procured locally or as higher elevation varieties would have included buckwheat (*Eriogonum fasciculatum*), Agave, Yucca, lemonade berry (*Rhus integrifolia*), sugar brush (*Rhus ovata*), sage scrub (*Artemisia californica*), yerba santa (*Eriodictyon*), sage (*Salvia*), *Ephedra*, prickly pear (*Opuntia*), mulefat (*Baccharis salicifolia*), chamise (*Adenostoma fasciculatum*), elderberry (*Sambucus nigra*), oak (*Quercus*), and *Juncus* grass among many others.

2.2.5 The Historic Period (post-AD 1542)

European activity in the region began as early as AD 1542, when Juan Rodríguez Cabrillo landed in San Diego Bay. Sebastián Vizcaíno returned in 1602, and it is possible that there were subsequent contacts that went unrecorded. These brief encounters made the local native people aware of the existence of other cultures that were technologically more complex than their own. Epidemic diseases may also have been introduced into the region at an early date, either by direct contacts with the infrequent European visitors or through waves of diffusion emanating from

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native peoples farther to the east or south (Preston 2002). It is possible, but as yet unproven, that the precipitous demographic decline of native peoples had already begun prior to the arrival of Gaspar de Portolá and Junípero Serra in 1769.

Spanish colonial settlement was initiated in 1769, when multiple expeditions arrived in San Diego by land and sea, and then continued northward through the coastal plain toward Monterey. A military presidio and a mission to deal with the local Kumeyaay and Ipai were soon firmly established at San Diego, despite violent resistance to them from a coalition of native communities in 1776. Private ranchos subsequently established by Spanish and Mexican soldiers, as well as other non-natives, appropriated much of the remaining coastal or near-coastal locations (Pourade 1960–1967).

The village of Melijo was referenced in historical records, notably by Lt. Francisco Ortega, who listed it as 1 of 15 Native American villages that contributed members to the San Diego Mission uprising of 1775 (Carrico 1983). Ortega conducted a thorough investigation of Melijo and other villages following the uprising, although its exact location is unknown.

Mexico's separation from the Spanish empire in 1821 and the secularization of the California missions in the 1830s caused further disruptions to native populations in western San Diego County. Some former mission neophytes were absorbed into the work forces on the ranchos, while others drifted toward the urban centers at San Diego and Los Angeles or moved to the eastern portions of the county where they were able to join still largely autonomous native communities. The land surrounding southern San Diego Bay and the Tijuana River was granted to Santiago Emilio Arguello by the Mexican government in 1833. The land grant was later denied by the U.S. Land Commission and portions of the property were made available for homesteading (Fetzer 2005). The Arguello ranch was often referred to as Rancho Melijo, a name likely derived from that of a southern Kumeyaay (Tipai) village that was located in the area. From 1834 into the early twentieth century, the La Punta Adobe, located at the north end of Rancho Melijo, and surrounding property was a thriving social and economic hub. With a functioning freshwater spring until 1888 and an optimal location, it acted as a tourist destination, resort, stagecoach stop, headquarters for William Emory in 1849 (tasked with defining the new Mexico–US border), WWII lookout station, and a working ranch. Arguello's original ranch location was destroyed during the construction of I-5 in 1951 (Blocker 2011).

United States conquest and annexation, together with the gold rush in Northern California, brought many additional outsiders into the region. Development during the following decades was fitful, undergoing cycles of boom and bust.

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3 AREA OF POTENTIAL EFFECTS (APE)

The Area of Potential effects (APE) for the project consists of Smuggler's Gulch, the Pilot Channel, two access routes, and two staging areas (Figure 3; Confidential Appendix A). Combined, these areas cover approximately 15.73 acres. Three cultural resources intersect the APE (Figure 3; Confidential Appendix A).

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4 METHODS

Prior to construction, URS performed an Individual Historical Assessment (IHA) for the project which included a records search and pedestrian survey (Garcia-Herbst 2012). In accordance with PEIR Mitigation Measure 4.4.3.2, URS submitted a letter to the City which verified that a site specific records search was prepared for the project and included an Archaeological Monitoring Exhibit (AME) based upon the results of the IHA (Nixon 2013). The AME (Figure 4) delineated a Historically Sensitive Area, which consists of the portions of existing archaeological sites which intersect the APE, plus a small buffer surrounding the APE. Within the HSA, an Archaeological and Native American Monitoring Area was delineated which identified the locations where any ground disturbing work would require monitoring. These areas included the portion of Smuggler's Gulch which passes through site SDI-10669, a portion of the access road along Hollister Street (south of Pilot Channel) which also passes through SDI-10669, and the perimeter of Staging Area D, which intersects SDI-13486 (Figure 4).

Resource SDI-17240 is the Hollister Street Bridge; Pilot Channel passes under the bridge. As no impacts will occur to the Bridge, and no archaeological deposits are associated with the bridge, no monitoring was recommended for this location.

In accordance with Mitigation Measure 4.4.3.3 all ground disturbing maintenance activities within the Archaeological and Native American Monitoring Area, as depicted on the AME were monitored by both an archaeologist and a Native American monitor. Monitoring was conducted between September 13 and November 19, 2013. URS archaeologists Rachael Nixon and Sarah Mattiussi performed all archaeological monitoring following standard archaeological procedures. Justin Linton, Natausha Eagan, and Rachael Smith of Red Tail Monitoring and Research, Inc. performed all Native American monitoring. All monitoring activity was documented daily via the Consultant Site Visit Record (CSV), which were submitted to the MMC and RE.

Construction activities which were monitored include sediment removal from the drainage channels, vegetation removal, and trenching for installation of silt fencing and fiber rolls. Skid steers, bulldozers, excavators, gradalls, rock trucks, and backhoes were used to remove sediments from the channel, which were the loaded onto dump trucks with backhoes and front-end loaders. Sediments were stockpiled in staging areas until final transport from the site to designated off-site landfills. A ditch witch trenching machine was used to excavate trenches for the installation of silt fencing.

No human remains were discovered during project construction, so no mitigation efforts were implemented under PEIR Mitigation Measure 4.4.3.4. No night or weekend work occurred, so no mitigation efforts were implemented under PEIR Mitigation Measure 4.4.3.5. Daily

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monitoring logs and photographs were maintained by URS and supplied to Dudek at the completion of fieldwork.

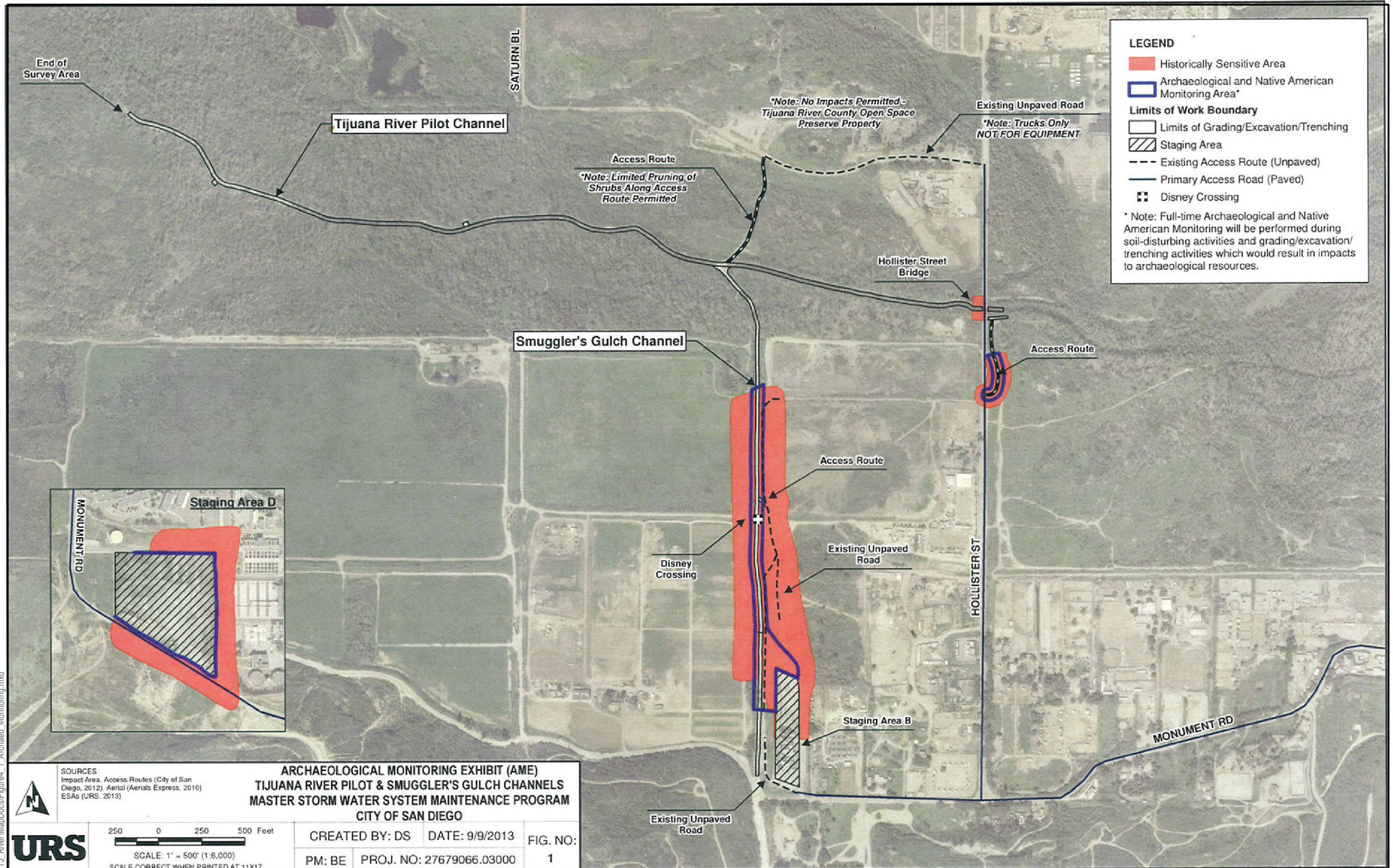


FIGURE 4
Archaeological Monitoring Exhibit (AME)

7643-10-1A
May 2014

SOURCE: URS
Tijuana River Pilot & Smuggler's Gulch Channels

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5 RESULTS

No intact cultural resources were identified during construction monitoring. During monitoring of silt fence installation in Staging Area B, a few pieces of lithic debitage were observed, but not collected. Staging Area B has been used as a staging area for multiple projects in the past and has been graded numerous times. These artifacts were found in fill sediments disturbed during previous construction in Staging Area B. These artifacts lack archaeological context, association, and integrity, and therefore have no data potential and are not considered significant under the California Environmental Quality Act (CEQA). No sediments were observed in this area which would indicate that intact archaeological deposits could be present. As these artifacts lack archaeological context and association, they do not constitute a new discovery, nor do they constitute a component site SDI-10669.

Excavation within Smuggler's Gulch within the boundary of SDI-10669 removed approximately 3-7 feet of tan, loose, silty sand alluvium which contained an abundance of modern trash (e.g. tires, plastic bottles, cans, irrigation tubing, plastic sheeting, etc.). This same sediment is present below the depth excavated at this time to an indeterminate depth, presumably to the bottom of the earthen channel. No native sediments or geologic formations were impacted. All sediments removed from the channel and remaining in the channel are the result of run-off from Spooner Mesa and mesas on the south side of the international border. As these encountered sediments are all recently deposited, any archaeological materials which may be found in them are not representative of archaeological deposits, but are displaced materials. Smuggler's Gulch does not contain any intact native sediment and does not contain any cultural material related to SDI-10669. No excavation work occurred on the access road along Hollister Street within SDI-10669 which required archaeological or Native American monitoring. No impacts occurred to SDI-10669.

Ground disturbing activities in Staging Area D were limited to trenching for the installation of silt fencing for BMP. This trenching occurred in the previously disturbed portion of the staging area and did not intersect the HSA as shown on the AME. Therefore, it was determined that no archaeological monitoring was necessary in Staging Area B. As no ground disturbance occurred within the HSA, not impacts occurred to site SDI-13486.

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6 SUMMARY AND RECOMMENDATIONS

The cultural resource monitoring program conducted between September 16 and November 19, 2013 was performed in accordance with the mitigation measures adopted for this project, as described in Appendix C of the IHA (Garcia-Herbst 2012). No cultural resources were impacted by project implementation. No intact archaeological materials or deposits were discovered. A few pieces of redeposited lithic debitage were observed within redeposited sediments in Staging Area B, but were not collected or formally documented as they lack archaeological context and integrity and therefore do not constitute an archaeological discovery.

All sediment encountered within the portion of Smuggler's Gulch which is within SDI-10669 is the result of redeposition due to storm water run-off from the south. Sediments remaining in the channel which were observed during sediment removal are the same loosely consolidated run-off sediments which were removed. No intact native sediments were observed in the channel. If any cultural materials are currently located within the channel, then they would be the result of secondary deposition and would lack context, association, and integrity; they would therefore not constitute an archaeological site or component of the existing site SDI-10669. Any new sediment which erodes into the channel in the future will also be the result of secondary deposition, as would any cultural materials transported within this new sediment; and therefore would not constitute significant resources under CEQA and would not be considered eligible for listing in the California Register of Historic Resources. As a result, there is no potential to impact historical resources, as defined in CEQA, during future channel maintenance activities within Smuggler's Gulch. Therefore, it is recommended that no further cultural resource monitoring is necessary for maintenance activities within the channel.

No ground disturbing activities occurred in the access road along Hollister Street or in Staging Area D which required monitoring. No impacts to SDI-13486 or SDI-110669 occurred in these portions of the project.

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7 SOURCES CONSULTED

	Date:	
National Register of Historic Places <input checked="" type="checkbox"/>	Month and Year	10/2012 and 11/2012
California Register of Historic Resources <input checked="" type="checkbox"/>	Month and Year	10/2012 and 11/2012
City of San Diego Historical Resources Register <input type="checkbox"/>	Month and Year	
Archaeological/historical Site Records	Month and Year	10/2012 and 11/2012
South Coastal Information Center <input checked="" type="checkbox"/>	Month and Year	
San Diego Museum of Man <input type="checkbox"/>		


No records searches were conducted during the monitoring phase of the project. All records searches were performed during the IHA study (Garcia-Herbst 2012).

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8 CERTIFICATION

Preparer: Brad Comeau, M.Sc., RPA	Title: Archaeologist
Signature: 	Date: May 5, 2014

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9 ATTACHMENTS

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Personnel Qualifications

Brad Comeau – Archaeologist

Brad Comeau is an archaeologist with over 10 years experience as a Principal Investigator, field director, archaeological monitor, and field/laboratory technician. He has conducted numerous surveys, evaluation excavations, and data recoveries, primarily in Southern California. He has extensive experience in San Diego County, with additional experience in Riverside, Imperial, Orange, and Los Angeles Counties, the Mojave Desert, San Joaquin Valley, as well as in Massachusetts, New Hampshire, Arizona, and England. His research interests include the role of experimentation in archaeology, copper production techniques, and lithic production.

PROJECT EXPERIENCE

Development

Lone Oak Road Project, Hunsaker & Associates, San Diego, Inc., San Diego County, California. As Principal Investigator, directed a Phase I cultural resource inventory for a 14 acre residential subdivision development; coordinated with Native American subcontractor; prepared negative letter report.

Alessandro Business Park Project, Western Realco, City of Riverside, Riverside County, California. As primary author, prepared archaeological monitoring report, including discovery evaluation results for seven new archaeological sites. Prepared DPR forms.

Newland Sierra Project, Newland Sierra, LLC, San Diego County, California. As Principal Investigator, directing Phase III data recovery of three archaeological sites, including re-analysis of existing collections (in progress).

The Vineyard, Van Daele Development Corporation, Temecula, Riverside County, California. As Principal Investigator, directed archaeological monitoring for construction of a 25 acre residential development; prepared a monitoring and unanticipated discoveries work plan; project is in progress.

Artesian Road Project, The Harwood Group, Rancho Santa Fe, San Diego County, California. As Principal Investigator, directed a Phase I cultural resource study for a 25 acre residential project; coordinated field crew schedule and tribal monitor; primary author of ARMR-format report according to County guidelines; performed background research into historic context of the project area, incorporating results into the report.

Martin Residence Project, HAA Architects, Carlsbad, San Diego County, California. As Principal Investigator, performed all aspects of a Phase I cultural resource study for a 1 acre residential development

EDUCATION

University of Sheffield
MSc, Experimental Archaeology, 2012
University of Massachusetts, Amherst
BA, Anthropology, 2004
BA, Italian Studies, 2004

CERTIFICATIONS

County of San Diego, Approved
Archaeologist, 2014
City of San Diego, Approved
Archaeologist, 2013
Register of Professional
Archaeologists, 2013
OSHA HAZWOPER 40-hr course, 2011
City of San Diego, Certified
Archaeological Monitor, 2007

PROFESSIONAL AFFILIATIONS

Society for American Archaeology, 2012
Bath and Camerton Archaeological
Society, 2012
Society for California Archaeology, 2008

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project within a known archaeological site; instructed staff and provided quality control oversight in the preparation of the ARMR-format technical report; performed

Shearwater Creek Project, City of Temecula, Temecula, Riverside County, California. As Principal Investigator, performed all aspects of a Phase I cultural resource study for a 7 acre residential development project; performed pedestrian survey; coordinated with Native American monitors and Tribal representative in regards to a sacred resource in the project area; primary author of the ARMR-format technical report.

Arbor Vista Cluster Residential Project, City of Temecula, Temecula, Riverside County, California. As principal investigator, conducted all aspects of a Phase I pedestrian survey for archaeological and paleontological resources for a 72-acre parcel; directed a crew of two people; primary author ARMR-format technical report of findings, including summation of paleontological resources.

Navy Federal Credit Union Project, City of Temecula, Temecula, Riverside County, California. As principal investigator, conducted Phase I pedestrian survey for archaeological and paleontological resources; lead author of ARMR-format report; prepared all archaeological portions of technical report and contributed to the paleontological portions; performed background research into historic context of the project area, incorporating results into the report.

St. John Garabed Church Project, St. John Garabed Armenian Apostolic Church Trust, San Diego County, California. As field director, conducted site examinations and limited shovel test pit excavation for an Extended Phase I survey; directed a crew of two people; prepared a letter report of findings; participated in Phase II evaluation excavation of one prehistoric site; contributed to Phase II evaluation report.

Rhodes Crossing Update, Rhodes Properties, San Diego, California. As field director, led a crew of two people for a Class III pedestrian survey of 88 acres; coordinated Native American monitor participation; assisted with preparation of Archaeological Resource Management Report (ARMR).

Palomar Station Project Survey, Integral Communities Inc., San Marcos, San Diego County, California. As field director, conducted Class III pedestrian survey of 14.5-acre parcel and prepared ARMR technical report of findings.

Gregory Canyon Landfill Environmental Impact Statement PHI Assessments, PCR Services Corporation, Pala, San Diego, California. As field director, conducted pedestrian survey of proposed landfill; relocated and verified previously recorded sites; led a crew of four people; coordinated with Native American monitors; prepared site forms and site descriptions for ARMR report.

Robertson Ranch East Excavation, The Corky McMillin Companies, Carlsbad, San Diego County, California. As field director, conducted controlled grading of two prehistoric sites that required directing excavation activities of multiple types of heavy machinery; identified and led excavation of numerous roasting pit and hearth features by a crew of up to 20 people; instructed crew in carbon-14, thermoluminescence, and soil floatation sampling techniques.

Sky Ranch Monitoring, Lennar, Santee, San Diego County, California. As archaeological monitor, monitored mass grading activities for construction of a subdivision.

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Sky Ranch Data Recovery, Lennar, Santee, San Diego County, California. As crew chief, conducted data recovery excavation of two prehistoric sites; led a crew of up to eight staff; drew site maps and unit profiles; collected carbon-14 and soil floatation samples.

4S Ranch Data Recovery, 4S Ranch Company, Rancho Bernardo, San Diego County, California. As field technician and crew chief, conducted Phase III data recovery of a large Late Prehistoric site; excavated numerous hearth features; drew site maps and unit profiles; created a site grid for unit placement; collected carbon-14 and soil floatation samples; led crew ranging from 2-10 people.

Atlas Monitoring and Excavation, D. R. Horton, San Diego County, California. As archaeological monitor, monitored building/subterranean parking structure excavation; excavated historic deposits discovered during monitoring.

The Rock Academy Monitoring, The Rock Church, San Diego, California. As archaeological monitor, monitored building foundation excavation, trenching, and building demolition.

Otay Business Park Project, Paragon Management Company, LLC, San Diego County, California. As field technician, excavated 10 prehistoric and multi-component sites as part of a Phase II evaluation project.

Vantage Point, Point of View Monitoring LLC, San Diego County, California. As archaeological and paleontological monitor, monitored excavation, drilling, and other construction activities during the excavation of a subterranean parking garage and building footings. Recorded and collected artifacts and marine fossils.

Audie Murphy Ranch Monitoring, Woodside Homes, Sun City, Riverside County, California. As archaeological monitor, monitored controlled grading of five sites in collaboration with Native American monitors; excavated hearth features; monitored construction grading.

Roberston Ranch Data Recovery, The Corky McMillin Companies, Carlsbad, San Diego County, California. As field technician, excavated four prehistoric sites as part of a data recovery program, including test unit excavation, wet screening, drawing and photographing profiles, excavating hearth and pit features, and artifact sorting.

LaPozz No. 5 Lode Evaluation, Enviroscientists, Indian Wells Valley, Kern County, California. As field director, led a crew of four people for an evaluation testing program of three prehistoric sites; prepared site form updates and site testing results for the ARMR technical report.

Faraday Data Recovery, Carlsbad, San Diego County, California. As field technician, excavated five prehistoric sites as part of a data-recovery program, including test unit excavation, drawing profiles, wet screening, and sorting artifacts.

Education

San Elijo Hills K-9th Grade Campus Project, San Marcos Unified School District, San Marcos, San Diego County, California. As principal investigator, conducted all aspects of a Phase I pedestrian survey for a 36-acre school; prepared letter report summarizing findings.

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Palomar College 7 Building Historic Evaluation, Palomar Community College District, San Marcos, San Diego County, California. As Global Positioning System (GPS) technician and photographer, assisted architectural historians in recording potentially historic buildings; photographed and recorded buildings with Ricoh digital camera, range finder, and Trimble GeoXH GPS.

University House Excavation, University of California, San Diego, San Diego County, California. As crew chief, conducted Phase II test excavation using wet screening; led a crew of five people.

San Marcos Unified School District Monitoring, San Marcos Unified School District, San Diego County, California. As archaeological monitor, monitored transplanting of endangered species by biologists prior to construction grading of site.

Maranatha Excavation, Maranatha Christian School, Rancho Bernardo, San Diego County, California. As field technician, excavated test units for a Phase III data recovery of an archaic period site; drew unit profiles; sorted artifacts.

Energy

Block 4N (North Encanto) Underground Utility District, City of San Diego Public Works Department, San Diego, California. As Principal Investigator, directed archaeological monitoring for the installation of underground utility lines; scheduled archaeological and Native American monitors; prepared monthly summaries; (in progress).

Desert Green Solar Project, Invenergy LLC, Borrego Springs, San Diego County, California. As principal Investigator, directing archaeological monitoring for a 50 acre, 5MW solar energy generation facility; scheduled archaeological and Native American monitors (in progress).

Block 8B Sherman Heights Underground Utility District Archaeological Monitoring, City of San Diego Public Works Department, San Diego, California. As Principal Investigator, provided internal review of the construction monitoring report prepared by the archaeological subcontractor.

Kent South Solar Substation, Dashiell Corporation, County of Kings, California. As primary author, prepared archaeological and paleontological construction monitoring and inadvertent discovery work plan for construction of the substation.

Tierra del Sol LLC Project, Soitec, LLC, Tierra del Sol, San Diego County, California. As field director, conducted pedestrian survey and evaluation of the 337-acre Gen-Tie portion of the solar project; directed crew between 2 and 4 people; prepared the Gen-Tie portion of the technical report; provided internal review and editing on entire report based on agency comments; provided internal review and editing of the cultural resources chapter of the EIR; participated in public outreach meeting for the project; prepared cost and scoping proposal for evaluation phase.

Rugged Solar Project, Soitec, LLC, Boulevard, San Diego County, California. Provided internal review and editing of the evaluation report based on agency comments for the evaluation of 39 archaeological sites; provided internal review and editing of the cultural resources chapter of the EIR; participated in public outreach meeting for the project.

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LanWest Solar Farm Project, Soitec, LLC, Boulevard, San Diego County, California. Provided internal review and editing based on agency comments of a 231-acre survey report; provided internal review and editing of the cultural resources chapter of the EIR; participated in public outreach meeting for the project.

LanEast Solar Farm Project, Soitec, LLC, Boulevard, San Diego County, California. Provided internal review and editing based on agency comments of a 35-acre survey report; provided internal review and editing of the cultural resources chapter of the EIR; participated in public outreach meeting for the project.

Jacumba Solar Extended Phase I, NextEra, Jacumba, San Diego County, California. As principal investigator, conducted site examinations and limited shovel test pit excavation; directed a crew of two people; prepared a letter report of findings.

Rio Mesa Solar Project, Bureau of Land Management, Riverside County, California. Contributed to 3rd party review for the Bureau of Land Management of the Phase I pedestrian survey report.

San Jacinto Solar Project, NextEra, Riverside County, California. As principal investigator, performed site visit and record search review of project area; prepared constraints analysis assessing the potential for sensitive cultural materials.

Tule Wind Cultural Resources Testing, HDR Inc., McCain Valley, San Diego County, California. As field director, conducted eligibility testing for one prehistoric site, led a crew of four people, and assisted in producing an ARMR report of findings.

Occidental of Elk Hills Block Survey II, Occidental Petroleum, Taft, Kern County, California. As field director, conducted pedestrian survey of 2,560 acres in the Elk Hills Oil Field; led a crew of six people; prepared site forms and site descriptions for technical report.

Class III Cultural Resources Inventory, Occidental Petroleum, Taft, Kern County, California. As field director, conducted pedestrian survey of 2,560 acres in the Elk Hills Oil Field; led a crew of six people; performed records search at the Southern San Joaquin Valley Information Center and Bureau of Land Management (BLM) Bakersfield office; prepared site forms and site descriptions for technical report.

Five Well Pads Cultural Resources Survey, Occidental Petroleum, Kern County, California. As field director, led a crew of two people for a Class III pedestrian survey of 60 acres near McKittrick, California; performed the record searches at the Southern San Joaquin Valley Information Center and BLM Bakersfield office.

Vintage Kern Front Inventory, Vintage Production California LLC, Oildale, Kern County, California. As field director, led a crew of five people for a Class III pedestrian survey of 184 acres in the Kern Front Oil Field; prepared primary record.

Gildred Solar Cultural Resources Survey, Gildred Building Company, Ocotillo Wells, San Diego County, California. As field director, led a crew of four for a Class III pedestrian survey of 440 acres; coordinated Native American monitor participation: assisted with preparation of ARMR technical report.

Silurian Valley West Cultural Resources Study, Iberdrola Renewables, Baker, San Bernardino County, California. As crew chief, led a crew of four people for a Class II pedestrian survey of 4,500 acres

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within the project right-of-way; assisted the field director in organizing and scheduling two field crews; trained crew members in operation of Bluetooth-enabled laser range finder.

TL 637 Survey Santa Ysabel to Creelman, San Diego Gas & Electric, San Diego County, California. As archaeological monitor, performed pre-construction fielding study with engineers, biologists, and construction managers for an electrical transmission line pole replacement; located previously recorded sites; helped direct new pole locations to avoid site impacts.

East County Substation Survey, Insignia Environmental, Jacumba, San Diego County, California. As crew chief, conducted survey of linear electric transmission line; directed a crew of three people; recorded multiple prehistoric and multicomponent sites; prepared site forms and site descriptions for technical report of findings.

Sunrise Powerlink Evaluations, San Diego Gas & Electric, San Diego and Imperial Counties, California. As field director, conducted subsurface testing of 17 sites; directed a crew ranging from three to six people; helped organize laboratory artifact processing.

Devers–Palo Verde 2 Survey, Southern California Edison, Riverside County, California. As field director, conducted Class III intensive survey of selected portions of a transmission line area of potential effect (APE); relocated and updated previously recorded sites; identified and recorded new sites.

Colorado River Staging Yard Survey, Southern California Edison, Riverside County, California. As crew chief, conducted Class III pedestrian survey of the Colorado River Staging Yard for the Devers–Palo Verde 2 electric transmission line near Blythe; identified and recorded numerous World War II–era sites relating to the Desert Training Center; led a crew of two people.

Tule Wind Project Surveys, HDR Inc., McCain Valley, San Diego County, California. As field director, conducted Class II and Class III intensive pedestrian surveys over 4,900 acres; coordinated multiple survey crews; scheduled and coordinated with Native American monitors; prepared site forms; assisted in producing an ARMOR report of findings.

Sunrise Powerlink Survey and Monitoring, San Diego Gas & Electric, San Diego and Imperial Counties, California. As crew chief, led survey crew of four people and two Native American monitors for Class III survey of project APE; coordinated with Native American monitors; created survey schedules in conjunction with the field director and right-of-way agents.

Federal

Bunker Hill Survey, GSR Corporation, Imperial Beach, San Diego County, California. As field director, conducted Class III pedestrian survey of a road improvement and fence construction covering 7.6 acres for the border fence; directed a crew of two people; recorded a previously identified site for a future nomination to the National Register of Historic Places; prepared site form update; prepared ARMOR technical report of findings.

Imperial County Drill Sites Survey, United States Geological Survey, Imperial County, California. As field director, conducted survey of two water well drilling sites; coordinated U.S. Border Patrol escort; prepared ARMOR technical report of findings.

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BLM Western Expansion Survey, TEC Environmental, Johnson Valley, San Bernardino County, California. As crew chief, surveyed various locations throughout the BLM Johnson Valley off-highway vehicle area; identified and recorded new sites; coordinated survey schedule with the field director.

Border Fence Project Survey and Monitoring, U.S. Army Corps of Engineers, San Diego County, California, and Pima, Santa Cruz and Cochise Counties, Arizona. As archaeological monitor, monitored construction of the U.S./Mexico border fence; surveyed locations of proposed construction activity; mapped new archaeological sites; directed construction activities away from archaeological resources.

Military

Fort Irwin Solar Project, Soitec LLC, Fort Irwin, San Bernardino County, California. As principal investigator, directed pedestrian survey of 12 acres for a proposed solar generation facility; also prepared the technical report.

Level 3 Powerline Road Fiber-Optic Project, HP Communications Inc., Fort Irwin, San Bernardino County, California. As principal investigator, conducted intensive pedestrian survey of approximately 10 acres; also prepared the ARMR technical report of findings.

Naval Air Weapons Station (NAWS) Road Survey, Naval Facilities Engineering Command (NAVFAC) Southwest, Ridgecrest, Inyo, San Bernardino, and Kern Counties, California. As field director, conducted Class III pedestrian survey of approximately 129 miles of existing roads; led a crew of four people; scheduled and coordinated with Explosive Ordnance Disposal escorts; prepared ARMR technical report of findings.

NAWS Fiber-Optic Survey, Epsilon Systems Solutions, Ridgecrest, San Bernardino County California. As crew chief, conducted Class III pedestrian survey for a proposed fiber-optic line; led a crew of two people; assisted the field director with scheduling.

Delivery Order (DO) 30 Survey, NAVFAC Southwest, Marine Corps Air Ground Combat Center (MCAGCC) Twentynine Palms, San Bernardino County, California. As crew chief, surveyed numerous proposed landing zones throughout MCAGCC; coordinated scheduling/training area access with the field director; prepared site forms and site descriptions for ARMR report.

53 Aerial Maneuver Zone (AMZ) Survey, NAVFAC Southwest, MCAGCC Twentynine Palms, San Bernardino County, California. As crew chief, surveyed numerous proposed landing zones throughout MCAGCC Twentynine Palms; coordinated scheduling/training area access with the field director; prepared site forms and site descriptions for ARMR report.

Southwest Division (SWDIV)-04/DO 27 Survey, NAWS China Lake, NAVFAC Southwest, Ridgecrest, Inyo County, California. As field technician, participated in a Class III intensive survey under Section 106 of National Historic Preservation Act; operated a Trimble GeoXH for navigation and site recording.

Resource Management

St Algar's Farm Geochemical Testing, English Heritage, Frome, Somerset, United Kingdom. As student volunteer, helped perform a hand-held pXRF field survey of a Roman-era glass and metalworking site; excavated a 5-by-5-meter trench; identified pre-Roman Iron Age component of site; co-author of technical report.

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Transportation

San Onofre to Pulgas Double Track Project, PGH Wong Engineering, Inc., San Diego County, California. As Principal Investigator, directing cultural, paleontological, and Native American monitoring of installation of second railroad track through Camp Pendleton; prepared monitoring and inadvertent discovery work plan; attended weekly construction meetings; preparing weekly monitoring schedules for all monitors, including multiple Native American Tribes (in progress); conducted evaluation excavations for two new discoveries identified during monitoring; prepared letter report summarizing discovery evaluations.

Water/Wastewater

Cultural Resource Inventory for the Morena Reservoir, City of San Diego Public Utilities Department, San Diego County, California. As Principal Investigator, directed a Phase I archaeological survey of lands recently exposed within the high-water line of the lake due to water level draw down; documented approximately 40 new archaeological sites; preparing ARMR-format survey report, including recommendations to treat and prevent on-going impacts to the sites, including looting; collected selected surface artifacts potentially at risk of looting; coordinated archaeological subcontractor and Native American monitor (in progress).

Bear River Restoration Project, Nevada Irrigation District, Nevada and Placer Counties, California. As contributing author, prepared ARMR-format report for 75 acre Phase I pedestrian survey for compliance with CEQA and Section 106 of the NHPA (in progress).

Huntington Beach Beach Blvd. Sewer Improvements Project, Civil Source, Huntington Beach, Orange County, California. As Principal Investigator, directed archeological and Native American monitoring for the installation of a 1 mile sewer line (in progress).

Plano Force Main Project, Santa Margarita Wastewater District, City of Rancho Santa Margarita, Orange County, California. Prepared a constraints analysis for the relocation of an existing force main; reviewed records search results and contacted Native American tribes to assess the potential for cultural resources in the project area; prepared a letter report of findings and recommendations.

Recycled Water MNDs, El Toro Water District, Orange County, California. As Principal Investigator, directed cultural and paleontological monitoring of a water pipeline installation project; coordinated field monitor; prepared technical report (in progress).

Water Recycling Monitoring, San Clemente Water District, San Clemente, Orange County, California. As Principal Investigator, directed cultural and paleontological monitoring of a water pipeline installation project; coordinated field monitor; prepared technical report (in progress).

Carlsbad Desal Plant Project, Poseidon Resources, Carlsbad, California. As Principal Investigator, directed cultural and paleontological monitoring for the water pipeline portion of the project; coordinating and scheduling archaeological and Native American monitors; providing oversight and coordination for paleontological monitor subcontractor; prepared end of fieldwork summary for Plant portion of the project (in progress).

Newhall County Water District Sewer Relocation Project, Alliance Engineering, Santa Clarita, Los Angeles County, California. As Principal Investigator, directed a Phase I pedestrian survey of 13.4

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acre sewer line project; prepared ARMIR-format report in compliance with CEQA and Section 106 of the NHPA; prepared DPR site record updates.

30" ETM Replacement at San Juan Creek, Moulton Niguel Water District, San Juan Capistrano, Orange County, California. As Principal Investigator, prepared a constraints analysis for water main installation project; prepared a records search review and tribal outreach to assess the potential for cultural resources; prepared a letter report of findings.

Poseidon Wetland Mitigation Project, Poseidon Resources, Inc., Imperial Beach, San Diego County, California. As Principal Investigator, conducted all aspects of a Phase II evaluation of three prehistoric archaeological sites; performed ceramic analysis for report; prepared technical report of findings as lead author.

Buena Vista Creek Enhancement Project, City of Vista, Vista, San Diego County, California. As Principal Investigator, conducted all aspects of a Phase I pedestrian survey for archaeological resources; prepared technical report of findings.

Construction Monitoring for the Pipeline 3 Desalination Relining and Pipeline 4 Vent Modifications Project, San Diego County Water Authority, San Diego County, California. As Principal Investigator, conducted all aspects of a Phase I pedestrian survey for archaeological resources; prepared letter reports summarizing findings of each project component.

MWD Upper Newport Backbay EIR, Metropolitan Water District, Newport Beach, Orange County, California. Requested and reviewed records search for the project area for inclusion in the project EIR.

Wastewater Pipeline Improvement Project, City of South Pasadena, Los Angeles County, California. As Principal Investigator, conducted all aspects of a constraints analysis for a City-wide pipeline rehabilitation and replacement project; performed a limited pedestrian reconnaissance of selected pipeline segments; prepared letter report of findings.

Temescal Canyon and Dawson Canyon Pipelines and Non-Potable Water Tank Project, Lee Lake Water District, Riverside County, California. As principal investigator, performed Phase I intensive pedestrian survey of the project APE; prepared letter report of findings.

Padre Dam Data Recovery, Padre Dam Municipal Water District, Lakeside, San Diego County, California. As field director, conducted a data recovery project of a late prehistoric site using wet screening; led a crew of six; coordinated with Native American monitors; performed shell and ceramic lab analysis studies; contributing author of technical report.

Tijuana River Valley Wetland Mitigation Project, San Diego County Water Authority, Imperial Beach, San Diego County, California. As field technician, performed evaluation excavation of a prehistoric site; hand excavated 1 x 1 meter units; directed excavation of mechanically excavated trenches to explore potentially deeply buried deposits; drew and photographed trench and unit profiles.

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PUBLICATIONS

Professional Presentations

Dry Run on a Dry Well: An Experimental Investigation of Sintashta Metallurgy. Paper presented at the 78th Annual Meeting of the Society of American Archaeology. 2013. Lead author.

Time, Space and Place: The Potential of Time/Geography, Geophysical, and Geochemical Approaches for Capturing Experimental Engagement. Paper presented at the 78th Annual Meeting of the Society of American Archaeology. 2013. Co-author.

Finding the Smith in Hammerscale Palais: Investigations at an Experimental Iron Production Site. Poster presented at the 39th International Symposium on Archaeometry 2012. Co-author.

Archaeological Investigations at Site CA-SDI-10,611: A Functional and Temporal Analysis of Subterranean Pit Features In Northern San Diego County. Presented at Society for California Archaeology Annual Meeting 2008. Co-author.

The Burghardts of Great Barrington: The View from the W.E.B. Du Bois Boyhood Homesite. Presented at the Society for Historical Archaeology Conference 2005. Co-author.

Professional Publications

(in press) *Out of the furnace and into the Field: Reconceptualising Metallurgical Process as Practice.* *Proceedings of the 39th International Symposium for Archaeometry, Leuven (2012).* Brad E. Comeau, L.M. Cheesman, J.L. Slater, and R.C.P. Doonan.

Technical Reports

2014 (Draft) *Negative Cultural Resource Survey Report for the Lone Oak Road Project, Hunsaker & Associates, San Diego County, California.* Brad Comeau, MSc, RPA. Submitted to Dan Rehm, Hunsaker & Associates.

2014 *Cultural Resources Monitoring Report for the Alessandro Business Park Project, City of Riverside, California.* Brad Comeau, MSc, RPA, Nicholas Hanten, Joshua D. Dunn, MA, RPA, and Micah J. Hale, PhD, RPA.

2014 *Archaeological Monitoring and Unanticipated Discovery Treatment Plan for The Vineyard Project, City of Temecula, Riverside County, California.* Brad Comeau, MSc, RPA, and Micah J. Hale, PhD, RPA. Submitted to Matt Peters, City of Temecula (in progress).

2014 *Cultural and Paleontological Resources Survey Report for the Shearwater Creek Project, City of Temecula, Riverside County, California.* Brad Comeau, MSc, PRA and Micah J. Hale, PhD RPA. Submitted to Matt Peters, City of Temecula

2014 (Draft) *Cultural Resource Monitoring and Discovery Plan for the Kent South Solar Substation, Kings County, California.* Brad Comeau, MSc, RPA and Micah J. Hale, PhD, RPA. Submitted to Dashiell Corporation.

2014 *Cultural and Paleontological Resources Survey Report for the Martin Residence, City of Carlsbad, San Diego County, California.* Joshua D. Dunn, MA, RPA, Brad Comeau, MSc, RPA, and Micah J. Hale, PhD, RPA. Prepared for Jaime Bernal, HAA Architects.

2014 *Cultural Resources Report for the Artesian Road Project, San Diego County, California.* Brad Comeau, MSc, RPA and Micah J. Hale, PhD, RPA. Submitted to Doug Harwood, The Harwood Group.

Negative Cultural Resources Monitoring Report For the Tijuana River Valley Channel Maintenance Project

- 2013 (Draft) *Cultural Resources Evaluation for the U.S. Fish and Wildlife Service Otay River Estuary Restoration Project, Otay Mesa, San Diego County, California.* Brad Comeau, MSc, RPA, Nicholas Hanten, Micah J. Hale, PhD, RPA, Matt Maxfeldt, and Adam Giacinto, MA, RPA. Submitted to Nick Valentine, U.S. Fish and Wildlife Service.
- 2013 Cultural Resources Survey Report for the Newhall County Water District Sewer Relocation Project, Santa Clarita, Los Angeles County, California. Brad Comeau, MSc, RPA and Micah J. Hale, PhD, RPA. Submitted to Craig Whitteker, Alliance Engineering.
- 2013 *Archaeological and Paleontological Monitoring and Unanticipated Discovery Treatment Plan for the San Onofre-Las Pulgas Double Track Project, Camp Pendleton, San Diego County, California.* Brad Comeau, MSc, RPA and Micah J. Hale, PhD, RPA. Prepared for PGH Simon Wong Engineering, Inc.
- 2013 *Cultural Resources Survey Letter Report for the Construction Monitoring for the Pipeline 3 Desalination Relining and Pipeline 4 Vent Modifications Project.* Brad Comeau, MSc, RPA, and Micah J. Hale, PhD, RPA.
- 2013 *Archaeological Survey and Evaluation for the Tierra del Sol LLC Project, San Diego County, California.* James T. Daniels, MA, RPA, Micah J. Hale, PhD, RPA, Brad E. Comeau, MSc, and Adam Giacinto, MA, RPA.
- 2013 *Negative Cultural Resources Letter Report for the Buena Vista Creek Enhancement Project.* Brad Comeau, MSc, RPA and Micah J. Hale, PhD, RPA. Submitted to Tim Shell, City of Vista.
- 2013 *Cultural and Paleontological Resources Survey Report for the Arbor Vista Cluster Residential Project, City of Temecula, Riverside County, California.* Brad Comeau, MSc, RPA and Micah J. Hale, PhD, RPA. Submitted to Matt Peters, City of Temecula.
- 2013 *Cultural and Paleontological Survey Report for the Navy Federal Credit Union Project, City of Temecula, Riverside County, California.* Brad Comeau, MSc, Micah J. Hale, PhD, RPA, Dylan Duvergé, MS, and David Stone, MA, RPA. Submitted to Kenneth Taylor, City of Temecula.
- 2013 *St Algar's Farm, Selwood, Somerset Geochemical Survey Technology Report.* English Heritage Research Report Series 28-2013. David Dungworth, Brad Comeau and Andrew Lowerre.
- 2013 *Negative Cultural Resources Letter Report for the San Elijo Hills K-8th Grade Campus Project, San Marcos, California.* Brad Comeau, MSc, RPA and Micah J. Hale, PhD, RPA.
- 2013 *Archaeological Survey Report for the Level 3 Powerline Road Fiber Optic Project, San Bernardino County, California.* Brad Comeau, MSc, RPA and Micah J. Hale, PhD, RPA
- 2013 *Archaeological Survey Report for the Construction and Operation of a Concentrated Photovoltaic Facility, Fort Irwin, San Bernardino County, California.* Brad Comeau, MSc, and Micah J. Hale, PhD, RPA. Submitted to Brantley Jackson, Fort Irwin.
- 2013 *Phase II Archaeological Evaluation of CA-SDI-20031 for the St. John Garabed Church Project, San Diego County, California.* Joshua D. Dunn, MA, RPA, Adam Giacinto, MA, RPA, Micah J. Hale, PhD, RPA, Nicholas Hanten, and Brad Comeau, MSc, RPA.
- 2012 *Results of Extended Phase I Shovel Probing at Potentially Sensitive Archaeological Sites for the Jacumba Solar Project, San Diego County, California.* Brad Comeau, MSc, and Micah Hale, PhD, RPA.

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- 2012 *Cultural Resources Report for the Extended Phase I Survey for the St. John Garabed Church Project, San Diego County, California.* Brad Comeau, MSc, and Micah Hale, PhD, RPA.
- 2012 *Cultural Resources Survey Report for the Lee Lake Water District Dawson Canyon Non-potable Water Storage Tank and Pipeline Design Project, Riverside County, California.* Brad Comeau, BA, and Micah Hale, PhD, RPA.
- 2011 *Class III Archaeological Inventory of 2,560 Acres Comprised of the Entire Sections of 10Z, 14D, 20B, 28B, 32G, Elk Hills, Kern County, California.* David Whitley, PhD, RPA; and Brad Comeau, BA; and Michelle Dalope, BA.
- 2011 *An Archaeological Evaluation of KER-7290, KER-7293 and KER-7294 for the LaPozz No. 5 Lode Claim (CAMC286149), Indian Wells Valley, Kern County, California.* Mark S. Becker, PhD, RPA; Brad Comeau, BA; and Tony Quach, BA.
- 2011 *Cultural Resources Inventory for the Gildred Solar Project, San Diego County, California.* Chad Willis, MA, RPA; Micah Hale, PhD, RPA; and Brad Comeau, BA.
- 2011 *Cultural Resources Inventory Report for the Rhodes Crossing Project, San Diego County, California.* Chad Willis, MA, RPA; Micah Hale, PhD, RPA; and Brad Comeau, BA.
- 2011 *Class II Cultural Resources Inventory for the Silurian Wind Project, Silurian Valley, San Bernardino County, California.* Diane Winslow, MA, RPA; Micah Hale, PhD, RPA; Sherri Andrews, MA, RPA; and Brad Comeau, BA.
- 2011 *An Archaeological Inventory of Historic and Contemporary Roads at Naval Air Weapons Station China Lake, Inyo, Kern, and San Bernardino Counties, California.* Brad Comeau, BA; Mark A. Giambastiani, PhD, RPA; and Oliver Patsch, BA.
- 2011 *Cultural Resources Survey Report for the Palomar Station Project, San Marcos, San Diego County, California.* Brad Comeau, BA, and Micah Hale, PhD, RPA.
- 2011 *An Archaeological Survey of Bunker Hill in Border Field State Park, San Diego County, California.* Brad Comeau, BA, Scott Wolf, BA, and Micah Hale, PhD, RPA.
- 2010 *Archaeological Survey Report for the Imperial County Drill Sites Project, Imperial County, California.* Brad Comeau, BA, and Jerry Schafer, PhD, RPA.
- 2010 *Class II and Class III Cultural Resources Inventory Report for the Tule Wind Project, McCain Valley, San Diego County, California.* Micah Hale, PhD, RPA; Brad Comeau, BA; and Chad Willis, MA.
- 2010 *Draft Study Plan for Cultural Resources: Gregory Canyon Landfill, San Diego County, California.* Don Laylander and Brad Comeau.
- 2009 *Data Recovery Excavations at CA-SDI-18472 for the Proposed Padre Dam Municipal Water District Secondary Connection Project (Ridge Hill Facilities), Johnstown, San Diego County, California.* Micah Hale, PhD, RPA, with contributions by Brad Comeau and Aaron Sasson.

Negative Cultural Resources Monitoring Report For the Tijuana River Valley Channel Maintenance Project

Master's Dissertation

2012 *Investigating Metallurgical Practice: An Experimental Study of the Sintashta Well-Tunnel-Furnace (WTF) from the Middle Bronze Age, Siberia, Russia.* University of Sheffield.

VOLUNTEER HISTORY

2012 Student Placement, English Heritage, Portsmouth, United Kingdom

AWARDS/COMMENDATIONS

1999–2003 Francis Ouimet Scholar

RELEVANT PREVIOUS EXPERIENCE

2012–present Archaeologist, Dudek, Encinitas, California

2009–2011 Associate Archaeologist, ASM Affiliates Inc., Carlsbad, California

2008–2009 Archaeological Monitor, E²m, Denver, Colorado

2008 Archaeological Monitor/Field Technician, URS Corporation, San Diego, California

2005–2008 Field Supervisor, Brian F. Smith and Associates, Poway, California

2003–2004 Field/Lab Technician, University of Massachusetts Archaeological Services, Amherst, Massachusetts

2003 **Field School in Archaeology, University of Massachusetts Amherst/Great Barrington, Massachusetts.** As student, participated in site surveying and mapping using theodolite; instructed in and participated in excavation and laboratory methodology; participated in geophysical surveying.

Negative Cultural Resources Monitoring Report For the Tijuana River Valley Channel Maintenance Project

National Archaeological Database (NADB) Information

Authors: Brad Comeau, M.Sc., RPA

Firm: Dudek

Project Proponent: City of San Diego

May 2014

Report Title: Negative Cultural Resources Monitoring Report for the Tijuana River Valley Channel Maintenance Project, City of San Diego, San Diego County, California

Type of Study: Cultural Resource Monitoring

Resources: CA-SDI-10669, CA-SDI-13489

USGS Quads: Imperial Beach, CA-BCN, Township 19 South, Range 2 West, Sections 3 and 4

Acreage: 15.73

Permit Numbers: LDR/PTS#42981 (SCR306915), IO-21000287

Keywords: Negative, SDI-10669; SDI-13486, SDI-17240; disturbed, redeposited, channel maintenance; Kumeyaay; not significant; not eligible; Smuggler's Gulch Channel; Pilot Channel

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For the Tijuana River Valley Channel Maintenance Project**

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Negative Cultural Resources Monitoring Report For the Tijuana River Valley Channel Maintenance Project

10 CONFIDENTIAL APPENDICES

Appendix A: Figure 3: Historic Resource Location Map

**Negative Cultural Resources Monitoring Report
For the Tijuana River Valley Channel Maintenance Project**

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APPENDIX A

Figure 3: Historic Resource Location Map

**NEGATIVE CULTURAL RESOURCES
MONITORING REPORT
FOR THE TIJUANA RIVER VALLEY CHANNEL
MAINTENANCE PROJECT, CITY OF SAN DIEGO,
SAN DIEGO COUNTY, CALIFORNIA**
Confidential Appendix

Dudek Project No. 7643-10

Prepared for:

City of San Diego
Transportation & Storm Water Department
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San Diego, California 92105
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Prepared by:

DUDEK
605 Third Street
Encinitas, California 92024
Brad Comeau, M.Sc., RPA

MAY 2014

Type of Study: Cultural and Paleontological Resource Monitoring

USGS Quadrangle: Imperial Beach, CA-BCN (1996) 7.5', T19S, R2W, Sections 3 and 4

Area: 15.73 acres

Key Words: Negative, SDI-10669; SDI-13486, SDI-17240; disturbed, redeposited, channel maintenance; Kumeyaay; not significant; not eligible; Smuggler's Gulch Channel; Pilot Channel

Confidential appendix available upon request to approved parties.