

APPENDIX F2

Cultural Resources Inventory Report

**Cultural Resources Inventory Report
for the
North City Project, City of San Diego,
San Diego County, California
Dudek Project No. 9420-04
PTS 499621**

Prepared for:

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DUDEK

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FEBRUARY 2018

Cultural Resources Inventory Report for the North City Project

NATIONAL ARCHAEOLOGICAL DATABASE (NADB) INFORMATION

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Firm: Dudek

Project Proponent: City of San Diego Public Utilities Department

Report Date: February 2018

Report Title: Cultural Resources Inventory Report for the North City Project, City of San Diego, San Diego County, California

Type of Study: Cultural Resources Inventory

Resources: CR 450, NCAWPF-IF-1, NCAWPF-IF-2, NCAWPF-IF-3, P-37-004505, P-37-006660, P-37-009117, P-37-011077, P-37-011459, P-37-011611, P-37-011612, P-37-011761, P-37-012138, P-37-012139, P-37-012408, P-37-012439, P-37-012453, P-37-013629, P-37-013630, P-37-013651, P-37-013846, P-37-014119, P-37-014654, P-37-014655, P-37-014656, P-37-014657, P-37-014658, P-37-014660, P-37-014661, P-37-014961, P-37-014981, P-37-015477, P-37-018327, P-37-026967, P-37-026969, P-37-026974, P-37-035477, P-37-035478, P-37-036497

USGS Quads: Del Mar, CA (1994), El Cajon, CA (1996), La Jolla (1996), La Mesa (1994), Poway, CA (1996), San Vicente Reservoir (1996), Township 14 South: Range 1 East, 1 West, 2 West; Township 15 South: Range 1 East, 1 West, 2 West, 3 West; Township 16 South: Range 2 West, 3 West

Acreage: Approximately 1,566

Permit Numbers: N/A

Keywords: Lake Miramar Reservoir; San Vicente Reservoir; intensive pedestrian survey; Kumeyaay; bedrock milling station; handstone; millingstone; pestle, mortar; slick; basin; Cottonwood; projectile point; biface; flakedstone tool; ceramic; brownware; pipe fragment; prehistoric, isolate, historic address, homesteading, Scripps

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
ADD	Assistant Deputy Director
ADRP	Archaeological Data Recovery Program
AME	Archaeological Monitoring Exhibit
APE	area of potential effects
BI	Building Inspector
CCR	California Code of Regulations
CCS	cryptocrystalline silicates
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
City	City of San Diego
CM	Construction Manager
cmbs	centimeters below surface
CRHR	California Register of Historical Resources
CRMTP	Cultural Resources Monitoring and Treatment Plan
CSV	Consultant Site Visit Record
DPR	Department of Parks and Recreation
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
HRG	Historical Resources Guidelines
IRAT	In-Reservoir Alternative Terminus
LFG Pipeline	Landfill Gas Pipeline
MAT	Marina Alternative Terminus
MBC	Metro Biosolids Center
MCAS	Marine Corps Air Station
Miramar WTP	Miramar Water Treatment Plant
MLD	Most Likely Descendent
MM	Mitigation Measure
MMC	Mitigation Monitoring Coordination
Morena Pipelines	Morena Wastewater Forcemain and Brine/Centrates Line
NAHC	Native American Heritage Commission
NCPWF	North City Pure Water Facility
NCWRP	North City Water Reclamation Plant
NHPA	National Historic Preservation Act
North City Pipeline	North City Pure Water Pipeline
North City Pump Station	North City Pure Water Pump Station
NRHP	National Register of Historic Places
PI	Principal Investigator
PRC	Public Resources Code
RE	Resident Engineer
San Vicente Pipeline	San Vicente Pure Water Pipeline
SHPO	State Historic Preservation Officer

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Acronym/Abbreviation	Definition
STP	shovel test pit
STU	shovel test unit
TAT	Tunnel Alternative Terminus

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MANAGEMENT SUMMARY

The City of San Diego Public Utilities Department (City) contracted Dudek to initiate the processing of a joint Environmental Impact Report (EIR) and Environmental Impact Statement (EIS) in preparation for the North City Phase 1 of the Pure Water Program (North City Project). As a requirement of the EIR/EIS, a cultural resources inventory was conducted for the North City Project's area of potential effect (APE), which included the North City Project footprint and a 100-foot buffer. By identifying the cultural resources within the North City Project APE, this inventory is intended to guide the City in its management of these resources.

The North City Project consists of multiple components, including the North City Pure Water Facility, the North City Water Reclamation Plant Expansion, the Morena Pipelines (Wastewater Forcemain and Brine/Centrates Line), the North City Renewable Energy Facility, the Landfill Gas Pipeline, North City Pure Water Facility Influent Pump Station, North City Pure Water Pump Station, and Morena Pump Station. Additionally, the North City Project includes two proposed alternative reservoirs to receive the purified water produced by the North City Pure Water Facility: the Miramar Reservoir and San Vicente Reservoir. Alternative routes have also been proposed within several of the North City Project components. This study has separately inventoried the cultural resources identified in each of the North City Project components' APE to better assist the City in managing these resources.

This inventory included a records search of data obtained from the South Coastal Information Center at San Diego State University. The records search found that 557 studies have previously inventoried portions of the North City Project APE, leaving roughly 5% previously unsurveyed. These previous studies have identified 718 cultural resources within 1 mile of the North City Project APE, 38 of which are located within the APE.

The survey of the North City Project APE was conducted on July 25–29, August 27, and October 18, 2016. The APE is located in a highly developed area and it was determined prior to field work that survey of the entire APE would be unproductive. The survey team first conducted a reconnaissance survey of the entire APE in a motor vehicle. This allowed the survey team to assess the APE and identify undeveloped, or at least less developed, portions of the APE where ground surface was visible and archaeological resources could be identified. Pedestrian survey identified one newly recorded cultural resource within the APE. Segments of the project area which are covered with asphalt and concrete were not specifically surveyed with formal transects as the ground surface is not visible in those areas.

Of the 39 cultural resources identified within the North City Project APE, 11 were found to no longer be extant (i.e., have been demolished) and 9 resources are identified as isolates which are not considered eligible for listing on the National Register of Historic Places (NRHP) or

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the California Register of Historical Resources (CRHR). Additionally, there is 1 cultural resource within the APE that will be impacted by proposed North City Project activities; however, this resource has been previously recommended not eligible for listing in the NRHP or the CRHR. One previously recorded resource was determined to be non-cultural. These 21 resources, consisting of demolished sites and insignificant isolates, will not require any management considerations during the construction of the North City Project.

The remaining 17 cultural resources identified within the North City Project APE require management consideration in the form of avoidance using limited protection measures. Possible protection measures might include establishing work limits, marking environmentally sensitive areas (ESAs) with signage, and worker training.

Prior to refinements of the North City Project engineering, it appeared that two unevaluated resources identified within the North City Project APE may have been impacted during construction. Previously identified P-37-013630 and newly discovered P-37-036497 are both located adjacent to the San Vicente Pure Water Pipeline – Tunnel Alternative Terminus APE. Both prehistoric sites were evaluated through close-interval survey and excavation of four shovel test pits (STPs). Additionally, a 1- by 0.5-meter test unit was excavated at P-37-013630. The STPs excavated at P-37-036497 produced little evidence of a subsurface deposit, and Dudek recommends P-37-036497 not eligible for listing on the NRHP or CRHR under any significance criteria. The excavated STPs and the test unit at P-37-013630 documented a significant subsurface deposit. As such, Dudek recommends P-37-013630 eligible for listing on the NRHP and CRHR under criteria D and 4, respectively. Although within a proposed staging area, P-37-013630 is located on top of the hillside terrace that is at least 12 feet above the ground surface. Since the evaluation of these two resources, the City has committed to avoiding these resources. Thus, the current project will not impact any known resources.

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1 PROJECT DESCRIPTION AND LOCATION

The Pure Water Program is the City of San Diego's Public Utilities Department proposed program to utilize advanced water purification technology to produce potable water from recycled water. The City of San Diego (City), with the United States Bureau of Reclamation as the federal lead agency, contracted Dudek to initiate the processing of a joint Environmental Impact Report (EIR) and Environmental Impact Statement (EIS) in preparation for the North City Project, Pure Water San Diego Program (North City Project). As a requirement of the EIR/EIS, a cultural resources inventory was conducted for the North City Project's area of potential effect (APE). In accordance with the City of San Diego Cultural Resources Guidelines, separate technical reports are required for the archaeological and built environment resources. The APEs for these studies are not the same width.

The North City Project consists of multiple components, including the North City Pure Water Facility (NCPWF), the North City Water Reclamation Plant Expansion (NCWRP), the Morena Waste Water Forcemain and Brine/Centrates Line (Morena Pipelines), the North City Renewable Energy Facility, the Landfill Gas (LFG) Pipeline, NCPWF Influent Pump Station, North City Pure Water Pump Station (North City Pump Station), and the Morena Pump Station. The purified water produced at the NCPWF would then be conveyed to either Miramar or San Vicente Reservoir through the North City Pure Water Pipeline (North City Pipeline) or San Vicente Pure Water Pipeline (San Vicente Pipeline), respectively. The proposed Project footprint extends from the existing NCWRP at 4949 Eastgate Mall to the proposed Morena Pump Station near the intersection of Friars Road and Interstate 5 in the south and will extend east to either the Miramar Reservoir or the San Vicente Reservoir (Figure 1, Regional Map). The APE is located on the Del Mar, El Cajon, La Jolla, La Mesa, Poway, and San Vicente Reservoir, California U.S. Geological Survey quadrangles (Figures 2A–2L, Vicinity Maps). Due to the preliminary nature of this report, the exact North City Project footprint and pipeline route have not yet been determined. To ensure that all potentially impacted archaeological resources are identified and to accommodate minor engineering adjustments, the current APE includes a 100-foot buffer around all proposed project facilities, temporary work areas, and all pipeline routes (Figure 3, Miramar Reservoir Alternative; Figure 4, San Vicente Reservoir Alternative; and Figures 5A–5L, APE Maps). The vertical APE is variable but has been assumed to be no greater than 30 feet below the ground surface. Several of the pipeline segments will be installed using directional drilling. Although this method of drilling does not impact the surface of the pipeline route, the pipeline routes are still included within the APE. Likewise, a segment of repurposed pipeline will not impact the surface but is still included in the APE. Large portions of the APE are located within highly developed areas and preferential placement of the pipeline is within existing utility corridors and paved roadways. As such, a pedestrian survey has been deemed unnecessary in highly developed areas of the APE (see Section 4, Methods). The entire APE was subject to reconnaissance survey in a vehicle so less developed areas could be identified and earmarked for pedestrian survey.

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This report documents the results of the North City Project archaeological resources inventory including a records search, reconnaissance vehicle survey, pedestrian survey, resource documentation, and Native American participation. The goal of this inventory is to provide data to the City of San Diego to aid in the management of archaeological resources during the implementation of the North City Project.

1.1 Regulatory Context

This project is subject to federal, state, and local regulations regarding cultural resources. The following section provides a summary of the applicable regulations, policies, and guidelines relating to the proper management of cultural resources for this project.

1.1.1 36 CFR 800 and Section 106 of the NHPA

The National Historic Preservation Act (NHPA) established the National Register of Historic Places (NRHP) and the President's Advisory Council on Historic Preservation, and provided that states may establish State Historic Preservation Officers (SHPOs) to carry out some of the functions of the NHPA. Most significantly for federal agencies responsible for managing cultural resources, Section 106 of the NHPA directs that "[t]he head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in any State and the head of any Federal department or independent agency having authority to license any undertaking shall, prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the NRHP." Section 106 also affords the President's Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking (16 U.S.C. 470f).

36 Code of Federal Regulations, Part 800 implements Section 106 of the NHPA. It defines the steps necessary to identify historic properties (those cultural resources listed in or eligible for listing in the NRHP), including consultation with federally recognized Native American tribes to identify resources with important cultural values; to determine whether or not they may be adversely affected by a proposed undertaking; and to outline the process for eliminating, reducing, or mitigating the adverse effects.

The content of 36 CFR 60.4 defines criteria for determining eligibility for listing in the NRHP. The significance of cultural resources identified during an inventory must be formally evaluated for historical significance in consultation with the California SHPO to determine if the resources are eligible for inclusion in the NRHP. Cultural resources may be considered eligible for listing if they possess integrity of location, design, setting, materials, workmanship, feeling, and association. The criteria for determining eligibility are essentially the same in content and order

Cultural Resources Inventory Report for the North City Project

as those outlined under the California Environmental Quality Act (CEQA), but the criteria under NHPA are labeled A through D (rather than 1–4 under CEQA).

Regarding criteria A through D of Section 106, the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, cultural resources, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that:

- A. Are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. Are associated with the lives of persons significant in our past; or
- C. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. Have yielded or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

The President's Advisory Council on Historic Preservation provides methodological and conceptual guidance for identifying historic properties. In 36 CFR 800.4, the steps necessary for identifying historic properties include:

- Determine and document the APE (36 CFR 800.16(d)).
- Review existing information on historic properties within the APE, including preliminary data.
- Confer with consulting parties to obtain additional information on historic properties or concerns about effects to these.
- Consult with Native American tribes (36 CFR 800.3(f)) to obtain knowledge on resources that are identified with places which they attach cultural or religious significance.
- Conduct appropriate fieldwork (including phased identification and evaluation).
- Apply NRHP criteria to determine a resource eligibility for NRHP listing.

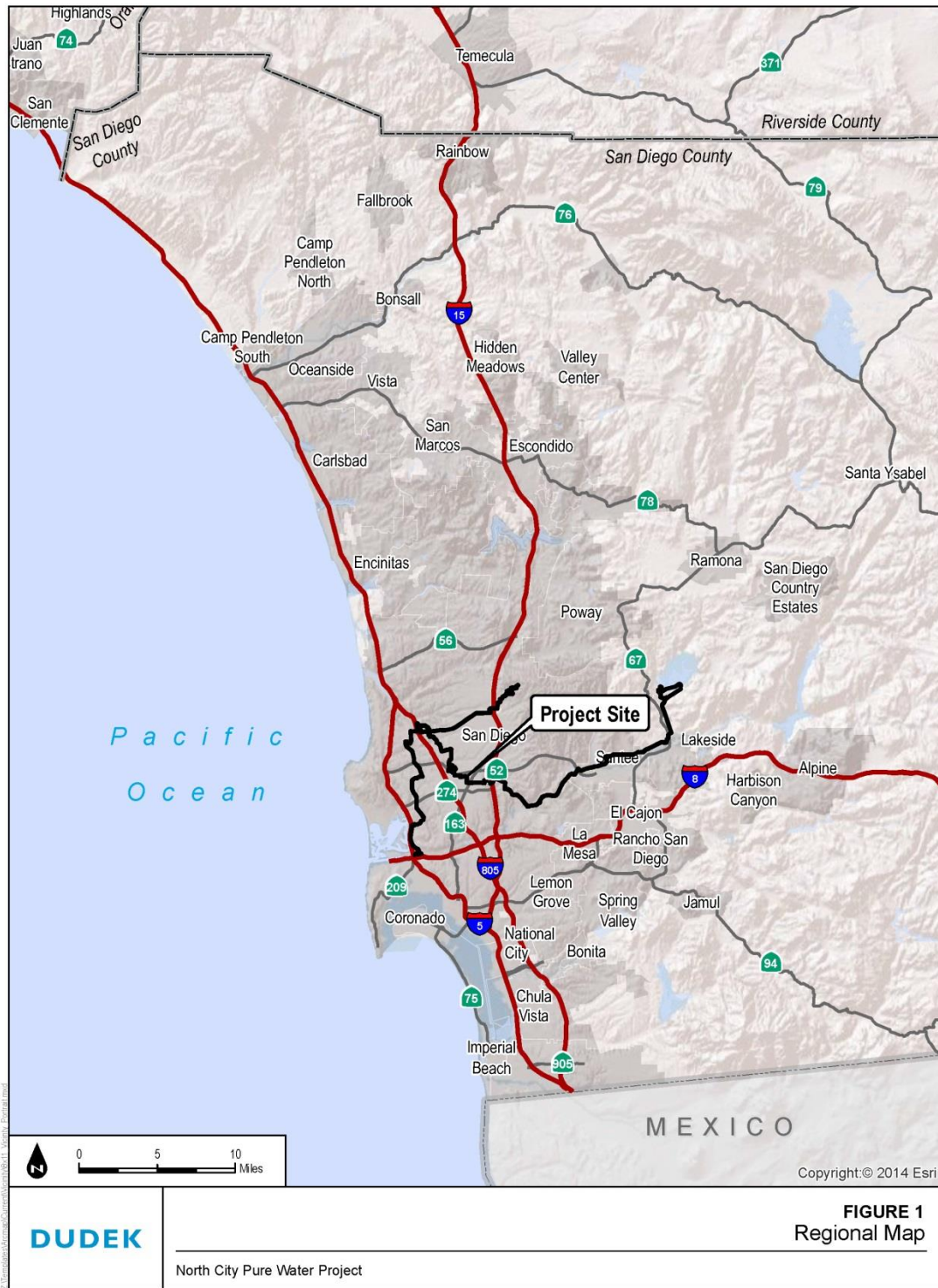
Fulfilling these steps is generally thought to constitute a reasonable effort to identify historic properties within the APE for an undertaking. The obligations of a federal agency must also assess whether an undertaking will have an adverse effect on cultural resources. An undertaking will have an adverse effect when:

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... an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative (36 CFR Part 800.5(1)).

The process of determining whether an undertaking may have an adverse effect requires the federal agency to confer with consulting parties in order to appropriately consider all relevant stakeholder concerns and values. Consultation regarding the treatment of a historic property may result in a Programmatic Agreement (PA) and/or Memorandum of Agreement between consulting parties that typically include the lead federal agency, SHPO, and Native American tribes if they agree to be signatories to these documents. Treatment documents—whether resource-specific or generalized—provide guidance for resolving potential or realized adverse effects to known historic properties or to those that may be discovered during implementation of the undertaking. In all cases, avoidance of adverse effects to historic properties is the preferred treatment measure and it is generally the burden of the federal agency to demonstrate why avoidance may not be feasible. Avoidance of adverse effects may not be feasible if it would compromise the objectives of an undertaking that can be reasonably said to have public benefit. Other non-archaeological considerations about the benefit of an undertaking may also apply, resulting in the determination that avoidance is not feasible. In general, avoidance of adverse effects is most difficult when a permitted undertaking is being implemented, such as identification of an NRHP-eligible archaeological resource during earthmoving.

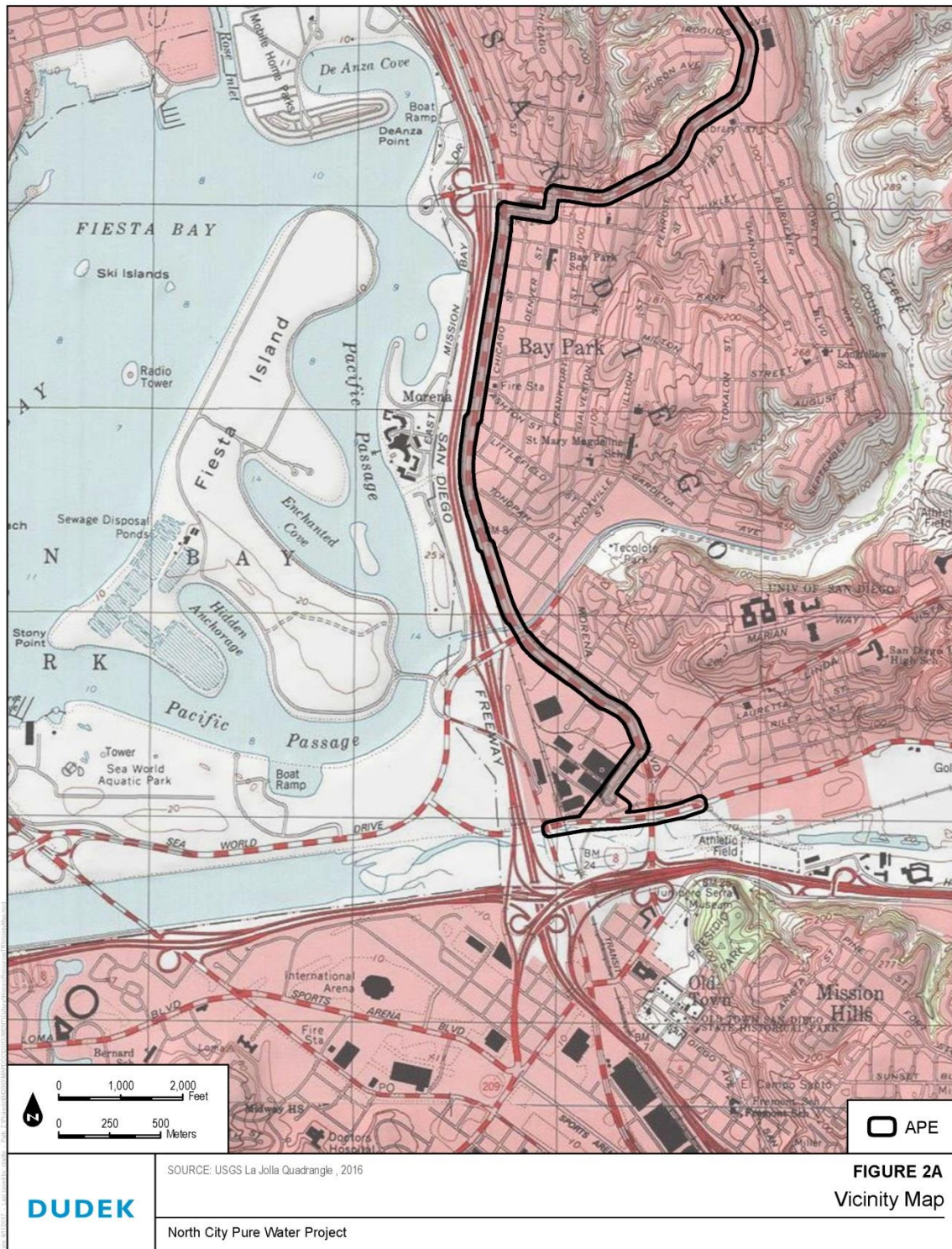
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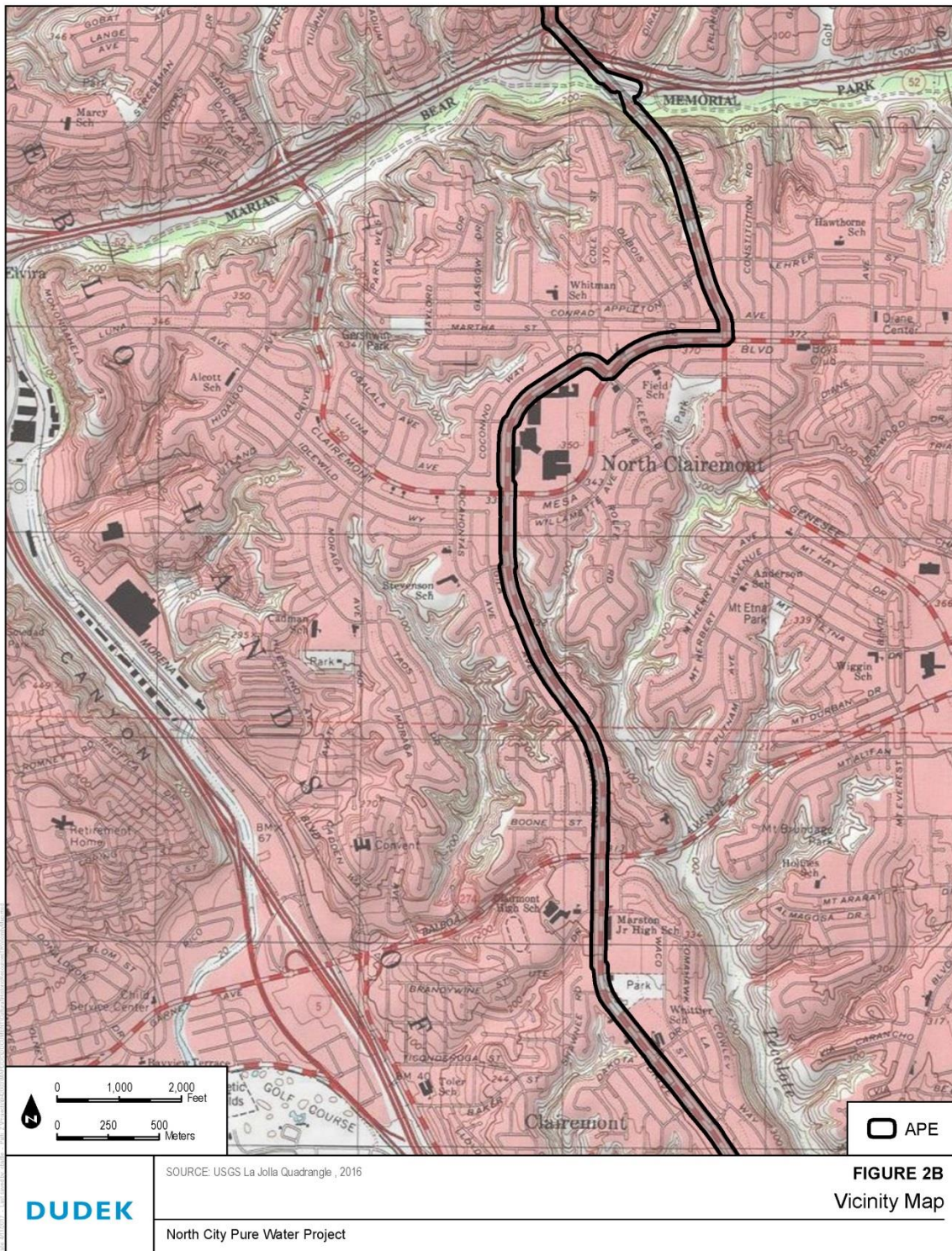
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SOURCE: USGS La Jolla Quadrangle, 2016

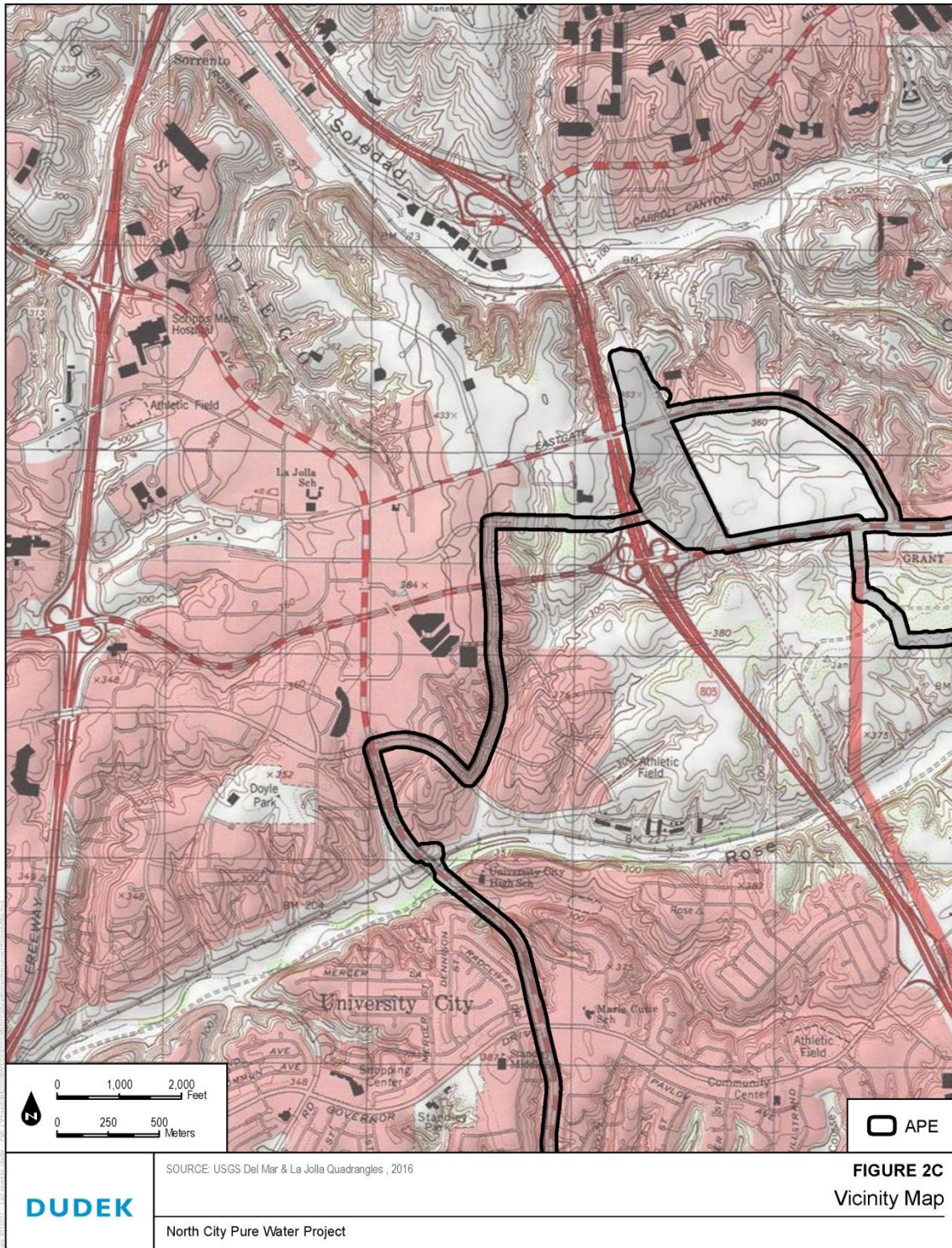
North City Pure Water Project

FIGURE 2B
Vicinity Map

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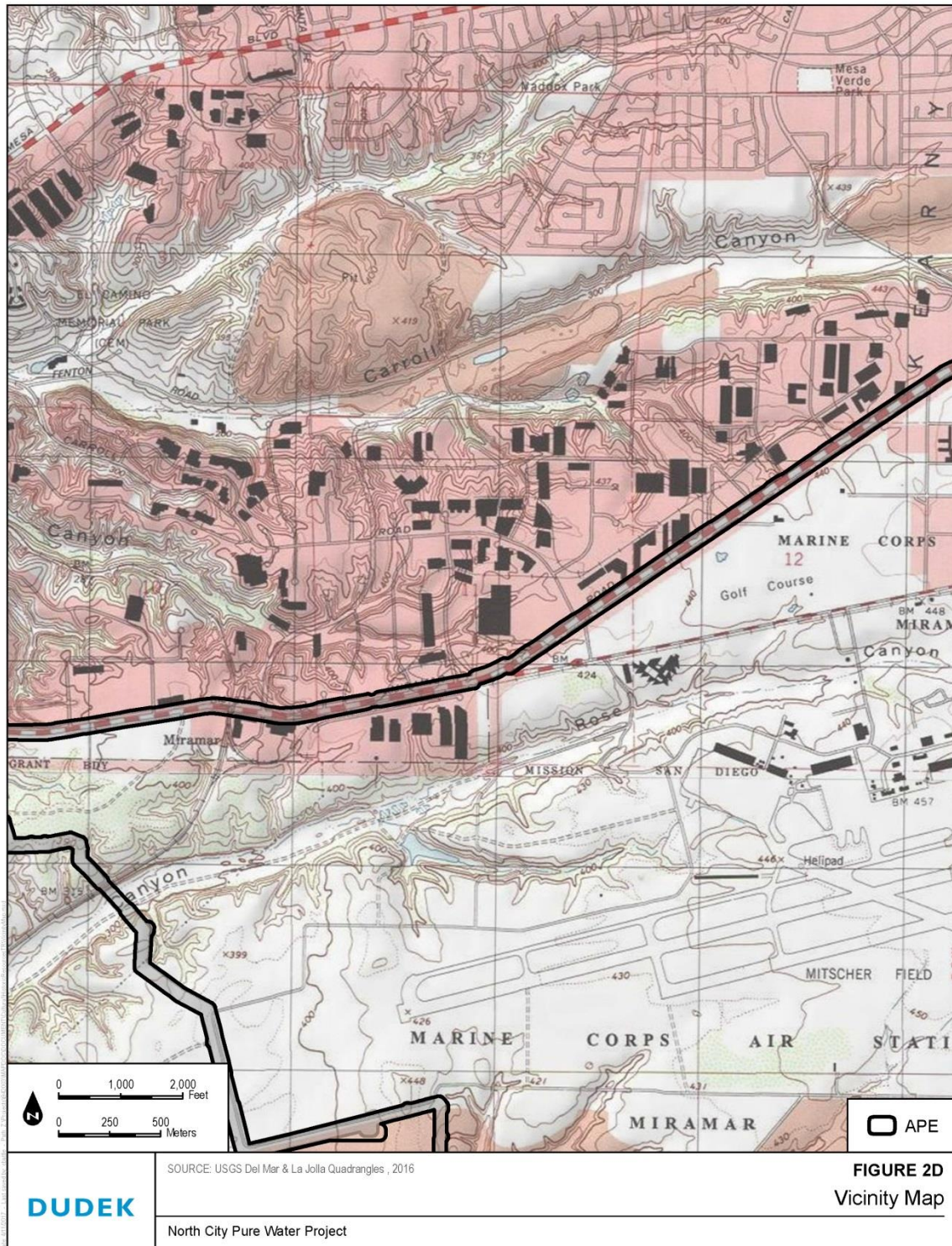
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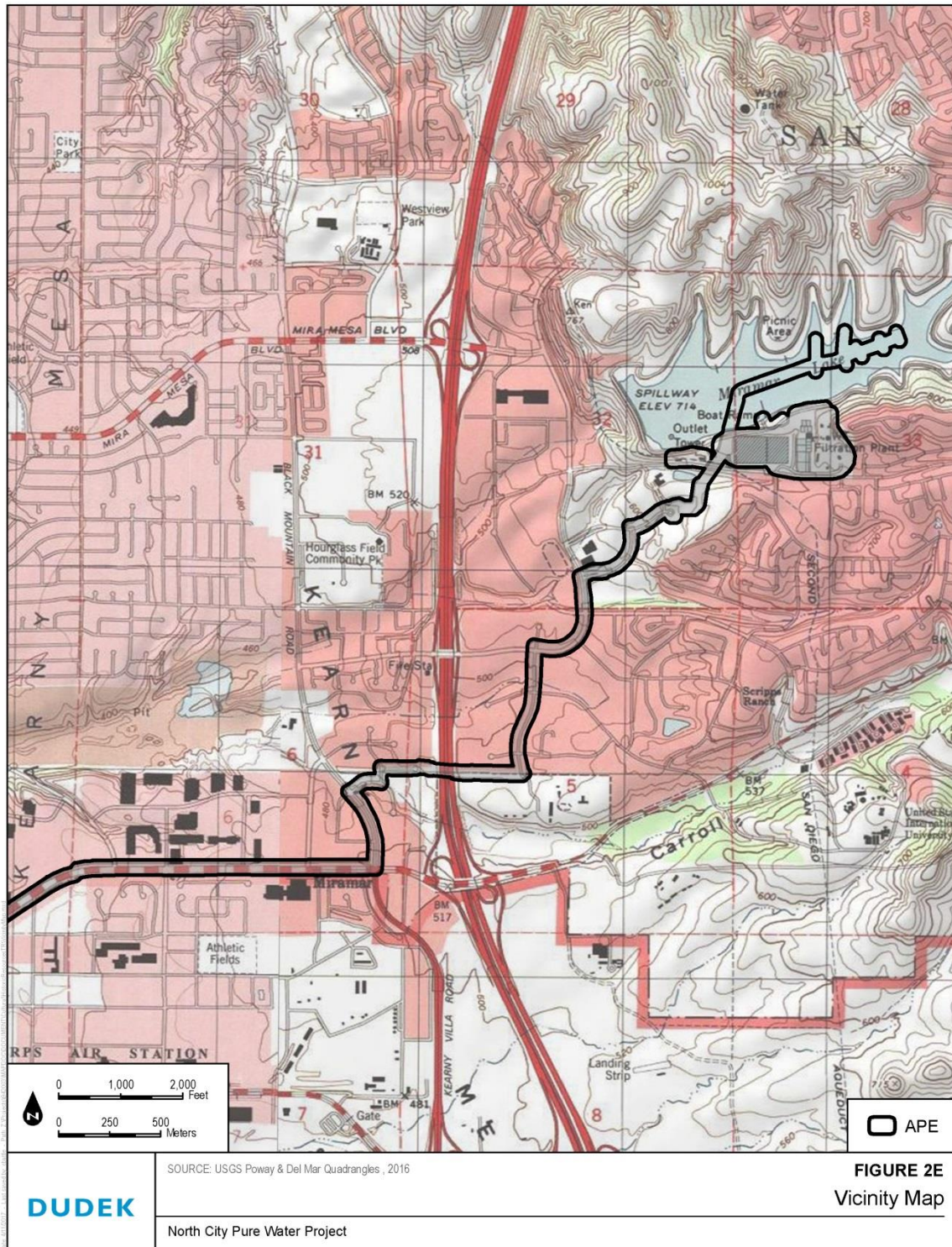
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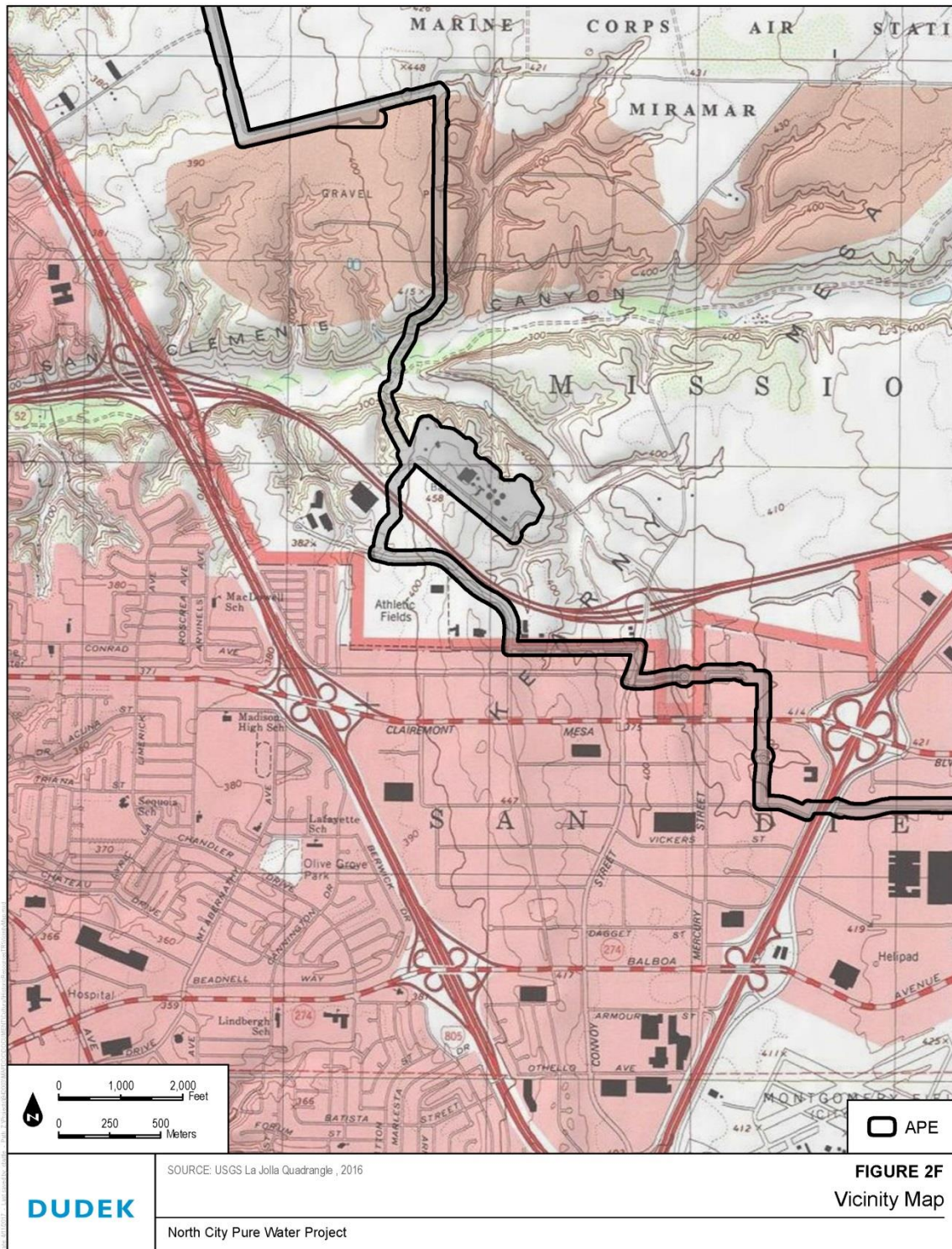
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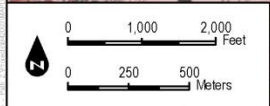
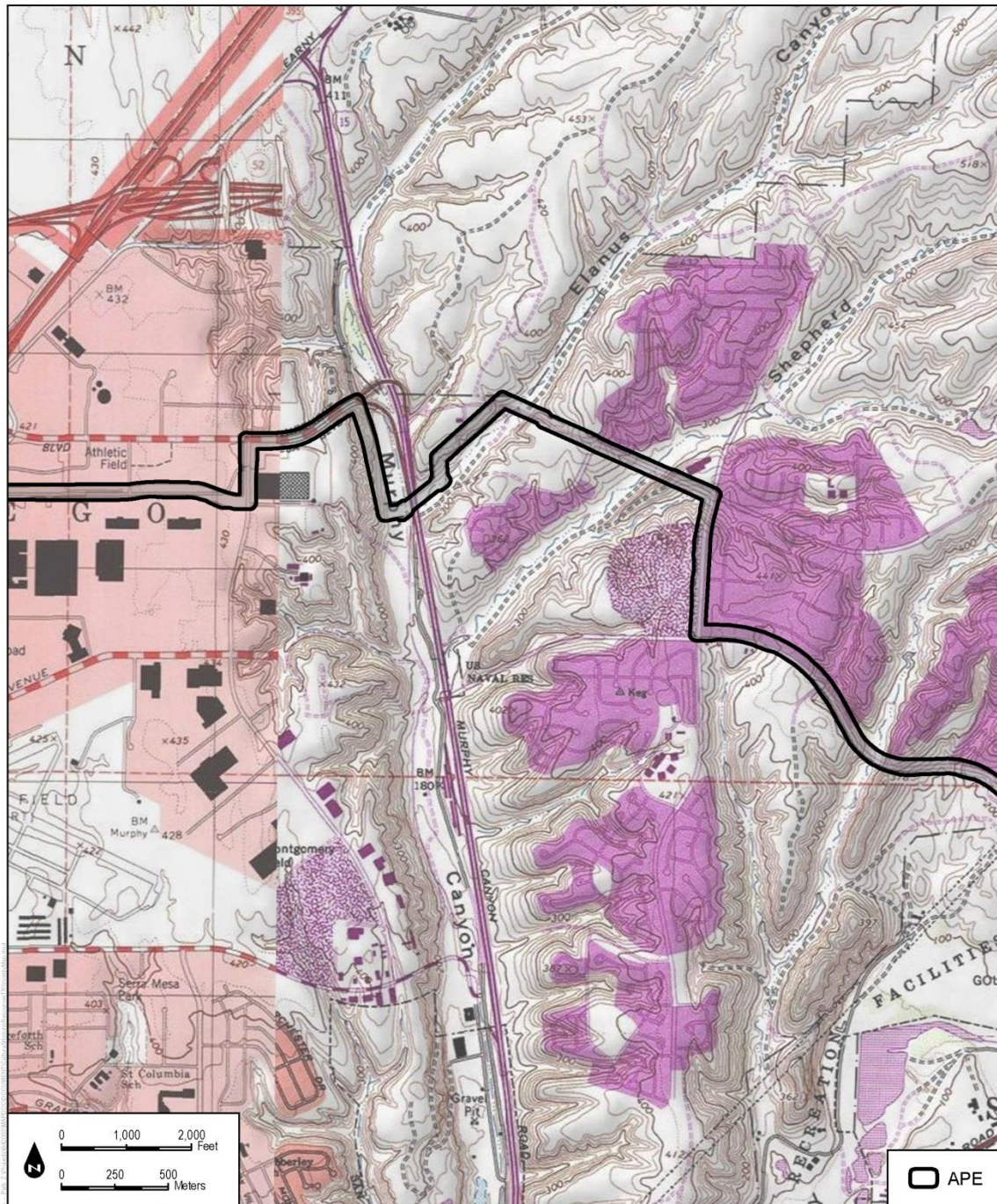
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SOURCE: USGS La Jolla & La Mesa Quadrangles, 2016

FIGURE 2G
Vicinity Map

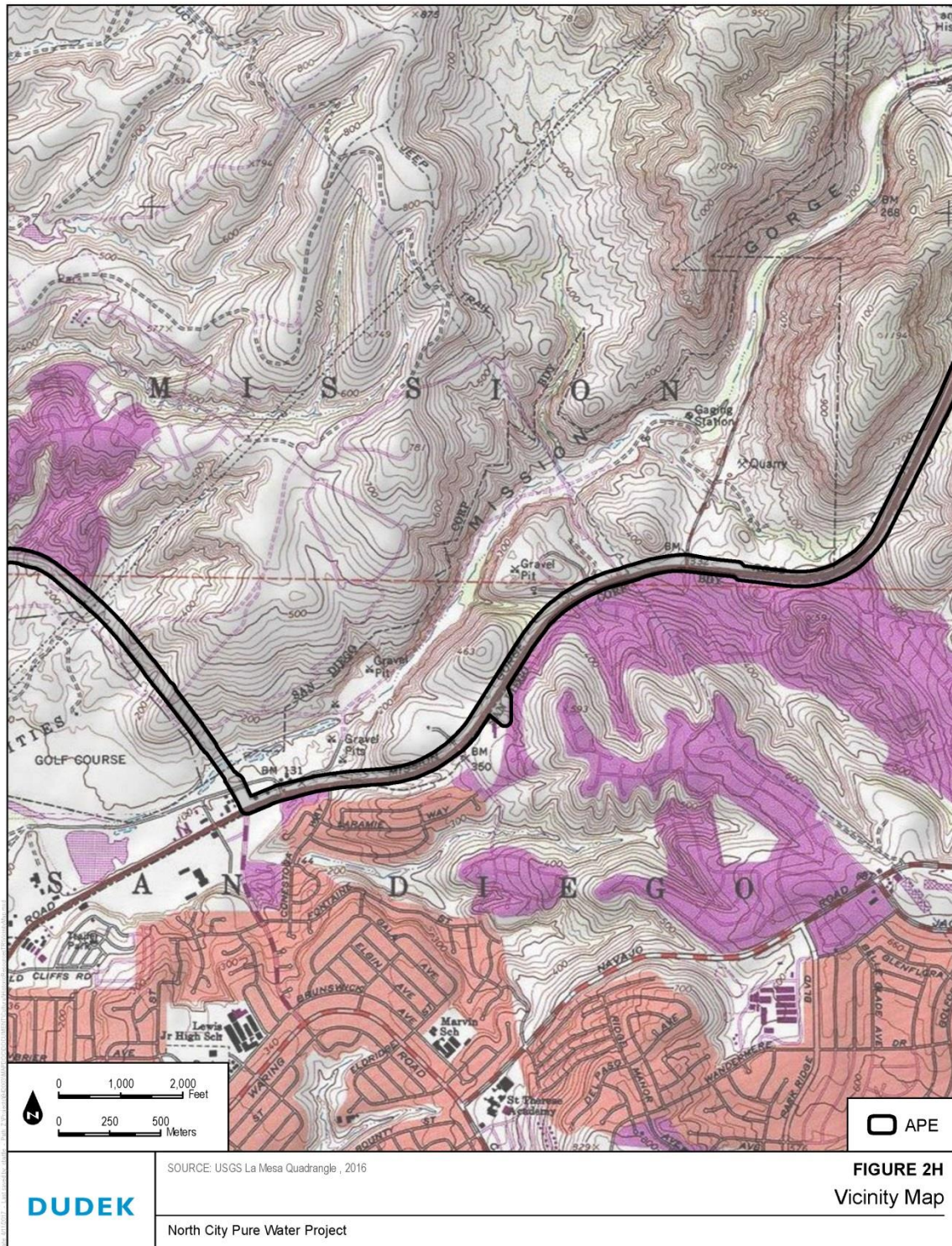
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North City Pure Water Project

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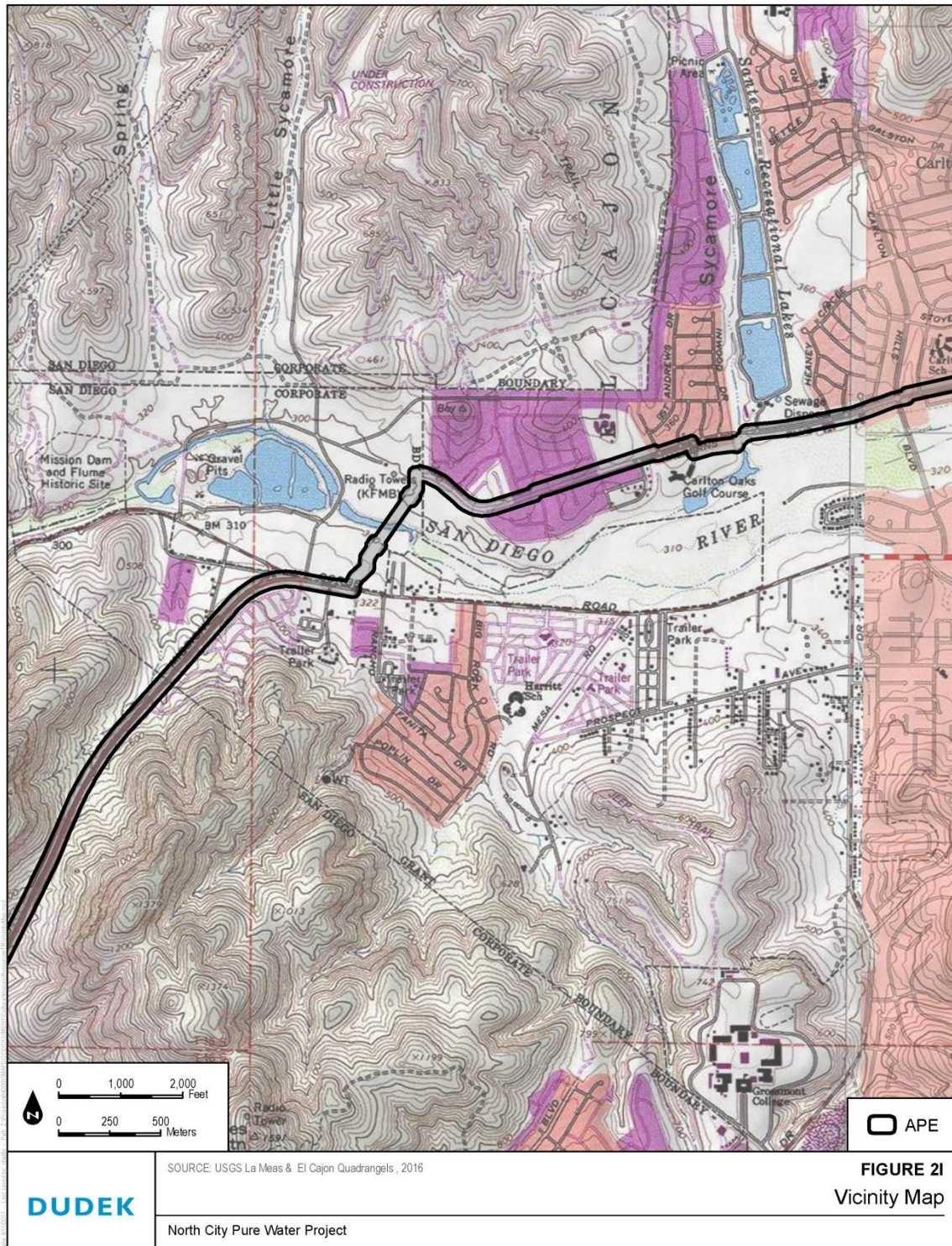
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SOURCE: USGS La Meas & El Cajon Quadrangles, 2016

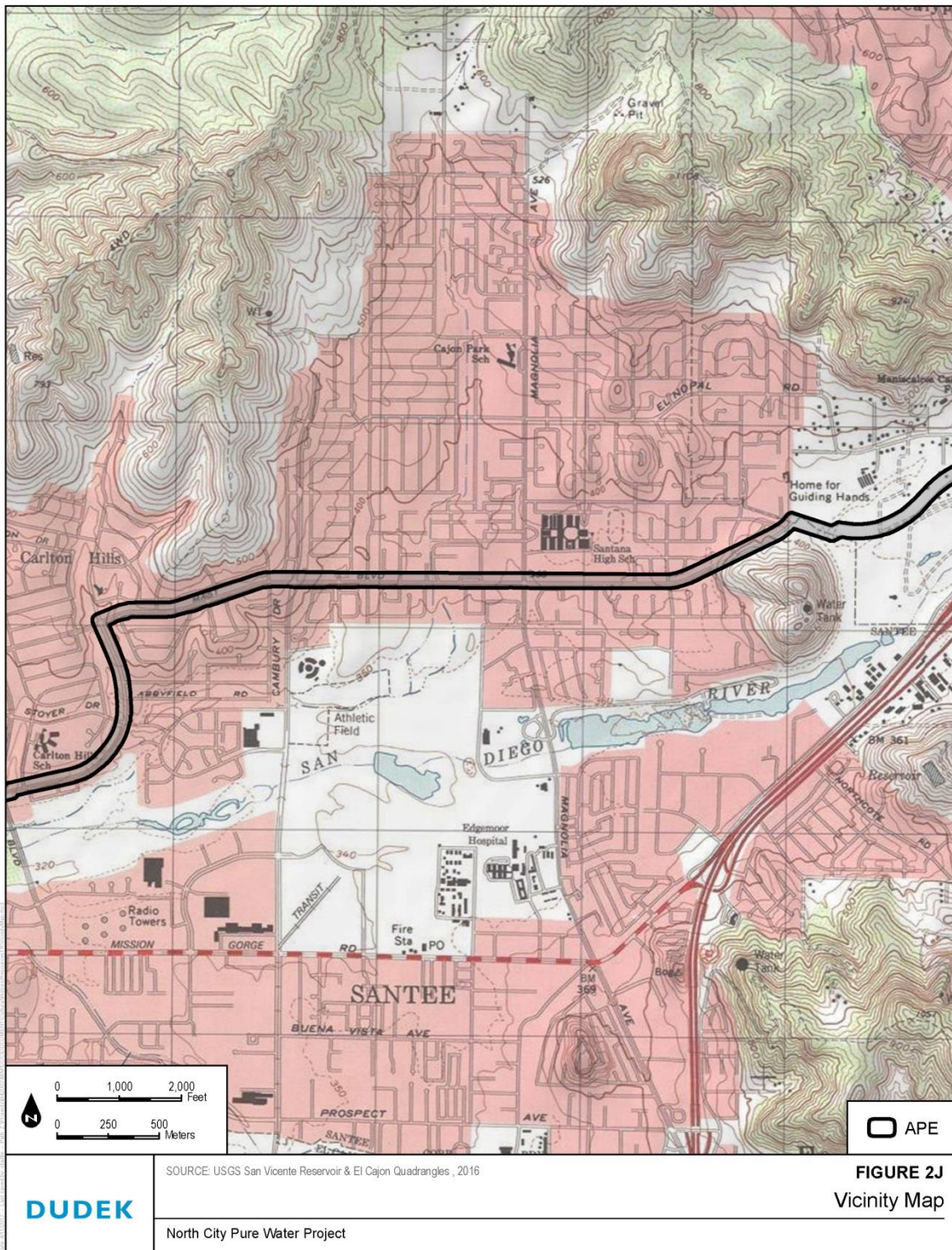
North City Pure Water Project

FIGURE 21
Vicinity Map

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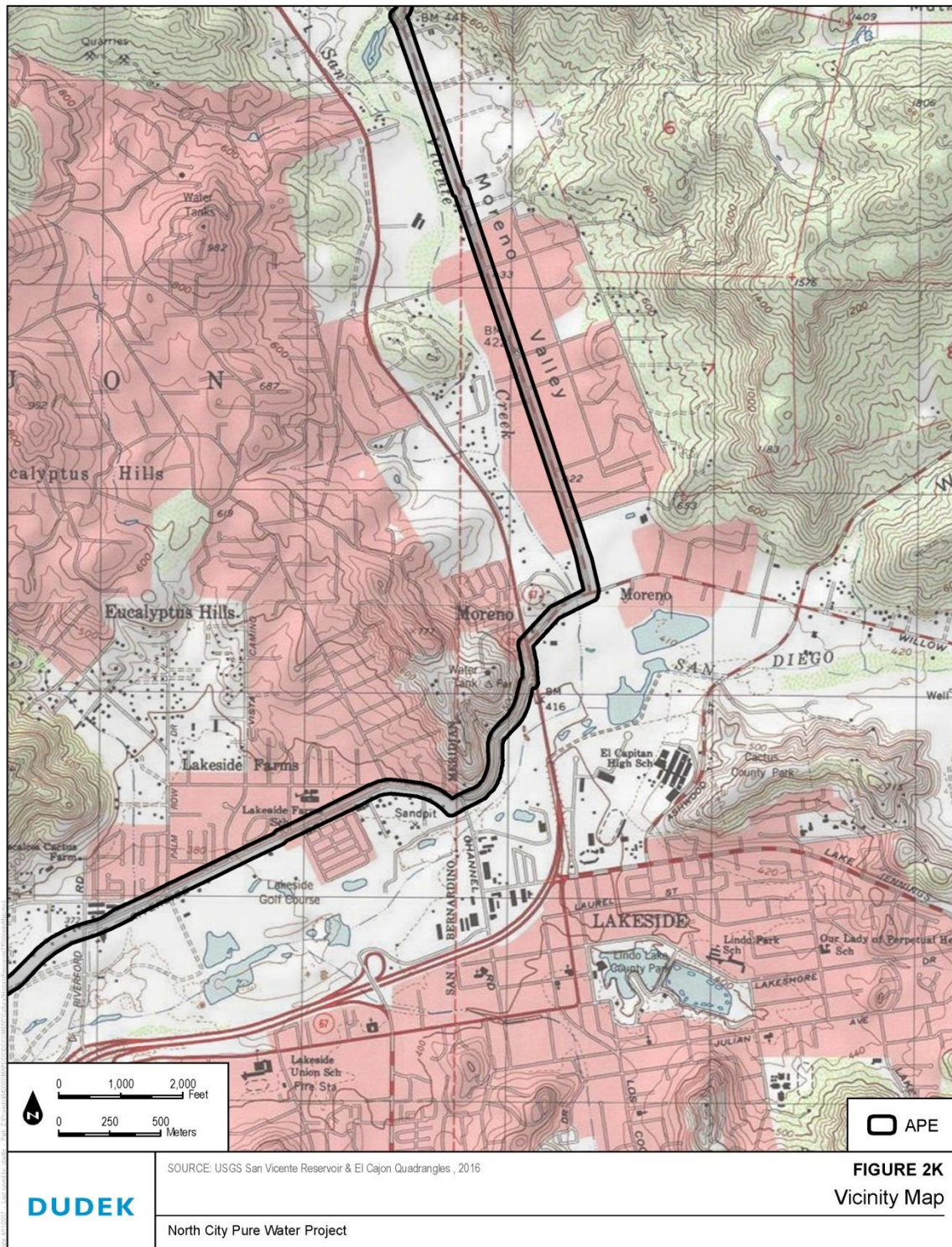
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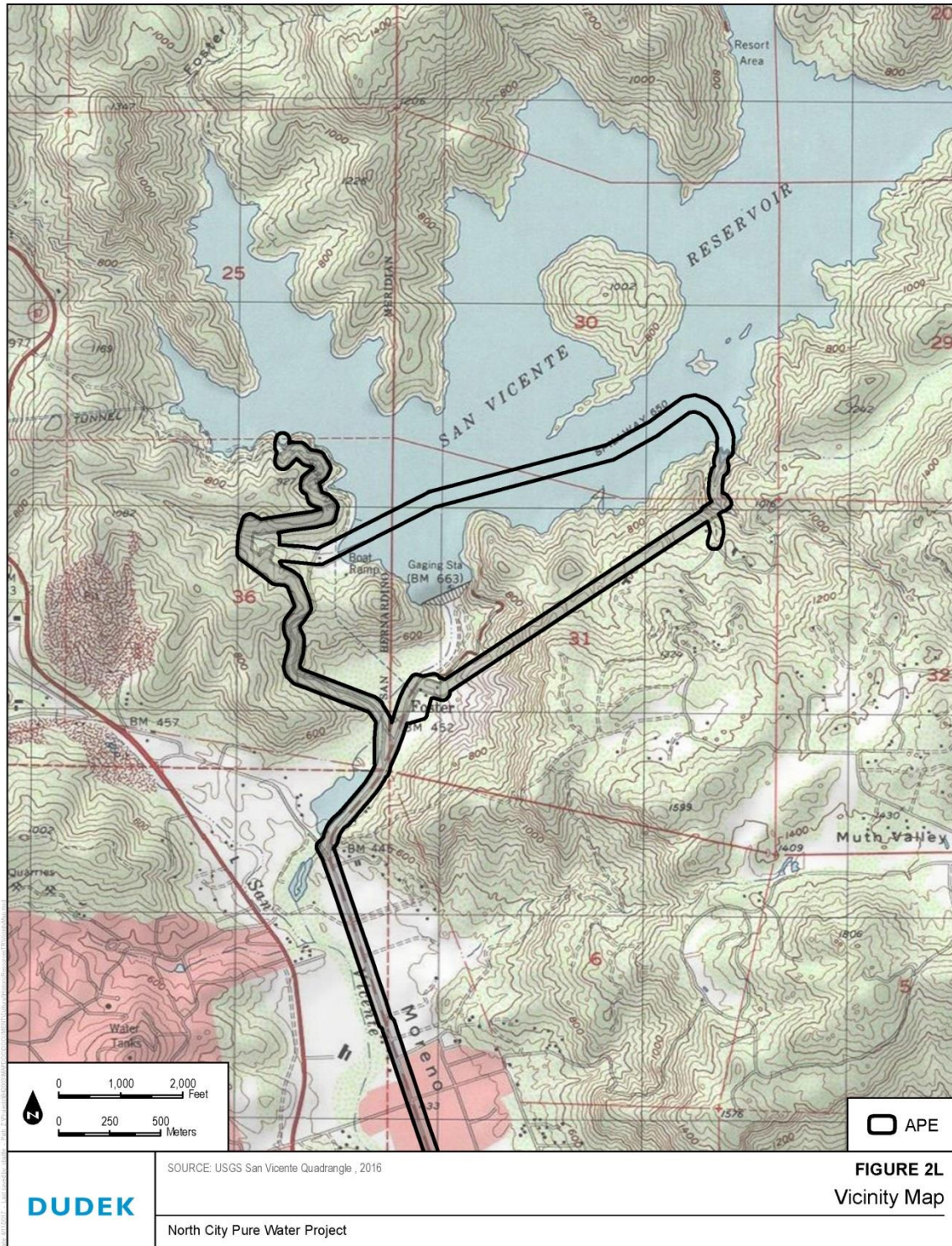
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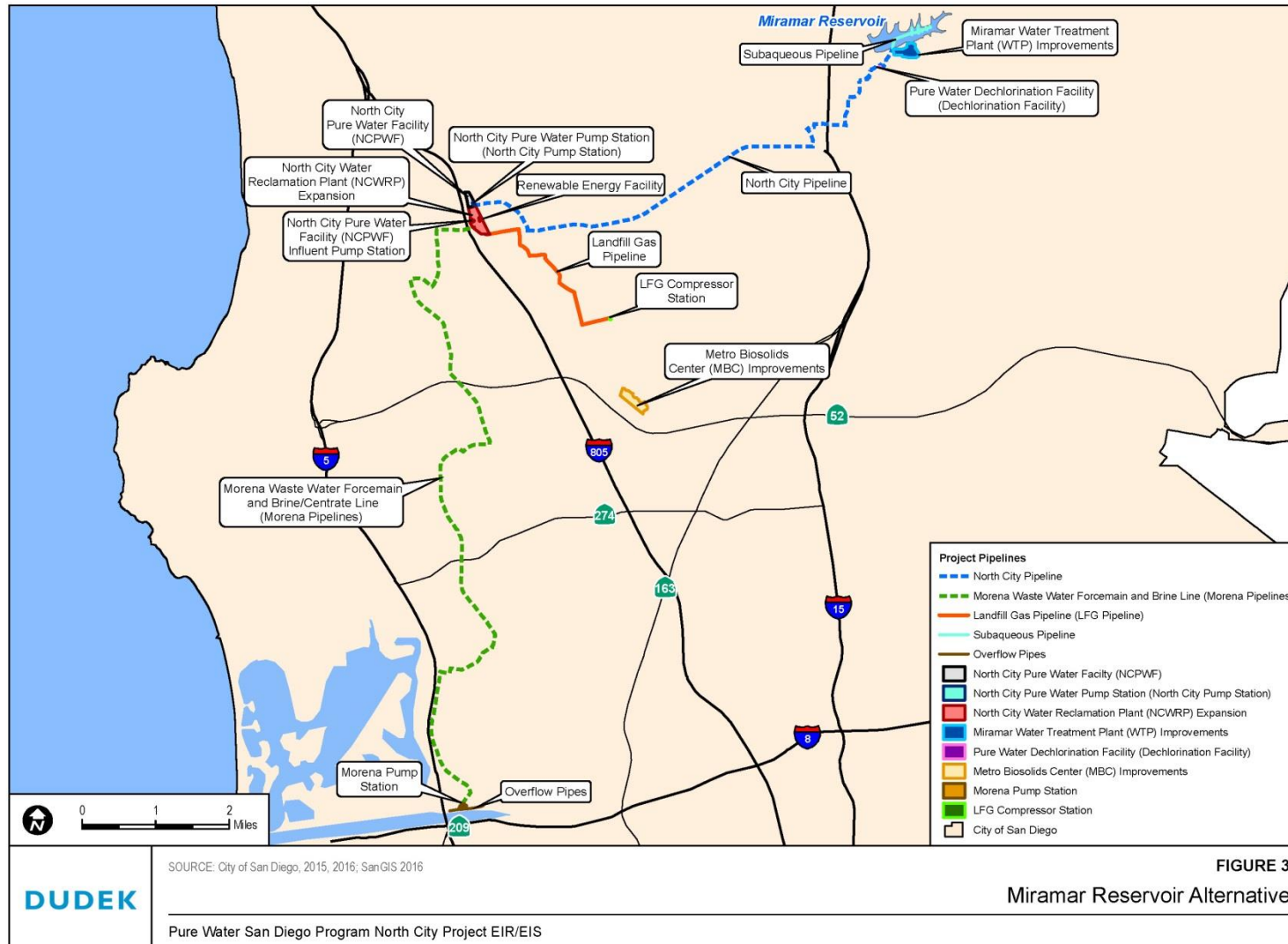
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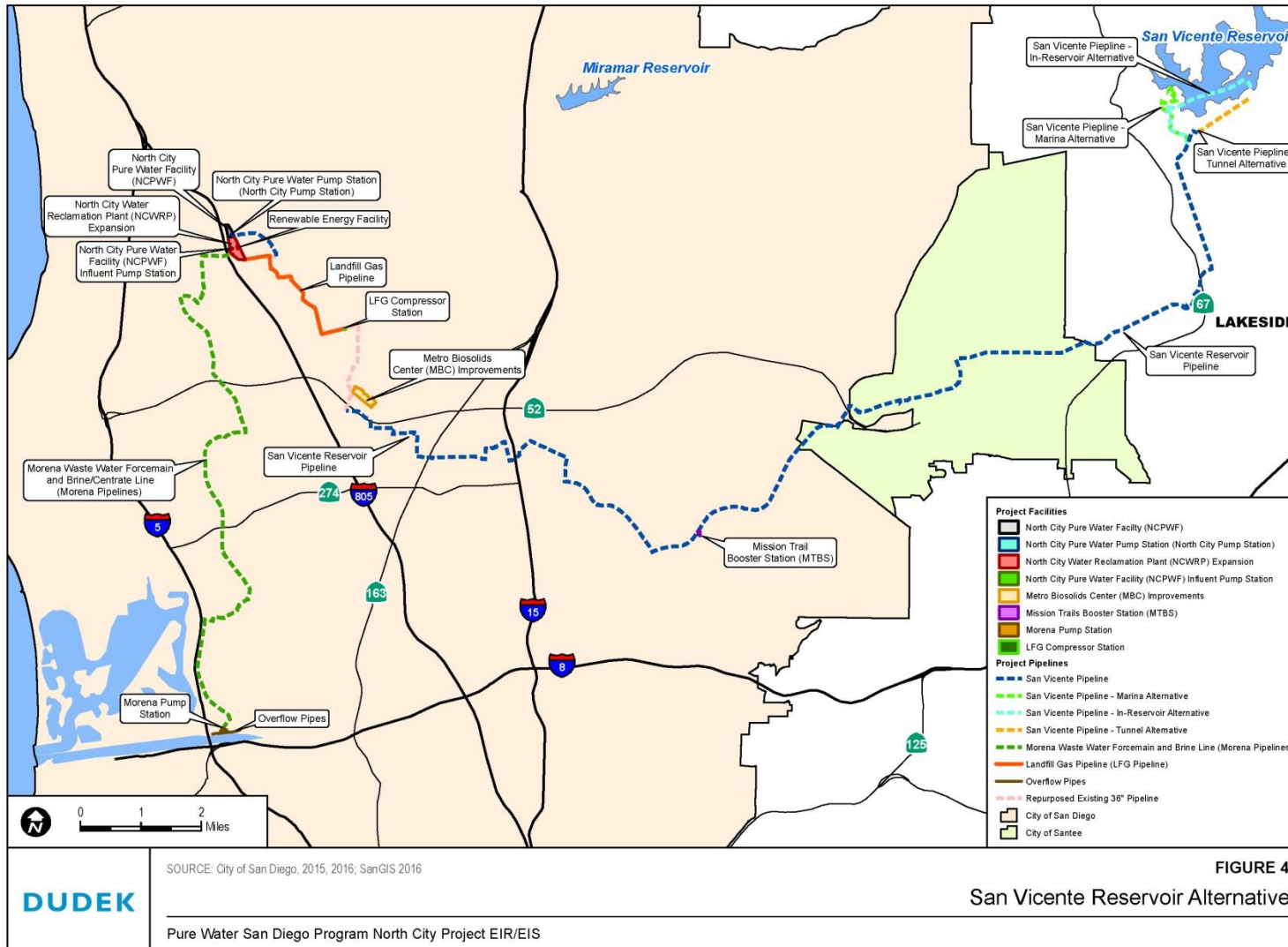
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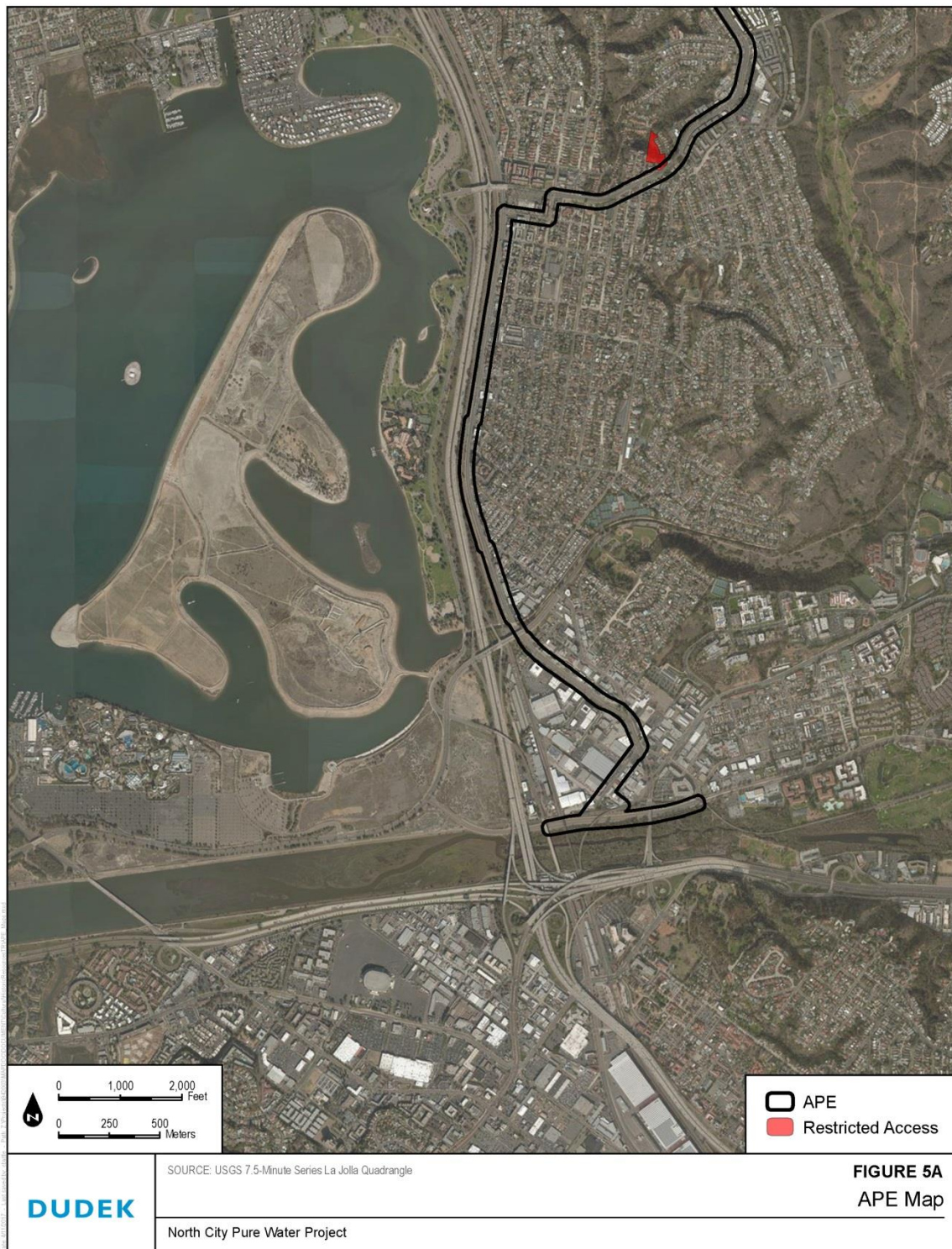
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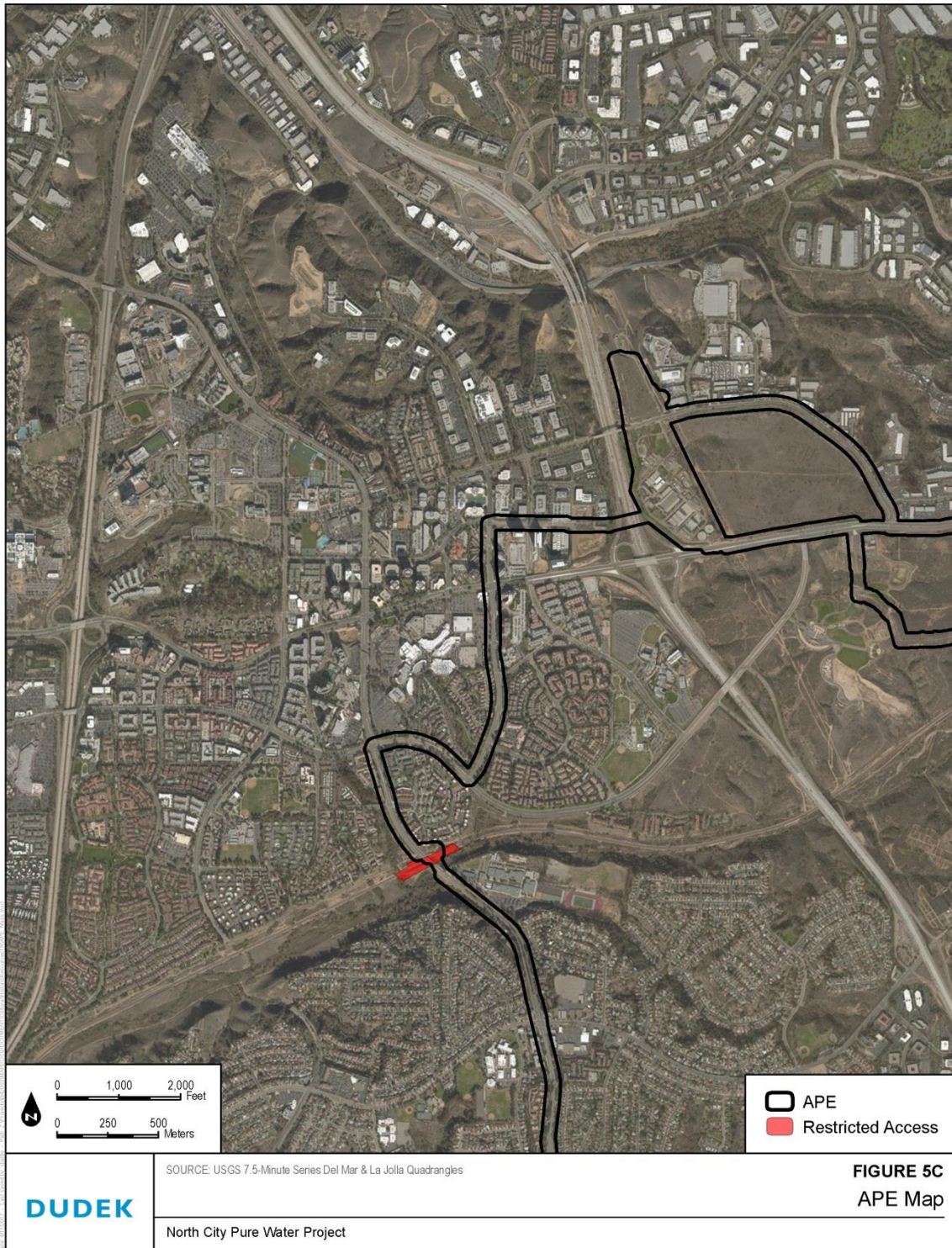
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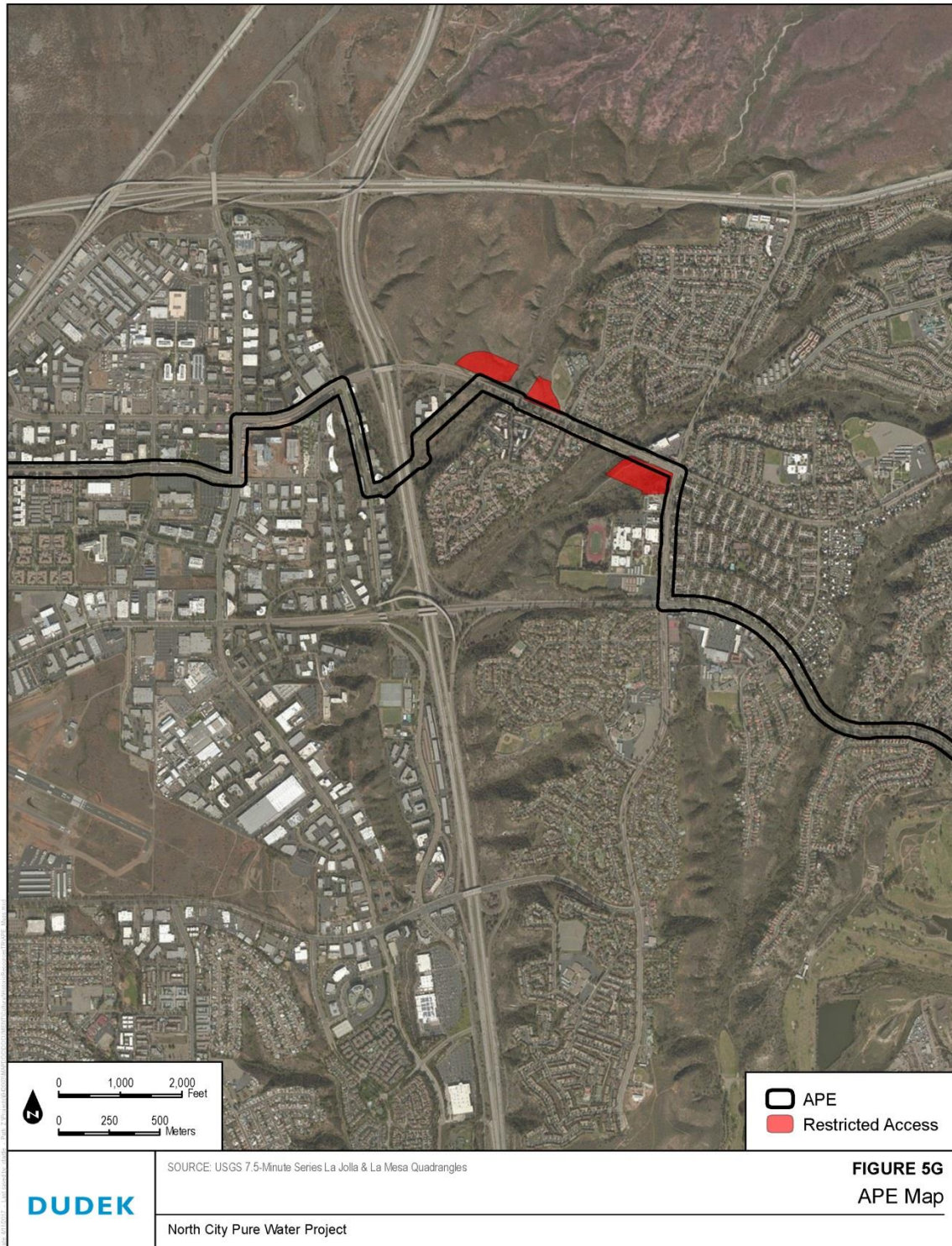
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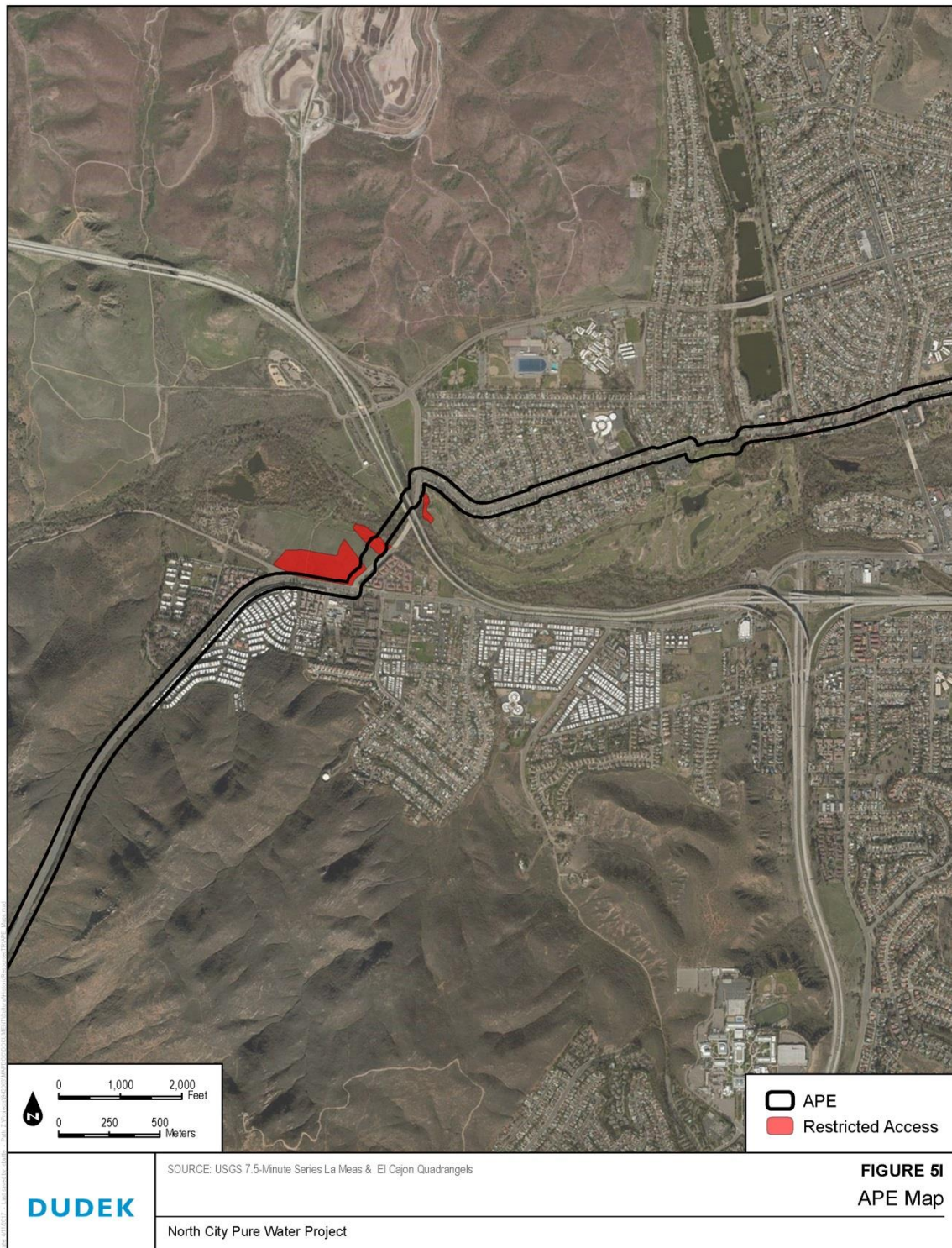
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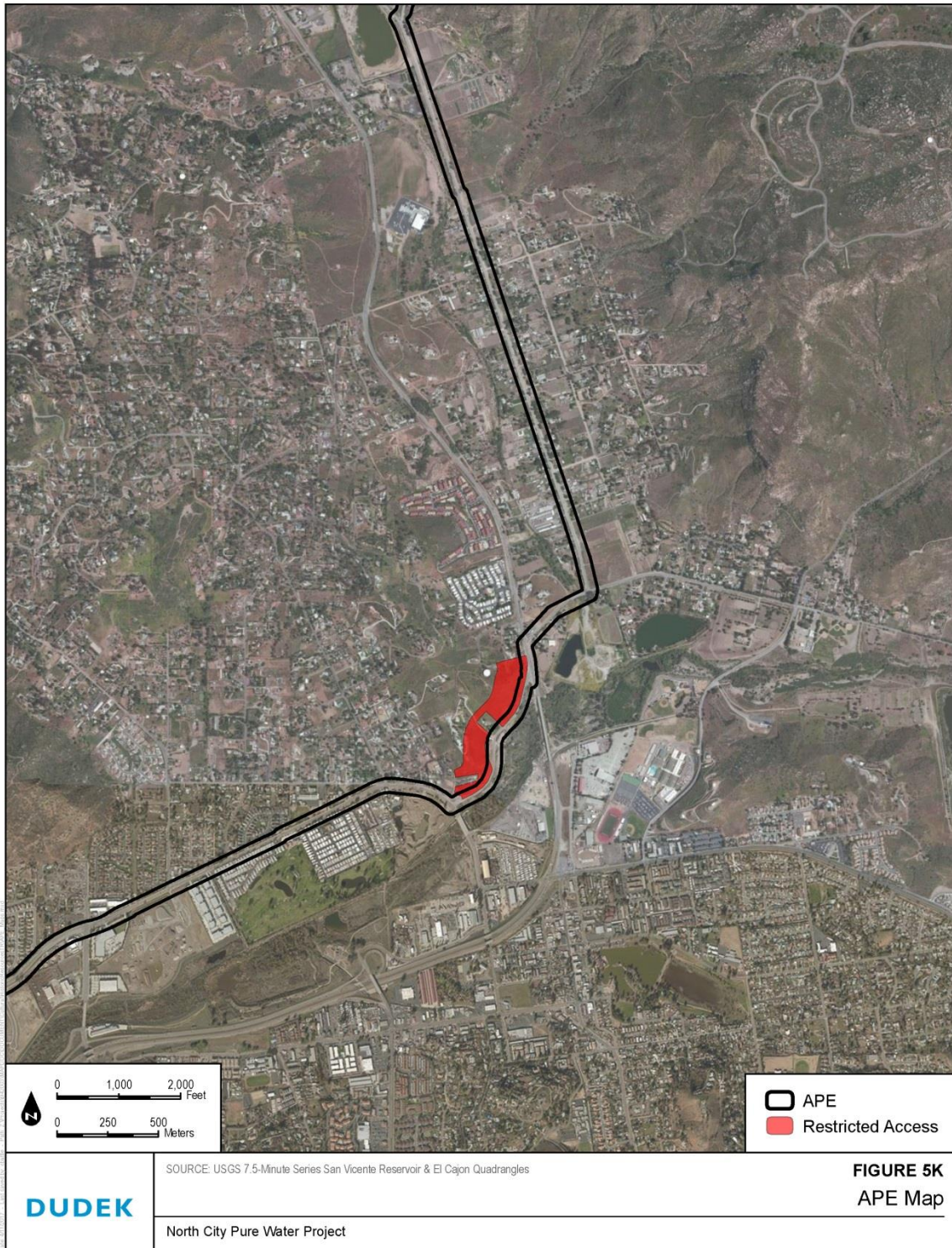
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1.1.2 California Register of Historical Resources (California Public Resources Code Section 5020 et seq.)

In California, the term “cultural resource” includes but is not limited to “any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California” (California Public Resources Code Section 5020.1(j)). In 1992, the California legislature established CRHR “to be used by state and local agencies, private groups, and citizens to identify the state’s cultural resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change” (California Public Resources Code Section 5024.1(a)). A resource is eligible for listing in the CRHR if the State Cultural Resources Commission determines that it is a significant resource and that it meets any of the following NRHP criteria:

1. Associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.
2. Associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

(California Public Resources Code Section 5024.1(c).) Resources less than 50 years old are not considered for listing in the CRHR, but may be considered if it can be demonstrated that sufficient time has passed to understand the historical importance of the resource (see 14 CCR, Section 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing on the NRHP are automatically listed on the CRHR, as are the state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local cultural resource surveys. The SHPO maintains the CRHR.

1.1.3 Native American Historic Cultural Sites (California Public Resources Code Section 5097 et seq.)

The Native American Historic Resources Protection Act (Public Resources Code Section 5097, et seq.) addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to

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be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the NRHC to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy an Indian historic or cultural site that is listed or may be eligible for listing in the CRHR.

1.1.4 California Native American Graves Protection and Repatriation Act

The California Native American Graves Protection and Repatriation Act (California Repatriation Act), enacted in 2001, requires all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items, as defined, to complete an inventory and summary of these remains and items on or before January 1, 2003, with certain exceptions. The California Repatriation Act also provides a process for the identification and repatriation of these items to the appropriate tribes.

1.1.5 California Environmental Quality Act

As described further below, the following CEQA statutes and CEQA Guidelines are relevant to the analysis of archaeological and historic resources:

1. California Public Resources Code Section 21083.2(g): Defines “unique archaeological resource.”
2. California Public Resources Code Section 21084.1 and CEQA Guidelines Section 15064.5(a): Defines cultural resources. In addition, CEQA Guidelines Section 15064.5(b) defines the phrase “substantial adverse change” in the significance of a cultural resource. It also defines the circumstances when a project would materially impair the significance of a cultural resource.
3. California Public Resources Code Section 21074 (a): defines “Tribal cultural resources” and Section 21074(b): defines a “cultural landscape.”
4. California Public Resources Code Section 5097.98 and CEQA Guidelines Section 15064.5(e): These statutes set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
5. California Public Resources Code Sections 21083.2(b)-(c) and CEQA Guidelines Section 15126.4: These statutes and regulations provide information regarding the mitigation framework for archaeological and historic resources, including options of preservation-in-place mitigation measures; identifies preservation-in-place as the preferred manner of mitigating impacts to significant archaeological sites.

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Under CEQA, a project may have a significant effect on the environment if it may cause “a substantial adverse change in the significance of an [sic] cultural resource” (California Public Resources Code Section 21084.1; CEQA Guidelines Section 15064.5(b)). A “cultural resource” is any site listed or eligible for listing in the CRHR. The CRHR listing criteria are intended to examine whether the resource in question: (a) is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage; (b) is associated with the lives of persons important in our past; (c) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or (d) has yielded, or may be likely to yield, information important in pre-history or history.

The term “cultural resource” also includes any site described in a local register of historic resources, or identified as significant in a cultural resources survey (meeting the requirements of California Public Resources Code Section 5024.1(q)).

CEQA also applies to “unique archaeological resources.” California Public Resources Code Section 21083.2(g) defines a “unique archaeological resource” as any archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

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

In 2014, CEQA was amended through Assembly Bill (AB) 52 to apply to “tribal culture resources” as well. Specifically, California Public Resources Code Section 21074 provides guidance for defining tribal cultural resources as either of the following:

6. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following: (A) Included or determined to be eligible for inclusion in the California Register of Cultural Resources. (B) Included in a local register of cultural resources as defined in subdivision (k) of §5020.1.
7. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of §5024.1. In applying the criteria set forth in subdivision (c)

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of §5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe. (b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

All cultural resources and unique archaeological resources – as defined by statute – are presumed to be historically or culturally significant for purposes of CEQA (California Public Resources Code Section 21084.1; 14 CCR 15064.5(a)). The lead agency is not precluded from determining that a resource is a cultural resource even if it does not fall within this presumption (California Public Resources Code Section 21084.1; 14 CCR 15064.5(a)). A site or resource that does not meet the definition of “cultural resource” or “unique archaeological resource” is not considered significant under CEQA and need not be analyzed further (California Public Resources Code Section 21083.2(a); 14 CCR 15064.5(c)(4)).

Under CEQA and significant cultural impact results from a “substantial adverse change in the significance of an [sic] cultural resource [including a unique archaeological resource]” due to the “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an cultural resource would be materially impaired” (14 CCR 15064.5(b)(1); California Public Resources Code Section 5020.1(q)). In turn, the significance of a cultural resource is materially impaired when a project:

1. Demolishes or materially alters in an adverse manner those physical characteristics of an cultural resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
2. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of cultural resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in an cultural resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
3. Demolishes or materially alters in an adverse manner those physical characteristics of a cultural resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA (14 CCR 15064.5(b)(2)).

Pursuant to these sections, the CEQA first evaluates evaluating whether a project site contains any “cultural resources,” then assesses whether that project will cause a substantial adverse

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change in the significance of a cultural resource such that the resource's historical significance is materially impaired.

When a project significantly affects a unique archaeological resource, CEQA imposes special mitigation requirements. Specifically:

[i]f it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. Examples of that treatment, in no order of preference, may include, but are not limited to, any of the following:

1. Planning construction to avoid archaeological sites.
2. Deeding archaeological sites into permanent conservation easements.
3. Capping or covering archaeological sites with a layer of soil before building on the sites.
4. Planning parks, greenspace, or other open space to incorporate archaeological sites (California Public Resources Code, Sections 21083.2(b)(1)–21083.2(b)(4)).

If these “preservation in place” options are not feasible, mitigation may be accomplished through data recovery (California Public Resources Code, Section 21083.2(d); 14 CCR 15126.4(b)(3)(C)). California Public Resources Code Section 21083.2(d) states that:

[e]xcavation as mitigation shall be restricted to those parts of the unique archaeological resource that would be damaged or destroyed by the project. Excavation as mitigation shall not be required for a unique archaeological resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the resource, if this determination is documented in the environmental impact report.

These same requirements are set forth in slightly greater detail in CEQA Guidelines Section 15126.4(b)(3), as follows:

- A. Preservation in place is the preferred manner of mitigating impacts to archaeological sites. Preservation in place maintains the relationship between artifacts and the archaeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the site.
- B. Preservation in place may be accomplished by, but is not limited to, the following:
 1. Planning construction to avoid archaeological sites;

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2. Incorporation of sites within parks, greenspace, or other open space;
 3. Covering the archaeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site[; and]
 4. Deeding the site into a permanent conservation easement.
- C. When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the cultural resource, shall be prepared and adopted prior to any excavation being undertaken (14 CCR 15126.4(b)(3)).

Note that, when conducting data recovery, “[i]f an artifact must be removed during project excavation or testing, curation may be an appropriate mitigation.” (14 CCR 15126.4(b)(3)) However, “[d]ata recovery shall not be required for an cultural resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historic resource, provided that determination is documented in the EIR and that the studies are deposited with the California Cultural resources Regional Information Center” (14 CCR 15126.4(b)(3)(D)).

Finally, CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. These procedures are set forth in California Public Resources Code Section 5097.98.

1.1.6 California Health and Safety Code Section 7050.5

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. California Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the County coroner has examined the remains (California Health and Safety Code, Section 7050.5b). If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the Native American Heritage Commission (NAHC) within 24 hours (California Health and Safety Code, Section 7050.5c). The NAHC will notify the Most Likely Descendent (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. The inspection must be completed within 24 hours of notification of the MLD by the NAHC. The MLD may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

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1.1.7 City of San Diego Historic Resource Guidelines

The City of San Diego Cultural Resources Guidelines outlines its purpose as follows:

To provide property owners, the development community, consultants and the general public with explicit guidelines for the management of cultural resources located within the jurisdiction of the City of San Diego. These guidelines are designed to implement the City's Cultural Resources Regulations contained in the Land Development Code (Chapter 14, Division 3, Article 2) in compliance with the applicable local, state, and federal policies and mandates (City of San Diego 2001).

The City of San Diego Cultural Resources Guidelines observe that "cultural resource" means:

Site improvements, buildings, structures, historic districts, signs, features (including trees or other landscaping), places, place names, interior elements and fixtures designated in conjunction with a property, or other objects of historical, archaeological, scientific, educational, cultural, architectural, aesthetic, or traditional significance to citizens of the city. They include buildings, structures, objects, archaeological sites, districts, or landscapes possessing physical evidence of human activities that are typically over 45 years old, regardless of whether they have been altered or continue to be used (City of San Diego 2001).

The purpose and intent of the Cultural Resources Regulation of the Land Development Code (Chapter 14, Division 3, Article 2) is outlined as follows:

To protect, preserve and, where, damaged, restore the cultural resources of San Diego. The regulations apply to all development within the City of San Diego when cultural resources are present within the premises regardless of the requirement to obtain Neighborhood Development Permit or Site Development Permit (City of San Diego 2001).

The City of San Diego General Plan Program Environmental Impact Report (PEIR) states the following:

The Cultural Resources Regulations require that designated cultural resources and traditional cultural properties be preserved unless deviation findings can be made by the decision maker as part of a discretionary permit. Minor alterations consistent with the U.S. Secretary of the Interior's Standards are exempt from the requirement to obtain a separate permit but must comply with the regulations and associated cultural resources guidelines. Limited development may encroach into

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important archaeological sites if adequate mitigation measures are provided as a condition of approval.

Cultural Resources Guidelines, located in the Land Development Manual, provide property owners, the development community, consultants and the general public explicit guidance for the management of cultural resources located within the City's jurisdiction. These guidelines are designed to implement the cultural resources regulations and guide the development review process from the need for a survey and how impacts are assessed to available mitigation strategies and report requirements and include appropriate methodologies for treating cultural resources located in the City.

In order to assess the significance of the Pure Water Program's effects on cultural resources, the City of San Diego's Scoping Letter for the Program (City of San Diego 2014), as well as the City's Significance Determination Thresholds (City of San Diego 2011), identify the following thresholds:

- Result in the alteration or destruction of a prehistoric or historic archaeological site, or adverse physical or aesthetic effects to a prehistoric building, structure, object, or site.
- Result in any impact to existing religious or sacred uses or result in the disturbance of any human remains within the potential impact area.

In general, the City's cultural resources regulations build on federal and state cultural resources laws and guidelines in an attempt to streamline the process of considering impacts to cultural resources within the City's jurisdiction, while maintaining that some resources not significant under federal or state law may be considered historical under the City's guidelines. In order to apply the criteria and determine the significance of potential project impacts to a cultural resource, the APE of the project must be defined for both direct impacts and indirect impacts. Indirect impacts can include increased public access to an archaeological site, or visual impairment of a historically significant view shed related to a historic building or structure.

1.2 Project Personnel

Micah Hale, PhD, RPA, served as project manager and Principal Investigator, and co-authored the technical report. Matthew DeCarlo, BA, served as field director and co-authored the technical report. Kara Dotter, MHP, conducted architectural history surveys and documentation, and Brad Comeau, MSc, RPA, served as contributing author. Victor Herrera and Jason Collins served as field crew members (Appendix A). Justin Linton, Gabe Kitchen, and Tuchon Phoenix of Red Tail Monitoring and Research Inc. participated in the survey and evaluations as Native American monitors.

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1.3 Report Structure

Following this introduction, a cultural and environmental context is provided for characterizing cultural resources. Next, inventory, excavation, and laboratory methods are reviewed. A description of the survey and excavation results follows. An analysis of excavated materials is then presented followed by evaluation recommendations and management considerations. Two sets of appendices (confidential and non-confidential) are attached. The non-confidential appendices include Appendix A: Project Personnel Qualifications; Appendix C: NAHC Sacred Lands File Search and Tribal Correspondence; and Appendix F: Artifact Catalog. The confidential appendices include Appendix B: Records Search Documents; Appendix D: New DPR Site Records and Updates; and Appendix E: Resources in APE Location Maps.

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2 SETTING

2.1 Natural Setting

The North City Project extends from its southwestern boundary at the Morena Pump Station near the outlet of the San Diego River to its northeastern boundary at the San Vicente Reservoir. The elevation of the project ranges from approximately 14 feet above mean sea level at the Morena Pump Station to 1,080 feet above mean sea level at the San Vicente Reservoir (Dudek 2017). Topography of the project ranges greatly, from generally flat mesa terraces that support the NCWRP, to steep canyons and mountainous terrain surrounding San Vicente Reservoir. Large segments of the project are planned within existing developed areas and paved roads, but some segments traverse undeveloped habitats with native habitat communities (Dudek 2017).

For detailed discussion relating to the environmental context of this area, please consult the biological, geological, and other technical studies prepared for North City Project.

2.2 Cultural Setting

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 500–1769), and Ethnohistoric (post-AD 1769).

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

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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 km 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 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

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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: millings, 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 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 millings 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 500–1769)

The period of time following the Archaic and prior to Ethnohistoric times (AD 1769) is commonly referred to as the Late Prehistoric (M. Rogers 1945; Wallace 1955; Warren et al.

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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 1980), 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 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 1769)

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

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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:

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 (Kroeber 1925, p. 711).

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

The traditional cultural boundaries between the Luiseño and Kumeyaay Native American tribal groups have been well defined by anthropologist Florence C. Shippek:

In 1769, the Kumeyaay national territory started at the coast about 100 miles south of the Mexican border (below Santo Tomas), thence north to the coast at the drainage divide south of the San Luis Rey River including its tributaries. Using the U.S. Geological Survey topographic maps, the boundary with the Luiseño then follows that divide inland. The boundary continues on the divide separating Valley Center from Escondido and then up along Bear Ridge to the 2240 contour line and then north across the divide between Valley Center and Woods Valley up to the 1880-foot peak, then curving around east along the divide above Woods Valley (Shippek 1993, as summarized in County of San Diego 2007, p. 6).

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

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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). Based on the project location, the Native American inhabitants of the region would have likely spoken both the Ipai and 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 (Golla 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 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 (Pignuolo 2004; True 1966).

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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 (Luomala 1978). 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). 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; Pignolo 2005; Warren 1964). Shellfish from sandy environments included *Donax*, *Saxidomus*, *Tivela*, and others. Rocky coast shellfish dietary contributions consisted of *Pseudochama*, *Megastraea*, *Saxidomus*, *Protothaca*, *Megathura*, *Mytilus*, and others. Lastly, the bay environment would have provided *Argopecten*, *Chione*, *Ostrea*, *Neverita*, *Macoma*, *Tagelus*, and others. Although 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* sp.), deer, bears, mountain lions (*Puma concolor*), bobcats (*Lynx rufus*), coyotes (*Canis 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

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higher elevation varieties would have included buckwheat (*Eriogonum fasciculatum*), *Agave*, *Yucca*, lemonade sumac (*Rhus integrifolia*), sugarbush (*Rhus ovata*), sage scrub (*Artemisia californica*), yerba santa (*Eriodictyon* sp.), sage (*Salvia* sp.), *Ephedra*, prickly pear (*Opuntia* sp.), mulefat (*Baccharis salicifolia*), chamise (*Adenostoma fasciculatum*), elderberry (*Sambucus nigra*), oak (*Quercus* sp.), willow (*Salix* sp.), and *Juncus* grass among many others (Wilken 2012).

2.2.5 Historic Period (post-AD 1542)

San Diego history can be divided into the Spanish Period (1769–1821), Mexican Period (1821–1846) and American Period (1846–Present). 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 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.

The Spanish colonization of Alta California began in 1769 with the founding of Mission San Diego de Alcalá by Father Junípero Serra. 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 through the establishment of a Presidio, Mission, and Pueblo. The Spanish explorers first camped on the shore of the bay in the area that is now downtown San Diego. Lack of water at this location, however, led to moving 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.

Bad feelings soon developed between the native Kumeyaay and the soldiers, resulting in construction of a stockade which, by 1772, 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 6 miles up the San Diego River valley (modern Mission Valley) near the Kumeyaay village of Nipaguay. Begun as a thatched 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.

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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. 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. The initial Spanish occupation and mission system brought about profound changes in the lives of the Kumeyaay people. Substantial numbers of the coastal Kumeyaay were forcibly brought into the mission or died from introduced diseases.

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 and sometime after 1800, soldiers and their families began to move 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, of which only five of these grant lands 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.

In 1822 the political situation changed as Mexico won its independence from Spain and San Diego became part of the Mexican Republic. The Mexican Government opened California to foreign trade; began issuing private land grants in the early 1820s, creating the rancho system of large agricultural estates; secularized the Spanish missions in 1833; and oversaw the rise of the civilian pueblo. 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. 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. The town and the ship landing area at La Playa were now the centers of activity in Mexican San Diego. However, the new Pueblo of San Diego did not prosper as did some other California towns during the Mexican Period.

The secularization in San Diego County triggered 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. The Native American population continued to decline, as Mexican occupation brought about continued displacement and acculturation of Native American populations.

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The American Period began in 1846 when United States military forces occupied San Diego and this period continues today. 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. In December 1846, a group of Californios under Andres Pico engaged United States 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. The Americans assumed formal control with the Treaty of Guadalupe-Hidalgo in 1848 and introduced Anglo culture and society, American political institutions and especially American entrepreneurial commerce. 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, added to a severe drought which crippled ranching and the onset of the Civil War, 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. Not until land speculator and developer Alonzo Horton arrived in 1867 did San Diego begin to develop fully into an active American town.

Alonzo Horton's development of a New San Diego (modern downtown) in 1867 began to swing the community focus away from Old Town and began the urbanization of San Diego. 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 were "pre-fab" houses that were built on the east coast of the United States and shipped in sections around Cape Horn and reassembled in San Diego. 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 these communities, as well as in Little Italy, which developed at the same time. At the time downtown was being built, there began to be summer cottage/retreat development in what are now the Beach communities and La Jolla area. The early structures in these areas were not of substantial construction; they were primarily for temporary vacation housing.

Development also 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. It provided affordable housing away from the downtown area, and development expanded as transportation improved. Barrio Logan began as a

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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 industrial uses because land values were not as high; topographically the area is more level, and it is not as interesting in terms of views as are the areas north of downtown. Various ethnic groups settled in the area because of the availability of land ownership.

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

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. There was farming and ranching in Mission Valley until the middle portion of the twentieth 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.

Tierrasanta, previously owned by the United States 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 Peñasquitos 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 located in between. Industrial uses are located in planned industrial parks. Examples of every major period and style remain. 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, Prairie, French Eclectic, Italian Renaissance, Spanish Eclectic, Egyptian Revival, Tudor Revival, Modernistic and International.

2.3 South Coastal Information Center Records Search

An examination of existing maps, records, and reports was conducted by Dudek to determine if the North City Project could potentially impact previously recorded cultural resources.

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Dudek conducted a records search in July 2016 of data obtained from the South Coastal Information Center at San Diego State University. The search encompassed the APE and a 1-mile buffer around the APE. The purpose of the records search is to identify any previously recorded resources that may be located in or adjacent to the project area and to identify previous studies in the project vicinity. In addition to a review of previously prepared site records and reports, the records search also reviewed historical maps of the project area, ethnographies, the NRHP, the CRHR, the California Historic Property Data File, and the lists of California State Historical Landmarks, California Points of Historical Interest, and Archaeological Determinations of Eligibility. A review of the cultural resources records housed at Marine Corps Air Station (MCAS) Miramar assured that all resources located within the boundaries of MCAS Miramar were represented in the SCIC records search.

The records search identified 718 cultural resources within 1 mile of the APE. Of the 718 identified, 38 cultural resources fall within the APE (Table 1; see also Confidential Appendix B). The prehistoric sites include 14 artifact scatters, 5 milling stations, 3 possible temporary camps, and 9 isolated artifact locations. The historic-period sites include railroad features, a road, remnants of a water flume, a cistern, 2 refuse scatters, and a WWII training camp. To date, 3 of the resources have previously been evaluated and recommended not eligible for listing on the CRHR or NRHP, 1 is listed on the San Diego Register of Historic Resources, and the remaining 34 resources have not yet been evaluated.

The records search also identified that 878 previous archaeological studies have been conducted within 1 mile of the APE. Of the 878 studies, 557 studies cover a large portion of the APE (Table 2, provided in Confidential Appendix B). Of the 1566 acres in the APE, only 86 acres have never been surveyed, roughly 5% of the APE. Though most of the APE has been previously surveyed, nearly 500 of these surveys were conducted over 10 years ago.

Table 1
Previously Recorded Resources in APE

Site Number	TrinNo	Era	Description	NRHP/CRHR Eligibility
CR 450		Historic	Scripps-Meanley Ranch	San Diego Register of Historic Resources
NCAWPF-IF-1		Prehistoric	Isolated quartzite core	No formal evaluation
NCAWPF-IF-2		Prehistoric	Isolated metavolcanic flake	No formal evaluation
NCAWPF-IF-3		Prehistoric	Isolated quartzite flake	No formal evaluation
P-37-004505	CA-SDI-4505	Prehistoric	Pictograph panel, lithic scatter, and rock pile	No formal evaluation
P-37-006660	CA-SDI-6660	Historic	San Diego Mission Flume segment	No formal evaluation
P-37-009117	CA-SDI-9117	Historic	WWII training camp remnants	No formal evaluation
P-37-011077	CA-SDI-11077	Prehistoric	Bedrock milling feature	No formal evaluation
P-37-011459	CA-SDI-11459	Prehistoric	Lithic and groundstone scatter	No formal evaluation

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Table 1
Previously Recorded Resources in APE

Site Number	TrinNo	Era	Description	NRHP/CRHR Eligibility
P-37-011611	CA-SDI-11611	Prehistoric	Lithic quarry	No formal evaluation
P-37-011612	CA-SDI-11612	Prehistoric	Lithic artifact scatter	No formal evaluation
P-37-011761	CA-SDI-11761	Historic	Concrete cistern	No formal evaluation
P-37-012138	CA-SDI-12138	Prehistoric	Shell midden and fire-affected rock	No formal evaluation
P-37-012139	CA-SDI-12139	Prehistoric	Lithic scatter	No formal evaluation
P-37-012408	CA-SDI-12408	Prehistoric	Lithic scatter	6Y
P-37-012439	CA-SDI-12439	Prehistoric	Artifact scatter	6Y
P-37-012453	CA-SDI-12453	Multicomponent	Shell, lithics, and historic glass scatter	No formal evaluation
P-37-013629	CA-SDI-13629	Historic	Foster rail depot	No formal evaluation
P-37-013630	CA-SDI-13630	Prehistoric	Bedrock milling and a rock art panel	No formal evaluation
P-37-013651	CA-SDI-13651	Prehistoric	Milling and artifact scatter	No formal evaluation
P-37-013846	CA-SDI-13846	Prehistoric	Bedrock milling site	No formal evaluation
P-37-014119		Prehistoric	Isolated core	No formal evaluation
P-37-014654	CA-SDI-14267	Multicomponent	Marine shell scatter and rock retaining wall	No formal evaluation
P-37-014655	CA-SDI-14268	Prehistoric	Milling artifact scatter	No formal evaluation
P-37-014656	CA-SDI-14269	Prehistoric	Milling artifact scatter	No formal evaluation
P-37-014657	CA-SDI-14270	Prehistoric	Artifact and marine shell scatter	No formal evaluation
P-37-014658	CA-SDI-14271	Prehistoric	Lithic and groundstone scatter	No formal evaluation
P-37-014660	CA-SDI-14273	Prehistoric	Lithic and marine shell scatter	No formal evaluation
P-37-014661	CA-SDI-14274	Prehistoric	Marine shell and flake scatter	No formal evaluation
P-37-014961		Prehistoric	Isolated flake	No formal evaluation
P-37-014981		Prehistoric	Isolated flake and core	No formal evaluation
P-37-015477		Prehistoric	Quartzite cobble tool	No formal evaluation
P-37-018327	CA-SDI-15556	Prehistoric	Shell and lithic scatter	No formal evaluation
P-37-026967	CA-SDI-17652	Prehistoric	Bedrock milling	No formal evaluation
P-37-026969	CA-SDI-17654	Historic	Glass scatter	No formal evaluation
P-37-026974	CA-SDI-17656	Historic	Concrete road	6Z
P-37-035477		Prehistoric	Isolated lithic flake	No formal evaluation
P-37-035478		Prehistoric	Isolated lithic flake	No formal evaluation

2.4 NAHC Sacred Lands File Search

A search of the NAHC Sacred Lands File was conducted for the North City Project APE on July 25, 2016 (Appendix C). A search of this type requires NAHC staff to review their list for the presence of Native American sites, which are organized spatially based on a Public Land Survey System section grid (measuring 1 square mile). The NAHC results letter indicated the presence of Native American sites within the North City Project APE, although specific locations and

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details on the type of resources were not provided. Additionally, the NAHC response letter included a list of Native American group representatives whom should be contacted for information about these sites.

Outreach letters were mailed on August 16, 2016 to all Native American group representatives included on the NAHC contact list (Appendix C). These letters attempt to solicit additional information relating to Tribal Cultural Resources that may be affected by the North City Project. Native American representatives were requested to define a general area where known resources intersect the North City Project APE. This will help guide communications with tribal groups and representatives that maintain specific traditional associations with particular section of the North City Project APE. To date, there have been no responses to these outreach letters and no Tribal Cultural Resources have been indicated within the APE.

Under CEQA, the lead agency is required to perform formal government-to-government consultation with Native American Tribes under AB 52. Three tribal entities have previously requested to be included on the City's AB 52 Notice List for project consultation: the Iipay Nation of Santa Ysabel (Santa Ysabel), the Jamul Indian Village of Kumeyaay Nation (Jamul), and Mesa Grande Band of Mission Indians (Mesa Grande). The City sent initial consultation letters to representatives of these Tribal entities via certified mail on June 29, 2017 (Appendix C). Representatives from Santa Ysabel and Jamul responded positively to the consultation request while no response was received from Mesa Grande.

City representatives met with representatives from Santa Ysabel and Jamul on July 14, 2017. The City described the North City Project and presented the results of this inventory to the Tribal representatives. After reviewing the proposed mitigation measures (Section 7.2), both Santa Ysabel and Jamul representatives agreed that the required archaeological and Native American monitoring would reduce possible impacts to Tribal Cultural Resources to a non-significant level. At the conclusion of this meeting, Santa Ysabel and Jamul representatives agreed that no further consultation under AB 52 review is required.

3 RESEARCH DESIGN

While innumerable concepts and theoretical perspectives have been used to interpret archaeological findings in the San Diego region, several broad themes can be outlined that generally guide interpretations. These themes include site formation processes, chronology, settlement and site function, and subsistence. The research themes are designed to provide information that can be used to direct Phase II evaluation with the goal of determining NRHP/CRHR eligibility. Finally, this research design has been developed primarily with prehistoric resources in mind, given that no historic-period archaeological sites will be impacted by the North City Project and require evaluation.

3.1 Site Formation Processes

Prehistoric sites vary in complexity and duration of use, and both social and natural factors contribute to the formation and composition of their deposits. The nature of site occupation (e.g., food procurement and/or processing, other types of resource procurement, social events, and short-term or seasonal occupation) can lead to spatial patterning of artifacts, food remains, and site features.

Post-depositional processes can alter the character of prehistoric sites. Bioturbation, erosion, alluvial deposition, and historic and modern land use can affect the integrity of prehistoric archaeological sites. These disturbances complicate archaeological interpretation, particularly of complex, multicomponent sites. To the extent that site integrity enhances or deflates the interpretive potential of a cultural deposit, it may contribute to or detract from its scientific value:

- Do inclusive chronometric data from project sites permit the identification and definition of temporally and/or spatially discrete prehistoric occupations?
- Are the definitions of discrete components supported by multiple, independent chronological controls, and if so, how similar are their age estimates?
- Is there substantial evidence of occupational “overprinting”? How has this affected the temporal integrity of habitation components or refuse deposits?
- What kinds of impacts are affecting or have affected sites in different parts of the study area, and how extensive are they?
- Have adverse impacts affected the data potential of each evaluated site?

3.2 Chronology and Dating

Chronological issues are basic to any archaeological research design, as they provide the primary framework of prehistory. Previous research in the southern San Diego region has documented a range of prehistoric sites dating to both the Archaic (6000 BC to AD 500) and Late Prehistoric

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periods (post-AD 500). To the southeast near Jamul, Yohe and Chace (1995) documented a late-La Jollan (i.e., Millingstone) deposit dominated by millingstones, handstones, cobble tools, and other items. In the eastern foothills and valley floors near Otay Mesa, a strong record that postdates AD 1000 has been documented (McDonald et al. 1993; Hale 2009). In all, sites that date to the last 1,000 years can have assemblages with large numbers of arrow points, small flake-based tools, and ceramics, but also include sizeable amounts of millingstones and handstones relative to mortars and pestles. The distribution of such artifacts is uneven at many sites in the southern San Diego region and there may be temporal patterning in how sites were occupied, leaving differential traces of assemblage constituents. Along these lines, potential research issues derived from this basic problem include:

- How did the transition from the Archaic period to the Late Prehistoric period occur?

This transition was characterized by shifts in food storage and cooking technology with the inception of ceramics, and possibly by a shift in hunting technology with the addition of the bow and arrow. These shifts did not occur simultaneously (McDonald et al. 1993), and their implications for local population expansion in the Late Prehistoric period are unknown.

- Was there a shift in emphasis of acorn use during the Late Prehistoric period?

The mortar and pestle appear to have been added to the repertoire of food processing tools during the Late Prehistoric period, but only in small numbers. Is there evidence for earlier use of bedrock mortars? Is the addition of the mortar and pestle correlated to the inception of ceramics in the region and/or intensified use of a particular resource?

Because chronological controls are essential to any archaeological investigation, several other basic questions concerning the temporal data potential of evaluated sites pertain to the current study, including:

- Can the chronological placement of project sites be determined?
- What kinds of chronometric data can project sites provide? Of those obtained, how well do they correlate in terms of the age estimates they provide (e.g., projectile point types versus obsidian hydration dates).
- Do marker artifacts appear to fit with temporal patterns recognized in the surrounding region? Are there any unique, temporally diagnostic items present?
- Can chronometric data from project sites help to refine dating schemes in the local region?

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The possibility that cultural deposits from project sites are related to occupation of the ethnographic village of La Punta makes these questions even more important. The presence of aboriginal ceramics is often taken as a signal of post-AD 1400 occupation (Hale 2009) but ceramics have been in use in southern San Diego County for most of the last 1,500 years. Thus, the presence of ceramics at the current set of project sites does not necessarily mean that they derive from an ethnohistoric occupation identified by the Spanish in 1782. As such, evaluation of the project sites must corroborate time-sensitive artifacts with radiocarbon dates in strong stratigraphic contexts.

3.3 Settlement and Site Function

The Late Prehistoric is a time when significant shifts in settlement and subsistence may have occurred. While several important prehistoric sites and ethnohistoric villages are known for the local area, the character of settlement and subsistence shifts has not been fully explored. A key variable in understanding social organization during this time is to determine the kinds of socioeconomic shifts that occurred after adoption of the bow and arrow and the subsequent widespread use of ceramics. The current set of project sites may have the potential to generate important data for addressing this issue, particularly the presence of arrow points and abundant amounts of pottery. Specific data requirements include information on arrow-point manufacture, general patterns of lithic reduction, and raw material use—including exotic stone. Was arrow-point production occurring at sites in the project area, or were they discarded in exhausted condition? What does the debitage assemblage imply about the production and/or maintenance of stone tools at project sites?

Information on ceramic vessel form, function, and the diversity therein is also critical for determining whether residential occupation was brief or prolonged. How many kinds of vessels are indicated in the assemblage and for what purposes were they used? The latter is particularly important for understanding intensification in the exploitation of plant foods (Eerkens 2001). Is there evidence, in the form of clay daub and other manufacturing tools, that clay vessels were being manufactured at sites in the project area? Can food residues be obtained from ceramic artifacts recovered during evaluation?

The manufacture and use of groundstone implements can help clarify the nature of site occupation and settlement duration. Shaping of handstones and pestles can be an indication that populations are somewhat mobile, implying use in off-site contexts—the idea being that shaping can reduce mass thereby reducing transport costs (Hale 2001).

The term “village” evokes a sense of residential permanency, and, if a site is assumed to be a village, such an assumption can predicate the kinds of questions asked during an archaeological investigation. Alternatively, an investigation can test the assumption by asking questions about

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the archaeological record. If the project sites are related to permanent village occupation, what is the subsistence toolkit expected to look like, given that stone raw material is not very abundant in the immediately available riverine deposits? Additionally, what is the faunal and floral profile expected to look like for a relatively permanent settlement of people? These are questions that can and should be developed and addressed during an evaluation.

3.4 Subsistence

Subsistence orientation and settlement patterns are interwoven and dependent on the availability of resources, together creating a system of decisions regarding settlement locations, desired faunal and vegetal resources, seasonal movements, food processing techniques, and storage habits. Subsistence strategies of the Kumeyaay have been described as bipolar, but dependent upon where the lineage home area was located. In reality though, most subsistence strategies were much more complex, and can be described as systems of “fission and fusion.” In such a system, what is expected of subsistence during periods of fusion, when multiple families congregate in a common area, as may be the case for the current project sites? Are resources pooled among families, or is there evidence of privatization in the form of cache pits or storage containers within individual habitations?

Milling implements are common across San Diego County, and both macroscopic and microscopic vegetal remains (primarily seeds) may be present as residues on these kinds of tools and in the site matrix. Several questions that can be addressed using data from project sites are: What vegetal and faunal remains are present? How specialized was the subsistence strategy (i.e., were any species a focus of exploitation)? In particular, what role did acorns play versus small seeds and tubers or fish? What types of “exotic” food resources are present? Can seasonal and/or diachronic changes be discerned in the subsistence emphasis? If diachronic change is detected, can this be related to technological changes such as the introduction of ceramics, arrow points, and the mortar and pestle?

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4 METHODS

The purpose of this study was to compile an inventory of all resources within the North City Project APE to determine possible impacts to cultural resources and potential effects to cultural resources. To complete this study, a review of all known resources and the identification of all new resources were necessary. Because the North City Project APE navigates through highly developed areas, much of the APE has been previously inventoried and most resources have been previously identified. Since many of these previous surveys were conducted more than ten years ago, an updated survey was deemed necessary. Those resources identified within the North City Project APE that project activities might not be able to avoid required evaluation of significance. This evaluation required archaeological testing and laboratory analysis.

4.1 Survey

The survey of the North City Project APE was conducted between July 25 and 29, August 27, and October 18, 2016. The APE is located in a highly developed area and it was determined prior to field work that survey of the entire APE would be unproductive. Large portions of the APE surface are covered by buildings, pavement, and landscaping, obscuring any remnants of archaeological sites. The cultural significance of these built environment features are being addressed in another technical study prepared for North City Project. The survey team first conducted a reconnaissance survey of the entire APE in a motor vehicle. This vehicle survey allowed the survey team to assess the APE and identify undeveloped, or at least less developed, portions of the APE where ground surface was visible and archaeological resources could be identified.

Linear portions of the APE, such as proposed pipeline routes, were surveyed using transects parallel to the route at 10-meter intervals. Larger, more open portions of the APE, such as proposed facility footprints, were surveyed using a combination of north/south and east/west transects at 15-meter intervals. In this manner, all portions of traversable land were subject to pedestrian survey. Portions of the APE that were so steep that they presented a safety risk or were so densely vegetated that ground visibility was completely obscured were not surveyed. Likewise, portions of the APE that were located on private property were not subject to pedestrian survey unless the City was granted access. This study will rely on previous inventories of MCAS Miramar property and thus no pedestrian survey of MCAS Miramar was performed.

An iPad Air with georeferenced project maps and GPS capabilities was used to aid surveying and site recordation. Records of sites previously identified within the APE were loaded onto the iPad for field reference. Field work was conducted under the supervision of Dudek archaeologist Matthew DeCarlo. Victor Herrera participated in the survey as a field crew member and Justin Linton of Red Tail Monitoring and Research Inc. participated in the survey as the Native American monitor.

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The intent of the survey was to identify the presence and status of both previously recorded and unrecorded resources within the North City Project APE to determine the possible impacts the project might have on cultural resources. By being aware of their presence, the City can implement avoidance measures when possible to avoid impacts to the cultural resources in the APE. Because avoidance of cultural resources is the preferred method of mitigation, this study focused on the avoidability of cultural resources within the APE. Thus, resources that were difficult or unsafe to access, such as those located on private property or beyond some natural barrier such as a hillside or drainage, were not always surveyed as their avoidability was evident.

Documentation of cultural resources complied with the Office of Historic Preservation and Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716-44740) and the California Office of Historic Preservation Planning Bulletin Number 4(a). All sites identified during this inventory were recorded on California Department of Parks and Recreation Form DPR 523 (Series 1/95), using the Instructions for Recording Cultural Resources (Office of Historic Preservation 1995). New and updated site forms for each resource encountered are included in Confidential Appendix D and will be submitted to the South Coastal Information Center.

Visibility throughout the North City Project APE varied greatly. The areas immediately adjacent to paved and developed land often showed signs of previous grading. This often provided excellent ground visibility but the grading would have disturbed any cultural resource that may have been present. Other portions of the APE like Mission Gorge Road passed through less developed areas. The terrain in these areas was dominated by hillsides that were covered with grasses and dense chaparral. This reduced ground visibility to less than 5%. The weather was optimal during the survey with no cloud cover to cast shadows and obscure surface artifacts.

4.2 Excavation

While the evaluation strategy varied slightly based on the conditions encountered at each evaluated site, the same basic methods were employed. Sites were evaluated using close-interval survey, shovel test pits (STPs), and shovel test units (STUs). STPs are 0.5 meter × 0.3 meter, excavated in 20-centimeter levels. STUs are 1 meter × 0.5 meter, excavated in decimeter levels. All hand-excavated soils were screened through 1/8 inch (3 millimeter) mesh. All excavated units were backfilled at the conclusion of the unit's excavation.

Photographs of each unit profile were recorded to document soils and disturbances. An iPad Air with georeferenced project maps and GPS capabilities was used to record the locations of excavation units and surface artifacts. Field notes were recorded on standardized forms to log artifact recovery, soil descriptions, disturbances, and any other pertinent information.

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4.3 Laboratory and Cataloging Procedures

Initial laboratory procedures included cleaning (as appropriate), sorting, and cataloging of all artifacts and ecofacts. Each item was individually examined and cataloged according to class, subclass, and material; counted; and weighed on a digital scale. All coded data were entered into a Microsoft Access database. Data manipulation of a coded master catalog combining all sites was performed in Microsoft Excel.

The cultural material was sorted during cataloging into the following potential categories: 13 classes of prehistoric artifacts; 2 classes of ecofacts; ethnohistoric items, historic items, and modern items; and organic samples. The prehistoric artifact classes potentially included debitage, cores, utilized core tools, modified core tools, utilized flakes, retouched flakes, bifaces, percussing tools, groundstone, ceramics, bone artifacts, shell artifacts, and miscellaneous items.

Debitage, including both flakes and debris, was sorted by material type and cortical variation (primary, secondary, and interior) during cataloging. Maximum length, width, and thickness measurements were taken for all tools and cores using a sliding caliper.

Groundstone artifacts were classified by type, including millings and handstones. Maximum length, width, and thickness measurements were taken on complete groundstone items. Organic artifact classes (ecofacts) consisted of vertebrate specimens.

Once preliminary cataloging of the material was completed, more detailed attribute analysis of lithics and groundstone was performed. Stone artifacts (both flaked and ground) were individually analyzed for selected morphological and technological attributes, as well as material and condition, in an attempt to gain insight into the period of occupation and the range of activities undertaken. Ceramic artifacts were initially sorted by traditional ware (brown or buff) and sherd fragment types (body, rim, or modified). They were then inspected in order to identify other modifications. Specific analytical methods are described in the analytical results section. All artifacts, ecofacts, and samples were subject to appropriate conservation in the field and laboratory, including proper packaging and handling. Vertebrate remains were highly fragmented and could not be identified to family level so they were sorted by class and size.

4.4 Curation

All artifacts collected during archaeological testing for this study (Section 5.2) will be curated at the San Diego Archaeological Center. Any artifacts collected as part of future archaeological studies, or confiscated from looters, should also be curated so that the materials are preserved for the benefit of the general public and for archaeologists for future study. Proper curation of collected artifacts (and other materials, including documentation) can contribute to any mitigation to offset impacts to archaeological sites. ~~Curation could also consist of interpretive displays as part of any public awareness activities.~~

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5 RESULTS

This section presents the results of the reconnaissance vehicle survey and the pedestrian survey.

5.1 Survey Results

Utilizing a combination of vehicular and pedestrian survey, the entire North City Project APE was inventoried. The North City Project APE consists of multiple components and several of these components consist of alternative routes. The inventory identified 38 previously identified and one newly identified resources dispersed among these Project components (Table 2). The condition and proximity to Project components of each of these 39 resources are described below, categorized by the North City Project component in which they were identified. Resource location maps showing the resource proximity to the APE can be found in Confidential Appendix E.

Table 2
Cultural Resources within the North City Project APE

Site Number	Era	Description	NRHP/CRHR Eligibility	North City Project Component	Project Proximity
CR 450	Historic	Scripps-Meanley Ranch	San Diego Register of Historic Resources	North City Pipeline	Within 100 ft.
NCAWPF-IF-1	Prehistoric	Isolated quartzite core	No formal evaluation	NCPWF	Intersects
NCAWPF-IF-2	Prehistoric	Isolated metavolcanic flake	No formal evaluation	NCPWF	Intersects
NCAWPF-IF-3	Prehistoric	Isolated quartzite flake	No formal evaluation	NCPWF	Intersects
P-37-004505	Prehistoric	Pictograph panel, lithic scatter, and rock pile	No formal evaluation	San Vicente Pipeline	Within 100 ft.
P-37-006660	Historic	San Diego Mission Flume segment	No formal evaluation	San Vicente Pipeline	Within 100 ft.
P-37-009117	Historic	WWII training camp remnants	No formal evaluation	San Vicente Pipeline	Within 100 ft.
P-37-011077	Prehistoric	Bedrock milling feature	No formal evaluation	San Vicente Pipeline	Within 100 ft.
P-37-011459	Prehistoric	Lithic and groundstone scatter	No formal evaluation	San Vicente Pipeline	Within 100 ft.
P-37-011611	Prehistoric	Lithic quarry	No formal evaluation	San Vicente Pipeline	Within 100 ft.
P-37-011612	Prehistoric	Lithic artifact scatter	No formal evaluation	San Vicente Pipeline	Within 100 ft.
P-37-011761	Historic	Concrete cistern	No formal evaluation	San Vicente Pipeline	Within 100 ft.
P-37-012138	Prehistoric	Shell midden and fire affected rock	No formal evaluation	Metro Biosolids Center (MBC)	Intersects
P-37-012139	Prehistoric	Lithic scatter	No formal evaluation	MBC	Intersects

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Table 2
Cultural Resources within the North City Project APE

Site Number	Era	Description	NRHP/CRHR Eligibility	North City Project Component	Project Proximity
P-37-012408	Prehistoric	Lithic scatter	6Y	LFG Pipeline; San Vicente Pipeline	Intersects
P-37-012439	Prehistoric	Artifact scatter	6Y	LFG Pipeline; San Vicente Pipeline	Intersects
P-37-012453	Multicomponent	Shell, lithics, and historic glass scatter	No formal evaluation	Morena Pipelines	Within 100 ft.
P-37-013629	Historic	Foster rail depot	No formal evaluation	San Vicente Pipeline – Tunnel Alternative Terminus (TAT)	Intersects
P-37-013630	Prehistoric	Bedrock milling and a rock art panel	Recommended eligible CRHR	San Vicente Pipeline – TAT	Intersects
P-37-013651	Prehistoric	Milling and artifact scatter	No formal evaluation	San Vicente Pipeline	Within 100 ft.
P-37-013846	Prehistoric	Bedrock milling site	No formal evaluation	San Vicente Pipeline – In-Reservoir Alternative Terminus (IRAT); San Vicente Pipeline – Marina Alternative Terminus (MAT)	Within 100 ft.
P-37-014119	Prehistoric	Isolated core	No formal evaluation	San Vicente Pipeline – MAT	Within 100 ft.
P-37-014654	Multicomponent	Marine shell scatter and rock retaining wall	No formal evaluation	San Vicente Pipeline	Intersects
P-37-014655	Prehistoric	Milling artifact scatter	No formal evaluation	San Vicente Pipeline	Intersects
P-37-014656	Prehistoric	Milling artifact scatter	No formal evaluation	San Vicente Pipeline	Within 100 ft.
P-37-014657	Prehistoric	Artifact and marine shell scatter	No formal evaluation	San Vicente Pipeline	Within 100 ft.
P-37-014658	Prehistoric	Lithic and groundstone scatter	No formal evaluation	San Vicente Pipeline	Within 100 ft.
P-37-014660	Prehistoric	Lithic and marine shell scatter	No formal evaluation	San Vicente Pipeline	Within 100 ft.
P-37-014661	Prehistoric	Marine shell and flake scatter	No formal evaluation	San Vicente Pipeline	Intersects
P-37-014961	Prehistoric	Isolated flake	No formal evaluation	San Vicente Pipeline	Within 100 ft.
P-37-014981	Prehistoric	Isolated flake and core	No formal evaluation	LFG Pipeline	Intersects
P-37-015477	Prehistoric	Quartzite cobble tool	No formal evaluation	San Vicente Pipeline – IRAT	Within 100 ft.
P-37-018327	Prehistoric	Shell and lithic scatter	No formal evaluation	Miramar Water Treatment Plant	Intersects
P-37-026967	Prehistoric	Bedrock milling	No formal evaluation	San Vicente Pipeline	Within 100 ft.

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Table 2
Cultural Resources within the North City Project APE

Site Number	Era	Description	NRHP/CRHR Eligibility	North City Project Component	Project Proximity
P-37-026969	Historic	Glass scatter	No formal evaluation	San Vicente Pipeline – TAT	Within 100 ft.
P-37-026974	Historic	Concrete road	6Z	San Vicente Pipeline	Intersects
P-37-035477	Prehistoric	Isolated lithic flake	No formal evaluation	Morena Pipelines	Intersects
P-37-035478	Prehistoric	Isolated lithic flake	No formal evaluation	Morena Pipelines	Within 100 ft.
P-37-036497	Prehistoric	Bedrock milling	Recommended not eligible	San Vicente Pipeline – TAT	Within 100 ft.

5.1.1 North City Project Common Components

The North City Project has proposed two alternative reservoirs to receive the purified water produced by the NCPWF: Miramar Reservoir and San Vicente Reservoir. This section will describe the components that will be used regardless of which reservoir will ultimately receive the purified water. The components that will be used in the Miramar Reservoir Alternative and the San Vicente Reservoir Alternative are discussed in Sections 5.1.2 and 5.1.3, respectively.

5.1.1.1 Morena Pump Station

No cultural resources have been identified within the Morena Pump Station APE.

5.1.1.2 Morena Wastewater Forcemain and Brine/Centrates Line

Cultural resources within the Morena Pipelines APE are presented in Table 3 and are discussed following the table.

Table 3
Cultural Resources within the Morena Pipelines APE

Site Number	Era	Description	NRHP/CRHR Eligibility	Project Proximity
P-37-012453	Multicomponent	Shell, lithics, and historic glass scatter	No formal evaluation	Within 100 ft
P-37-035477	Prehistoric	Isolated lithic flake	No formal evaluation	Intersects
P-37-035478	Prehistoric	Isolated lithic flake	No formal evaluation	Within 100 ft

P-37-012453; CA-SDI-12453

This multicomponent artifact scatter was identified in 1991 and included historical glass fragments, prehistoric lithics with possibly associated marine shell. The assemblage consisted of a volcanic rock core, volcanic flakes, and cobalt blue glass sherds. The record noted that a railroad line bisected the scatter and greatly disturbed the site. A site record update in 2011 could

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not relocate any cultural material and postulated that the scatter was destroyed during the construction of the second rail line in 2002.

The current study revisited the site and, like the 2002 survey, was unable to identify any remnants of the P-37-012453 scatter. To observing railway safety protocol, the current survey maintained a 25-foot buffer from the railway. Extensive earth moving is evident and a large portion of the original site boundary is now covered by rock ballast, dirt roads, and leveled roadside. The original site boundary falls within the Morena Pipelines APE, but because the site is no longer extant, no avoidance measures are recommended during adjacent project activities.

P-37-035477

This prehistoric isolate was recorded in 2016 as two metavolcanic and one quartzite flake. The flakes were recovered during potholing activities within Genesee Avenue. Because isolates do not possess a data potential great enough to be considered eligible for the NRHP or the CRHR, no avoidance measures are recommended during adjacent construction activities.

P-37-035478

This prehistoric isolate was recorded in 2016 and consists of one quartzite flake. The flake was recovered from back dirt from a trench excavated during sewer work. Because isolates do not possess a data potential great enough to be considered eligible for the NRHP or the CRHR, no avoidance measures are recommended during adjacent construction activities.

5.1.1.3 North City Water Reclamation Plant Expansion, Influent Pump Station, and Renewable Energy Facility

No cultural resources have been identified within the NCWRP, Influent Pump Station, or Renewable Energy Facility APE.

5.1.1.4 North City Pure Water Facility

Cultural resources within the NCPWF APE are presented in Table 4, and are discussed following the table.

Table 4
Cultural Resources within the NCPWF APE

Site Number	Era	Description	NRHP/CRHR Eligibility	Project Proximity
NCAWPF-IF-1	Prehistoric	Isolated quartzite core	No formal evaluation	Intersects
NCAWPF-IF-2	Prehistoric	Isolated metavolcanic flake	No formal evaluation	Intersects
NCAWPF-IF-3	Prehistoric	Isolated quartzite flake	No formal evaluation	Intersects

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NCAWPF-IF-1

This prehistoric isolate was recorded in 2016 as a tan, medium-grained, quartzite core fragment. The current survey relocated the isolate within the NCPWF APE. Because isolates do not possess the research potential to be listed on the NRHP or the CRHR, no avoidance measures will be required during construction activities.

NCAWPF-IF-2

This prehistoric isolate was recorded in 2016 as a brown, metavolcanic flake isolate. The current survey relocated the isolate within the NCPWF APE. Because isolates do not possess the research potential to be listed on the NRHP nor the CRHR, no avoidance measures will be required during construction activities.

NCAWPF-IF-3

This prehistoric isolate was recorded in 2016 as a grey, medium-grained, quartzite flake isolate. The current survey was unable to relocate the isolate within the dense vegetation that covers the NCPWF APE. Because isolates do not possess the research potential to be listed on the NRHP or the CRHR, no avoidance measures will be required during construction activities.

5.1.1.5 North City Pure Water Pump Station

No cultural resources have been identified within the North City Pump Station APE.

5.1.1.6 Landfill Gas Pipeline

Cultural resources within the LFG Pipeline APE are presented in Table 5, and are discussed following the table.

Table 5
Cultural Resources within the Landfill Gas Pipeline APE

Site Number	Era	Description	NRHP/CRHR Eligibility	Project Proximity
P-37-012408	Prehistoric	Lithic scatter	6Y	Intersects
P-37-012439	Prehistoric	Artifact scatter	6Y	Intersects
P-37-014981	Prehistoric	Isolated flake and core	No formal evaluation	Intersects

P-37-012408; CA-RIVSDI-12408

This prehistoric artifact scatter was first identified in 1991 and described as a lithic scatter of 25-35 specimens including scrapers, flakes, debitage, a mano, and a core. The initial recordation

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noted that the site had been disturbed by grading and vegetation clearing activities. The site was revisited in 1995 for archaeological testing. The study collected 73 stone tools and flakes from the surface. Ten shovel test probes and ten test units were excavated that produced 69 similar artifacts. The 1995 study recommended that the site was not eligible for listing on the NRHP. A later visit to the site in 1995 was unable to relocate the site.

The current study did not revisit the site as it was located on MCAS Miramar; however, aerial photographs show that the location of P-37-012408 was completely developed between 2010 and 2012. The proposed LFG Pipeline APE bisects the resource boundaries; however, because the resource is no longer extant, no avoidance measures are recommended during adjacent construction activities.

P-37-012439; CA-RIVSDI-12439

This prehistoric artifact scatter was first identified in 1991 and described as a lithic scatter of 25-30 specimens including flakes, scrapers, and a mano. The site was revisited and tested in 2006. The study only found one isolated quartz flake on the surface within the site boundaries. Four shovel test probes and one test unit produced no subsurface component. The 2006 study recommended the resource not eligible for listing on the NRHP.

The current study did not revisit the P-37-012439 as it is located on MCAS Miramar. Though the LFG Pipeline APE bisects the recorded site boundaries, because the site is no longer extant, no avoidance measures are recommended during adjacent construction activities.

P-37-014981

This prehistoric isolate was recorded in 1990 as a quartzite flake and core. The original site record map suggests that the resource was discovered within the roadbed of Miramar Road. Because this portion of Miramar Road was constructed as early as 1972, it is unclear how this could be. The LFG Pipeline APE bisects the recorded isolate boundary but because isolates are considered not eligible for listing in the NRHP or the CRHR, no avoidance measures will be required during adjacent construction activities.

5.1.1.7 Metro Biosolids Center

Cultural resources within the Metro Biosolids Center (MBC) APE are presented in Table 6, and are discussed following the table.

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Table 6
Cultural Resources within the MBC APE

Site Number	Era	Description	NRHP/CRHR Eligibility	Project Proximity
P-37-012138	Prehistoric	Shell midden and fire-affected rock	No formal evaluation	Intersects
P-37-012139	Prehistoric	Lithic scatter	No formal evaluation	Intersects

P-37-012138; CA-SDI-12138

This prehistoric scatter was identified in 1992 as a shell midden with a scatter of fire-affected rock and artifact scatter. The artifacts included one granitic mano, a granitic mano fragment, and more than 30 volcanic and quartzite flakes. The site was revisited in 1995 but the survey could not relocate the scatter. That study postulated that the site was destroyed by activities at Miramar Landfill.

The current study revisited the P-37-012138 location and found that it has been completely developed into the MBC. All areas within the Center have been covered by buildings, pavement, or landscaping. Construction of the MBC can be seen on aerial maps from 1996, likely marking the complete destruction of P-37-012138. Because the site is no longer extant, no avoidance measures are recommended during any adjacent construction activities.

P-37-012139; CA-SDI-12139

This prehistoric artifact scatter was originally recorded in 1992 and included three lithic cores and more than 40 flakes of fine-grained volcanic materials. The light scatter covered a low knoll and measured 50 meters × 150 meters. The site was revisited in 1995 but the survey could not relocate the scatter. That study postulated that the site was destroyed by activities at Miramar Landfill.

The current study revisited the P-37-012139 location and found that it has been completely developed into the MBC. All areas within the Center have been covered by buildings, pavement, or landscaping. Construction of the MBC can be seen on aerial maps from 1996, likely marking the complete destruction of P-37-012139. Because the site is no longer extant, no avoidance measures are recommended during any adjacent construction activities.

5.1.2 Miramar Reservoir Alternative

This section describes the components that will be utilized should the Miramar Reservoir ultimately receive the purified water produced at the NCPWF.

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5.1.2.1 North City Pure Water Pipeline

Cultural resources within the North City Pipeline APE are presented in Table 7, and are discussed following the table.

Table 7
Cultural Resources within the North City Pipeline APE

Site Number	Era	Description	NRHP/CRHR Eligibility	Project Proximity
CR 450	Historic	Scripps-Meanley Ranch	San Diego Register of Historic Resources	Within 100 ft

CR 450

This cultural resource was originally recorded in 1986 as the T.M. Meanley House, a ranch complex constructed during 1934–1935 for Thomas Meanley and Nackey Scripps Meanley, daughter of prominent newspaper publisher Edward Willis Scripps. At the time of initial recordation, the complex consisted of a Mission Revival architectural style home, stables and workshops, a stone wall, a eucalyptus-tree-lined dirt drive, and Evan’s Pond, which originally provided irrigation water for the property. Nackey Scripps Meanley passed in 1981 and her husband, Thomas, in 1985. In June 1985 the property, including the ranch and stable complex as well as the acreage, was sold to Currie/Samuels Development Co. for \$11,505,000 for commercial/industrial development (Ryon 1985). The 1986 recordation of the complex served as mitigation for proposed demolition of the house and outbuildings, which aerial photographs show was completed prior to 1989.

In 2000, the site was revisited and three of the original features were found to be extant: the stone wall, the segment of eucalyptus tree-lined dirt drive adjacent to the wall, and Evan’s Pond (Figure 6). The extant features were then nominated and listed in the local San Diego Register of Historic Resources as CR 450. The stone wall, segment of tree-lined dirt drive, and Evan’s Pond are still recognizable today and are used as public space adjacent to the Scripps Miramar Ranch Library Center.

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Figure 6. View of the stone wall and Evan's Pond, looking east-southeast.

The current survey revisited CR 450 and found it to be in relatively the same condition as recorded in 2000. A site survey conducted on August 27, 2016, documented the existing conditions of the three remaining built historic resources. The tree-lined dirt drive and Evan's Pond are intact and in good condition. However, the stone wall is in fair to poor condition. Sections along the top edge and sporadic cobbles are missing and, despite evidence of previous mortar repair campaigns, numerous cracks (some quite large) are evident (Figure 7).



Figure 7. Detail view of wall section showing missing portions and cracks (red arrows).

The North City Pipeline route requires directional drilling to install the pipeline under Evans Pond. To accomplish this horizontal drilling, a launching pit is proposed south of Evans Pond. The pit and installation of pipeline will have no impact on the pond; however, the proposed pit is near the location of the former stables and workshops for CR 450. Although the workshop buildings are no longer extant and the site has been previously graded, there is an increased chance of encountering cultural materials while excavating this pit. The other two CR 450 features, the dirt drive and the stone wall, are located 200 feet west of the APE. While there are no anticipated effects to the resource due to vibration from the horizontal drilling, there is a potential for an indirect adverse effect under Section 106 and a significant impact under CEQA if vibrations from drilling further degrade the condition of the rock wall. Effects to historical built environment resources, including the potential adverse effects to the rock wall at CR 450, are discussed in a separate report.

5.1.2.2 Dechlorination Facility

No cultural resources have been identified within the Dechlorination Facility APE.

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5.1.2.3 Miramar Water Treatment Plant

Cultural resources within the Miramar Water Treatment Plant (WTP) APE are presented in Table 8, and are discussed following the table.

**Table 8
Cultural Resources within the Miramar WTP APE**

Site Number	Era	Description	NRHP/CRHR Eligibility	Project Proximity
P-37-018327	Prehistoric	Shell and lithic scatter	No Formal Evaluation	Intersects

P-37-018327; CA-SDI-15556

This low-density scatter of marine shell and three possible metavolcanic flakes was originally recorded in 1999. The scatter is located on the premises of the Miramar WTP and was likely disturbed by the construction of the facility. Shell and the possible lithic flakes were exposed in the landscaped and less developed areas of the plant. The site was revisited in 2009 and found to be in the same condition as originally recorded.

The current study found that the majority of the less developed areas in which the scatter was identified are located in the periphery of the Miramar WTP. Because North City Project activities are not planned in these areas, this sparse scatter will not be impacted by project activities.

5.1.3 San Vicente Reservoir Alternative

This section describes the components that will be used should the San Vicente Reservoir ultimately receive the purified water produced at the NCPWF. Three possible routes for the terminus of the San Vicente Pipeline were inventoried.

5.1.3.1 San Vicente Pure Water Pipeline

Cultural resources within the San Vicente Pipeline APE are presented in Table 9, and are discussed following the table.

**Table 9
Cultural Resources within the San Vicente Pipeline APE**

Site Number	Era	Description	NRHP/CRHR Eligibility	Project Proximity
P-37-004505	Prehistoric	Pictograph panel, lithic scatter, and rock pile	No formal evaluation	Within 100 ft
P-37-006660	Historic	San Diego Mission Flume segment	No formal evaluation	Within 100 ft
P-37-009117	Historic	WWII training camp remnants	No formal evaluation	Within 100 ft
P-37-011077	Prehistoric	Bedrock milling feature	No formal evaluation	Within 100 ft

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Table 9
Cultural Resources within the San Vicente Pipeline APE

Site Number	Era	Description	NRHP/CRHR Eligibility	Project Proximity
P-37-011459	Prehistoric	Lithic and groundstone scatter	No formal evaluation	Within 100 ft
P-37-011611	Prehistoric	Lithic quarry	No formal evaluation	Within 100 ft
P-37-011612	Prehistoric	Lithic artifact scatter	No formal evaluation	Within 100 ft
P-37-011761	Historic	Concrete cistern	No formal evaluation	Within 100 ft
P-37-012408	Prehistoric	Lithic scatter	6Y	Intersects
P-37-012439	Prehistoric	Artifact scatter	6Y	Intersects
P-37-013651	Prehistoric	Milling and artifact scatter	No formal evaluation	Within 100 ft
P-37-014654	Multicomponent	Marine shell scatter and rock retaining wall	No formal evaluation	Intersects
P-37-014655	Prehistoric	Milling artifact scatter	No formal evaluation	Intersects
P-37-014656	Prehistoric	Milling artifact scatter	No formal evaluation	Within 100 ft
P-37-014657	Prehistoric	Artifact and marine shell scatter	No formal evaluation	Within 100 ft
P-37-014658	Prehistoric	Lithic and groundstone scatter	No formal evaluation	Within 100 ft
P-37-014660	Prehistoric	Lithic and marine shell scatter	No formal evaluation	Within 100 ft
P-37-014661	Prehistoric	Marine shell and flake scatter	No formal evaluation	Intersects
P-37-014961	Prehistoric	Isolated flake	No formal evaluation	Within 100 ft
P-37-026967	Prehistoric	Bedrock milling	No formal evaluation	Within 100 ft
P-37-026974	Historic	Concrete road	6Z	Intersects

P-37- 004505; CA-SDI-004505

This prehistoric temporary camp site was originally recorded in 1978 as a large area, low density lithic scatter that included milling features and a single pictograph panel. The site boundaries encompass a depression and distant hillside north of Mission Gorge Road. Nine loci were identified throughout the half-mile-wide site. A 1995 update consisted of a pictograph analysis only. Three pictograph panels were identified, consisting of anthropomorphic and geometric shapes painted in red on a southeast-facing granitic boulder.

Locus A of P-37-004505, consisting of a basalt flaked scraping tool and four additional flakes, is located immediately north of Mission Gorge Road. The San Vicente Pipeline component proposes that the pipeline will be installed along the southern side of the road. The APE extends roughly 20 feet north of Mission Gorge Road into the site boundary of P-37-004505. The current survey found the terrain immediately north of the road to be steep and heavily vegetated presenting a safety risk and poor visibility. The hillside and vegetation act as natural barriers between any proposed San Vicente Pipeline project activities and the resource. Due to the dangerous terrain and its high avoidability, P-37-004505 was not revisited during the current survey. The resource will be avoided and not impacted provided the adjacent construction activities are limited to the existing road corridor.

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P-37- 006660; CA-SDI-006660

These segments of the San Diego Mission Flume was originally recorded in 1978 as a water conveyance system constructed of earth, stone, brick, and tile. A trench was excavated into the hillside along the San Diego River and local rocks were piled on the downhill edge to create a short wall. Wide bricks and stones were placed at the base of the trench to support a mission-made tile on which the water flowed. By 1978, the flume was greatly disturbed and only the stone retaining wall and trench were evident in many sections. A 2008 site record update identified eight previously unrecorded Flume segments running parallel to Mission Gorge Road.

The current survey was unable to revisit P-37-006660 due to access restrictions. The 2008 site record update suggests that segments 7 and 8 fall within the San Vicente Pipeline component APE. Though in the APE, P-37-006660 is located in a section of the alignment that will be directionally drilled. The proposed drilling pit is projected 150 feet north of and uphill from the resource, and the underground tunnel will have no impact on the surface resource. No avoidance measures will be required during adjacent construction activities provided that directional drilling will be the method of pipe installation and construction activities are confined to the drilling pit.

P-37- 009117; CA-SDI-009117

This site was originally recorded in 1981 as a possible World War II training camp. The site contained several concrete slabs, refuse scatters, and demolished building materials. A possible prehistoric lithic scrapper was also identified and collected. A site record update in 1992 found the site to be 90% destroyed by grading activities associated with the Miramar Landfill. Most of the concrete slabs and debris had been pushed into a ravine and were difficult to observe. Metal, glass, and concrete fragments have been scattered across the site boundary. The 1992 update did note that several slabs were still in situ in the southern portion of the mesa top site, one measuring 25 × 50 ft. Another site record update in 2014 identified only three elements associated with P-37-009117, including two piles of broken concrete and a scatter of roughly 25 church-key opened soldered cans. The original site boundaries measured 1,000 by 800 ft.

The current survey was not granted permission to revisit P-37-009117. The proposed San Vicente Pipeline APE encroaches on the originally recorded boundary of P-37-009117 but is nearly 300 feet east of any of the extant features of the resource recorded in 2014. Also, this portion of the San Vicente Pipeline consists of an extant pipeline that will be repurposed for the Project. No ground disturbance will be necessary near P-33-009117 and the resource will not be impacted.

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P-37-011077; CA-SDI-11077

This prehistoric milling station was originally recorded in 1989 as consisting of one bedrock outcrop that included three lightly worn slicks. Ground visibility was high and a single bifacial mano was identified adjacent to the milling station. The resource was located on a hillside overlooking an ephemeral drainage and described as remote and unlikely to be disturbed by humans. A 1990 site record update described the site as containing only two boulders, each with one milling slick.

The current survey revisited P-37-011077 and found the milling station to be in the same condition as previously recorded. Though located within the APE, the 10 × 10 meter resource is located 70 feet east of Mission Gorge Road (Figure 8). Dense brush separates the site from the road. The dense brush acts as a natural barrier between the proposed San Vicente Pipeline project activities and the resource. P-37-011077 is highly avoidable and project activities will not impact it provided the adjacent construction activities are limited to the existing road corridor.

P-37-011459; CA-SDI-11459

This prehistoric artifact scatter was recorded in 1989 and consisted of three mano fragments, two cores, and four quartzite flakes. The light scatter covered an area of 125 × 120 m, and five STPs determined that the site had no depth. The site was located north of Mission Gorge Road in an undeveloped field in 1989.

During the current survey, the recorded location P-37-011459 was revisited; however, the location has been completely developed. The area now consists of a residential development and the previous site boundaries are covered by a home, pavement, and landscaping. Historical aerial photographs suggest that the residential development was constructed between 1989 and 1995. The resource has been completely destroyed and no avoidance measures will be required during adjacent construction activities.



Figure 8. Dense vegetation separating project activities and P-37-011077 (red arrow).

P-37-011611; CA-SDI-11611

This prehistoric quarry was recorded in 1990 as an exposure of white metavolcanic material with red-stained fractures. The low-lying material exposure is located on a hillside with materials and flakes eroding down the hillside. The original record noted 400+ flakes and angular assayed cobbles.

P-37-011611 is located 40 feet north of Mission Gorge Road. A hillside slopes steeply upward from Mission Gorge Road towards the resource. Due to the steep slope and poor visibility, only the southernmost extent of the resource, the 30 feet wide section that fell within the APE, was surveyed during the current study. The current survey found no lithic flakes within this section of the site.

The hillside acts as a natural barrier between the proposed San Vicente Pipeline project activities and P-37-011611. This resource is highly avoidable and project activities will not impact it provided the adjacent construction activities are limited to the existing road corridor.

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P-37-011612; CA-SDI-11612

This prehistoric artifact scatter was originally recorded in 1990 and consisted of three manos, a core, a hammerstone, and five fine-grained green metavolcanic flakes. The site was identified on a knoll near a large hillside, adjacent to Mission Gorge Road. The original recordation noted that there was extensive grading in areas adjacent to the resource and postulated that the original extent of the site might have been impacted. Intensive survey in 2004 was unable to relocate any artifacts and noted that the site area appears to have been subject to ground disturbing activities.

The current survey revisited P-37-011612 and, like the 2004 survey, could not relocate the artifacts. The area shows signs of ground disturbing activities likely associated with the construction of Mission Gorge Road to the south and the trailhead parking area to the west. The dense vegetation obscured ground visibility and may have hidden artifacts. Regardless, the resource boundary is 50 feet north of Mission Gorge Road where project activities are proposed. Additionally, the hillside acts as a natural barrier between the proposed project activities and the resource boundary. Any possible remnants of the resource will not be impacted provided the adjacent construction activities are limited to the existing road corridor.

P-37-011761; CA-SDI-11761

This historic feature was recorded in 1990 and consists of a possible cistern with round, steel-reinforced concrete walls. The possible cistern was in good condition but its age was undetermined.

During the current survey, the recorded location P-37-011761 was revisited; however, the location has been completely developed. The area now consists of a residential development and the previous site boundaries are covered by a home, pavement, and landscaping. Historical aerial photographs suggest that the residential development was constructed between 1989 and 1995. The resource has been completely destroyed and no avoidance measures will be required during adjacent construction activities.

P-37-012408; CA-RIVSDI-12408

This prehistoric artifact scatter was first identified in 1991 and described as a lithic scatter of 25–35 specimens including scrapers, flakes, debitage, a mano, and a core. The initial recordation noted that the site had been disturbed by grading and vegetation clearing activities. The site was revisited in 1995 for archaeological testing. The study collected 73 stone tools and flakes from the surface. Ten shovel test probes and ten test units were excavated that produced 69 similar artifacts. The 1995 study recommended that the site was not eligible for listing on the NRHP. A later visit to the site in 1995 was unable to relocate the site.

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The current study did not revisit the site, because it was located on MCAS Miramar; however, aerial photographs show that the location of P-37-012408 was completely developed between 2010 and 2012. The proposed San Vicente Pipeline APE bisects the resource boundaries; however, because the resource is no longer extant, no avoidance measures are recommended during adjacent construction activities.

P-37-012439; CA-~~RIV~~SDI-12439

This prehistoric artifact scatter was first identified in 1991 and described as a lithic scatter of 25–30 specimens, including flakes, scrapers, and a mano. The site was revisited and tested in 2006. The study only found one isolated quartz flake on the surface within the site boundaries. Four shovel test probes and one test unit produced no subsurface component. The 2006 study recommended the resource not eligible for listing on the NRHP.

The current study did not revisit the P-37-012439, because it is located on MCAS Miramar. The San Vicente Pipeline APE bisects the recorded site boundaries; however, because the site is no longer extant, no avoidance measures are recommended during adjacent construction activities.

P-37-13651; CA-SDI-13651

This prehistoric habitation site was originally recorded in 1993 as containing five milling features with over 30 elements, lithic tools, debitage, ceramic fragments, fire-affected rock, and midden. A 2009 site record update found the resources to be in the same condition as 1993 but expanded the resource boundary to include an additional milling feature.

The current survey revisited P-37-13651 and found it to be in the same condition as previously recorded in 2009. The resource is located 50 feet east of the San Vicente Pipeline APE centerline; however, the resource is located atop a hillside. The steep hillside acts as a natural barrier between the proposed project activities and the resource boundary. The resource is easily avoidable and will not be impacted provided the adjacent construction activities are limited to the existing road corridor.

P-37-014654; CA-SDI-014267

This multicomponent resource was originally recorded in 1996 as a prehistoric marine shell scatter and a historic rock retaining wall. The marine shells included *Chione*, *Pecten*, *Ostrea*, limpet, and gastropod. The rock retaining wall was 20 meters long and three courses high. A site record update in 2002 could not gain access to the private property due to a fence. From Moreno Avenue, the surveyors were able to confirm that the retaining wall was still present and that the shell scatter area had recently been brushed.

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The current survey revisited P-37-014654 but could not gain access to the private property. The current survey could not relocate the rock retaining wall by looking through the fence. Recent earth moving activities have taken place within the private property it is possible that the resource has been destroyed (Figure 9). This cannot be confirmed unless access to the property is granted. Regardless, though it falls within the San Vicente Pipeline APE, the private fence protects the recorded location of the resource from project activities. This resource location is easily avoidable and will not be impacted provided the adjacent project activities are limited to the existing road corridor.



Figure 9. Extensive earthmoving activity within P-37-014654 site boundary, looking northeast.

P-37-014655; CA-SDI-14268

This prehistoric artifact scatter was originally recorded in 1996 as four metate fragments, seven pieces of debitage, one bifacial mano fragment, and one pestle fragment. The resource was recorded on the east side of Moreno Avenue but the surveyors could not explore the resource further east due to private property fences. An update in 1997 found that a large portion of the

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site had been graded. Subsurface testing produced no prehistoric artifacts and confirmed that road fill or cobble was introduced into the area during the construction of Moreno Avenue.

The current survey revisited P-37-014655 but was unable to relocate any artifacts. The area between the private property and Moreno Avenue has been completely leveled and is used by the adjacent residence for vehicle parking. Any remnants of the resource may have been destroyed by roadside maintenance or collected by the local residences. Though the resource was located within the San Vicente Pipeline APE, it has been completely destroyed so no avoidance measures will be required during adjacent project activities.

P-37-014656; CA-SDI-14269

This prehistoric artifact scatter was recorded in 1996 as two pestles, a groundstone fragment, and a truncated metate fragment. The resource was recorded on the east side of Moreno Avenue but the surveyors could not explore the resource further east due to private property fences.

The current survey revisited P-37-014656 but was unable to relocate any artifacts. The area between the private property and Moreno Avenue has been completely leveled and is used by the adjacent residence for vehicle parking. Any remnants of the resource may have been destroyed by roadside maintenance or collected by the local residences. The resource was located within the San Vicente Pipeline APE; however, it has been completely destroyed, so no avoidance measures will be required during adjacent project activities.

P-37-014657; CA-SDI-14270

This prehistoric scatter was recorded in 1996 and included marine shell, two manos, and one piece of debitage. The resource was identified on the east side of Moreno Avenue but the surveyors could not explore the resource further east due to private property fences.

The current survey attempted to revisit P-37-014656 but was separated from the resource by a private fence. The area within the fence has been completely graded with several buildings. Though the resource is located within the San Vicente Pipeline APE, the private fence will protect the site from the proposed trenching within or immediately adjacent to Moreno Avenue. This resource location is easily avoidable and will not be impacted provided the adjacent project activities are limited to the existing road and shoulder corridor.

P-37-014658; CA-SDI-14271

This prehistoric artifact scatter was recorded in 1996 as two pieces of debitage, a mano, a pestle, and a possible metate fragment. The resource was recorded on the east side of Moreno Avenue but the surveyors could not explore the resource further east due to private property fences.

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The current survey revisited P-37-014658 but was unable to relocate any artifacts. The area between the private property and Moreno Avenue has been completely leveled and is used by the adjacent residence for vehicle parking. A manhole cover within the site boundary suggests that the subsurface has been completely disturbed (Figure 10). The remnants of the resource may have been destroyed by roadside maintenance or collected by the local residences. Although the resource was located within the San Vicente Pipeline APE, it has been completely destroyed, so no avoidance measures will be required during adjacent project activities.



Figure 10. Evidence of ground disturbance within P-37-014658 site boundary, looking south.

P-37-014660; CA-SDI-14273

This prehistoric scatter was recorded in 1996 and contained *Chione* and pecten shell, four lithic flakes and one core. At the time of recordation, the surveyors noted that the site was subject to considerable river erosion, grading, and excavation for installation of a pipeline. The site measured 50 × 50 feet and was located in a depression between Lakeside Avenue and State Route 67.

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The current survey revisited P-37-014660 but was unable to access the site due to a private fence. Through the fence, the current surveyors could see that the area has been greatly disturbed (Figure 11). The resource location is located within the San Vicente Pipeline APE but is 40 feet east of Lakeside Avenue where the pipeline trench is proposed. Review of an aerial photograph shows that the portion of the resource that falls within the APE was graded between 2010 and 2012. The resource was likely destroyed in this section of the APE at this time. Though the survey was unable to confirm its condition, the resource is easily avoidable and will not be impacted provided the adjacent project activities are limited to the existing road corridor.



Figure 11. View east beyond fence at P-37-014660 site boundary.

P-37-014661; CA-SDI-14274

This resource was originally recorded in 1996 as a prehistoric shell scatter and five lithic flakes. A site record update from 2000, however, determined that the shell was not the result of prehistoric subsistence but rather a recent product of imported bay sediments. The update also concluded that the reported flakes were the result of heavy equipment passing over rock. This

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site has been determined not to be a cultural resource and requires no avoidance measures during adjacent project activities.

P-37-014961

This prehistoric isolate was recorded in 1990 and consists of a single volcanic flake. The resource is located within fenced military land and the current survey was not able to access the flake. The resource is located within the San Vicente Pipeline APE but it is protected from project activities by the well maintained fence. Additionally, isolated finds have limited data potential and are not considered eligible for listing in the NRHP nor the CRHR. No avoidance measures will be required during adjacent construction activities.

P-37-026967; CA-SDI-17652

This prehistoric resource was originally recorded in 2005 as a single milling station feature. Photographs of the single boulder suggest that the feature possessed six conical mortars. The original recorded stated that the feature appears to have been relocated to its recorded position. A 2009 site record update found the resource in the same location as originally recorded but noted extensive disturbance to the area due to construction of a park entrance.

The current survey revisited the recorded location of P-37-026967 but could not relocate the feature. It is possible that this feature was removed during the continued construction mentioned in the 2009 site record update. The recorded location of the resource is within the San Vicente Pipeline APE; however, because the resource is no longer extant, no avoidance measures will be required.

P-37-026974; CA-SDI-17656

This historic resource is the concrete road that ran through the railroad depot and town of Foster in the early twentieth century. This half-mile segment of concrete highway used to connect Julian, California, to San Diego, California, but the route was discontinued with the construction of the San Vicente Dam. This site is associated with the P-37-013629; CA-SDI-13629, the remnants of the town of Foster. A site record update in 2009 evaluated the site and stated that the condition of the road had worsened, likely from its use by heavy machinery. Due to its diminished integrity to convey its significance, the resource was recommended not significant for listing in the NRHP or the CRHR.

The current survey revisited P-37-026974 and found the road to be in diminishing condition. The original light colored concrete road with large dark rock inclusions had been cracked and repaired in many areas. Potholes and entire sections have been covered with asphalt. If the easternmost route of the proposed San Vicente Pipeline is chosen, a trench would be excavated in the historical

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concrete road. Because the site has been evaluated and recommended not eligible for listing in the NRHP or CRHR, no mitigation will be required during project excavations.

5.1.3.2 San Vicente Pure Water Pipeline – In-Reservoir Alternative Terminus

Cultural resources within the San Vicente Pipeline – In-Reservoir Alternative Terminus (IRAT) APE are presented in Table 10, and are discussed following the table.

Table 10
Cultural Resources within the San Vicente Pipeline – IRAT APE

Site Number	Era	Description	NRHP/CRHR Eligibility	Project Proximity
P-37-013846	Prehistoric	Bedrock milling site	No formal evaluation	Within 100 ft
P-37-015477	Prehistoric	Quartzite cobble tool	No formal evaluation	Within 100 ft

P-37-013846; CA-SDI-13846

This prehistoric milling station was originally recorded in 1993 and consists of three bedrock milling features containing ten milling slicks and an associated handstone. The site was revisited 2009 and found to be in the same condition as originally recorded.

The current survey revisited P-37-013846 and found it to be in the same condition as previously recorded in 2009. The resource is located on a hillside overlooking a paved road. This paved road is the route for the San Vicente Pipeline – IRAT trench. Though the resource is within the APE, it is separated from project activities by a steep hillside (Figure 12). The resource is easily avoidable and will not be impacted provided the adjacent construction activities are limited to the existing road corridor.



Figure 12. Steep hillside separating project activities and P-37-013846.

P-37-015477

This prehistoric isolate was recorded in 1993 as a quartzite cobble tool. Since the time of its discovery, the area in which it was located has been completely developed and graded. The current survey was unable to relocate the isolate. The resource was located within the San Vicente Pipeline – IRAT APE, but it has been completely destroyed, so no avoidance measures will be required during adjacent construction activities.

5.1.3.3 San Vicente Pure Water Pipeline – Marina Alternative Terminus

Cultural resources within the San Vicente Pipeline – Marina Alternative Terminus (MAT) APE are presented in Table 11, and are discussed following the table.

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Table 11
Cultural Resources within the San Vicente Pipeline – MAT APE

Site Number	Era	Description	NRHP/CRHR Eligibility	Project Proximity
P-37-013846	Prehistoric	Bedrock milling site	No formal evaluation	Within 100 ft
P-37-014119	Prehistoric	Isolated core	No formal evaluation	Within 100 ft

P-37-013846; CA-SDI-13846

This prehistoric milling station was originally recorded in 1993 and consists of three bedrock milling features containing ten milling slicks and an associated handstone. The site was revisited 2009 and found to be in the same condition as originally recorded.

The current survey revisited P-37-013846 and found it to be in the same condition as previously recorded in 2009. The resource is located on a hillside overlooking a paved road. This paved road is one possible route for the San Vicente Pipeline – MAT trench. Though the resource is within the APE, it is separated from project activities by a sheer cliff face. The resource is easily avoidable and will not be impacted provided the adjacent construction activities are limited to the existing road corridor.

P-37-014119

This prehistoric isolate was recorded in 1994 as a purple, brown aphanitic volcanic core. Since the time of its discovery, the area in which it was located has been completely developed and graded. The current survey was unable to relocate the isolate. The resource was located within the San Vicente Pipeline – MAT APE, but it has been completely destroyed, so no avoidance measures will be required during adjacent construction activities.

5.1.3.4 San Vicente Pure Water Pipeline – Tunnel Alternative Terminus

Cultural resources within the San Vicente Pipeline – Tunnel Alternative Terminus (TAT) APE are presented in Table 12, and are discussed following the table.

Table 12
Cultural Resources within the San Vicente Pipeline – TAT APE

Site Number	Era	Description	NRHP/CRHR Eligibility	Project Proximity
P-37-013629	Historic	Foster rail depot	No formal evaluation	Intersects
P-37-013630	Prehistoric	Bedrock milling and a rock art panel	Recommended eligible CRHR	Intersects

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Table 12
Cultural Resources within the San Vicente Pipeline – TAT APE

Site Number	Era	Description	NRHP/CRHR Eligibility	Project Proximity
P-37-026969	Historic	Glass scatter	No formal evaluation	Within 100 ft
P-37-036497	Prehistoric	Bedrock milling	Recommended not eligible	Within 100 ft

P-37-013629; CA-SDI-13629

This resource consists of the remnants of the railroad depot and city of Foster. The site was originally recorded in 1993 and three historical refuse scatters loci were identified. Additionally, the original concrete road was also recorded and was still in use at the time of recordation. A 1997 site record update relocated the three artifact loci but only identified diagnostic refuse at Locus C. Subsurface investigations including post-hole and test unit excavations identified segments of the original San Diego Cuyamaca and Eastern railroad track.

The current survey revisited P-37-013629 but was only able to relocate remnants of Locus C and the concrete road. The proposed trench for the San Vicente Pipeline – TAT is within the historical concrete road. The historic road segment of P-37-013629 has been recorded separately as P-37-026974. For a further discussion of the possible impacts to the road, please see P-37-026974. Locus C is located 40 feet west of the proposed trench in the historic road but is separated from the concrete roadbed by a dirt shoulder, barbed-wire fence, and a drainage (Figure 13). Locus C is completely avoidable and will not be impacted by project activities provided the adjacent construction activities are limited to the existing road corridor.

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Figure 13. Dirt road shoulder, barbed-wire fence, and drainage separating project activities and P-37-013629.

P-37-013630; CA-SDI-13630

This prehistoric temporary camp was originally recorded in 1993 and consisted of a granite outcrop with milling features, two possible rock walled rooms, a possible pictograph of red pigment, and artifacts. The three milling features contained more than 10 slicks and the artifacts consisted of more than 100 lithic flakes, 5 ceramic fragments, and 1 mano. A 1996 site record update relocated and mapped the milling features and identified 20 brownware ceramic sherds, a pestle tip, a core, and debitage. No mention was made of the rock art but a rock wall was included on the sketch map. The site was again updated in 2000 but this time the survey identified the three milling features and the rock art panel. The rock walled shelters and artifacts were not relocated.

The recorded site boundary of P-37-013630 measures roughly 30 meters \times 12.5 meters. This area encompasses a terrace of earth and granite outcrops on a steep knoll. The terrace overlooks a leveled area which has been developed and contains a house and outbuildings. A large portion of

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this recorded site boundary falls within the San Vicente Pipeline – TAT APE. The proposed pipeline trench is located 80 feet south of the site; however, a proposed work area encompasses the southern portion of the resource.

The current survey revisited P-37-013630 on July 29, 2016. The resource was identified on top of the hillside terrace (Figure 14) which is located at least 12 feet above the ground surface (Figure 15). The milling features, over 100 lithic flakes, several brownware ceramic sherds, and midden soil were identified. The rock wall was not relocated during the current survey. A granite rock face was identified with red staining; however, the staining appeared to be natural and not a pictograph.



Figure 14. P-37-013630 is a hillside terrace site with milling stations (right) and midden soil.

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Figure 15. Steep hillside separating project activities and P-37-013630.

P-37-026969; CA-SDI-17654

This historical refuse scatter was recorded in 2005 and consists of broken glass whiskey and beer bottles concentrated at the base of a rock. The glass bottles exhibit hand finished crown lips and are now purple due to exposure by the sun. These qualities would date the materials to the early twentieth century.

This resource is located on a steep and densely vegetated hillside. Though it is located within the San Vicente Pipeline – TAT APE, P-37-026969 is located in a section of the alignment that will be directionally drilled. The proposed drilling pit is projected 300 feet west of the resource and the underground tunnel will have no impact on the surface resource. Due to the dangerous terrain and the impossibility of the project impacting the site, the current survey did not revisit this resource. No avoidance measures will be required during adjacent construction activities provided directional drilling will be the method of pipe installation.

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P-37-036497; CA-SDI-22092

This newly discovered site was identified during the current survey and contains three prehistoric milling features and an associated artifact cache (Figure 16). The milling features consist of three granite bedrock boulders with six milling slicks ranging in dimensions from 24 to 70 centimeters (Figure 17). The cache of lithic artifacts was located along the northern base of the northernmost granite boulder and appears to have been recently deposited. The cache includes three unidirectional cores, three manos, one granite hammerstone, and one metavolcanic flake. This resource was given the temporary identifier PWP-01.

P-37-036497 is located on a slight hillside overlooking a saddle between two hills that was leveled for the construction of a single-family residence. P-37-013630, another prehistoric milling site, is located 215 feet west of PWP-1 on the other side of the leveled saddle. The leveling of this saddle may have disturbed a larger site that may have prehistorically linked these two milling sites.

P-37-036497 is located within the San Vicente Pipeline – TAT APE. P-37-036497 is located in a section of the possible alignment that will be directionally drilled and the underground tunnel will have no impact on the surface resource. The proposed drilling pit, however, is proposed to be excavated within approximately 50 feet of the resource and a temporary work area is proposed within 35 feet of the resource. P-37-036497 is located on a slight hillside northeast of the pit.

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Figure 16. Artifact cache located at base of Feature 1 at P-37-036497.



Figure 17. Features 2 (foreground) and 3 at P-37-036497, looking west.

5.1.3.5 *Mission Trails Booster Station*

No cultural resources have been identified within the Mission Trails Booster Station APE.

5.2 Archaeological Testing Results

The current survey identified two previously unevaluated cultural resources, both of which were located within the San Vicente Pipeline – TAT APE, that could have been potentially impacted by project activities: P-37-013630 and P-37-036497. Archaeological testing was conducted to gather information to determine the eligibility of these sites for listing on the NRHP or the CRHR. Since these excavations, the City has committed to avoiding impacts to these resources.

P-37-013630

Dudek archaeologists revisited P-37-013630 and conducted excavations on September 29, 2016. The entire terrace was surveyed using transects at less than 1-meter intervals. Over 100 lithic flakes were identified on the surface. Identified materials included quartz, cryptocrystalline

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silicates (CCS), volcanic, and obsidian. Ten brownware sherds were also identified on the surface of the terrace. To determine the presence of a subsurface deposit, four STPs were excavated along the terrace and one 1 × 0.5 meter test unit (TU-1) was excavated within the highest concentration of surface artifacts, as shown on the DPR form in Appendix D (Figure 18). The four STPs were excavated to a depth ranging from 20 to 30 centimeters. Heavy granite boulders or bedrock prevented continued excavation in STPs 1, 3, and 4 (Figure 19). STP-2 was the most productive of the STPs and was still productive when it was abandoned at 30 centimeters depth. STP-4 was located furthest from the ground surface concentration and only produced two pieces of debitage. Dark midden soil was observed to depth in all excavation units except STP-4. TU-1 did show signs of ground disturbance in the form of modern ceramics and rusted metal found subsurface. Due to the high artifact content recovered from the first 10 centimeters excavated level of TU-1 was so productive and demonstrated a significant subsurface deposit, TU-1 was abandoned at 10 centimeters depth.



Figure 18. The north wall profile of TU-1 at 10 cmbs at P-37-013630.



Figure 19. Granite boulders or bedrock in plan view of STP-1 at P-37-013630.

P-37-036497

Dudek archaeologist revisited and conducted excavations as P-37-036497 on September 29, 2016. A 20-meter buffer surrounding the three bedrock milling features was resurveyed by Dudek archaeologist using transects at less than 1-meter intervals. Ground visibility was less than 30% due to dense grass and brush; however, one groundstone fragment was identified during the close-interval survey near Feature 1. This groundstone fragments prompted the location of STP-2. STP-3 and STP-4 were excavated 3 meters and 8 meters south of Feature 3, respectively (refer to DPR form in Appendix D). All STPs were excavated to a depth of 30 centimeters below surface (Figure 20). STP-2 produced one groundstone fragment and two pieces of debitage. All three artifacts were identified in the first 20 centimeters. STP-1, STP-3, and STP-4 produced no cultural materials and no midden soil was noted in any of the four STPs.



Figure 20. East wall profile of STP-2 at P-37-036497.

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6 ANALYSIS

The current study identified two previously unevaluated cultural resources within the San Vicente Pipeline – TAT APE that could have been potentially impacted by project activities: P-37-013630 and P-37-036497. Cataloging (Appendix F) and laboratory analysis of excavated materials were conducted to aid in the determination of the sites’ eligibility for listing on the NRHP and CRHR. All artifacts collected during excavation will be curated at San Diego Archaeological Center (Section 4.4). Since this analysis, the City has committed to avoiding impacts to these resources.

6.1 P-37-013630

Debitage

Debitage constitutes the largest artifact category generated during excavations at P-37-013630 (n=224); the entire assemblage was analyzed. The results from thedebitage analysis are consistent with other regional studies in that flakedstone reduction was based on expedient cobble-core reduction, rather than the more intensive prepared platform technique (see Becker and Iversen 2006; Flenniken et al. 2004; Hale 2009). Thedebitage assemblage from P-37-013630 is composed primarily of nondiagnostic shatter (n=129; 57.6%); as is typical in the initial stages of cobble-core reduction strategy, particularly with the reduction of harder and poorer quality raw materials. Aside from shatter, the next most commondebitage type was late interior flakes at 24.6%. The remaining recovered flake types were each under 5% (Table 13). The high LWI of 0.58 indicates an expedient lithic reduction strategy.

Table 13
Frequency of Debitage by Flake Type and Material (P-37-013630)

Material	Flake Type*									Total (n)	Total (%)
	1	2	3	4	5	6	7	8	12		
CCS	3	3	1	7	1	1	1		13	30	13.4%
Obsidian		1		11			3		12	27	12.1%
Quartz	1			13		4	1		37	56	25.0%
Quartzite		1		1	1				4	7	3.1%
Volcanic		5	3	23	5	2	2	1	63	104	46.4%
Total (n)	4	10	4	55	7	7	7	1	129	224	100%
Total (%)	1.8%	4.5%	1.8%	24.6%	3.1%	3.1%	3.1%	0.4%	57.6%	100%	

Notes: CCS = cryptocrystalline silicate.

* Flake type denotations are as follows: 1 = primary decortification; 2 = secondary decortification; 3 = early interior; 4 = late interior; 5 = linear interior; 6 = early biface thinning; 7 = late biface thinning; 8 = finishing/pressure; 12 = non-diagnostic shatter.

Considering size, 91.5% of alldebitage was smaller than 2 centimeters (Table 14). The great abundance of smalldebitage is related to the large amount of shatter that consisted of small flake

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fragments (95.3% of all shatter). The large amount of small shatter is unsurprising given the high proportion of hard volcanics in the debitage assemblage; the large amount of force required to fracture these materials often leads to a large amount of shatter being produced, especially near the platform. The 8.5% of debitage that was larger than 2 centimeters consisted of a small portion of cortical and interior flakes and shatter in the assemblage.

Table 14
Frequency of Debitage by Flake Size and Material (P-37-013630)

Material	Flake Size				Total (n)	Total (%)
	1 cm	2 cm	3 cm	4 cm		
CCS	15	13	2		30	13.4%
Obsidian	15	12			27	12.1%
Quartz	26	27	3		56	25.0%
Quartzite	2	3	2		7	3.1%
Volcanic	41	51	10	2	104	46.4%
Total (n)	99	106	17	2	224	100%
Total (%)	44.2%	47.3%	7.6%	0.9%	100%	

The debitage raw material profile consists primarily of locally available raw materials, especially volcanic variants (n=104; 46.4%) and quartz (n=56; 25.0%) (Table 14). Rare or extralocal materials, such as fine-grained CCS (n=30; 13.4%) and obsidian (n=27; 12.1%), were present in smaller quantities. As expected, local raw materials had a higher proportion of shatter than extralocal materials. This is in part the result of the aforementioned physical properties of the stone (volcanic and quartz require more force to work) and partially a factor of their relative abundance; because the locally available stone is much more common, less care was taken when flaking, thereby resulting in larger amounts of shatter because the cost of the waste is not as high as with those materials that were transported over large distances. The distribution of size across material types also reflects this trend; 100.0% of all debitage larger than 3 centimeters is volcanic. Generally, exotic materials are reduced prior to their import in order to reduce the cost of transportation, resulting in smaller sized debitage in the final assemblage reflecting reworking of a higher quality material.

Bifaces

Excavations at P-37-013630 produced two projectile points, a projectile point fragment, and an obsidian biface fragment. One projectile point was identified in STP-2 within the first 20 centimeters below surface. The projectile point was manufactured from a gray volcanic and is categorized as a Cottonwood Triangular arrow point (Cat No.56; Figure 21). The specimen is complete and measures 18.75 × 11.68 × 3.47 mm. The point is asymmetrical and appears to have

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been opportunistically crafted from a pointed flake that was then pressure flaked. All margins of the point are still sharp with no evidence of buffing or other hafting procedures.



Figure 21. P-37-013630 Projectile Points: Cat No. 013, TU-1, 0-10 cmbs, Cottonwood Triangular (left); Cat No. 056, STP-2, 0-20 cmbs, Cottonwood Triangular (right).

The second projectile point was recovered from Quad A of TU-1 within the first 10 centimeters below surface. The complete projectile point is categorized as a Cottonwood Triangular arrow point and measures $20.96 \times 16.04 \times 3.12$ mm (Cat No.13; Figure 21). The projectile point was manufactured by means of pressure flaking a thin tabular chert flake. All margins of the point are sharp with no evidence of buffing or other hafting procedures.

The projectile point fragment was recovered from Quad B of TU-1 within the first 10 centimeters below surface. This white quartz point is categorized as a Cottonwood Triangular arrow point and measures $16.87 \times 15.93 \times 4.92$ mm (Cat No.33; Figure 22). A lateral fracture extending diagonally across the white quartz point removed the distal tip of the projectile point. The fracture is not an impact hinge fracture nor is there any evidence of hafting, suggesting that this point was fractured during manufacturing and discarded.

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The other biface is the lateral margin of a late-stage biface fragment (Cat No. 87) recovered from the first 10 centimeters of Quad A of TU-1. The lateral, bifacially worked margin measures 6.50 mm long and the fragment is 9.66 mm wide and 2.64 mm thick. The biface was produced from a finely worked, late-stage obsidian biface.



Figure 22. P-37-013630 Cat No. 033, TU-1, 0-10 cmbs, projectile point base.

Groundstone

A single groundstone tool was recorded from P-37-013630 during excavations; a handstone fragment (Figure 23). The tool fragment consists primarily of a handstone margin but two worn facets are discernable. A portion of the handstone's edge is also present and there is evidence of pecking and fire-affect. Though limited information can be ascertained from a single fragmented artifact, the tool does suggest that fair to moderate processing took place at P-37-013630.



Figure 23. P-37-013630 Cat No. 071, STP-3, 0-20 cmbs, handstone fragment.

Ceramics

A total of 29 ceramic sherds were recovered from the excavations at P-37-013630. A basic macroscopic visual analysis was performed to differentiate the traditionally defined buff and brown ware. Differentiating between brown wares macroscopically is difficult at best, and even low-powered magnification has been shown to be much less accurate than microscopic analysis (Gallucci 2004; Hildebrand et al. 2002).

All recovered sherds are brown ware. Under the more traditional classification, i.e., not differentiating brown wares based on amphibole, all sherds in the assemblage would have fallen under Tizon Brown. The absence of buff ware is to be expected, given its origin in the desert and that it generally comprises a decreasing percentage of ceramic assemblages in western parts of San Diego County. Given the presumed provenance of Salton Brown ware in the Salton Trough (Hildebrand et al. 2002), it is likely that, if present, it only comprises a small percentage of the overall assemblage.

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Of the 29 sherds only one exhibits evidence of burning while 11 of the sherds are thicker than 5.0 mm, possibly representing cooking vessels. The others are thinner walled vessels. Two rim sherds were identified, one of which, Cat. No. 57, showing evidence of possible modification (Figure 24). Five faint vertical incisions are visible on Cat. No. 57 and these incisions are crossed diagonally by four incisions. This creates a diamond shaped cross-hatch pattern.

Although the ceramic assemblage was not subjected to a full compositional analysis along the lines of a thin-section analysis, some variation could still be discerned. Beyond the presence/absence of amphibole, the typical brownware variation in the abundance, sorting, and angularity of quartz was noted. The typical variation in fabric colors was also noted, with red-brown, brown and grey-brown represented. If one assumes that the macroscopic variation is consistent with other sites in San Diego, microscopic analysis would likely identify even greater variation in fabric groups within this limited assemblage.



Figure 24: P-37-013630 Cat No. 017, TU-1, 0-10 cmbs, rim sherd (right); Cat No. 057, STP-2, 20-30 cmbs, rim sherd (left). Note incisions on Cat No. 057.

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Faunal Analysis

A total of 86 pieces of vertebrate remains (22.1 g) were recovered during excavation. The majority of the bone, 49 fragments, was recovered from STP-2. Analysis of vertebrate remains identified 24 fragments showing evidence of burning to varying degrees, most of which, 14, were recovered from STP-2. One bone fragment showed signs of modification in the form of a saw-cut edge. This bone is bovine-sized and is likely associated with the adjacent home and is evidence of site disturbance. Only a single complete bone specimen, a rodent long bone, was identified and its condition suggests that it was deposited non-culturally. The remaining assemblage is highly fragmentary. Except for six bone fragments, none of the specimens are larger than 2 centimeters and only the one complete rodent long-bone contains diagnostic features which might identify it to the family level or better. All remaining specimens are too small to identify to any level. Although a few of the specimens have recent breaks, all of them were likely broken into small pieces prior to deposition. Fifty-six (56) specimens are consistent with the general morphology of small mammals (rodent), fifteen specimens are consistent with medium-sized mammals (rabbit, hare), two specimens are likely from large mammals such as bovine or deer, and two small reptile vertebrae were also identified. The two large mammal bone specimens were not morphologically consistent with human osteology. The presence of a saw-cut edge on one of the large mammal bones further supports the assertion that the bones are not human. The Native American monitor present during the excavation, Tuchon Phoenix of Red Tail Monitoring and Research Inc, concurred that the bone was not human.

Highly fragmentary faunal assemblages like this are typical throughout San Diego (Arter 2013; Arter and Roeder 2010). This generally results from processing and consumption practices, whereby small mammals were pounded and crushed with groundstone tools and consumed as a mix of meat, bone, and skin (Shipek 1991).

6.2 P-37-036497

Excavation of four STPs at P-37-036497 produced only four artifacts, all from STP-02. Three of the artifacts consist of debitage removed from the same grey volcanic raw material. The debitage consists of a late cortical percussion flake, an early interior percussion flake, and a piece of shatter. This small lithic assemblage is consistent with an expedient cobble-core reduction or assay.

The fourth artifact identified during the excavation of STP-02 consists of a single groundstone handstone fragment. The tool fragment consists primarily of a handstone margin but one worn facet is discernible. The facet is well worn and the margin shows signs of pecking. Though limited information can be ascertained from a single fragmented artifact, the tool does suggest that fair to moderate processing took place at P-37-036497.

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7 MANAGEMENT CONSIDERATIONS

7.1 Resource Evaluation

The current study identified two previously unevaluated cultural resources that are located within the North City Project APE that could have been potentially impacted by project activities: P-37-013630 and P-37-036497. Archaeological testing and laboratory analysis were conducted to determine the eligibility of these sites for listing on the NRHP or the CRHR. Since this evaluation, the City has committed to avoiding impacts to these resources.

P-37-013630

This prehistoric temporary camp is located on a hillside terrace that consists of bedrock milling features, midden soil, and surface artifacts including over 100 lithic flakes and several brownware ceramic sherds. As described in Sections 5.2 and 6, P-37-013630 was evaluated through additional close-interval survey and excavation of four STPs and a STU. The excavations demonstrated a continuation of midden soil to bedrock and produced 224 pieces of debitage, 4 lithic bifaces, 29 ceramic sherds, 86 vertebrate remains, and a handstone fragment. Considering the high yield compared to the low volume (0.2 m³) of the excavation units, archaeological testing demonstrated that P-37-013630 has a significant subsurface archaeological deposit. Further research of P-37-013630 is likely to yield information important in prehistory and, as such, Dudek recommends P-37-013630 eligible for listing on the NRHP and the CRHR under criteria D and 4, respectively. No information was obtained about this site indicating its significance under NRHP criteria A through C or CRHR criteria 1 through 3. The site was not found to be associated with significant events (Criterion A, 1), or persons (Criterion B, 2), and no evidence suggests that it qualifies as the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction (Criterion C, 3).

P-37-036497

This prehistoric milling site consisting of three bedrock features with six milling slicks. As described in Sections 5 and 6, PWP was evaluated through additional close-interval survey and excavation of four STPs. Excavation of the STPs produced three pieces of debitage and one groundstone fragment. Further excavations at P-37-036497 are unlikely to yield information important to prehistory. Dudek recommends the P-37-036497 not eligible for listing on the NRHP or the CRHR under Criterion D, 4, respectively. Moreover, no information was obtained about this site indicating its significance under NRHP criteria A through C or CRHR criteria 1 through 3. The site was not found to be associated with significant events (Criterion A, 1), or persons (Criterion B, 2), and no evidence

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suggests that it qualifies as the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction (Criterion C, 3).

7.2 Resource Management

This cultural resource inventory was conducted to identify all cultural resources located within the North City Project APE. This inventory will assist the City in managing the cultural resources throughout the construction of the proposed North City Project. Because avoidance is the preferred method of managing resources, the current survey focused on the proximity of resources to each proposed project component. Though 37 resources are located within the APE, all can be avoided. Table 15 summarizes the findings, including project component, resource proximity, current evaluation status, and recommended management measures for each cultural resource within the North City Project APE.

All identified archaeological resources will be avoided. Therefore, regarding archaeological resources, under Section 106 of the NRHP, the Project will have no effect to historic properties. Under CEQA, the Project will have no significant impacts to historical resources. Effects to historical built environment resources are discussed in a separate report.

As described in Section 5, 1 newly discovered and 37 previously recorded resources have been identified within the North City Project APE. Of these 38 resources, analysis of site records and the current survey have confirmed that 11 are no longer extant. Site visits indicate that these resources have been collected or demolished for the construction of residential neighborhoods, a school, roads, railroads, a cemetery, and the MBC. Additionally, there is 1 cultural resource within the APE that will be impacted by proposed North City Project activities; however, this resource has been previously recommended not eligible for listing in the NRHP or the CRHR. One previously recorded resource was determined to have never been a cultural resource. Nine resources within the North City Project APE are isolates which are not considered eligible for listing in the NRHP or CRHR. These 22 demolished sites and insignificant isolates will not require any management considerations during the construction of the North City Project.

The remaining 17 cultural resources identified within the North City Project APE will require management consideration in the form of avoidance measures. Twelve sites are located within the North City Project APE and adjacent to proposed pipeline installation within the existing paved roads. However, these resources are avoidable, as they are located beyond barriers that would protect them from project impacts, including private fences, steep slopes, or drainages. Three additional resources are located within the APE, but the pipeline is being installed using directional drilling far below the surface in these areas and will not impact the resources. These

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17 cultural resources located within the North City Project APE can be avoided using limited protection measures. Protection measures include establishing work limits, marking environmentally sensitive areas (ESAs) with signage, and worker training. Collaboration with project engineers and construction specialists will ensure that the City and consulting archaeologists fully understand the possible impacts that each construction activity presents so that the best protection measures can be implemented for each site.

Prior to refinements of the North City Project engineering, it appeared that two unevaluated resources identified within the North City Project APE may have been impacted during construction. Previously identified P-37-013630 and newly discovered P-37-036497 are both located adjacent to the San Vicente Pipeline – TAT APE.

P-37-036497 is a prehistoric milling site consisting of three bedrock features with six milling slicks. A proposed drilling pit is proposed to be excavated within approximately 50 feet of the resource and a temporary work area is proposed within 35 feet of the resource. As described previously in this section, Dudek recommends the P-37-036497 not eligible for listing on the NRHP or the CRHR.

P-37-013630 is a prehistoric temporary camp located on a hillside terrace that consists of bedrock milling features, midden soil, and an artifact. P-37-013630 is located within a proposed staging area for the San Vicente Pipeline – TAT APE. As described previously in this section, Dudek recommends P-37-013630 eligible for listing on the NRHP or the CRHR under criteria D and 4, respectively. Though within a proposed staging area, P-37-013630 is located on top of the hillside terrace which is located at least 12 feet above the ground surface. Since the evaluation, the City has committed to avoiding these resources. Thus, the current project will not impact any known resources.

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**Table 15
Resource Summary Table**

Site Number	Era	Description	NRHP/CRHR Eligibility	North City Project Component	Project Proximity	Management Recommendation
CR 450	Historic	Scripps-Meanley Ranch	SD Register of Historic Resources	North City Pipeline	Within 100 ft	Avoidance
NCAWPF-IF-1	Prehistoric	Isolated quartzite core	No formal evaluation	NCPWF	Intersects	None – isolate
NCAWPF-IF-2	Prehistoric	Isolated metavolcanic flake	No formal evaluation	NCPWF	Intersects	None – isolate
NCAWPF-IF-3	Prehistoric	Isolated quartzite flake	No formal evaluation	NCPWF	Intersects	None – isolate
P-37-004505	Prehistoric	Pictograph panel, lithic scatter, and rock pile	No formal evaluation	San Vicente Pipeline	Within 100 ft	Avoidance
P-37-006660	Historic	San Diego Mission Flume segment	No formal evaluation	San Vicente Pipeline	Within 100 ft	Avoidance
P-37-009117	Historic	WWII training camp remnants	No formal evaluation	San Vicente Pipeline	Within 100 ft	Avoidance
P-37-011077	Prehistoric	Bedrock milling feature	No formal evaluation	San Vicente Pipeline	Within 100 ft	Avoidance
P-37-011459	Prehistoric	Lithic and groundstone scatter	No formal evaluation	San Vicente Pipeline	Within 100 ft	None – no longer extant
P-37-011611	Prehistoric	Lithic quarry	No formal evaluation	San Vicente Pipeline	Within 100 ft	Avoidance
P-37-011612	Prehistoric	Lithic artifact scatter	No formal evaluation	San Vicente Pipeline	Within 100 ft	Avoidance
P-37-011761	Historic	Concrete cistern	No formal evaluation	San Vicente Pipeline	Within 100 ft	None – no longer extant
P-37-012138	Prehistoric	Shell midden and fire affected rock	No formal evaluation	MBC	Intersects	None – no longer extant
P-37-012139	Prehistoric	Lithic scatter	No formal evaluation	MBC	Intersects	None – no longer extant
P-37-012408	Prehistoric	Lithic scatter	6Y	Landfill Gas Line; San Vicente Pipeline	Intersects	None – no longer extant
P-37-012439	Prehistoric	Artifact scatter	6Y	Landfill Gas Line; San Vicente Pipeline	Intersects	None – no longer extant
P-37-012453	Multicomponent	Shell, lithics, and historic glass scatter	No formal evaluation	Morena Pipelines	Within 100 ft	None – no longer extant

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Table 15
Resource Summary Table

Site Number	Era	Description	NRHP/CRHR Eligibility	North City Project Component	Project Proximity	Management Recommendation
P-37-013629	Historic	Foster rail depot remnants	No formal evaluation	San Vicente Pipeline – TAT	Intersects	Avoidance
P-37-013630	Prehistoric	Bedrock milling and a rock art panel	Recommended eligible CRHR	San Vicente Pipeline – TAT	Intersects	Avoidance
P-37-013651	Prehistoric	Milling and artifact scatter	No formal evaluation	San Vicente Pipeline	Within 100 ft	Avoidance
P-37-013846	Prehistoric	Bedrock milling site	No formal evaluation	San Vicente Pipeline – IRAT; San Vicente Pipeline – MAT	Within 100 ft	Avoidance
P-37-014119	Prehistoric	Isolated core	No formal evaluation	San Vicente Pipeline – MAT	Within 100 ft	None – isolate
P-37-014654	Multicomponent	Marine shell scatter and rock retaining wall	No formal evaluation	San Vicente Pipeline	Intersects	Avoidance
P-37-014655	Prehistoric	Milling artifact scatter	No formal evaluation	San Vicente Pipeline	Intersects	None – no longer extant
P-37-014656	Prehistoric	Milling artifact scatter	No formal evaluation	San Vicente Pipeline	Within 100 ft	None – no longer extant
P-37-014657	Prehistoric	Artifact and marine shell scatter	No formal evaluation	San Vicente Pipeline	Within 100 ft	Avoidance
P-37-014658	Prehistoric	Lithic and groundstone scatter	No formal evaluation	San Vicente Pipeline	Within 100 ft	None – no longer extant
P-37-014660	Prehistoric	Lithic and marine shell scatter	No formal evaluation	San Vicente Pipeline	Within 100 ft	Avoidance
P-37-014661	Prehistoric	Marine shell and flake scatter	No formal evaluation	San Vicente Pipeline	Intersects	None – not a site
P-37-014961	Prehistoric	Isolated flake	No formal evaluation	San Vicente Pipeline	Within 100 ft	None – isolate
P-37-014981	Prehistoric	Isolated flake and core	No formal evaluation	Landfill Gas Line	Intersects	None – isolate
P-37-015477	Prehistoric	Quartzite cobble tool	No formal evaluation	San Vicente Pipeline – IRAT	Within 100 ft	None – isolate
P-37-018327	Prehistoric	Shell and lithic scatter	No formal evaluation	Miramar WTP	Intersects	Avoidance
P-37-026967	Prehistoric	Bedrock milling	No formal evaluation	San Vicente Pipeline	Within 100 ft	None – no longer extant
P-37-026969	Historic	Glass scatter	No formal evaluation	San Vicente Pipeline – TAT	Within 100 ft	Avoidance
P-37-026974	Historic	Concrete road	6Z	San Vicente Pipeline	Intersects	None – not significant

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Table 15
Resource Summary Table

Site Number	Era	Description	NRHP/CRHR Eligibility	North City Project Component	Project Proximity	Management Recommendation
P-37-035477	Prehistoric	Isolated lithic flake	No formal evaluation	Morena Pipelines	Intersects	None – isolate
P-37-035478	Prehistoric	Isolated lithic flake	No formal evaluation	Morena Pipelines	Within 100 ft	None – isolate
P-37-036497	Prehistoric	Bedrock milling	Recommended not eligible	San Vicente Pipeline – TAT	Within 100 ft	Avoidance

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7.3 Mitigation Measures

Although all currently known cultural resources will be avoided, mitigation measures were developed to reduce the potential adverse effect/significant impact to previously undiscovered cultural resources. This study was completed in compliance with federal, state, and local regulations. Separate mitigation measures are not required. Rather, each mitigation measure has been design to fulfill the requirements of Section 106 of the NHPA, CEQA guidelines, and the City of San Diego Historic Resource Guidelines. The City of San Diego will be the lead agency implementing cultural resource mitigation measures and will provide information to Bureau of Reclamation for their ongoing Section 106 oversight and consultation obligations. The interagency relationship shall be detailed in a Cultural Resources Monitoring and Treatment Plan, specified in mitigation measure MM-CR-1, below.

Implementation of the following mitigation measures will reduce potential adverse effects/significant impacts to cultural resources to a level below significance:

MM-CR-1: Cultural Resources Monitoring and Treatment Plan (CRMTP)

I. Prior to Start of Construction

A. Preparation of CRMTP

1. Prior to the start of construction, the Principal Investigator (PI) archaeologist shall prepare a CRMTP that specifies and describes:
 - the cultural resources Area of Potential Effect (APE)
 - the chains of authority and communication, including inter-agency relationships for the purposes of compliance with Section 106 of the NHPA, CEQA, and City of San Diego Historic Resource Guidelines
 - roles and responsibilities
 - construction monitoring methods
 - reporting protocol
 - avoidance and protective measures for cultural resources
 - procedures for evaluating resource significance and/or data recovery for significant resources that cannot be avoided (known and unanticipated discoveries)
 - consultation obligations and timelines for providing feedback
 - post construction requirements

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2. The PI will prepare the draft CRMTP and submit to the City of San Diego Point of Contact who will then distribute to interagency contacts, as appropriate for review and to facilitate stakeholder consultation obligations.

MM-CR-2: Avoidance

The following shall be implemented to protect known archaeological resources that have not been evaluated for significance or that have been evaluated as significant under Section 106 and CEQA:

I. Prior to Start of Construction

- A. Identified cultural resources that have not been evaluated for significance or that have been evaluated as significant under Section 106 of the NHPA and CEQA, will be avoided through project design. These include resources that were either found outside of the work limits or for which significance evaluation did not identify significant archaeological deposits within the work limits.
 1. Prior to the start of construction, the Principal Investigator (PI) archaeologist shall ensure that resource-specific avoidance measures are implemented to prevent unanticipated impacts. These measures may include exclusionary fencing, ESA signage, or other measures deemed appropriate and as specified in the CRMTP.
 2. Only one resource, P-37-013630, overlaps the impact area. This resource was evaluated and a small portion of the site located on a rocky knoll was identified as significant under Criterion D of Section 106 and Criterion 4 of CEQA. The remainder of the site area did not contain significant deposits. Therefore, avoidance of significant impacts/adverse effects to this resource will include exclusion of construction related activities within or immediately near to the area containing significant deposits.

MM-CR-3: Construction Monitoring

The following shall be implemented to protect unknown archaeological resources and/or grave sites that may be identified during project construction phases.

I. 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 construction documents through the plan check process.

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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 (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.

II. Prior to Start of Construction

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 1/4 mile radius.

B. PI Shall Attend Precon Meetings

1. Prior to beginning any work that requires monitoring; the Applicant shall arrange a Precon Meeting that shall include the PI, Native American consultant/monitor (where Native American resources may be impacted), Construction Manager (CM) 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 Precon Meetings to make comments and/or suggestions concerning the Archaeological Monitoring program with the Construction Manager and/or Grading Contractor.
 - a. If the PI is unable to attend the Precon Meeting, the Applicant shall schedule a focused Precon Meeting with MMC, the PI, RE, CM or BI, if appropriate, prior to the start of any work that requires monitoring.

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2. Acknowledgement of Responsibility for Curation (Capital Improvement Project or Other Public Projects)
 - a. 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
 - a. 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 construction documents (reduced to 11x17) to MMC identifying the areas to be monitored including the delineation of grading/excavation limits.
 - b. 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).
 - c. 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 construction 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 construction requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final construction 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 Construction Schedule

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

III. During Construction

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 Construction Manager is responsible for notifying the RE, PI, and MMC of changes to any**

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construction 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 Section III.B-C and IV.A-D shall commence.
 3. The PI may submit a detailed letter to MMC during construction 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 (CSV). The CSV's shall be faxed by the CM 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 CM, 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.

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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 IV 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, CM and RE. ADRP and any mitigation must be approved by MMC, RE and/or CM 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

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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 VI-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 HRG. 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.

IV. 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

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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

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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 items associated and buried with Native American human remains shall be reinterred with appropriate dignity, pursuant to Section 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.

V. 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 precon 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 III - During Construction, and IV – 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 Section III - During Construction and IV-Discovery of Human Remains shall be followed.

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- 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 III-B, unless other specific arrangements have been made.
- B. If night and/or weekend work becomes necessary during the course of construction
1. The Construction 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.

VI. Post Construction

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 HRG (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 ADRP 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 HRG, 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.

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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 IV – 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.

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CR-4 Post-Review Treatment for Unanticipated Effects to Known Resources

The following shall be implemented to mitigate adverse effects/significant impacts to known avoided archaeological resources when avoidance becomes infeasible.

I. Prior to Construction-Related Impacts

A. Significance Evaluation and Treatment

1. For known avoided archaeological resources that have not been evaluated for significance under Section 106 and CEQA, and that, after final design cannot be avoided during construction, the significance evaluation and treatment procedures discussed in Section III.C of MM-CR-1 must be followed.

B. Data Recovery

1. For known archaeological resources that have been evaluated as significant under Section 106 or CEQA, and that, after final design cannot be avoided during construction, then the data recovery procedures discussed in Section III.B of MM-CR-1 must be followed.

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Cultural Resources Inventory Report for the North City Project

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Cultural Resources Inventory Report for the North City Project

9 CERTIFICATION

Preparer: Micah Hale, PhD, RPA	Title: Archaeologist
Signature: 	Date: September 1, 2017

Cultural Resources Inventory Report for the North City Project

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APPENDIX A
Project Personnel Qualification

Jason A. Collins

On-Call Paleontological Field Technician

Mr. Collins has been involved and worked in cultural resources management doing archaeology, paleontology, and biology for over 4 years and on over 90 projects. He has participated in Phase I, II, and III; CEQA section 106 analysis and is approved by the City of San Diego to do work as an archaeologist and qualified to do work archaeology and paleontology in the County of San Diego. He has worked all throughout Southern California on projects for large utilities companys, small and large developers, and public City and County projects. He has worked on large and small crews for mitigation efforts ranging from field surveying, monitoring, excavation, and relocation of historic structures. He has worked on all aspects of projects; giving consultation for mitigation, preparing and writing reports to City or County guidelines, generating and updating geographic mapping databases, and doing project management to ensure project staff and client expectations is congruent with regulations.

EDUCATION

San Diego State University
BA, History

CERTIFICATIONS AND TRAINING

City of San Diego Arch Approved
County of San Diego Arch/Paleo Qualified
40-Hour HAZWOPER
San Diego Mesa College
GIS Certificate of Performance, May 2014
UCSD Extensions
California Environmental Quality Act, 2014

Project Experience

City of San Diego

Blue Sky San Diego Project Phase I,II, & III Cultural Mitigation, City of San Diego – Gray Development. As an Archaeologist and Paleontologist; conducted research, archaeological testing, monitoring, evaluation, and recovery of multiple historical wells and cisterns. The cisterns and wells contained various historical artifacts from the the late 19th early 20th century. While conducting Phase III mitigation paleontogological monitoring fossilized shell, clams and oysters were uncovered and recovered from the Pleistocene era, on a property being developed for a mixed-use residential/commercial high rise in Downtown San Diego.

Greely Sewer Group 698, Phase III Excavation and Recovery Program, County of San Diego, City of San Diego – City of San Diego. As an Archaeologist; involved in the recovery and testing a known late prehistoric site indicated as CA-SDI-14,788. Area is located in the South Chollas Creek in South San Diego. Worked with various specialists on the project including; geo-archaeologists, marine faunal specialists, forensic anthropologists, and tribal liasons; for a proposed area to remove and replace old sewer and water lines.

Cisterra Sempra Office Tower, Phase I,II, & III Testing and Monitoring Program, County of San Diego, City of San Diego – Sempra U.S. Gas & Power. LL: As an Archaeologist; worked with contractors to conduct trench testing, boundary identification, and location of historically significant features. Excavated 4 wells, a double-stacked cistern and 2 other cisterns. Recovered artifacts that dated between the late 19th century and early 20th century on a proposed project area for a commercial office building in the middle of the the historic Downtown San Diego area.

Rohmiller Testing, Phase I Testing, County of San Diego, City of La Jolla – Rohmiller. As an Archaeologist, conducted mitigation testing involving 15 shovel test pits at existing residence proposed to be demolished and redeveloped into a larger private residence.

4th Avenue Lofts, Phase II Mitigation Monitoring Program, County of San Diego, City of San Diego. As an Archaeologist and Paleontologist, performed a mitigation monitoring and reports program, documented construction activity and recovered historic artifacts on a project area being developed for a apartment complex of lofts.

Stedman Residence, Phase II Mitigation Monitoring Program, County of San Diego, City of La Jolla – Wallace E. Cunningham. As an Archaeologist and Paleontologist, performed a mitigation monitoring and reports program, documented construction activity for cultural resources and fossils, on a project area being developed for a personal residence.

Sewer and Water Group 930, Mitigation Monitoring, County of San Diego, City of San Diego – City of San Diego. As an Archaeologist and Paleontologist, monitored over 700 feet of water and sewer line installation in the Linda Vista area. Historic artifacts and fossils were recovered.

BOSA Lot 1, Phase I Testing, County of San Diego, City of San Diego - BOSA Development California, Inc.. As an Archaeologist, worked with a crew to trench and test for cultural boundaries underneath a parking lot in downtown San Diego for a project site being developed as a mixed-use residential commercial high rise.

Grand Pacific Resorts, Phase I Testing, County of San Diego, City of Carlsbad – Grand Pacific Resorts. As an Archaeologist, worked with a crew to excavate 12 shovel test pits down to 100 or more to discover the depth limits of a cultural site previously documented. A second phase of testing including a two test units was applied. Phase II mitigation monitoring was recommended on a property being developed as an extension to an already existing resort area.

Sewer and Water Group 691, Mitigation Monitoring, County of San Diego, City of San Diego – City of San Diego. As an Archaeologist and Paleontologist, monitored over 200 feet of water and sewer line installation in the Balboa Park area.

Bidduloph Residence, Phase II Mitigation Monitoring Program, County of San Diego, City of La Jolla – Kemp Bidduloph. As an Archaeologist and Paleontologist, performed a mitigation monitoring and reports program, documented construction activity for cultural resources and fossils, on a project area being developed for a personal residence.

Keating Residence, Mitigation Project, County of San Diego, City of La Jolla – Keating. As an Archaeologist, tested and monitored at a site close to CA-SDI 4669. Site was extremely sensitive. Required heavy participation from tribal liaisons'. Property scheduled for single family home residence.

Bosa Lot 9, Phase II & III Testing & Monitoring, County of San Diego, City of San Diego - BOSA Development California, Inc.. As the lead Archaeologist, conducted Phase II Archaeological testing and Phase III monitoring in the downtown San Diego area. Uncovered and documented a historic cistern, well, and an old paved brick road on a property scheduled to be developed into a multi-use commercial residential high rise.

Upas Street Pipeline Replacement, County of San Diego, City of San Diego – City of San Diego. Mr. Collins monitored for paleontological and archaeological resources uncovered during the the removal and installation of over 1,000 feet of Water and Sewer lines along 5th Avenue, Historic bottles were recovered during project.

Otay 1st and 2nd Pipeline Abandonment, County of San Diego, City of San Diego – City of San Diego. Mr. Collins monitored for paleontological and archaeological resources uncovered during the the removal and installation of over 400 feet of Water and Sewer lines along in the City Heights area of San Diego, removed and disgarded old asbestos lines.

7956 AvenidaAlamar, Mitigation Testing, County of San Diego, City of La Jolla. As a lead Archaeologist, conducted mitigation testing involving 15 shovel test pits and 2 test units at an existing residence proposed to be demolished and redeveloped into a larger private residence.

Gaxiola Residence Mitigation Monitoring Program, County of San Diego, City of La Jolla – Marengo Architects. As an Archaeologist, monitored the grading and excavation of area being redeveloped into a larger private home, monitoring program recovered artifacts that were curated.

Sewer and Water Group 815, Mitigation Monitoring, County of San Diego, City of San Diego – City of San Diego. As an Archaeologist and Paleontologist, monitored over 500 feet of water and sewer line installation in the Mission Beach and Bay areas. Fossilized shell and historic artifacts were recovered and documented during this project.

Sewer and Water Group 820, Mitigation Monitoring, County of San Diego, City of La Jolla – City of San Diego. As an Archaeologist and Paleontologist, monitored over 500 feet of water and sewer line installation in the in the downtown La Jolla area. Fossilized shell and historic bottles were recovered and documented during this project.

Sewer and Water Group 946, Mitigation Monitoring, County of San Diego, City of San Diego – City of San Diego. As an Archaeologist and Paleontologist, monitored over 100 feet of water and sewer line installation in the shelltown area of East San Diego. Historic bottles were recovered and documented during this project.

Sewer and Water Group 735, Mitigation Monitoring, County of San Diego, City of San Diego –City of San Diego. As an Archaeologist and Paleontologist, monitored over 100 feet of water and sewer line installation in the Point Loma area. Historic artifacts were recovered and documented during this project.

Sewer and Water Group 549, Mitigation Monitoring, County of San Diego, City of San Diego – City of San Diego. As an Archaeologist and Paleontologist, monitored over 500 feet of water and sewer line installation in the College Area. Historic artifacts were recovered and documented during this project.

Sewer and Water Group 957, Mitigation Monitoring, County of San Diego, City of San Diego – City of San Diego. As an Archaeologist, monitored over 200 feet of water and sewer line installation in the Downtown San Diego area. Historic bricks and bottles were recovered and documented during this project.

10 on Columbia, Phase III Monitoring and Recovery, County of San Diego, City of San Diego – InDev. As an Archaeologist, conducted mitigation monitoring and recovered historic bottles for a property being developed in the Little Italy area of San Diego into ten new condos.

Point Loma Nazarene University Science Building, Mitigation Monitoring Program, Count of San Diego, City of San Diego – Point Loma Nazarene University. As an Archaeologist and Paleontologist, monitored the demolition of and new construction of a science building on a University campus. A single metate was uncovered and recovered during the project.

Golden Hills Row Homes, Phase III Mitigation Monitoring Program, County of San Diego, City of San Diego. As an Archaeologist, monitored the grading and recovery of a historic trash deposit filled with bottles, ceramics, and other historic artifacts which were curated. Property scheduled to be developed into a multi-unit apartment building.

Los Penasquitos Adobe Ranch House Drainage, Phase II & III Mitigation and Testing, County of San Diego, City of San Diego – City of San Diego. As an Archaeologist conducted testing along a proposed trench being excavated for a new drainage installation. The Los Penasquitos Adobe is a rich archaeological site numbers, more than 60, associated with it and it's surrounding area. The Los Penasquitos Adobe House and its surrounding area has been studied thoroughly and been estimated to have been inhabited from at least 5,500 years before present. The mitigation recovery produced prehistorics and historic artifacts that were curated.

1912 Spindrift Landscape, Phase I, II & III Mitigation Program, County of San Diego, City of La Jolla. As an Archaeologist, assisted with the testing and monitoring of the site area. The Spindrift Site (SDI-39), is a previously recored prehistoric occupation complex spanning early archaic to the late prehistoric cultural periods. The mitigation consisted of shovel test pits in the area of potential development and then test units excavated, and monitoring of construction that recovered shell midden layers that produced, shell, pottery, lithic production waste, ground stone, hammer stones, shell beads and bone.

Cesar Chavez Parking Structure, Mitigation Monitoring Program, County of San Diego, City of San Diego - San Diego Community College District. As an Archaeologist and Paleontologist, monitored the grading and geological boring for foundational structure in a project site being developed for a parking structure. Historic artifacts and fossilized imprints were recovered from a middle Pleistocene formation.

Sewer and Water Group 694, Mitigation Monitoring, County of San Diego, City of San Diego – City of San Diego. As an Archaeologist and Paleontologist monitored, over 500 feet of water and sewer line installation in the North Park and South Park areas.

Sewer and Water Group 727, Mitigation Monitoring, County of San Diego, City of San Diego – City of San Diego. As an Archaeologist and Paleontologist monitored, over 500 feet of water and sewer line installation in the Point Loma and Ocean Beach areas. Historic bottles were recovered and documented during this project.

Sewer and Water Group 703A, Mitigation Monitoring, County of San Diego, City of San Diego – City of San Diego. As an Archaeologist and Paleontologist, monitored over 1,000 feet of water and sewer line installation in the Alvarado Estates Communités area. Historic artifacts were recovered and documented during this project.

Sewer and Water Group 720, Mitigation Monitoring, County of San Diego, City of San Diego – City of San Diego. As an Archaeologist and Paleontologist, monitored over 200 feet of water and sewer line installation in the Mission Beach area. Historic bottles were recovered and documented during this project.

Sewer and Water Group 787, Mitigation Monitoring, County of San Diego, City of San Diego – City of San Diego. As an Archaeologist and Paleontologist, monitored over 700 feet of water and sewer line installation in the City Heights Area.

Sewer and Water Group 693, Mitigation Monitoring, County of San Diego, City of San Diego –City of San Diego. As an Archaeologist and Paleontologist, monitored over 400 feet of water and sewer line installation in the Normal Heights Area. Historic bottles were recovered and documented during this project.

Sewer and Water Group 758, Mitigation Monitoring, County of San Diego, City of San Diego – City of San Diego. As an Archaeologist and Paleontologist, monitored over 500 feet of water and sewer line installation in the Point Loma Area. Historic artifacts were recovered and documented during this project.

Sewer and Water Group 687B, Mitigation Monitoring, County of San Diego, City of San Diego – City of San Diego. As an Archaeologist and Paleontologist, monitored over 1,000 feet of water and sewer line installation in the Colleague Area. Historic artifacts were recovered and documented during this project.

Sewer and Water Group 814, Mitigation Monitoring, County of San Diego, City of San Diego –City of San Diego. As an Archaeologist and Paleontologist, monitored over 500 feet of water and sewer line installation in the Pacific Beach Area. Fossilized shell was recovered and documented.

1905 Spindrift, Phase II Testing, County of San Diego, City of La Jolla – Island Architects. As an Archaeologist, assisted with the testing of the site area. The Spindrift Site (SDI-39), is a previously recored prehistoric occupation complex spanning early archaic to the late prehistoric cultural periods. The mitigation consisted of shovel test pits in the area of potential development where that had been no previous development or testing. Artifacts recovered were consistent with the Spindrift Site area.

Pinnacle 15th and Island, Testing and Recovery Program, County of San Diego, City of San Diego. As an Archaeologist, assisted a with excavating a historic trash deposit during construction. Site had been previously tested and found to have historic deposits which were recovered. The deposit was a mix of historic artifacts; ceramics, bottles, clothing, newspaper, and various other items. The project area is an area being developed into a mixed use commercial residential high rise in the East Village area of Downtown San Diego.

Roberts Residence, Phase I & II Testing, County of San Diego, City of La Jolla. As an Archaeologist, preformed a testing program of shovel test pits in areas for proposed development. Recovery produced a limited amount of artifacts recovered. Property was proposed for redeveloping of a currenrntly existing private residence.

Sauvage Residence, Phase I & II Testing, County of San Diego, City of La Jolla. As an Archaeologist, preformed a soil screening program for a resident who was installing a new pool without proper permits. 25% of the soil spoils pile was tested. Recovery produced various lithic artifacts and a abalone shell fish hook.

7th & F St., Phase II Mitigation Program, County of San Diego, City of San Diego – Pendry. As an Archaeologist, preformed test trenching and screening for cultural recovery. Testing produced various historic deposits. Property proposed for downtown Hotel in the historic Gaslamp District.

Gaslamp Hotel, Phase III Mitigation and Montoring Program, County of San Diego, City of San Diego – Pendry. As an Archaeologist, preformed testing excavation for a historic trash deposit. Testing produced historic artifacts of various types including bottles, ceramics, and clothing. Property proposed for downtown Hotel in the historic Gaslamp District.

Park & G St., Phase II Mitigation Testing, County of San Diego, City of San Diego. As an Archaeologist, trenching for exploratory testing to identify historic deposits. Historic feature boundaries were identified and mitigation consultation was given. Site proposed for future commercial building.

1900 Spindrift, Phase II & III Mitigation Testing and Monitoring, County of San Diego, City of La Jolla –Island Architects. As an Archaeologist, assisted with the testing of the site area. The Spindrift Site (SDI-39), is a previously recorded prehistoric occupation complex spanning early archaic to the late prehistoric cultural periods. The mitigation consisted of shovel test pits and testing units in the area of potential development where that had been no previous development or testing. Artifacts recovered were consistent with the Spindrift Site area. This property was adjacent to 1905 Spindrift.

Knight Residence, Phase II Mitigation, County of San Diego, City of La Jolla. As an Archaeologist, performed a testing program in a private residence due to closeness of proximity to the Spindrift site. Excavated several shovel test pits and 2 test units to identify depth of potential impact. Recovery was limited but consistent with Spindrift Village site area.

Songs Old Town CPT, Testing Mitigation, County of San Diego, City of San Diego – Songs Old Town. As an Archaeologist, performed testing on the golf course located in the vicinity of the Old Town San Diego historic area. Testing was done to recover and identify cultural features along several lines for the a proposed T-Mobile cable lines to be installed. Old Town San Diego is known for the continuous human habitation from Native Americans, Spanish, Mexican, and Americans. Spanish pottery and historic artifacts were recovered.

Corson Residence, Mitigation Testing, County of San Diego, City of San Diego. As an Archaeologist, performed a testing program in a private residence due to closeness of proximity to the Spindrift site. Excavated utilities lines, several shovel test pits, and test units to identify depth of potential impact. Recovery was limited but consistent with Spindrift Village site area.

Villa Montezuma, Testing and Mitigation Program, County of San Diego, City of San Diego – City of San Diego. As a lead Archaeologist, performed a testing program at a historical structure located in the Sherman Heights area of San Diego. The Villa Montezuma is a Victorian styled home built in 1887. The testing program was done to locate any potential under ground cultural features or old utilities that would be impacted during construction to connect the property to the City sewer lines and the installation of side walks to become ADA approved. During the testing a previously unrecorded fountain was uncovered and documented in the back yard of the property. The recovery produced artifacts from the 1920's to 1950's giving a brief window of when the fountain was partially demolished and covered up.

County of San Diego

Citracado Parkway, Phase II & III mitigation, County of San Diego, City of Escondido – City of Escondido. As an Archaeologist; worked with a large crew of archaeologists to excavate a large prehistoric village site near the Escondido Creek. A known site indicated as CA-SDI-12,209 with multiple archaeological sites including rock art and milling sites. The Phase III mitigation resulted in two loci and the excavation of 325 test units. The testing uncovered and identified lithic production sites, mortar and milling sites, and an established village site with multiple hearths. Worked with various specialists on site including a forensic analyst and tribal liaisons, for a proposed area that included a bridge and a road to connect 1,000 homes being built in the Harmony Grove area.

Johnston-Ward House, Historic Preservation and Relocation, County of San Diego, City of Escondido - Standard Pacific Homes of California. As an Archaeologist/Historian; dismantled various pieces of the historic home including; chimney, fireplace, walkways, and doors through out the home. Recorded original construction through photographs, drawings, and documentation of location of pieces that were to be removed and then reset once new location of house was determined. Property being used as a community center and HOA office for planned new development of 1,000 residential homes in the Harmony Grove area.

Harmony Grove Village, Phase III Excavation and Monitoring Program, County of San Diego, City of Escondido – Standard Pacific Homes of California, Inc.. As an Archaeologist; worked with a large crew of archaeologists to excavate a prehistoric village site near the Escondido Creek and Elfin Forest. Two known sites indicated as CA-SDI-8,280 and CA-SDI-17,838 with multiple archaeological sites including rock art and milling sites. The Phase III mitigation resulted in two loci and the excavation of 250 test units. The testing uncovered and identified lithic production sites, mortar and milling sites, and an established village site. Worked with various specialists on site including a forensic analyst and tribal liasons, for a proposed area for 1,000 residential homes being built in the Harmony Grove area.

Johnson Avenue Sewer Relief, Mitigation Monitoring, County of San Diego, City of El Cajon – City of El Cajon. As an Archaeologist and Paleontologist, monitored over 500 feet of water and sewer line installation in the El Cajon area.

Safari Highlands, Phase I & II Field Survey, County of San Diego, City of Escondido. As an Archaeologist, assisted in conducting an updated intuitive study field survey for Phase I consultation and documentation. Phase II testing plan of 10 milling sites, 3 granary basins, and 4 rock walls for a property projected to be developed for residential home development.

Proctor Valley, Phase I Field Survey, County of San Diego, City of Chula Vista/Jamul. As an Archaeologist, assisted in conducting an updated intuitive study field survey for Phase I consultation testing plan of milling sites, granaries, and rock walls for a property projected to be developed for residential home development and mitigation land.

Muscat Survey and Lot Split, Underground Utilities Project, County of San Diego, City of Poway – Muscat. As an Archaeologist, conducted a survey to identify potential impacts to cultural resources by development. Areas were noted and mitigation monitoring was required. Existing home was built on a milling site which was adjacent to new property area. Recovered numerous ground stone and manos during excavation for new septic lines, which were curated.

Lorna Avenue, Phase II & III Testing and Mitigation, County of San Diego, City of El Cajon. As an Archaeologist, worked in a crew to perform the excavation of 36 test units for boundary assessment and monitoring for the development of a new multi-home condo complex. The site designation was previously EGS-01 scheduled to be changed, and from the recovery on the site was an area of continuous human habitation from early/middle archaic period of 6,000 years before contact to late prehistoric leading up to eventual contact. The site was used by Spanish, Mexican, and Americans evidence given by the Adobe Church, various historical artifacts on site, and historical documentation about the area. The site produced well over 300 full metates in all shapes and sizes, over 800 manos and ground stone, and many variety of tools. Tribal consultation was pivotal during the development due to human remains, including uncovering an inhumation, on site that were eventually removed and repatriated.

Westfield Carlsbad Center, Monitoring Program, County of San Diego, City of Carlsbad – Westfield. As an Archaeologist and Paleontologist, monitored the grading and installation of utilities into the new expansion of the previously existing mall. Fossils and historic items were recovered and curated from this site.

Poway Lowes, Mitigation Monitoring and Testing Program, County of San Diego, City of Poway – CSI. As an Archaeologist; monitored the grading and excavation for utilities and foundational structures for a new Lowes Home Improvement store. The area is located around near the San Dieguito River area has many known documented sites associated with it. During the excavation of trenches for utilities, large deposits of prehistoric artifacts were uncovered during the excavation and were consistent with previously recorded sites in the area. Testing was done to identify the cultural feature boundary areas but none was found due to a great amount of disturbance. Artifacts were curated.

Melrose Vista, Phase III Mitigation Monitoring and Recovery, County of San Diego, City of Vista. As a Paleontologist, monitored a project site being developed for a multi-unit apartment complex. Site uncovered a holocene/pleistocene era formation that had limited recovery of fossils shells and imprints.

Tri-City Christian School Expansion, Mitigation Monitoring, County of San Diego, City of Vista, Tri-City Christian School. As an Archaeologist and Paleontologist, monitored a site being excavated and graded for an expansion to the existing school facility. Fossil imprints were documented and recorded.

Amanda Lane, Phase I Field Survey, County of San Diego, City of Poway – New Urban West. As a lead Archaeologist, conducted a field survey of a residential lot with an existing structure for cultural resources. Historical bottles were documented.

Harmony Grove SDI-17838, County of San Diego, City of Escondido – Standard Pacific Homes, of CA, Inc. As an Archaeologist, worked with a large crew of archaeologists to excavate an extension to the SDI-17838 village site near the Escondido Creek and Elfin Forest. The other known site in the area CA-SDI-8,280 exists which encompasses multiple archaeological sites including rock art and milling sites. The Phase III mitigation resulted in 20 test units being excavated. The testing uncovered limited lithic production and the possible boundary for the cultural site, all done near the proposed area for 1,000 residential homes being built in the Harmony Grove area.

Eternal Hills, Mitigation Monitoring Program, County of San Diego, City of Oceanside Eternal Hills Cemetery. As an Archaeologist, monitored the grading and excavation for the development of a new mausoleum on an area of the previously existing cemetery grounds. No artifacts were recovered or burials disturbed.

Oceanside Springhill Suites Marriott, Mitigation Monitoring, County of San Diego, City of Oceanside – Marriott Hotels. As a Paleontologist, monitored and recorded the excavation of footings for a site being developed for a hotel. Fossil imprints were recovered and documented during excavation.

University Villages 8, Phase II Mitigation and Field Testing, County of San Diego, City San Diego, Otay Mesa. As an Archaeologist, performed a testing program and survey in the Otay Mesa area that has known Archaeological sites including SDI-10,452 and SDI-11,376. Testing produced limited artifacts and assisted in locating the boundary to the archaeological site previously recorded. Property is being scheduled for future development of residential homes.

Imperial County

Imperial Landfill Expansion, Phase II Mitigation Monitoring Program, Imperial County, City of Imperial. As a Paleontologist, monitored the grinding of clay soil and fossil bed area. Recovered small shell fossils, in an area being expanded for land fill.

El Centro Town Center Street Improvements, Phase II Mitigation Monitoring Program, Imperial County, City of El Centro. As an Archaeologist and Paleontologist, monitored a site being excavated and graded for a new housing development and street removal and improvements.

County of Riverside

The Lakes – Tract 30422-3, Phase III Mitigation and consulting, County of Riverside, City of Menifee– Lennar Homes of California. As project lead Archaeologist and Paleontologist; worked with client, soils technician, and construction crew on large tract to identify need for mitigation with undocumented soil that was spoils from a previous project. After evaluation of project; mitigation monitoring was conducted and wrote a mitigated negative declaration due to no recovery, for a planned project area and the building of a master plan community containing a man-made lake, park, and 250 individual homes adjacent to previous tracts and agriculture area.

PA Park at Tract 32025, Phase II Mitigation Monitoring Program, County of Riverside, City of Menifee, – Brookfield Residential. As an Archaeologist and Paleontologist; worked with a Pechanga native and client to monitor the construction for a public park, community, and pool area for residents in Audie Murphy Ranch community. Site was within the proximity of a previously recorded site, CA-RIV-6862. The project area contained a milling slick around which ground stone was recovered and an area with previous testing for historical resources.

Decker Parcels, Phase I Initial Survey, County of Riverside, City of Perris. As an Archaeologist; surveyed a project area for prehistoric and historic resources for future development of an industrial warehouse. Multiple milling slicks were uncovered and documented on site as well as mixed historic and modern debris.

Citrus Courts, Phase II Investigation, County of Riverside, City of Perris. As an Archaeologist; worked with a field crew to enact a testing plan for boundaries of a documented cultural feature. Performed shovel test pits and one test unit to determine the depth and boundaries of the cultural feature on a project site slated for development of multiple homes.

Toscana Testing, Phase II Testing Plan and Investigation, County of Riverside, City of Temescal Valley. As an Archaeologist; worked with a crew to test, photo, and document a historic dumping site. Project area was a mix of prehistoric and historic resources throughout. Historic testing documented an area near a main highway that was used as a dumping site for over 80 years. Project area being proposed for new commercial development.

Utah Trail Assessments, Phase I Pedestrian Field Survey, County of Riverside, City of 29 Palms. As an Archaeologist and Biologist; worked with a crew of Archaeologists and the head Biologist to perform a field survey to locate surface prehistoric artifacts, biological corridors of endangered species, and document flora present on site. The survey produced prehistoric pot drops, sherds, worked points, location of many different desert tortoise burrows, and various flora native to the area on a project area being proposed for a solar energy expansion.

Shoshone Valley Road, Phase I Pedestrian Field Survey, County of Riverside, City of 29 Palms. As an Archaeologist and Biologist; worked with a crew of Archaeologists and the head Biologist to perform a field survey to locate surface prehistoric artifacts, biological corridors of endangered species, and document flora present on site. The survey produced prehistoric pot sherds, worked points, and various flora native to the area on a project area being proposed for a solar energy expansion.

North Ranch, Phase II Mitigation Monitoring Program, County of Riverside, City of Wildomar - Lennar Homes of CA, Inland Division. As an Archaeologist and Paleontologist; carried out the mitigation monitoring and reporting program on a project site for a proposed housing development.

Warmington Tract 18903, Phase I Pedestrian Survey, County of Riverside, City of Chino – Warmington Residential. As an Archaeologist; performed a pedestrian survey to document any and all historic and prehistoric resources on an area currently being used as a vacant lot and part of it for a chicken farm but proposed for a new housing community development.

Sky Canyon, Phase I Pedestrian Survey, County of Riverside, City of Murrieta. As an Archaeologist; performed a pedestrian survey to document any and all historic and prehistoric resources on a vacant lot new church development.

Newport Square, Phase II Mitigation Monitoring Program, County of Riverside, City of Menifee – Grant General Contractors. As an Archaeologist and Paleontologist; performed a mitigation monitoring and reporting program, documenting historical and paleontological resources on a lot that was previously a parking lot and being proposed for multiple commercial retail stores. Recovery on the project included prehistoric artifacts that were curated.

Rancho Bella Vista TT36376, Phase II Mitigation Monitoring, County of Riverside, City of Temecula – Lennar Homes of CA, Inland Division. As an Archaeologist and Paleontologist; performed a mitigation monitoring and reporting program, project area was the 3rd phase a large housing community. Project area had numerous milling slicks, metates, and ground stone on site. Many of the artifacts were discovered prior to construction.

Modular Logistics Facility, Phase I Pedestrian Field Survey, County of Riverside, City of Moreno Valley. As a lead Archaeologist; performed a pedestrian survey and documented an area which had no archaeological resources on a project site proposed for an expansion to a logistics facility development.

Heritage Lake, Phase II Mitigation Monitoring Program, County of Riverside, City of Menifee - Standard Pacific Homes of California. As an Archaeologist, Paleontologist and Biologist; performed a mitigation monitoring and reporting program documenting construction progress and monitoring the gestation period for burrowing owls located within the APE of the project site. Burrowing owls were able to breed without issue and moved on from the burrow. Project area was being developed as the final and 3rd phase a large housing community.

Indian Wells Tennis Club, Phase II Mitigation Monitoring Program, County of Riverside, City of Indian Wells – Watkins Construction, Inc.. As an Archaeologist and Paleontologist; As an Archaeologist and Paleontologist; performed a mitigation monitoring and reporting program, documented construction and development activities on a project site being developed for a large tennis club and arena.

Sierra Bella Survey, Phase I Pedestrian Survey, County of Riverside, City of Corona. As an Archaeologist; performed a pedestrian survey and document historic and prehistoric resources; numerous milling features, grainaries, and lithic scatters were documented in a project area proposed to be a master plan community.

Terracina & Atherton Tracts, Phase I & II Pedestrian Survey and Testing, County of Riverside, City of Temeculan– Standard Pacific Homes of California. As an Archaeologist; performed a pedestrian survey and documented historic and prehistoric resources; lithic scatters were documented in a project area proposed to be a residential community.

Ridge Park Survey, Phase I Pedestrian Survey, County of Riverside, City of Temecula. As an Archaeologist; performed a pedestrian survey and documented historic and prehistoric resources; lithic scatters were documented in a project area proposed to be a residential community.

Belle Maison, Phase II Mitigation Monitoring Program, County of Riverside, City of Temecula – Lennar Homes of CA, Inland Division. As an Archaeologist and Paleontologist; performed a mitigation monitoring and reporting program, documented construction and development activities on a project site being developed for a small community. Ground stone was recovered on project site and repatriated to Pechanga native tribe.

Kramer Ranch Testing, Phase I & II Investigations, County of Riverside, City of Corona. As an Archaeologist; performed multiple forms of testing including shovel test pits and test units, testing was done to identify depth and boundaries of cultural sites documented during Phase I investigation. On a property proposed for large community development.

Emerald Acres Survey, Phase I Intuitive Survey, County of Riverside, City of Hemet. As an Archaeologist; performed a pedestrian survey and documented historic and prehistoric resources; lithic scatters were documented in a project area proposed to be a residential community.

Coral Montains Apartments, Phase II Mitigation Monitoring Program, County of Riverside, City of La Quinta - Coral Mountain Apartments LP. As an Archaeologist; performed a mitigation monitoring and reporting program, documented construction and development activities on a project site being developed for a small low income and elderly community. A historic trash pit was uncovered and diagnostic bottles were recovered for analysis.

Paseo del Sol Planning Area 6A, Phase II Mitigation Monitoring Program, County of Riverside, City of Temecula. As an Archaeologist; performed a mitigation monitoring and reporting program, documented construction and development activities on a project site being developed for a multiple phases of a housing community.

Campanula/Paseo Del Sol, Phase II Mitigation Monitoring Program, County of Riverside, City of Temecula. As an Archaeologist; performed a mitigation monitoring and reporting program, documented construction and development activities on a project site being developed for a multiple phases of a housing community.

Menifee Heights, Phase I Testing Program, County of Riverside, City of Menifee. As an Archaeologist; performed a investigative testing program around milling sites previously documented on a project site proposed for the development of a residential community.

West of Devers Survey, Phase I Pedestrian Field Survey, County of Riverside, City of Banning. As an Archaeologist and Biologist; worked with a crew of Archaeologist and Biologists to survey and document on the Morongo native reservation for SoCal Edison along their power lines previously installed. Documented prehistoric and historic sites and noted areas where evidence of cactus wren nests, burrowing owls, and desert tortoise burrows were observed.

Yates Road Subdivision, Phase II Mitigation Monitoring Program, County of Riverside, City of French Valley – Lennar Homes of CA, Inland Division. As a Paleontologist; performed a mitigation monitoring and reporting program for potential of uncovering fossils, documented construction and development activities on a project site being developed for a housing community.

Blessed Teresa of Calcutta, Phase II Mitigation Monitoring Program, County of Riverside, City of French Valley – Office of Construction and Real Estate. As an Archaeologist and Paleontologist; performed a mitigation monitoring and reporting program, documented and recovered mortars, milling, and ground stone, on a project site being developed for a church and community building.

Commerce Point, Phase II Mitigation Monitoring Program, County of Riverside, City of Menifee – Pac Ten Partners. As an Archaeologist and Paleontologist; performed a mitigation monitoring and reporting program, documented and recovered historic bottles, on a project site being developed for commercial warehouses.

Spencers Crossing, Phase II Mitigation Monitoring Program, County of Riverside, City of Murrieta – Brookfield Residential. As an Archaeologist and Paleontologist; performed a mitigation monitoring and reporting program, documented and recovered historic bottles and ceramic, on a project site being developed for a residential community.

Citrus Heights Archaeological Mitigation Monitoring Program, Phase II Mitigation Monitoring Program, County of Riverside, City of Riverside – Lennar Homes of CA, Inland Division. As an Archaeologist; performed a mitigation monitoring and reporting program, recovered historic bottles and documented milling slicks, mortars and recovered ground stone on a project site being developed for a multi-phase massive residential community plan. All in an area with multiple prehistoric archaeological sites within the APE.

Terracina TR-31597, Phase II Mitigation Monitoring Program, County of Riverside, City of Temecula – Standard Pacific Homes of California. As an Archaeologist; performed a mitigation monitoring and reporting program, recovered numerous metates, ground stone, and lithic shatter, on a project site being developed for a multi-phase massive residential community plan.

Box Springs Survey Update, Phase II Pedestrian Intuitive Survey Update, County of Riverside, City of Riverside – Albert A. Webb & Associates. As a lead Archaeologist; performed an 10 year update survey on 45 acres on a project site being developed for a multi-phase massive residential community plan.

County of Irvine

Portola Center Sec Parcel, Phase I & II Investigation, County of Irvine, City of Rancho Santa Margarita – Baldwin & Sons. As an Archaeologist; worked with a field crew to perform a pedestrian survey to locate cultural resources. A technical report was submitted and Phase II testing was performed to locate and document depth of cultural resources for a project area projected for future residential home development.

Papers Presented

Historical Fountains of the County of San Diego and the Villa Montezuma. Proceedings of the Society for California Archaeology 27.

Employment History

- May 2015 – July 2015 Cultural Resources/ Permitting Specialist GEPermit, San Diego, California.
- July 2012 – May 2015 Cultural Resources Specialist, Brian F. Smith & Associates, San Diego, California
- March 2012 – August 2012 Archaeological Technician, LSA & Associates, Inc., Carlsbad, California

Brad Comeau

Archaeologist

Brad Comeau is an archaeologist with over 9 years' experience as a field director, archaeological monitor, and 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 County, the Mojave Desert, San Joaquin Valley, and Imperial County, as well as Massachusetts, Arizona, and England. His research interests include the role of experimentation in archaeology, copper production techniques, and lithic production.

Project Experience

Development

St. John Garabed Church Project, San Diego County, California. As field director, conducted site examinations and limited shovel test pit excavation for an Extended Phase 1 survey; directed a crew of two people; prepared a letter report of findings.

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).

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 ARMAR 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; led excavation of numerous roasting pit 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.

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.

EDUCATION

University of Sheffield

MS, Experimental Archaeology, 2012

University of Massachusetts, Amherst
BA, Anthropology, 2004

BA, Italian Studies, 2004

CERTIFICATIONS

Occupational Health and Safety
Administration Hazardous Waste
Operations and Emergency Response
40-hour Course, 2011

City of San Diego, Certified Archaeological
Monitor, 2009

PROFESSIONAL AFFILIATIONS

Society for American Archaeology, 2012

Bath and Camerton Archaeological
Society, 2012

Society for California Archaeology, 2008

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

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

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

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

Jacumba Solar Extended Phase 1, 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.

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 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 ARMR 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 ARMR 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 ARMR technical report of findings.

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 pXRF field survey of a Roman-era glass and metalworking site; excavated a 5-by-5-meter trench.

Transportation

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.

Water/Wastewater

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; also 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.

Publications

Professional Presentations

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.

Technical Reports

2013 *Draft Archaeological Survey Report for the Fort Irwin Solar Project, Fort Irwin, San Bernardino County, California.* Brad Comeau, MSc, and Micah Hale, PhD, RPA.

2012 *Results of Extended Phase 1 Shovel Probing at Potentially Sensitive Archaeological Sites for the Jacumba Solar Project, San Diego County, California.* Brad Comeau, MSc, and Micah Hale, PhD, RPA.

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.

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.

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Matthew DeCarlo

Archaeologist

Matthew DeCarlo is an archaeologist with more than 8 years' professional experience leading archaeological surveys and excavations, performing lithic and faunal analyses, constructing and analyzing geographic information system (GIS) data, and producing cultural resource management reports.

As acting district archaeologist for the U.S. Forest Service (USFS), Mr. DeCarlo worked intensively with federal regulations and Native American tribal representatives and from this experience, has developed the ability to work collaboratively with consulting groups on multi-phase projects. Within the private sector, Mr. DeCarlo has managed the cultural resource requirements for large-scale utility projects which required extensive cooperation with utility managers, construction efforts, and Native American tribal representatives.

EDUCATION

California State University, Bakersfield
M.A., Anthropology, pending
University of California, Irvine
B.A., Anthropology, 2006

PROFESSIONAL AFFILIATIONS

San Diego Archaeological Society
Society for American Archaeology
Society for California Archaeology

Project Experience

Cultural Resources Impact Assessment and Evaluation for the West of Devers Upgrade Project (WODUP), Southern California Edison (SCE), Riverside and San Bernardino Counties, California.

Served as project manager for a cultural resource impact assessment for a dual transmission line upgrade spanning from North Palm Springs to San Bernardino, California. Tasks included implementing archaeological surveys and excavations, producing a cultural resource evaluation report, and participation in construction site visits with SCE staff and construction specialists to resolve construction/resource conflicts. The WODUP preconstruction activities are nearing completion.

Construction Monitoring for Devers to Palo Verde 2 (DPV2) Transmission Line Project, SCE, Riverside County, California.

Served as field director for the construction of a 500 kV transmission line spanning from Blythe to Romoland, California. Tasks included conducting archaeological surveys and excavations; managing construction monitoring teams; producing cultural resource records and reports; and consulting with SCE, construction, and Native American representatives. The final cultural resource report has been submitted and is awaiting approval.

Mountain Top Healthy Trees Project, USFS, Mount Pinos Ranger District, Santa Barbara County, California. Served as the acting district archaeologist for a proposed tree thinning project. To ensure that no previously recorded resources were impacted during the tree mastication, Mr. DeCarlo conducted a records search, delineated mastication boundaries, and monitored the mastication activities.

ARRA Wilderness Trails Restoration Project, USFS, Mount Pinos Ranger District, Santa Barbara and Ventura Counties, California.

Served as the acting district archaeologist. Fulfilled cultural resource requirements for National Environmental Policy Act (NEPA) compliance to ensure the Mount Pinos Ranger District of the Los Padres Forest received American Recovery and Reinvestment Act (ARRA) federal funds to conduct trail work within wilderness areas. This required consultation with USFS supervisors to construct a viable timetable, completion of a records search, intensive survey of trails, and collaboration with trail maintenance crew chiefs to protect threatened cultural resources.

Cultural Resources Management for the Day Fire Reforestation Project, USFS, Mount Pinos Ranger District, Ventura County, California. Served as the acting district archaeologist for the reforestation of areas burned during the 2007 Day Wildfire. Prior to the planting of pine tree saplings, Mr. DeCarlo performed a records search, conducted an archaeological inventory, and evaluated the post-fire condition of previously identified archaeological sites. A survey report and archaeological site records were submitted to the Los Padres National Forest Headquarters and tree saplings were planted in the spring of 2010.

Sierra Madre Ridge Archaeological Survey and Rock Art Recordation Project, USFS, Mount Pinos Ranger District, Santa Barbara County, California. Served as the field chief for the Sierra Madre Ridge Project, a Section 110 of the National Historic Preservation Act (NHPA) project consisting of three one-week expeditions to update site records and survey previously unrecorded portions of a known archaeological district. Tasks included leading and training volunteer teams in survey and site recordation methods, updating previously recorded archaeological sites, identification of new sites, surveying previously unrecorded land, and managing fuels near significant sites to prevent possible fire damage. A survey report, site records, and GIS mapping were completed and submitted to the Los Padres National Forest Headquarters.

NEPA Compliance for the New Chuchupate Ranger Station, USFS, Mount Pinos Ranger District, Ventura County, California. Served as the acting district archaeologist. To ensure NEPA compliance and ensure acquisition of ARRA federal funds, conducted a records search, collaborated with the Forest Tribal Liaison, updated previously recorded sites, mapped the existing Chuchupate Ranger Station, conducted an intensive survey, contracted an architectural historian, and submitted a report to the Los Padres National Forest Headquarters.

Sapaski (Painted Rock) Tribal Protection Meeting, USFS, Mount Pinos Ranger District, Ventura County, California. Served as the acting district archaeologist for the Sapaski Tribal Protection Meeting, a collaborative effort with tribal representatives and USFS supervisors to protect a significant rock art resource. Conducted a records search and suggested possible protection strategies to tribal representatives.

Archaeological Investigation for the Yellow Jacket Fire Project, USFS, Mount Pinos Ranger District, Ventura County, California. Served as the acting district archaeologist for the archaeological investigation after the Yellow Jacket Fire. Conducted a records search to identify any previously identified cultural resource within burned or staging areas, appraised sites impacted by both fire and fire-fighting measures, consulted with fire personnel to determine possible impacts, and submitted a report to the Los Padres National Forest Headquarters.

Kara R. Dotter

Senior Historic Preservation Specialist

Kara Dotter is a senior historic preservation specialist with more than 15 years' experience in historic preservation and architectural conservation. Her historic preservation experience spans all elements of cultural resources management, including project management, intensive- and reconnaissance-level field investigations, architectural history studies, and historical significance evaluations in consideration of the National Register of Historic Places (NRHP), California Register of Historical Places (CRHR), and local-level designation criteria.

Ms. Dotter's background in geology informs many aspects of her architectural conservation work, including insight into the deterioration of building materials over time, which helps inform preservation strategies for various types of construction materials. She has experience with a variety of materials, in particular stone, brick, mortar, and concrete. Her materials analysis skills include petrographic analysis of stone, mortar, and concrete; paint analysis; wood species identification; and applicable American Society for Testing and Materials standards, as well as proficiency with Fourier transform infrared spectroscopy (FTIR), scanning electron microscopy with energy-dispersive X-ray spectroscopy (SEM-EDS), back-scattered electron imagery (BSE), atomic absorption spectrometry (AAS), differential thermal analysis (DTA), X-ray diffraction (XRD), and ion chromatography techniques.

Ms. Dotter meets the Secretary of the Interior's Professional Qualification Standards for Architectural History. She is experienced managing multidisciplinary projects in the lines of land development, state and local government, and the private sector. She has experience preparing environmental compliance documentation in support of projects that fall under the California Environmental Quality Act (CEQA)/National Environmental Policy Act (NEPA), and Sections 106 and 110 of the National Historic Preservation Act (NHPA). She also prepared numerous Historic Architectural Survey Reports (HASRs) and Findings of Effect (FOE) reports for the California High-Speed Rail Authority.

Project Experience

Development

NEC Dinah Shore and Monterey Avenue Development, Palm Desert, California. Served as architectural historian and co-author of the Cultural Resources Report, conducting research into the history of the area and its relation to the property in question.

Education

Kings Beach Elementary School Facilities Master Plan Project, Tahoe Truckee Unified School District (TTUSD), Tahoe City, California. Served as architectural historian and lead author of the cultural resources study. Recorded and evaluated the Kings Beach Elementary School Building for NRHP, CRHR, and local level criteria and integrity considerations. The study also entailed conducting archival and building development research, a records search, and Native American coordination.

EDUCATION

Queen's University of Belfast
PhD Candidate (ABD)

University of Texas, Austin
MS, Geological Sciences, 2006
MS, Historic Preservation, 2004

University of Houston
BS, Geology, 1996

PROFESSIONAL AFFILIATIONS

Association for Preservation Technology

California Preservation Foundation

Construction History Society of America

Society of Architectural Historians

Transportation

Environmental Preconstruction Services for Construction Package 2 and 3, California High-Speed Rail Authority, Fresno to Bakersfield Section, California. Served as project lead for the Built Environment component of the environmental services. The work involved conducting cultural resources assessments for a proposed 65-mile-long segment of the Fresno to Bakersfield high-speed rail alignment as directed by the California High-Speed Rail Authority and Federal Transit Administration (FTA) in order to comply with NEPA and CEQA regulations. Ms. Dotter's contributions include architectural history field surveys; managing structural and vibration engineering consultants; conducting research for and producing HASRs and supplemental Findings of Effect (sFOEs); development of Protection and Stabilization Plans and Response Plans for Unanticipated Effects and Unintended Damage; updating the CRHR-designated 7,040-acre Washington Irrigated Colony Rural Historic Landscape; and completion of over 150 California Department of Parks and Recreation (DPR) forms for the evaluation of built environment resources.

Relevant Previous Experience

Development

Historic Resource Nomination Report for 1445 Granada Avenue, San Diego, California. Conducted archival research, interviews, extensive photo documentation, and forensic analysis of a 1912 Craftsman-style home in support of designation as an historic resource. Ms. Dotter also compiled supporting evidence for proposing a new San Diego Master Architect/Builder. (2016)

Historic Resource Technical Report for 1644 University Avenue, San Diego, California. Served as architectural historian and author of the Historical Resource Technical Report. Preparation of the report involved conducting extensive building development and archival research on the commercial building, development of an historic context, and an historical significance evaluation in consideration of local, state, and national designation criteria and integrity requirements. The project proposed to build a new multi-use development with retail space, parking, and luxury condominiums. (2015)

Education

Rehabilitation of Lincoln Hall, University of Nevada, Reno. Provided peer review of mortar repair specifications and fire code upgrades for the historic two-and-a-half story Lincoln Hall, constructed of brick in 1895 as a men's residence hall. Recommendations included changing the specified mortar mix to an historically appropriate mix design similar to that used originally and more compatible with existing materials. The suggested fire code upgrades originally called for infilling the intentionally designed wall ventilation space between interior and exterior wythes of brick with Portland cement-based grout, altering the breathability and functioning of the building envelop. Ms. Dotter instead recommended discreet insertion of fire blocks between the wythes at each floor level. (2015)

Queen's University Belfast Main Building Materials Analysis, Northern Ireland. Collected mortar samples and conducted materials analysis to identify components and develop recommendations for repair mortars. The project also entailed mapping exterior walls for areas of deterioration affecting mortar and brick. (2010)

Municipal

Paint Analysis for Mohnike Adobe, San Diego County, California. Analyzed selected paint chip samples to develop a stratigraphy of paint layers useful in identifying replacement materials and creating

an historically appropriate paint scheme for ongoing renovations to this San Diego County-owned property. (2016)

Materials Conservation Assessment and Recommendations for Stone Quoins, Old Antrim Courthouse, Northern Ireland. Investigated the existing condition of heavily-painted stone quoins on the Grade A listed 1726 Italianate-style Old Antrim Courthouse, the oldest courthouse in Northern Ireland, during extensive rehabilitation of the structure into a cultural events center. The surface of the original sandstone ashlar blocks was friable due to impermeable paint layers retaining moisture within the stone. Recommendations included gentle removal by hand of existing paint layers, misting of more recalcitrant paint layers, and consolidation or replacement-in-kind of more damaged stone. (2011)

Specialized Training

- Tips and Tools for Environmental Review: Mastering the CEQA Process for Historic Properties in the Bay Area, 2016. California Preservation Foundation (CPF).
- Section 106: An Introduction, 2015. National Preservation Institute (NPI).
- Wood Identification Workshop, 2010. Institute of Conservator-Restorers in Ireland (IPCRA).
- Crafts and Trades, 2008. APT.
- Salts in Traditional Masonry Buildings, 2008. Scottish Lime Centre, Scotland.
- Introduction to Lime, 2007. Calch Ty-Mawr, Wales.
- Introduction to Microscopical Identification of Conservation Materials, 2006. McCrone Group.

Publications

Selected Technical Reports

Dotter, Kara and Samantha Murray. 2016. "Cultural Resources Study for Kings Beach Elementary School Facilities Master Plan Project, Kings Beach, Placer County, California." Prepared for the TTUSD.

Dotter, Kara, Ione Stiegler, Vonn Marie May, Katie Debiase. 2016. "District Update for the Washington Irrigated Colony Rural Historic Landscape, Fresno County, California." Prepared for the California High-Speed Rail Authority and California State Historic Preservation Officer.

Dotter, Kara, Ione Stiegler, Rick Tavares, and Mel Green. 2016. "Plan for Protection and Stabilization and Response Plan for Unanticipated Effects and Inadvertent Damage: Lakeside Cemetery, Hanford, California." Prepared for the California High-Speed Rail Authority.

Dotter, Kara, Ione Stiegler, Rick Tavares, and Mel Green. 2016. "Findings of Effect for the Fresno to Bakersfield Project Section Primary Re-examination Area for Construction Package 2-3: Addendum to the Findings of Effect." Prepared for the California High-Speed Rail Authority.

Dotter, Kara and Ione Stiegler. 2016. "Historic Architectural Survey Report Addendum No. 5 (Primary Re-examination Area), Fresno to Bakersfield Project Section." Prepared for the California High-Speed Rail Authority.

Dotter, Kara and Ione Stiegler. 2015. "Historic Resource Nomination Report for 1445 Granada Ave., San Diego, California." Prepared for private client.

Dotter, Kara and Ione Stiegler. 2015. "Historic Resource Nomination Report for 4820 Biona Dr., San Diego, California." Prepared for private client.

Dotter, Kara and Ione Stiegler. 2015. "Historic Resource Technical Report for 1644 University Ave., San Diego, California." Prepared for private client.

Other Publications

Dotter, K. R. 2010. "Historic Lime Mortars: Potential Effects of Local Climate on the Evolution of Binder Morphology and Composition." *Limestone in the Built Environment: Present Day Challenge for Preservation of the Past*. Geological Society of London. Special Publication 331.

Dotter, K. R., Smith, B. J., McAlister, J., and Curran, J. 2009. "Sacrifice and Rebirth: The History of Lime Mortar in the North of Ireland." *Proceedings of the 3rd International Congress on Construction History*. Brandenburg University of Technology. May 2009.

Dotter, K. R., Smith, B. J., McAlister, J., and Curran, J. 2008. "Effects of Weathering Processes on Conservation Mortars and the Surrounding Stone Substrate." *Proceedings of the 11th International Congress on Deterioration and Conservation of Stone*. Nicolaus Copernicus University Press. September 2008.

Dotter, K. R. 2007. "Symbolism of Stone Use in Traditional Chinese Gardens." *STONE: Newsletter on Stone Decay*. No. 3.

Conference Presentations

"The Weathering of Conservation Mortars, and Implications for Historic Preservation." 2011. Presented at the Association for Preservation Technology (APT) Annual Conference. Victoria, British Columbia, Canada.

"40 Years of Conservation Mortars: Evolution and Effects." 2008. Presented at the APT Annual Conference. Montréal, Québec, Canada.

"Historical and Current Analysis Methodologies for the Characterization of Historic Lime Mortars." 2006. Presented at the American Institute for Conservation of Historic and Artistic Works (AIC) Annual Conference. Providence, Rhode Island.

"Characterization and Comparison of Modern and Historic Lime Mortars." 2005. Presented at the APT Annual Conference, 21–26 September 2005, Halifax, Nova Scotia, Canada.

"Air Pollution Interaction with Consolidated Stone." 2005. Joint project presented by Tye Botting at the AIC Annual Conference. Minneapolis, Minnesota.

"Early 20th Century Prison Technology." 2004. Presented at the APT Annual Conference. Galveston, Texas.

Micah Hale, PhD, RPA

Senior Archaeologist

Micah Hale is Dudek's cultural resources practice manager and lead principal investigator, with technical expertise as a lithic and groundstone analyst, invertebrate analyst, and in ground penetrating radar. Over the course of his 18 year career, Dr. Hale has served as a principal investigator in the public and private sector for all levels of archaeological investigation, as a public outreach coordinator and as an assistant professor at the University of California, Davis (U.C. Davis). As Dudek's cultural resources practice manager, he currently functions as a principal investigator in project oversight including proposals, research designs, fieldwork, artifact analysis, and report authorship.

Dr. Hale's experience is both academic and professional spanning California, Arizona, Nevada, and Oregon, including work for Naval Facilities Engineering Command (NAVFAC) Southwest, California Department of Transportation (Caltrans), Western Area Power Administration, Bureau of Land Management (BLM), U.S. Army Corps of Engineers (ACOE), U.S. Fish and Wildlife Service (USFWS), California State Parks, various city and county agencies, and directly for Native American groups. Dr. Hale has supervised numerous large-scale surveys, test excavations, data recovery programs, and geoarchaeological investigations, served as a third party review consultant, and an expert witness in legal proceedings. He has authored research designs, management and treatment plans, proposals, preliminary and final reports, and technical analyses. Dr. Hale has integrated his personal research interests into projects and participated in professional symposia at local and national venues, including the Society for American Archaeology and the Society for California Archaeology. Additionally, he has conducted academic research in the Polar Arctic, Greenland. Dr. Hale's current focus is on hunter-gatherer archaeology of California and the Great Basin, applying theoretical premises of cultural evolution and human behavioral ecology.

EDUCATION

University of California, Davis
PhD, Anthropology, 2009
California State University, Sacramento
MA, Anthropology, 2001
University of California, Davis
BS, Anthropology, 1996

CERTIFICATIONS

Register of Professional Archaeologists
(RPA), 2001

PROFESSIONAL AFFILIATIONS

Society for American Archaeology
Society for California Archaeology
Antelope Valley Archaeological Society
San Diego Archaeological Society

Project Experience

Development

Phase II Archaeological Data Recovery for the Newland Homes Sierra Project, San Diego County, California, 2013-present. As project manager and principal investigator, supervising data recovery investigations at two significant prehistoric archaeological sites and historic archival research of a homestead in support of the Newland Sierra Environmental Impact Report (EIR).

Phase I Archaeological Inventory and Phase II Archaeological Evaluation for the Yokohl Ranch Project, Tulare County, California, 2012-2013. As project manager and principal investigator, supervised completion of 12,000 acre survey and archaeological evaluation of 85 prehistoric and historical archaeological sites in support of the Yokohl Ranch EIR.

Phase I Inventory and Phase II Cultural Resources Evaluation for the Star Ranch Project, RBF Consulting, San Diego County, California, 2011. As project manager and principal investigator, supervised CEQA inventory and evaluation for private development.

Phase II Archaeological Evaluation of Two Prehistoric Sites, Torrey Pines Glider Port, San Diego County, California, 2012. As project manager and principal investigator, supervised CEQA evaluation of two prehistoric archaeological sites for the Torrey Pines City Park General Development Plan.

Data Recovery of One Prehistoric Site for the Rhodes Property, Sea Breeze Properties, San Diego County, California. As project manager and principal investigator, supervised CEQA compliant data recovery of a large prehistoric site for a residential development.

Archaeological Survey of the Paramount Mine Exploratory Drilling Project, Essex Environmental, Mono County, Nevada, 2006. As principal investigator and field director, conducted archaeological survey for mining exploration and prepared the technical report.

Phase I Inventory of 1,544 Acres and Phase II Evaluation of Archaeological Sites along the Western and Northwestern Boundaries, Edwards Air Force Base, Kern County, California, 2005. As field director, supervised a Phase I inventory of 1,544 acres. Recorded 30 new archaeological sites, more than a dozen "sub-modern" refuse dumps, and a variety of isolate finds. Notable sites include several early Holocene lithic scatters (Lake Mojave-, Silver Lake-, and Pinto-age deposits), a rhyolite lithic quarry, and a complex of historic dumps associated with homesteading activities around Lone Butte.

Pankey Ranch Testing, Pardee Homes, Northern San Diego County, California, 2004. As field director, supervised excavation of shovel test pits to delineate the boundaries of site CA-SDI-682, the prehistoric village of Tom-Kav. Managed field personnel, conducted excavation, and wrote portions of technical report.

Oceanside Hilton EIR, Dudek Associates, Oceanside, San Diego County, California, 2004. As principal investigator and field director, conducted a survey of the proposed Hilton Hotel at the eastern end of Buena Vista Lagoon in Carlsbad and prepared portions of technical report for an EIR.

Archaeological Survey of the La Mesa Meadows Residential Development Project, Helix Environmental, San Diego County, California, 2005. As principal investigator, conducted a survey of a proposed residential development in San Diego County.

Data Recovery of Locus O, Star Canyon Development, Agua Caliente Band of Cahuilla Indians, Palm Springs, Riverside County, California, 2004. As field director, supervised field crews for data recovery mitigation of an archaeological deposit and human remains near Tahquitz Canyon. Coordinated with Native American representatives and prepared portions of the technical report.

Linda Vista Survey, City of San Marcos Planning Department, San Diego County, California, 2003. As field director, conducted a Phase I cultural resource inventory of the proposed road realignment in San Marcos. Prepared technical reports and made recommendations for additional work to be done within the project area.

Archaeological Monitoring for Williams Communications Fiber-Optic Line, Jones and Stokes Associates, San Luis Obispo and Bakersfield, Kern and San Luis Obispo Counties, California, 2001. As resource monitor/Native American coordinator, conducted archaeological monitoring for a fiber-optic cable installation project that spanned 180 miles from San Luis Obispo to Bakersfield. Identified and

protected archaeological resources in the project area in compliance with state and federal regulations. Managed Native American monitors and coordinated daily work with construction and environmental staff to facilitate project completion.

AT&T Cable Removal Project, Jones and Stokes Associates, Taft to Los Angeles, Kern and Los Angeles Counties, California, 1998. As field archaeologist, conducted a survey to determine archaeological impact by the removal of a lead-lined subsurface cable.

Subsurface Survey of a Proposed Bicycle Path Along the Columbia River Slough in Northwest Portland, City of Portland, Multnomah County, Oregon, 2000. As field archaeologist, conducted auger testing in a variable north-to-south transect at 30-meter intervals, and unit mapping.

Phase II Test Excavations, AT&T, Portland, Multnomah County, Oregon, and Vancouver, Clark County, Washington, 1999. This project determined the presence and condition of any cultural resources in the project areas that were situated on the northern and southern sides of the Columbia River in Washington and Oregon.

Education

Data Recovery for the Palomar North and Meadowood Projects, Palomar College, San Diego County, California, 2012. As principal investigator, supervised Section 106 and CEQA-compliant data recovery of the ethnohistoric village of Tom-Kav. Expert witness for litigation of archaeological work for the client.

Data Recovery Excavations in Advance of Geotechnical Coring at W-12, University of California San Diego (UCSD), San Diego County, California, 2009. As project manager and principal investigator, supervised data recovery excavations in a midden dated as early as 9,600 years before present.

Archaeological Test Excavations at Selected Sites on Vandenberg Air Force Base, University of California, Davis, Lompoc, Santa Barbara County, California, 2008. As principal investigator and field director, supervised and instructed 21 students for the 2008 U.C. Davis Field School.

Archaeological Survey and Excavations in the Polar Arctic, University of California Davis, Northwest Greenland, 2006. As researcher, conducted a project for the National Science Foundation, National Geographic, and the Inglefieldland Polar Archaeology Expedition; U.C. Davis.

Energy

Phase II Evaluation of 19 Archaeological Sites for Soitec's Tierra Del Sol Solar Project, San Diego County, California, 2012-2013. As principal investigator, oversaw and implemented significance evaluations, including fieldwork and documentation, under CEQA and San Diego County guidelines within the development footprint.

Phase II Evaluation of 42 Archaeological Sites for Soitec's Rugged Solar Project, San Diego County, California, 2012-2013. As principal investigator, oversaw and implemented significance evaluations, including fieldwork and documentation, under CEQA and San Diego County guidelines within the development footprint.

Class III Cultural Resources Inventory for the Level 3 Fiber Optic Installation Project, Fort Irwin Army Reserve and BLM, San Bernardino County, California, 2012-2013. As Project manager and co-

principal investigator, oversaw and implemented cultural resource inventory of fiber optic corridor and recordation and evaluation of contributing elements to the NRHP-eligible LADWP transmission line corridor.

Class III Cultural Resources Inventory for Soitec’s Fort Irwin Solar Project, San Bernardino County, California, 2013. As project manager and co-principal investigator, oversaw and implemented cultural resources inventory.

Third Party Compliance Monitoring for the Ocotillo Wind Energy Farm, Ocotillo, Imperial County, California, 2012-2013. As principal investigator, oversaw and implemented compliance assistance to the BLM to ensure adherence to mitigation measures and proper treatment of cultural resources.

Third Party Compliance Monitoring for the Tule Wind Project, San Diego County, California, 2012-2013. As principal investigator, oversaw and implemented compliance assistance to the Bureau of Land Management to ensure adherence to mitigation measures and proper treatment of cultural resources.

Third Party Compliance Monitoring for the East County Substation Project, San Diego County, California, 2012-2013. As principal investigator, oversaw and implemented compliance assistance to the BLM and California Public Utilities Commission (CPUC) to ensure adherence to mitigation measures and proper treatment of cultural resources.

Third Party Compliance Monitoring for the Rio Mesa Solar Project, Riverside County, California, 2012-2013. As principal investigator, oversaw and implemented compliance assistance to the BLM to ensure adherence to mitigation measures and proper treatment of cultural resources.

Phase II Archaeological Testing of One Historic Site for the Cool Valley Solar Project, RBF Consulting, San Diego County, California. As project manager, supervised implementation of archaeological testing of a historic airfield near Campo.

Phase II Archaeological Testing of Four Prehistoric Sites for the Gildred Solar Project, RBF Consulting, San Diego County, California. As project manager, supervised implementation of archaeological testing of four small prehistoric sites along the ancient Lake Cahuilla shoreline.

Phase II Archaeological Testing of One Prehistoric Site for the Borrego A and B Solar Projects, RBF Consulting, San Diego County, California. As project manager, supervised implementation of archaeological testing of a large prehistoric habitation site in the Imperial Valley.

Phase I Cultural Resources Inventories for the Sol Orchard and Sol Focus Solar Projects, RBF Consulting, San Diego County, California. As project manager, supervised implementation of Phase I CEQA inventories for more than 22 solar projects.

Class II Survey of 4,700 Acres for the Silurian Wind Project, Iberdrola Renewables, San Bernardino County, California, 2011. As project manager and principal investigator, supervised Section 106 inventory of proposed renewable energy project.

Class III and Class II Cultural Resources Inventory for the Tule Wind Alternative Energy Project, HDR Engineering for Iberdrola Renewables, San Diego County, California, 2010. As project manager and principal investigator, supervised inventory of 6,000 acres and recordation of nearly 200 archaeological sites, and assisted the BLM in preparation of a programmatic agreement between Iberdrola and the California State Historic Preservation Office (SHPO).

Monitoring of the Installation of Meteorological (MET) Towers for the Tule Wind Project, HDR Engineering, San Diego County, California, 2010. As project manager and principal investigator, supervised archaeological and Native American monitors during MET tower installation in the Tule Wind project area.

Jamul Substation 6, San Diego Gas & Electric Company (SDG&E), Jamul, San Diego County, California, 2004. As field director, conducted an intensive pedestrian survey of 18 acres in Jamul for a proposed substation construction project. Identified and recorded two archaeological sites within the project area. Prepared the technical report. Coordinated with paleontology subcontractor and incorporated paleontology report into ASM's archaeology technical report.

Path 15 Transmission Line Corridor, Steigers Corporation, San Joaquin Valley, Fresno and Merced Counties, California, 2004. As field director, supervised survey of over 87 miles of 400-foot transmission line corridor and over 46 miles of access roads in Merced and Fresno Counties. Supervised field crew, documented sites, coordinated with Native American representatives, coordinated access to survey areas, and prepared portions of technical report.

Carmel Valley Substation Survey, SDG&E, Carmel Valley, San Diego County, California, 2003. As field director, conducted a Phase I cultural resource inventory of a proposed power substation.

Federal

Ground-Penetrating Radar Survey and Class III Inventory for the Friendship Circle Project, Department of Homeland Security, Gulf South Research Corporation, San Diego County, California. As project manager and principal investigator, supervised and implemented a ground-penetrating radar survey and surface survey for the Friendship Circle project at Border Fields State Park, San Diego.

Military

Phase II Evaluation of 31 High Complexity Sites on Edwards Air Force Base, CH2MHill/JT3, Kern and Los Angeles Counties, California, 2010. As project manager, oversaw Section 106 test excavations at 31 prehistoric archaeological sites.

Phase II Evaluation of 85 Archaeological Sites on Edwards Air Force Base, CH2MHill/JT3, Kern and Los Angeles Counties, California, 2010. As project manager and principal investigator, supervised Section 106 test excavations at 42 prehistoric and 43 historic archaeological sites.

Western Acquisition Survey, Marine Corps Air Ground Combat Center (MCAGCC) Twentynine Palms, San Bernardino County, California, 2010. As principal investigator, managed the survey of 10,000 acres on land administered by the BLM in Johnson Valley, west of the base. Duties included project management, coordination with BLM Barstow field office and MCAGCC 29 Palms personnel, coordinating and supervising field crews, as well as document preparation.

Management Plan for the Coso Rock Art National Historic Landmark (NHL), Naval Air Weapons Station (NAWS) China Lake, Inyo County, California, 2010. As project manager, supervised and co-authored a management plan for the Coso Rock Art NHL, including arranging and implementing stakeholder meetings and field testing the implementation plan.

Section 110 Intensive Archaeological Survey of the Cole Flat Training Area, NAWS China Lake, Inyo County, California, 2009. As project manager and principal investigator, supervised the survey of 5,400 acres near the Coso Rock Art NHL.

Phase I Survey of Selected Parcels in Five Training Areas, MCAGCC Twentynine Palms, San Bernardino County, California, 2009. As project manager and principal investigator, supervised survey of 4,500 acres in the Blacktop, Lava, Lavic Lake, Sunshine Peak, and Quackenbush training areas.

Phase I Survey of Aerial Maneuver Zones for the 53 AMZ Project, MCAGCC Twentynine Palms, California, 2009. As project manager and principal investigator, supervised survey of 72 Aerial Maneuver Zones. Client Reference: Leslie Glover, MCAGCC 29 Palms, 760.830.5369.

Cultural Resources Inventory and Evaluation for the Skaggs Island BRAC Disposal Archaeological Survey, Naval Communications Station, Sonoma County, California, 2011-2012. As principal investigator, supervised survey of installation and recordation and evaluation of historic civilian and military resources.

Phase I Survey of 8,100 Acres on Edwards Air Force Base, ACOE, Kern County, California, 2008–2009. As principal investigator, supervised survey of 8,100 acres on Edward Air Force Base.

Phase I and II Survey of 2,500 Acres and Evaluation of 50 Sites on Edwards Air Force Base, ACOE, Kern County, California, 2008. As principal investigator, supervised survey of 2,500 acres and evaluation of 50 sites on Edward Air Force Base.

Cultural Resources Inventory and Evaluation for the Concord Inland BRAC Disposal Archaeological Survey, Naval Weapons Station, Seal Beach, Detachment Concord, Contra Costa County, California. As principal investigator, supervised survey of 5,200 acres and recordation and evaluation of historic civilian and military resources, and prehistoric archaeological sites.

Archaeological Evaluation of Eight Prehistoric Sites in the Emerson and Quackenbush Training Areas, ACOE, MCAGCC Twentynine Palms, San Bernardino County, California, 2005. As field director, supervised excavation of eight prehistoric sites on the Marine Corps base in Twentynine Palms, California.

Archaeological Evaluation of 22 Sites on Edwards Air Force Base, ACOE, San Bernardino County, California, 2005. As field director, supervised the National Register evaluation of 22 sites at Edwards Air Force Base.

Naval Base Point Loma Site Recordation, NAVFAC Southwest (SW), Point Loma, San Diego County, California, 2004. As principal investigator and field director, supervised relocation of 33 sites located on Naval Base Point Loma. Reviewed site documentation and re-recorded sites that were improperly documented by past surveys.

Archaeological Testing of 23 Sites in the Las Pulgas Corridor, MCB Camp Pendleton Environmental Security, MCB Camp Pendleton, San Diego County, California, 2004. As field director, supervised field crews for Phase II testing and mechanical coring of 23 sites on Camp Pendleton. Coordinated with coring contractor and base personnel. Documented sites in the field. Supervised field crews and prepared portions of technical report.

Rose-Arizona, Clay, and Photo Drainage, and Road Improvement Surveys, NAVFAC SW, NALF San Clemente Island, Los Angeles County, California, 2004. As field director, supervised archaeological surveys and the placement of protective signing on 750 sites. Coordinated access to the island and supervised one crew member.

Remote Sensing, NAVFAC SW, NALF San Clemente Island, Los Angeles County, California, 2004. As Global Positioning System (GPS) specialist, conducted data collection and image rectification for a remote sensing project in the detection of archaeological sites on the base. Supervised one crew member.

MCB Camp Pendleton Burn Survey, MCB Camp Pendleton Environmental Security, MCB Camp Pendleton, San Diego County, California, 2002. As field director, supervised an archaeological survey of 1,500 acres in the De Luz and Case Springs areas of Camp Pendleton. Managed field crews, documented archaeological sites, prepared site forms and portions of technical report.

Survey of Yuma Stormwater Basin, NAVFAC SW, MCAS Yuma, Yuma County, Arizona, 2002. As field director, supervised survey of stormwater basin along the Marine Corps airfield at MCAS Yuma. Managed field crew and prepared technical report. Client

Archaeological Coring of SDI-811, MCB Camp Pendleton Environmental Security, MCB Camp Pendleton, San Diego County, California, 2002. As field director, supervised first phase of a geologic coring project for a shell midden site along the coast of MCB Camp Pendleton, San Diego County. Coordinated with coring contractor and base personnel. Managed field monitors and field crew.

Archaeological Testing and Survey of the Lemon Tank Area, NAVFAC SW, NALF San Clemente Island, Los Angeles County, California, 2002. Conducted excavations, survey, and site recording.

Evaluation of Four Prehistoric Sites, Jones and Stokes Associates, Camp Roberts National Guard, San Luis Obispo County, California, 1998. As field technician, conducted excavation in order to determine the boundaries of the site for further mitigation.

Evaluation of Nine Prehistoric Sites, Edwards Air Force Base, San Bernardino County, California, 1999. As field archaeologist, evaluated nine sites through excavation to determine overall sensitivity and value of the archaeological remains that characterize the region.

Archaeological Survey and Excavation, ACOE, MCAGCC Twentynine Palms, San Bernardino County, California, 1998. As field archaeologist, participated in nine field rotations averaging 10 days each. Conducted survey of portions of the Marine Corps base to determine the distribution of cultural materials, and subsequently excavate sites based on priority. This area is characterized as high desert with the typically associated flora and fauna and archaeological sites that range in age from Early to Late Holocene.

Resource Management

Archaeological Data Recovery Excavations at Border Fields State Park, California State Parks, Imperial Beach, San Diego County, California, 2005. As field director, supervised excavation of prehistoric sites located within the APE of a fence along the U.S.–Mexico Border in San Diego County. Prepared technical report.

Archaeological Salvage Excavations of Two Ollas in Hellhole Canyon, BLM, San Diego County, California, 2005. As principal investigator, relocated a cache of prehistoric ceramic artifacts uncovered during wildfires in San Diego County. Documented cache and collected artifacts for subsequent reconstruction in the ASM laboratory. Prepared technical report detailing project.

Archaeological Data Recovery Excavations at CA-SDI-16691, Jackson Pendo Development Company, Escondido, San Diego County, California, 2005. As principal investigator, supervised data recovery excavation at a Late Prehistoric site in Escondido, California.

El Cuervo Wetlands Mitigation, City of San Diego Land Development Review Department and Mitigation Monitoring Coordination, Carmel Valley, San Diego County, California, 2004. As co-principal investigator, supervised an archaeological monitoring project in central San Diego County, conducted test excavation of one site identified during monitoring. The site was evaluated as not significant. Prepared portions of technical report and supervised on-site monitor.

Milk Vetch Emergency, Imperial Irrigation District, Imperial County, California, 2002. As archaeological monitor, conducted emergency monitoring along transmission line corridor in Imperial County. Coordinated with IID and construction personnel. Prepared technical report.

Burial Salvage Excavations at the Carp Site, CA-MER-295, California Department of Parks and Recreation, Los Banos, Merced County, California, 1999. As field supervisor, directed excavations at CA-MER-295 in the central San Joaquin Valley in order to salvage cultural remains (including burials) from further destruction by the San Joaquin River.

Archaeological Survey of the Silver Lake Recreation Area, El Dorado Irrigation District, El Dorado County, California, 2006. As principal investigator and field director, supervised an archaeological survey of the Silver Lake Recreation area.

Transportation

Ortega Highway Monitoring, City of San Juan Capistrano, Orange County, California, 2013. As project manager, supervised Dudek's principal investigator to coordinate archaeological, tribal, and paleontological mitigation monitoring associated with the construction of water conveyance facilities and road repairs.

Archaeological Testing and Ground Penetrating Radar Study of the Forester Creek Biological Mitigation Area, Caltrans District 11, Santee, San Diego County, California, 2005. As principal investigator and field director, supervised archaeological testing of a private parcel.

Bridge 230.6 Replacement, North County Transit District, Agua Hedionda, Carlsbad, San Diego County, California, 2004. As principal investigator and field director, managed an archaeological survey of an APE associated with the replacement of and historic railroad bridge. Recorded archaeological sites within APE and prepared portions of technical report.

Little Lake Phase II Testing, Caltrans District 5, Little Lake, Inyo County, California, 2004. As field director, supervised Phase II testing of four sites including the ethnohistoric village of *Pagunda* near the town of Little Lake. Supervised field crews, coordinated fieldwork with Caltrans and subcontractors, and prepared portions of technical report.

Extended Phase I Testing, Caltrans District 05, Little Lake, Inyo County, California, 2003. As field director, supervised fieldwork for extended Phase I testing of one prehistoric site along U.S. Highway 395 in Inyo County. Prepared portions of technical report.

Cartago and Olancho Four-Lane Project Test Excavations, Caltrans District 05, Inyo County, California, 2002. As field director, supervised test excavations of 15 sites for the proposed widening of U.S. Highway 395 near Cartago and Olancho. Supervised all fieldwork and managed a team of 12 field archaeologists. Coordinated selected specialized studies, conducted ground stone analysis, and prepared large portions of the resulting 800+-page report.

Survey of Amtrak Second Mainline Right-of-Way, North County Transit District, Oceanside, San Diego County, California, 2002. As co-field director, managed an archaeological survey of 6.2 miles of North County Transportation District railroad right-of-way near San Onofre, California.

State Route 905 Survey, Caltrans District 11, San Diego County, California, 2002. As co-field director, conducted survey and recording of sites along the State Route 905 right-of-way in southern San Diego County. Documented three prehistoric sites within the proposed right-of-way. Created site maps and prepared site forms.

Evaluation of 11 Sites along U.S. 395, Caltrans District 05, Blackrock, Inyo County, California, 2000. As crew chief, managed 6-18 personnel, prepared paperwork and report. Made decisions surrounding site excavations in Owens Valley. Project included Phase II test excavation of numerous sites ranging in age from early to late Holocene.

Phase I Survey, Caltrans District 10, Stockton, San Joaquin County, California, 1997. As field archaeologist, conducted various survey and excavation projects for Caltrans throughout central California. Conducted survey and excavation, operated as a graduate student assistant to the District 10 archaeologist dealing with compliance issues, prepared site mapping and technical reports including Archaeological Survey Reports (ASR), Historic Properties Survey Reports (HPSR), and Negative Declarations.

Phase I Survey/TEA, Caltrans, Inyo and Mono Counties, California, 1996–1997. As field archaeologist, conducted survey of most major highways in Mono and Inyo Counties, California. Documented the distribution of all cultural material within the Caltrans right-of-way in order to determine impacts by road widening.

Tribal

Section 106 Mitigation Development and Tribal Consultation Assistance, BLM, San Diego County, California, 2011–2012. As project manager, assisted the BLM in development of Historic Properties Treatment Plan, Tribal Participation Plan, and other mitigation measures for the Tule Wind project, McCain Valley California.

Mitigative Screening, Agua Caliente Band of Cahuilla Indians, Palm Springs, Riverside County, California, 2003. As field director, supervised archaeological mitigation of an impacted burial site on the Agua Caliente Reservation. Prepared mapping of the project, coordinated field efforts with Tribal representatives, oversaw monitoring of the project, and prepared portions of the technical report.

Water/Wastewater

San Clemente Water Recycling Monitoring, City of San Clemente, Orange County, California, 2013. As project manager, supervised Dudek's principal investigator to coordinate archaeological, tribal, and paleontological mitigation monitoring associated with the construction of a new water conveyance pipeline. Duties include preparation of a discovery and treatment plan.

Poseidon Resources Desalination Plant and Pipeline Monitoring, City of Carlsbad, San Diego County, California, 2013. As project manager, supervised Dudek's principal investigator to coordinate archaeological, tribal, and paleontological mitigation monitoring associated with the construction of the desalination plant and a new water conveyance pipeline. Duties include preparation of a discovery and treatment plan and evaluation of archaeological discoveries.

Poseidon Resources Desalination Plant and Pipeline Wetland Mitigation Archaeological Evaluation, City of San Diego, San Diego County, California, 2013. As project manager and principal investigator, developed methods and strategies to evaluate archaeological deposits most likely related to the 1782 ethnohistoric Kumeyaay village of La Punta located within the wetland mitigation area. Project included geotechnical coring and backhoe exploration to locate and evaluate buried archaeological deposits. Duties included assistance provided to the USFWS for NAGPRA consultation and implementation.

Lee Lake Cultural Resources Inventory, Lee Lake Water District, Riverside County, California, 2013. As project manager, supervised Dudek's principal investigator to coordinate and implement cultural resources inventory for the construction of a new pipeline and water storage facility.

Cultural Resources Monitoring for the City of Napa Levee Improvement Project, ACOE, Sacramento District, Sacramento, California, 2010-2011. As principal investigator, supervised archaeological monitoring requiring HAZWOPER certified archaeologists to treat historical archaeological discoveries for a levee and stormwater improvement project.

Data Recovery Excavations at the Ridge Hill Facilities Site (SDI-18472), Padre Dam Municipal Water District (PDMWD), San Diego County, California, 2009. As principal investigator, supervised data recovery of a complex late prehistoric habitation site.

San Clemente Canyon Survey, City of San Diego Metropolitan Wastewater Department, City of San Diego, San Diego County, California, 2004. As principal investigator and field director, supervised and conducted an intensive pedestrian survey of proposed access road maintenance for the San Clemente Canyon sewer line. Two cultural resources were identified. Conducted site documentation, prepared sites forms and technical report. Managed survey crew member.

Lake Murray Survey, City of San Diego Metropolitan Wastewater Department, La Mesa, San Diego County, California, 2003. As field director, conducted survey of proposed trunk sewer replacement in La Mesa. Prepared portions of the technical report.

Imperial Irrigation District's Phase II Testing, Imperial Irrigation District, Imperial County, California, 2003. As field director, supervised Phase II testing of eight sites in the Colorado Desert. Managed field crews, conducted test excavations, and prepared site documentation and portions of the technical report.

Carmel Valley Archaeological Monitoring, City of San Diego Metropolitan Wastewater Department, Carmel Valley, San Diego County, California, 2002. As field monitor for pre-trenching for placement of sewer line, conducted monitoring and wrote portions of technical report.

EIR/EIS Preparation

Dr. Hale currently assists in the preparation of technical descriptions and analyses for environmental impact statements and reports at the state and federal levels for Dudek projects. Examples of completed environmental sections include those prepared for the Yokohl Ranch, Rio Mesa Solar, Soitec Rugged and Tierra Del Sol Solar, SDG&E's Wood to Steel project, and various others. More details are available upon request.

Other Relevant Experience

Training

- 2012 - Accounting and Finance for Non-Financial Managers, UCSD Rady School of Business Management
- 2010 - ESOP Planning and Management, UCSD Rady School of Business Management
- 2004 - Ground Penetrating Radar Field Methods and Interpretation Certificate
- 2002, 2010 - GPS Field Methods Training, ASC Scientific

Teaching

- 2008 - Assistant Professor, Archaeology, U.C. Davis
- 2008 - Instructor/ Principal Investigator, 2008 UC Davis Archaeology Field School, Vandenberg Air Force Base, California.
- 2005–2008 – Level III Teaching Assistant, U.C. Davis; taught discussion sections/ lectures for Human Evolution, Archaeology, and Human Ecology
- 1998–1999 – Acted as Public Education Coordinator for the Museum of Anthropology at UC Davis; included instructing a course teaching archaeology students how to inform the public about the value of anthropology through in-class presentations, exhibits, and the building of 'teaching trunks' for people in grades 1–12 of primary and secondary education
- 1997–1998 - Substitute teacher with an Emergency Credential in the Woodland and Davis Joint Unified School Districts for grades K–12, all subjects excluding foreign languages
- 1997–present – Regularly perform presentations about the value of archaeology in classrooms at the level of the grades 1–12
- 1996 – Teaching assistant at the U.C. Davis archaeological field school; job duties included student management and instruction in the methods of excavation and survey.

Publications

Selected Technical Reports

Hale, Micah J. 2010. "Limited Archaeological Excavations at SDI-4669 (SDM-W-12A)." In Advance of Geotechnical Coring, University House Rehabilitation Project, University of California at San Diego, La Jolla, California. Submitted to Ione Stiegler Architecture, La Jolla, California. Report on file at South Coastal Information Center, SDSU.

Hale, Micah J. 2010. Results of Archaeological Monitoring for Meteorological Masts in McCain Valley, San Diego County, California. Prepared for HDR Engineering Inc.

Hale, Micah J. 2007. Archaeological Survey of the Silver Lake Recreation Area, El Dorado Irrigation District, El Dorado County, California. Prepared for Trish Fernandez, El Dorado Irrigation District, El Dorado County, California.

- Hale, Micah J. 2005. "Ground Stone Analysis." In From the Coast to the Inland: Prehistoric Settlement Systems Along the Las Pulgas Corridor, Camp Pendleton, California, by Micah J. Hale and Mark S. Becker. Report submitted to Southwest Division of Naval Facilities.
- Hale, Micah J. 2005. Cultural Resources Inventory for the Proposed San Diego Model Schools Development Project. ASM Affiliates Inc., Carlsbad, California. Prepared for the City of San Diego, California.
- Hale, Micah J. 2004. Cultural Resources Inventory for the Replacement of Bridge 230.6 over Agua Hedionda Lagoon, San Diego County, California. Submitted to North County Transit District, San Diego County, California.
- Hale, Micah J. 2004. Cultural Resources Inventory for the Gawle Property, San Diego County, California. Submitted to Helix Environmental for the City of San Diego.
- Hale, Micah J. 2004. Cultural Resources Inventory for the Hines Nursery, San Diego County, California. Submitted to Hines Nurseries, Rainbow Valley, California.
- Hale, Micah J. 2004. Cultural Resources Inventory for the San Clemente Canyon Trunk Sewer Maintenance and Access Routes, San Diego County, California. Submitted to Metropolitan Wastewater Department, City of San Diego, California.
- Hale, Micah J. 2004. Cultural Resources Inventory for the Montezuma Trunk Sewer Replacement, San Diego County, California. Submitted to Metropolitan Wastewater Department, City of San Diego, California.
- Hale, Micah J. 2004. Cultural Resources Inventory for the Oceanside Hotel EIR, San Diego County, California. Submitted to Dudek for the City of Oceanside, California.
- Hale, Micah J. 2004. Historic Resources Mitigation Monitoring of the El Cuervo Norte Project, San Diego County, California. Submitted to the City of San Diego.
- Hale, Micah J. 2004. Emergency Test Excavations of an Exposed Olla, Riverside County, California. Submitted to BLM, Riverside County, California.
- Hale, Micah J. 2004. Cultural Resources Monitoring for Geotechnical Coring Related to the All-American Canal Lining Project, Imperial County, California. Submitted to Imperial Irrigation District, Imperial County, California.
- Hale, Micah J. 2004. Cultural Resources Monitoring of Geotechnical Coring Related to the Coachella Canal Lining Project, Riverside County, California. Submitted to Imperial Irrigation District, Riverside County, California.
- Hale, Micah J. 2004. "Ground and Battered Stone Analysis." In Data Recovery Investigations at the Eucalyptus Site, CA-SDI-6954, San Diego County, California. Prepared by Don Laylander, ASM Affiliates Inc., Carlsbad, California. Submitted to EDAW, Inc.
- Hale, Micah J. 2003. Cultural Resources Inventory for the Linda Vista Drive Re-Alignment Alternatives, City of San Marcos, California. Submitted to Nolte for the City of San Marcos.

- Hale, Micah J. 2003. Cultural Resources Inventory for the Lake Murray Trunk Sewer Replacement, San Diego County, California. Submitted to the Metropolitan Wastewater Department, City of San Diego, California.
- Hale, Micah J. 2000. Cultural Resource Monitoring Report. Jones and Stokes Associates Inc. Prepared for AT&T Corp., Atlanta, Georgia, for the AT&T cable removal project from Lucin, Utah, to Red Bluff, California.
- Hale, Micah J. 2000. "Ground and Battered Stone Analysis." In Report on Excavations at Four Locations in the Lead Mountain Vicinity of the 29-Palms Marine Base, edited by Mark Basgall. Sacramento Archaeological Research Center.
- Hale, Micah J. 2000. "Ground and Battered Stone Analysis." In Report on Excavations at CA-MER-295, edited by Mark Basgall and R. Bethard. Sacramento Archaeological Research Center.
- Hale, Micah J. 2000. "Invertebrate Analysis." In Report on Excavations at CA-MER-295, edited by Mark Basgall and Mark Giambastiani. Sacramento Archaeological Research Center.
- Hale, Micah J. 2000. "Site Reports for Sites SBR-9415 and SBR-9420." In Report on Excavations at Lead Mountain in Twentynine Palms Marine Corps Air Ground Combat Training Center, edited by Mark Basgall. Sacramento Archaeological Research Center.
- Hale, Micah J. 1999. "Ground and Battered Stone Analysis." In Muddle in the Middle: Phase II Excavations of Five Sites in Kern County, California, edited by Mark Basgall. Prepared for V. Levulett, Environmental Management, Caltrans District 5, San Luis Obispo. Sacramento Archaeological Research Center.
- Hale, Micah J., 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. Prepared for Mr. Albert Lau, Engineering Manager, Padre Dam Municipal Water District.
- Hale, Micah, Brad Comeau, and Chad Willis. 2010. Class II and Class III Cultural Resources Inventory Report for the Tule Wind Project, McCain Valley, San Diego County, California. Prepared for HDR Engineering Inc. Report on file at the South Coastal Information Center, SDSU.
- Hale, Micah J., and John R. Cook. 2005. Results of Ground Penetrating Radar Investigations at CA-SDI-10148 in the Forester Creek Biological Mitigation Site, San Diego County, California. With contributions by Jeffrey S. Patterson. Prepared for Chris White, Caltrans District 11.
- Hale, Micah J., and Mark S. Becker. 2006. From the Coast to the Inland: Prehistoric Settlement Systems Along the Las Pulgas Corridor, Camp Pendleton, California. ASM Affiliates, Carlsbad, California. Submitted to Southwest Division of Naval Facilities.
- Hale, Micah J., and Mark A. Giambastiani. 2010. A Cultural Resources Inventory for Sample Surveys in Selected Training Areas, Marine Corps Air Ground Combat Center (MCAGCC), Twentynine Palms, San Bernardino County, California. Prepared for Marine Air Ground Task Force Training Command, Natural Resources and Environmental Affairs, Twentynine Palms, California.

- Hale, Micah, and Mark Giambastiani. 2010. Archaeological Resources Survey Report Aerial Maneuver Zone (AMZ) Project at the Marine Air Ground Task Force Training Command, Marine Corps Air Ground Combat Center, Twentynine Palms, California, San Bernardino County, California. Prepared for Marine Air Ground Task Force Training Command, Natural Resources and Environmental Affairs, Twentynine Palms, California.
- Hale, Micah, and Mark Giambastiani. 2010. An Archaeological Survey of 3,650 Acres at Cole Flat, Naval Air Weapons Station (NAWS), China Lake, California. Prepared for Mike Baskerville, Base Archaeologist, NAWS China Lake, California.
- Hale, Micah J., Mark Giambastiani, Michael Richards, and David Iversen. 2009. Phase II Cultural Resource Evaluations at 51 Archaeological Sites in Management Regions 1A, 1B, 2B, 2C, and 3E, Bissell Hills and Paiute Ponds, Edwards Air Force Base, Kern and Los Angeles Counties, California. Prepared for U.S. Army Corps of Engineers under contract numbers W91238-07-F-0051 and W91238-07-F-0052.
- Basgall, Mark, Lynn Johnson, and Micah Hale. 2002. An Evaluation of Four Archaeological Sites in the Lead Mountain Training Area, Marine Air Ground Task Force Training Command, Marine Corps Air Ground Combat Center, Twentynine Palms, California. Prepared for United States Marine Corps Air Ground Combat Center, Twentynine Palms, California. Prepared by Archaeological Research Center, Institute of Archaeology and Cultural Studies, Department of Anthropology, California State University, Sacramento.
- Becker, Mark S., and Micah J. Hale. 2004. "Flaked Stone and Ground Stone Artifact Analysis." In Phase II Archaeological Testing and Evaluation of CA-INY-3647, CA-INY-3650/H, CA-INY-3826, and P-14-7356, Little Lake Rehabilitation, U.S. 395, Inyo County, California, edited by Brian Byrd and Seetha Reddy, ASM Affiliates. Prepared for Caltrans District 6, Fresno.
- Byrd, Brian F., and Micah J. Hale. 2005. Testing and Evaluation of CA-SDI-13,930 on Camp Pendleton Marine Corps Base, San Diego County, California: A Paleoenvironmental Approach. ASM Affiliates, Carlsbad, California. Prepared for Southwest Division Naval Facilities Engineering Command.
- Byrd, Brian F., and Micah J. Hale. 2004. Final Report on the Rose-Arizona Site Survey and Documentation, San Clemente Island. Prepared for Dr. Andrew Yatsko, NAVFAC SW, South Bay Area Focus Team.
- Byrd, Brian F., and Micah J. Hale. 2004. Final Report on the San Clemente Island Protective Signing and Maintenance Project. Prepared for Dr. Andrew Yatsko, NAVFAC SW, South Bay Area Focus Team.
- Byrd, Brian F., and Micah J. Hale. 2004. Final Report on the San Clemente Island Road Improvement Survey. Prepared for Dr. Andrew Yatsko, NAVFAC SW, South Bay Area Focus Team.
- Byrd, Brian F., Micah J. Hale, and Sinéad Ní Ghabhláin. 2004. "Archaeological Testing at INY-3647." In Phase II Archaeological Testing and Evaluation of CA-INY-3647, CA-INY-3650/H, CA-INY-3826, and P-14-7356, Little Lake Rehabilitation, U.S. 395, Inyo County, California, edited by Brian Byrd and Seetha Reddy, ASM Affiliates. Prepared for Caltrans District 6, Fresno.
- Byrd, Brian F., Micah J. Hale, and Sinéad Ní Ghabhláin. 2004. "Archaeological Testing at INY-3650/H." In Phase II Archaeological Testing and Evaluation of CA-INY-3647, CA-INY-3650/H, CA-INY-3826, and P-14-7356, Little Lake Rehabilitation, U.S. 395, Inyo County, California, edited by Brian Byrd and Seetha Reddy, ASM Affiliates. Prepared for Caltrans District 6, Fresno.

- Byrd, Brian F., Micah J. Hale, and Sinéad Ní Ghabhláin. 2004. Archaeological Testing at INY-3826. In Phase II Archaeological Testing and Evaluation of CA-INY-3647, CA-INY-3650/H, CA-INY-3826, and P-14-7356, Little Lake Rehabilitation, U.S. 395, Inyo County, California, edited by Brian Byrd and Seetha Reddy, ASM Affiliates. Prepared for Caltrans District 6, Fresno.
- Byrd, Brian F., and Micah J. Hale. 2003. Final Report on Extended Phase I Excavation at CA-INY-2207/2758, Little Lake Rehab Project, Inyo County, California. ASM Affiliates, Encinitas. Prepared for Lynn Faraone, Chief, Central California Cultural Resource Branch, California Department of Transportation.
- Byrd, Brian F., and Micah J. Hale. 2002. Phase II Investigations of 15 Prehistoric Sites for the Cartago-Olancho Four-Lane Project, U.S. 395, Owens Valley, California. ASM Affiliates Inc. Prepared for Caltrans District 6, Fresno.
- Byrd, Brian F., and Micah J. Hale. 2001. Research Design for Phase II Investigations of 14 Prehistoric Sites for the Cartago-Olancho Four-Lane Project, U.S. 395, Owens Valley, California. ASM Affiliates Inc. Prepared for Caltrans District 6, Fresno.
- Cook, John R., Collin O'Neill, and Micah J. Hale. 2001. Archaeological Survey for the Amtrak Second Main Line, San Onofre Segment, MP 210.1 to 214.7, San Diego County. ASM Affiliates Inc. Draft report prepared for North County Transit District.
- Giambastiani, M., M. Hale, M. Richards, and S. Shelley. 2008. Draft Report Phase II Cultural Resource Evaluations at 47 Archaeological Sites on the East and Northeast Shores of Rogers Lake, Management Region 3, Edwards Air Force Base, Kern and Los Angeles Counties, California. Report submitted to Edward Air Force Base, Base Historic Preservation Officer.
- Giambastiani, G., M. Hale, S. Ni Ghabhláin, and D. Iversen. 2006. Phase II Cultural Resource Evaluation of 21 Archaeological Sites along the Western and Northwestern Boundary Fence, Edwards AFB, Kern and Los Angeles Counties, California. Submitted to Earth Tech Inc., Colton, California.
- Hector, Susan, Micah J. Hale, and Catherine Wright. 2003. Cultural Resource Inventory of the Path 15 Los Banos-Gates Transmission Line Construction Project, Merced and Fresno Counties, California. Contract No. 03-186-01-01-ASM. Prepared for Steigers Corporation, Littleton, Colorado.
- Laylander, Don, and Micah J. Hale. 2004. Data Recovery Excavations at Locus O, CA-RIV-45. ASM Affiliates Inc., Carlsbad, California. Submitted to Agua Caliente Band of Cahuilla Indians.
- Reddy, Seetha N., and Micah J. Hale. 2003. Archaeological Survey of Portions of the De Luz Housing Area, O'Neill Lake, and the Case Spring Highlands, Marine Corps Base Camp Pendleton, California. ASM Affiliates, Encinitas, California. Prepared for NAVFAC SW, San Diego, California.
- Whitley, David, and Micah Hale. 2010. Management Plan for the Coso Rock Art District National Historic Landmark. Prepared for NAVFAC SW, San Diego County, California.

Other Publications

- Hale, Micah J. 2012. "Malcolm Rogers' Archaeology in Coastal San Diego." Book chapter in preparation; edited by Don Laylander.
- Hale, Micah J. 2011. "Modeling Socioeconomic Discontinuity in Southern Alta California." In, *California Archaeology* 2:2: December 2010, pp. 203-250.
- Hale, Micah J. 2010. "A Comment on Hildebrandt et al. (2009) Shellfish Transport, Caloric Return Rates, and Prehistoric Feasting." In *California Archaeology* 3:111-113.
- Hale, Micah J. 2009. Santa Barbara and San Diego: Contrasting Adaptive Strategies in Southern California. PhD dissertation; University of California, Davis.
- Hale, Micah J. n.d. Preserving Cultural Heritage Through Public Outreach: A Curriculum for Jr. High and High School.
- Hale, Micah J. 2005. Processing Economies, Coastal Settlement, and Intensification in Northern San Diego County. In *Proceedings of the Society for California Archaeology*, Volume 18.
- Hale, Micah J. 2001. Technological and Social Organization of the Millingstone Horizon in Southern California. Master's thesis; California State University, Sacramento.
- Hale, Micah J. 2000. Consumer Anthropology: Theory and Method of Recognizing and Interpreting Consumption Patterns for Product Development and Marketing Strategies. Developed for Richard Knight, Director of Intelligent Products, Addidas, USA.
- Hale, Micah J., Richard McElreath, and Robert Bettinger. 2012. (in prep.) Modeling Time Minimizing and Energy Maximizing Adaptive Strategies.
- Hale, Micah J., and Peter Richerson. 2012. (in prep.) Investigating the Rate-Limiting Factors of Cultural Evolution: Archaeological Evidence from Southern California.
- Hale, Micah J., and Bruce Winterhalder. 2012. (in prep.) Discontinuous Sociocultural Evolution

Editorial Reviewer

- Hale, Micah J. 2011. Editorial Reviewer, *Journal of California Archaeology*, Left Coast Press, California.
- Hale, Micah J. 2011. Editorial reviewer, *Journal of California and Great Basin Anthropology*, Malki Museum Press, California.
- Hale, Micah J. 2010. Editorial reviewer, *Pacific Coast Archaeology Society*, California.

Presentations

- Hale, Micah J. 2012. *The Data Matter: Contributions of the Sacramento State Archaeological Research Center*. Presented at the 2012 Society for California Archaeology Meetings, San Diego, California.
- Hale, Micah J. 2012. *Andy Yatsko, the Human Transit: Celebrating His Lifetime Contributions*. Presented at the 2012 Society for California Archaeology Meetings, San Diego, California.
- Hale, Micah J. 2012. *Malcolm Rogers' Work Along the San Diego Coast*. Presented at the 2012 Society for California Archaeology Meetings, San Diego, California.
- Hale, Micah J. 2011. *Tracing the Origins of Processing Economies in the Far West: A View from Coastal Southern California*. Presented at the Yucca Valley Archaeopalooza Conference, 29 Palms, California.
- Hale, Micah J. 2011. *Adaptive Divergence Among Southern California Hunter Gatherers*. Presented at the 2011 Society for California Archaeology Meetings, Rohnert Park, California.
- Hale, Micah J. 2011. *A 10,000 Year Old Habitation at the University House, La Jolla: Implications for Trans-Holocene Socioeconomic Stability in San Diego*. Presented at the 2011 Society for American Archaeology Meetings, Sacramento, California.
- Hale, Micah J. 2010. *Using the Ideal Free Distribution to Model Socioeconomic Discontinuity Among Hunter-Gatherers*. Paper presented at the 2009 Society for American Archaeology Meetings, St. Louis, Missouri. Micah Hale, Symposium Chair.
- Hale, Micah J. 2005. *Investigating the Role of Acorns in Southern California Hunter-Gatherer Economies*. Guest Speaker at the Antelope Valley Archaeological Society Meeting.
- Hale, Micah J. 2005. *Processing Economies, Coastal Settlement, and Intensification in Northern San Diego County*. Presented at the Society for California Archaeology, Sacramento.
- Hale, Micah J. 2004. *Cultural Resource Management in Practice: An Overview of Methodological Approaches*. Presented at the Imperial Valley Desert Museum Annual Meetings.
- Hale, Micah J. 2003. *The Adaptive Significance of Technological Organization during the Holocene in Southern California*. Discussant in a symposium entitled, *Change and Cultural Adaptations Along the California Coast*. Organized by Seetha Reddy for the 68th Annual Meetings of the Society for American Archaeology, Milwaukee, Wisconsin. David Yesner and Roger Colten, Chairs.
- Hale, Micah J. 2003. *The Organization of Subsistence Technology in Southern California During the Holocene*. Guest Speaker for the San Diego County Archaeological Society, January 28, 2003, San Diego.
- Hale, Micah J. 2002. *Prehistory Along the Southwestern Shore of Owens Lake: Preliminary Results from the Cartago-Olancho Project*. Presented at the 2002 Northern California Data Sharing Meetings, Society for California Archaeology, Santa Cruz, California.
- Hale, Micah J. 2002. *Ground and Battered Stone Along the Western Shores of Owens Lake*. Presented at the 2002 Northern California Data Sharing Meetings, Society for California Archaeology, Santa Cruz, California.

Hale, Micah J. 2001. *Technological and Social Organization during the Millingstone Horizon of Southern California*. Presented at the Society for California Archaeology Annual Meeting, Modesto.

Hale, Micah J. 1999. *The Analysis Method of Formatting Presentations and Lesson Plans in Archaeology*. Presented at the Society for American Archaeology 64th Annual Meeting, Chicago, Illinois.

Hale, Micah J. 1998. *A Practical and Effective Method for Teaching Archaeology to the Public*. Presented at the Society for California Archaeology Annual Meeting, San Diego, California.

Awards/Commendations

- 2010 – NAVFAC SW, Camp Pendleton, Research Grant, \$59,000
- 2008 – U.S. Air Force, Vandenberg AFB, Radiocarbon Grant, \$25,000
- 2008 – Fieldwork Fellowship, Graduate Studies, UC Davis, \$2,010
- 2007 – Fieldwork Fellowship, Graduate Studies, UC Davis, \$1,800
- 2006 – Fieldwork Fellowship, Graduate Studies, UC Davis, \$5,650
- 2005–2009 – Graduate Fee Fellowship/Stipend, UC Davis, \$74,500

Clearances

- Department of Defense (DoD) High-Security Clearance for SPAWAR, Naval Base Point Loma, NALF San Clemente Island, Vandenberg Air Force Base, MCAGCC 29 Palms, Edwards Air Force Base, NAWS China Lake, Yuma Proving Grounds, and MCB Camp Pendleton

CURRICULUM VITAE

Victor Herrera

Dudek

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Encinitas, CA 92024

Phone: (760) 212-2178

E-mail:

victoradamherrera@gmail.com

Education

2015	AA, Archaeology,	Palomar College, San Marcos
2017	BA, Anthropology, Minor Geology	CSU San Marcos, San Marcos

San Diego County Archaeology Experience

Affiliation	Client	Project Description	Dates	Weeks / days
	La Mesa Estates	Responsibilities include historic and prehistoric site/artifact identification, shovel test pits and unit excavations, site recording, surveying and GPS way-point recording with Arcpad 10.	2015	3 weeks
	Warner Springs	Responsibilities include historic and prehistoric site/artifact identification, shovel test pits and unit excavations, site recording, surveying and GPS way-point recording with Arcpad 10	2014	3 weeks
	Valley Center	Responsibilities include historic and prehistoric site/artifact identification, shovel test pits and unit excavations, site recording, mapping, surveying, shovel test pits and unit excavation.	2014	5 months
	San Diego Archaeological Center	Responsibilities include historic trail, site and artifact identification, site recording, surveying, and GPS way-point recording with Arcpad 10.	2013	3 weeks
		Responsibilities include prehistoric artifact identification and unit excavation. Four consecutive dig sessions attended.	2013-2014	8 months
Department of Parks and Recreation, Colorado Desert District		Manage and oversee artifacts processing, analysis, and curation for collections from Cuyamaca Rancho State Park, Palomar State Park, Anza Borrego Desert State Park, and Picacho State Recreation Area.	2002-2013	3 weeks

<p>Department of Parks and Recreation, Colorado Desert District</p>		<p>Lead or participant in archaeological surveys in Cuyamaca Rancho State Park, Palomar State Park, and Anza Borrego Desert State Park. Responsibilities included archival research, planning, recording archaeological sites, making recommendations, and writing DPR Site Record Forms and reports.</p>	<p>2002-2013</p>	<p>3 weeks</p>
<p>Department of Parks and Recreation, Colorado Desert District</p>		<p>Participated in excavations of a burned rock feature in Borrego Palm Canyon. Researched and prepared a draft report incorporating information from Siedel's 197-s Burial Cairn excavation.</p>	<p>2002-2013</p>	<p>3 weeks</p>
<p>Department of Parks and Recreation, Colorado Desert District</p>	<p>Department of Parks and Recreation, Colorado Desert District</p>	<p>Participated in the Carrizo State Station excavation and prepared illustrations for report. Updated all archaeological quad maps as port of a Record Search project for Anza-Borrego Desert State Park (exchanging information with Southern Service Center and the Information centers), identified site discrepancies and participated in surveys t resolve those, and retrieved any missing records to complete the Colorado Desert District record files of 4,000 archaeological sites</p>	<p>2000-2002</p>	<p>2 years</p>

APPENDIX B (CONFIDENTIAL)

Records Search Documents

APPENDIX C

*NAHC Sacred Lands File Search Results
and Tribal Correspondence*

July 20, 2016

Katy Sanchez
Associate Government Program Analyst
Native American Heritage Commission

Subject: NAHC Sacred Lands Records Search Request for the North City Pure Water Program Project in San Diego, California

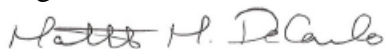
Dear Ms. Sanchez,

Dudek is conducting a cultural resources survey project for the North City Pure Water Program Project (NCPWP). The project site consists of an expansion of the existing Water Reclamation Plant, construction of an Advanced Water Purification Facility, and installation of water pipeline and pump stations throughout northern San Diego (Figure 1). The project is located on the U.S. Geological Survey (USGS) Del Mar, El Cajon, La Mesa, La Jolla, La Mesa, Poway, San Vicente, San Vicente Reservoir 7.5' quadrangle.

Dudek is requesting a NAHC search for any sacred sites, traditional cultural properties, or other Native American cultural resources that may fall within a one-mile buffer of the proposed project location (Figure 1). Please provide contact information for all Native American tribal representatives that should be consulted regarding these project activities. This information can be faxed to 760-632-0164.

If you have any questions about this investigation, please contact me directly by email or phone.

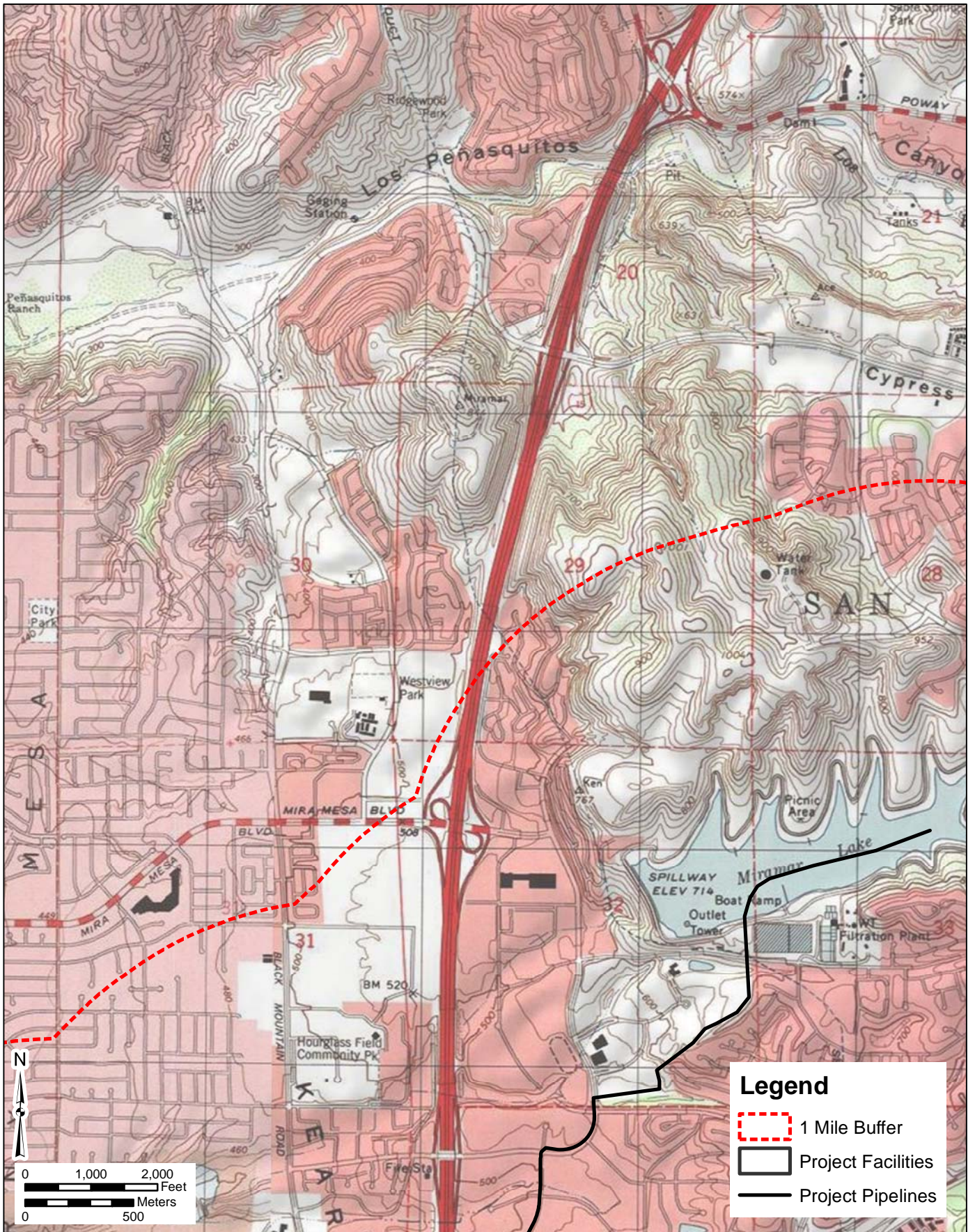
Regards,



Matthew M. DeCarlo
Archaeologist
DUDEK
Phone: (760) 815-7067
Email: mdecarlo@dudek.com

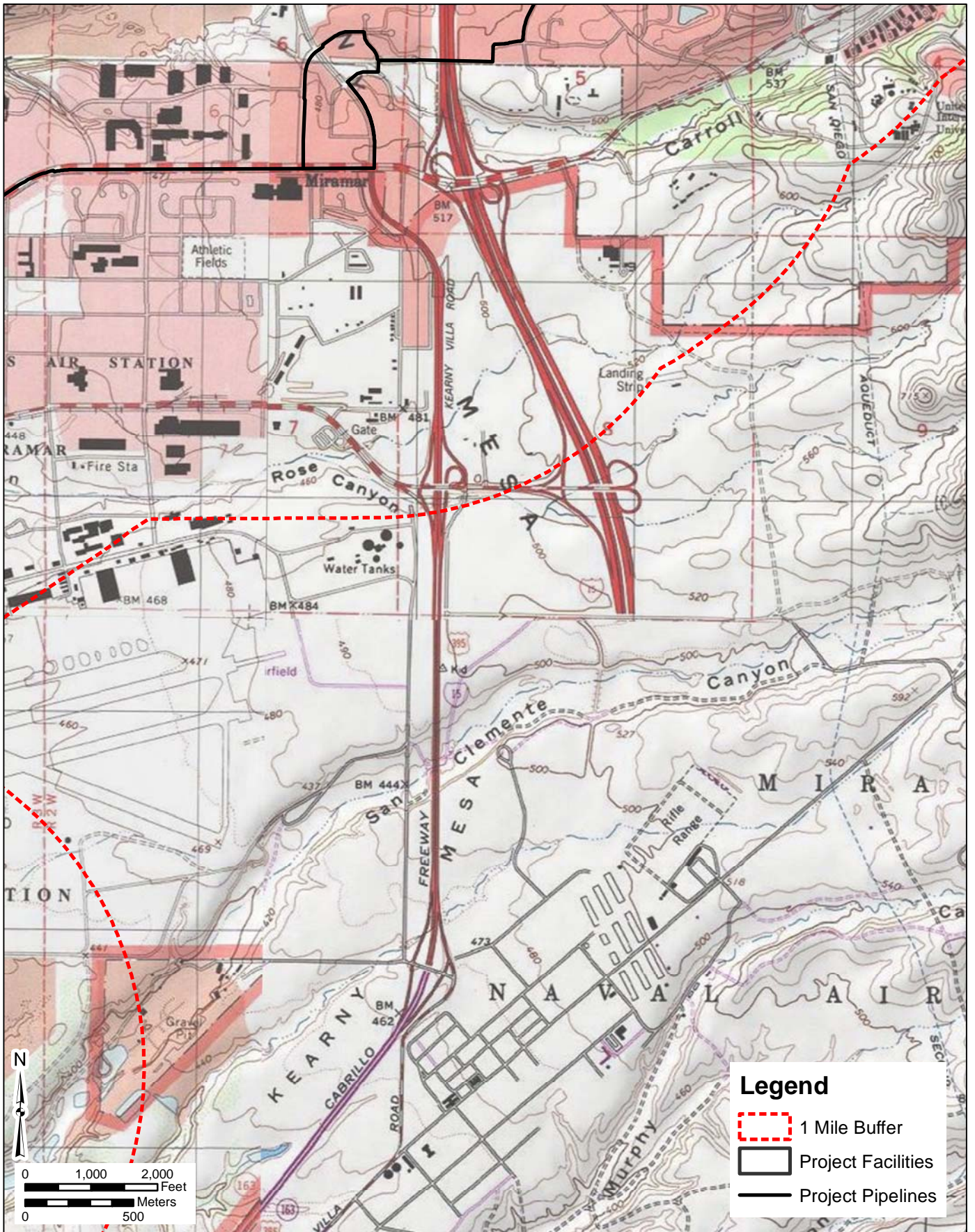
Attachments:

Figure 1. Project Location Map



SOURCE: USGS Topo 7.5 Minute Series Poway, Del Mar Quadrangles / Township 14S, 15S / Range 2W / Section 01, 04, 05, 06, 28, 29, 31, 32, 33, 36

[Records Search](#)



SOURCE: USGS Topo 7.5 Minute Series Del Mar Quadrangle / Township 15S / Range 2W, 3W / Section 01, 04, 05, 06, 07, 08, 09, 12, 13, 18, 19, 24

Records Search

NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Blvd., ROOM 100
West SACRAMENTO, CA 95691
(916) 373-3710
Fax (916) 373-5471



July 25, 2016

Matthew DeCarlo
Dudek

Sent by Email: mdecarlo@dudek.com

RE: Proposed North City Pure Water Program Project – Dudek No. 9420-04; Del Mar, El Cajon, La Mesa, La Jolla, Poway, San Vicente, and San Vicente Reservoir USGS Quadrangles, San Diego County, California

Dear Mr. DeCarlo:

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* (SLF) was completed for the area of potential project effect (APE) for the above referenced project. Sites have been located the APE you provided that may be impacted by the project. Please contact the following groups for more information about these sites:

- The Ewiiapaayp Tribal Office at (619) 445-6315
- The Viejas Band of Kumeyaay Indians at (619) 445-3810
- The Kwaaymii Laguna Band of Mission Indians at (619) 709-4207
- The Campo Band of Mission Indians at (619) 478-9046
- The Lipay Nation of Santa Isabel at (760) 803-5694

Please contact all the culturally affiliated Tribes directly for more information about other potential sites within your APE. Their contact information is on the attached "Native American Contact List."

The absence or presence site information in the *Sacred Lands File* does not indicate the absence of Native American cultural resources in any APE. Other sources of cultural resources information should be contacted regarding known and recorded sites. Please contact all of the people on the attached list. The list should provide a starting place to locate areas of potential adverse impact within the APE. I suggest you contact all of those listed, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult under applicable laws. If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received.

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

Sincerely,

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst

CONFIDENTIALITY NOTICE: This communication with its contents may contain confidential and/or legally privileged information. It is solely for the use of the intended recipient(s). Unauthorized interception, review, use or disclosure is prohibited and may violate applicable laws including the Electronic Communications Privacy Act. If you are not the intended recipient, please contact the sender and destroy all copies of the communication.

**Native American Heritage Commission
Native American Contact List
San Diego County
7/25/2016**

Barona Group of the Capitan Grande

Clifford LaChappa, Chairperson
1095 Barona Road
Lakeside, CA, 92040
Phone: (619)443-6612
Fax: (619)443-0681
cloyd@barona-nsn.gov

Kumeyaay

Jamul Indian Village

Erica Pinto, Chairperson
P.O. Box 612
Jamul, CA, 91935
Phone: (619)669-4785
Fax: (619)669-4817

Kumeyaay

Campo Band of Mission Indians

Ralph Goff, Chairperson
36190 Church Road, Suite 1
Campo, CA, 91906
Phone: (619)478-9046
Fax: (619)478-5818
rgoff@campo-nsn.gov

Kumeyaay

Kwaaymii Laguna Band of Mission Indians

Carmen Lucas,
P.O. Box 775
Pine Valley, CA, 91962
Phone: (619)709-4207

Kumeyaay

Ewiiaapaayp Tribal Office

Robert Pinto, Chairperson
4054 Willows Road
Alpine, CA, 91901
Phone: (619)445-6315
Fax: (619)445-9126

Kumeyaay

La Posta Band of Mission Indians

Gwendolyn Parada, Chairperson
8 Crestwood Road
Boulevard, CA, 91905
Phone: (619)478-2113
Fax: (619)478-2125
LP13boots@aol.com

Kumeyaay

Ewiiaapaayp Tribal Office

Michael Garcia, Vice Chairperson
4054 Willows Road
Alpine, CA, 91901
Phone: (619)445-6315
Fax: (619)445-9126
michaalg@leaningrock.net

Kumeyaay

La Posta Band of Mission Indians

Javaughn Miller, Tribal Administrator
8 Crestwood Road
Boulevard, CA, 91905
Phone: (619)478-2113
Fax: (619)478-2125
jmiller@Lapostatribe.net

Kumeyaay

Iipay Nation of Santa Ysabel

Virgil Perez, Chairperson
P.O. Box 130
Santa Ysabel, CA, 92070
Phone: (760)765-0845
Fax: (760)765-0320

Kumeyaay

Manzanita Band of Kumeyaay Nation

Leroy J. Elliott, Chairperson
P.O. Box 1302
Boulevard, CA, 91905
Phone: (619)766-4930
Fax: (619)766-4957

Kumeyaay

Inaja Band of Mission Indians

Rebecca Osuna, Chairperson
2005 S. Escondido Blvd.
Escondido, CA, 92025
Phone: (760)737-7628
Fax: (760)747-8568

Kumeyaay

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed North City Pure Water Program, San Diego County.

Native American Heritage Commission
Native American Contact List
San Diego County
7/25/2016

**Mesa Grande Band of Mission
Indians**

Virgil Oyos, Chairperson
P.O Box 270 Kumeyaay
Santa Ysabel, CA, 92070
Phone: (760)782-3818
Fax: (760)782-9092
mesagrandeband@msn.com

**San Pasqual Band of Mission
Indians**

Allen E. Lawson, Chairperson
P.O. Box 365 Kumeyaay
Valley Center, CA, 92082
Phone: (760)749-3200
Fax: (760)749-3876
allenl@sanpasqualtribe.org

**Sycuan Band of the Kumeyaay
Nation**

Cody J. Martinez, Chairperson
1 Kwaaypaay Court Kumeyaay
El Cajon, CA, 92019
Phone: (619)445-2613
Fax: (619)445-1927
ssilva@sycuan-nsn.gov

**Viejas Band of Kumeyaay
Indians**

Robert J. Welch, Chairperson
1 Viejas Grade Road Kumeyaay
Alpine, CA, 91901
Phone: (619)445-3810
Fax: (619)445-5337
jhagen@viejas-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed North City Pure Water Program, San Diego County.

August 11, 2016

Mr. Leroy J. Elliott, Chairperson
Manzanita Band of Kumeyaay Nation
P.O. Box 1302
Boulevard, CA 91905

Subject: Information Request for the North City Pure Water Program Project in San Diego, California

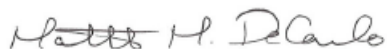
Dear Mr. Elliott,

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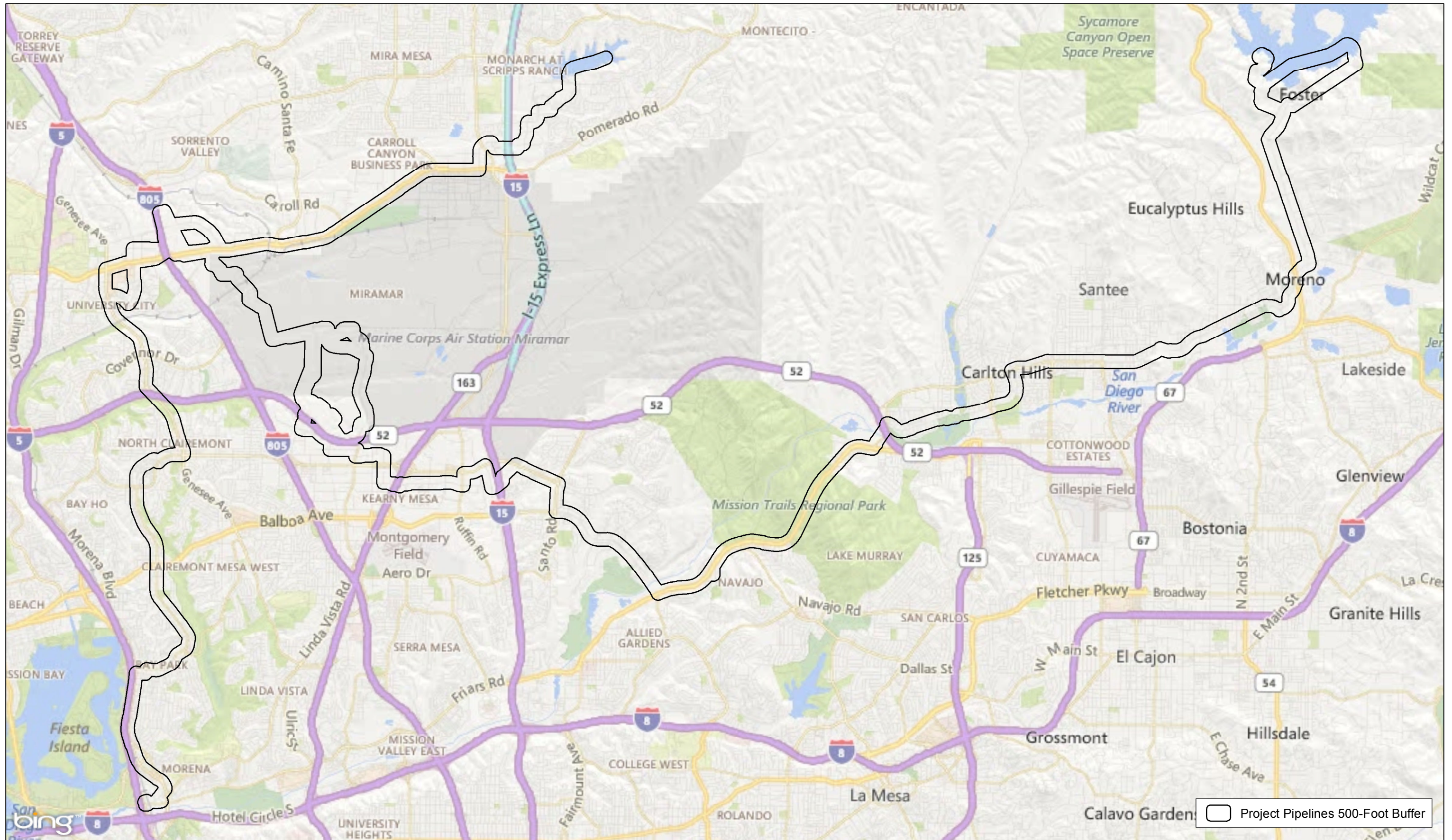
If you have any information or concerns pertaining to such information, please contact me by phone or email.

Respectfully,

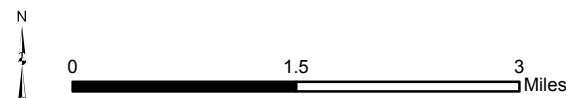


Matthew DeCarlo, B.A.
Archaeologist
DUDEK
Phone: (760) 479-4831
Email:

mdecarlo@dudek.com



DUDEK



Proposed Project

Pure Water San Diego Program North City Projects

August 11, 2016

Mr. Michael Garcia, Vice Chairperson
Ewiiapaayp Tribal Office
4054 Willows Road
Alpine, CA 91901

Subject: Information Request for the North City Pure Water Program Project in San Diego, California

Dear Mr. Garcia,

Dudek is conducting a cultural resources survey project for the North City Pure Water Program Project (NCPWP). The project site consists of an expansion of the existing Water Reclamation Plant, construction of an Advanced Water Purification Facility, and installation of water pipeline and pump stations throughout northern San Diego (Figure 1). The project is located on the U.S. Geological Survey (USGS) Del Mar, El Cajon, La Mesa, La Jolla, La Mesa, Poway, San Vicente, San Vicente Reservoir 7.5' quadrangle.

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If you have any information or concerns pertaining to such information, please contact me by phone or email.

Respectfully,



Matthew DeCarlo, B.A.

Archaeologist

DUDEK

Phone: (760) 479-4831

Email:

mdecarlo@dudek.com

August 11, 2016

Mr. Ralph Goff, Chairperson
Campo Band of Mission Indians
36190 Church Road, Suite 1
Campo, CA 91906

Subject: Information Request for the North City Pure Water Program Project in San Diego, California

Dear Mr. Goff,

Dudek is conducting a cultural resources survey project for the North City Pure Water Program Project (NCPWP). The project site consists of an expansion of the existing Water Reclamation Plant, construction of an Advanced Water Purification Facility, and installation of water pipeline and pump stations throughout northern San Diego (Figure 1). The project is located on the U.S. Geological Survey (USGS) Del Mar, El Cajon, La Mesa, La Jolla, La Mesa, Poway, San Vicente, San Vicente Reservoir 7.5' quadrangle.

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Respectfully,



Matthew DeCarlo, B.A.
Archaeologist
DUDEK
Phone: (760) 479-4831
Email:

mdecarlo@dudek.com

August 11, 2016

Mr. Clifford LaChappa, Chairperson
Barona Group of the Capitan Grande
1095 Barona Road
Lakeside, CA 92040

Subject: Information Request for the North City Pure Water Program Project in San Diego, California

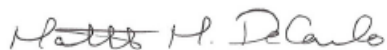
Dear Mr. LaChappa,

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Respectfully,



Matthew DeCarlo, B.A.
Archaeologist
DUDEK
Phone: (760) 479-4831
Email:

mdecarlo@dudek.com

August 11, 2016

Mr. Allen E. Lawson, Chairperson
San Pasqual Band of Mission Indians
P.O. Box 365
Valley Center, CA 92082

Subject: Information Request for the North City Pure Water Program Project in San Diego, California

Dear Mr. Lawson,

Dudek is conducting a cultural resources survey project for the North City Pure Water Program Project (NCPWP). The project site consists of an expansion of the existing Water Reclamation Plant, construction of an Advanced Water Purification Facility, and installation of water pipeline and pump stations throughout northern San Diego (Figure 1). The project is located on the U.S. Geological Survey (USGS) Del Mar, El Cajon, La Mesa, La Jolla, La Mesa, Poway, San Vicente, San Vicente Reservoir 7.5' quadrangle.

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Respectfully,



Matthew DeCarlo, B.A.

Archaeologist

DUDEK

Phone: (760) 479-4831

Email:

mdecarlo@dudek.com

August 11, 2016

Ms. Carmen Lucas,
Kwaaymii Laguna Band of Mission Indians
P.O. Box 775
Pine Valley, CA 91962

Subject: Information Request for the North City Pure Water Program Project in San Diego, California

Dear Ms. Lucas,

Dudek is conducting a cultural resources survey project for the North City Pure Water Program Project (NCPWP). The project site consists of an expansion of the existing Water Reclamation Plant, construction of an Advanced Water Purification Facility, and installation of water pipeline and pump stations throughout northern San Diego (Figure 1). The project is located on the U.S. Geological Survey (USGS) Del Mar, El Cajon, La Mesa, La Jolla, La Mesa, Poway, San Vicente, San Vicente Reservoir 7.5' quadrangle.

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Respectfully,



Matthew DeCarlo, B.A.

Archaeologist

DUDEK

Phone: (760) 479-4831

Email:

mdecarlo@dudek.com

August 11, 2016

Mr. Cody Martinez, Chairperson
Sycuan Band of the Kumeyaay Nation
1 Kwaaypaay Court
El Cajon, CA 92019

Subject: Information Request for the North City Pure Water Program Project in San Diego, California

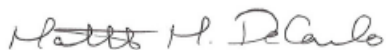
Dear Mr. Martinez,

Dudek is conducting a cultural resources survey project for the North City Pure Water Program Project (NCPWP). The project site consists of an expansion of the existing Water Reclamation Plant, construction of an Advanced Water Purification Facility, and installation of water pipeline and pump stations throughout northern San Diego (Figure 1). The project is located on the U.S. Geological Survey (USGS) Del Mar, El Cajon, La Mesa, La Jolla, La Mesa, Poway, San Vicente, San Vicente Reservoir 7.5' quadrangle.

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Respectfully,



Matthew DeCarlo, B.A.
Archaeologist
DUDEK
Phone: (760) 479-4831
Email:

mdecarlo@dudek.com

August 11, 2016

Ms. Javaughn Miller,
La Posta Band of Mission Indians
8 Crestwood Rd.
Boulevard, CA 91905

Subject: Information Request for the North City Pure Water Program Project in San Diego, California

Dear Ms. Miller,

Dudek is conducting a cultural resources survey project for the North City Pure Water Program Project (NCPWP). The project site consists of an expansion of the existing Water Reclamation Plant, construction of an Advanced Water Purification Facility, and installation of water pipeline and pump stations throughout northern San Diego (Figure 1). The project is located on the U.S. Geological Survey (USGS) Del Mar, El Cajon, La Mesa, La Jolla, La Mesa, Poway, San Vicente, San Vicente Reservoir 7.5' quadrangle.

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Respectfully,



Matthew DeCarlo, B.A.
Archaeologist
DUDEK
Phone: (760) 479-4831
Email:

mdecarlo@dudek.com

August 11, 2016

Ms. Rebecca Osuna, Chairman
Inaja Band of Mission Indians
2005 S. Escondido Blvd.
Escondido, CA 92025

Subject: Information Request for the North City Pure Water Program Project in San Diego, California

Dear Ms. Osuna,

Dudek is conducting a cultural resources survey project for the North City Pure Water Program Project (NCPWP). The project site consists of an expansion of the existing Water Reclamation Plant, construction of an Advanced Water Purification Facility, and installation of water pipeline and pump stations throughout northern San Diego (Figure 1). The project is located on the U.S. Geological Survey (USGS) Del Mar, El Cajon, La Mesa, La Jolla, La Mesa, Poway, San Vicente, San Vicente Reservoir 7.5' quadrangle.

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Respectfully,



Matthew DeCarlo, B.A.
Archaeologist
DUDEK
Phone: (760) 479-4831
Email:

mdecarlo@dudek.com

August 11, 2016

Mr. Virgil Oyos, Chairperson
Mesa Grande Band of Mission Indians
P.O. Box 270
Santa Ysabel, CA 92070

Subject: Information Request for the North City Pure Water Program Project in San Diego, California

Dear Mr. Oyos,

Dudek is conducting a cultural resources survey project for the North City Pure Water Program Project (NCPWP). The project site consists of an expansion of the existing Water Reclamation Plant, construction of an Advanced Water Purification Facility, and installation of water pipeline and pump stations throughout northern San Diego (Figure 1). The project is located on the U.S. Geological Survey (USGS) Del Mar, El Cajon, La Mesa, La Jolla, La Mesa, Poway, San Vicente, San Vicente Reservoir 7.5' quadrangle.

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Respectfully,



Matthew DeCarlo, B.A.
Archaeologist
DUDEK
Phone: (760) 479-4831
Email:

mdecarlo@dudek.com

August 11, 2016

Ms. Gwendolyn Parada, Chairperson
La Posta Band of Mission Indians
8 Crestwood Rd.
Boulevard, CA 91905

Subject: Information Request for the North City Pure Water Program Project in San Diego, California

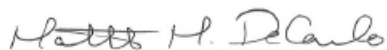
Dear Ms. Parada,

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Respectfully,



Matthew DeCarlo, B.A.
Archaeologist
DUDEK
Phone: (760) 479-4831
Email:

mdecarlo@dudek.com

August 11, 2016

Mr. Virgil Perez, Chairperson
Iipay Nation of Santa Ysabel
P.O. Box 130
Santa Ysabel, CA 92070

Subject: Information Request for the North City Pure Water Program Project in San Diego, California

Dear Mr. Perez,

Dudek is conducting a cultural resources survey project for the North City Pure Water Program Project (NCPWP). The project site consists of an expansion of the existing Water Reclamation Plant, construction of an Advanced Water Purification Facility, and installation of water pipeline and pump stations throughout northern San Diego (Figure 1). The project is located on the U.S. Geological Survey (USGS) Del Mar, El Cajon, La Mesa, La Jolla, La Mesa, Poway, San Vicente, San Vicente Reservoir 7.5' quadrangle.

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Matthew DeCarlo, B.A.
Archaeologist
DUDEK
Phone: (760) 479-4831
Email:

mdecarlo@dudek.com

August 11, 2016

Ms. Erica Pinto, Chairperson
Jamul Indian Village
P.O. Box 612
Jamul, CA 91935

Subject: Information Request for the North City Pure Water Program Project in San Diego, California

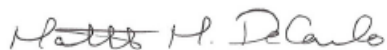
Dear Ms. Pinto,

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Respectfully,



Matthew DeCarlo, B.A.
Archaeologist
DUDEK
Phone: (760) 479-4831
Email:

mdecarlo@dudek.com

August 11, 2016

Mr. Robert Pinto, Sr., Chairperson
Ewiaapaayp Tribal Office
4054 Willow Rd.
Alpine, CA 91901

Subject: Information Request for the North City Pure Water Program Project in San Diego, California

Dear Mr. Pinto, Sr.,

Dudek is conducting a cultural resources survey project for the North City Pure Water Program Project (NCPWP). The project site consists of an expansion of the existing Water Reclamation Plant, construction of an Advanced Water Purification Facility, and installation of water pipeline and pump stations throughout northern San Diego (Figure 1). The project is located on the U.S. Geological Survey (USGS) Del Mar, El Cajon, La Mesa, La Jolla, La Mesa, Poway, San Vicente, San Vicente Reservoir 7.5' quadrangle.

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Respectfully,



Matthew DeCarlo, B.A.
Archaeologist
DUDEK
Phone: (760) 479-4831
Email:

mdecarlo@dudek.com

August 11, 2016

Mr. Robert J. Welch, Jr., Chairperson
Viejas Band of Kumeyaay Indians
1 Viejas Grade Rd.
Alpine, CA 91901

Subject: Information Request for the North City Pure Water Program Project in San Diego, California

Dear Mr. Welch, Jr.,

Dudek is conducting a cultural resources survey project for the North City Pure Water Program Project (NCPWP). The project site consists of an expansion of the existing Water Reclamation Plant, construction of an Advanced Water Purification Facility, and installation of water pipeline and pump stations throughout northern San Diego (Figure 1). The project is located on the U.S. Geological Survey (USGS) Del Mar, El Cajon, La Mesa, La Jolla, La Mesa, Poway, San Vicente, San Vicente Reservoir 7.5' quadrangle.

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Respectfully,



Matthew DeCarlo, B.A.

Archaeologist

DUDEK

Phone: (760) 479-4831

Email:

mdecarlo@dudek.com

June 29, 2017

Iipay Nation of Santa Ysabel
Attn: Clint Linton, Director of Cultural Resources
P.O. Box 130
Santa Ysabel, CA 92070

Sent via Certified Mail and E-mail

**SUBJECT: Project Notification for AB 52 Consultation
Pure Water North City Project - Project No. 499421**

Dear Mr. Linton,

The City of San Diego is processing an environmental application for the following project:

The Bureau of Reclamation and the City of San Diego will prepare a joint Environmental Impact Report/Environmental Impact Statement to evaluate the effects of the North City Project, the first phase of the Pure Water San Diego Program (Pure Water Program). The Pure Water Program is a water and wastewater facilities plan to produce potable water from recycled water. The Pure Water Program consists of the design and construction of new advanced water treatment facilities, wastewater treatment facilities, pump stations, and pipelines.

The proposed project will expand the existing North City Water Reclamation Plant and construct an adjacent North City Pure Water Facility with a purified water pipeline to Miramar Reservoir. A project alternative would install a longer pipeline to deliver product water to the larger San Vicente Reservoir. Other project components include: a new pump station and forcemain to deliver additional wastewater to the North City Water Reclamation Plant, a brine discharge pipeline, and upgrades to the existing Metropolitan Biosolids Center to accommodate additional biosolids from the increased treatment capacity at the North City Water Reclamation Plant.

A new electrical transmission line is proposed, connecting the North City Water Reclamation Plant to the future cogeneration facility at the Metropolitan Biosolids Center to deliver power for North City Project components. The electrical transmission line would cross Marine Corps Air Station Miramar and will require approval by the United States Marine Corps.

At your earliest convenience, please complete a review of this proposed project and please notify the City if "government-to-government" consultation is necessary pursuant the requirements of **AB 52** within **30 Days of receipt of this letter**. Should the City not receive a response within **thirty (30) days**, it will be presumed that you have declined consultation. Location maps for each alternative are attached for your reference. Figure 1 shows the location of the facilities and pipelines for the proposed project. Figure 2 shows the location of the proposed facilities and pipelines for the San Vicente Alternative.

If you have any questions or need clarification regarding this project, please contact Mark Brunette at (619) 446-5379 or at mbrunette@sandiego.gov.

A handwritten signature in blue ink that reads "Mark Brunette". The signature is written in a cursive style and is positioned above a horizontal line.

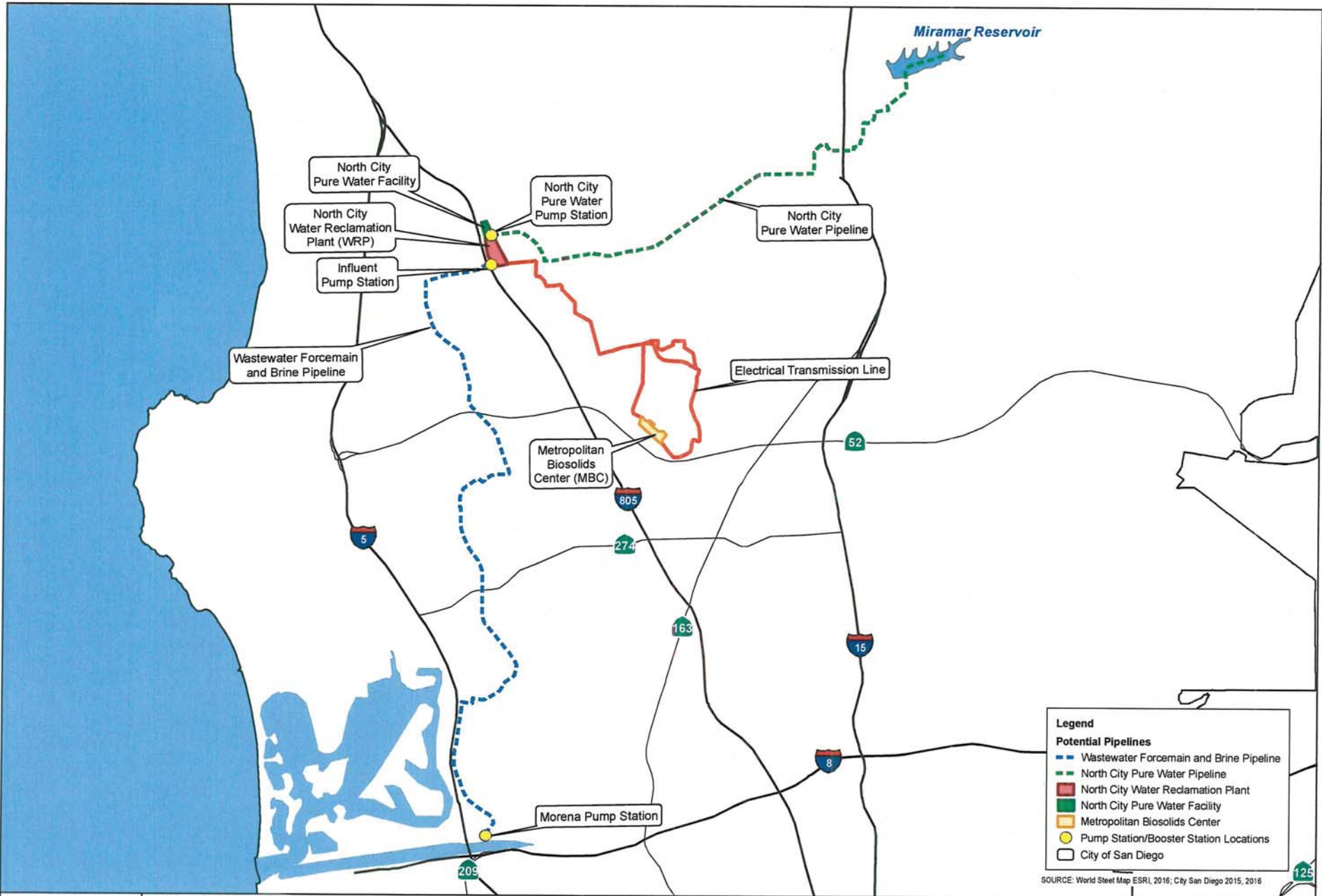
Mark Brunette, Senior Planner
Development Services Department

Analyst: Mark Brunette

CC: Myra Herrmann, Tribal Liaison, Planning Department

ATTACHMENTS: Figure 1: Proposed Project – Miramar Reservoir
 Figure 2: Alternative A – San Vicente Reservoir

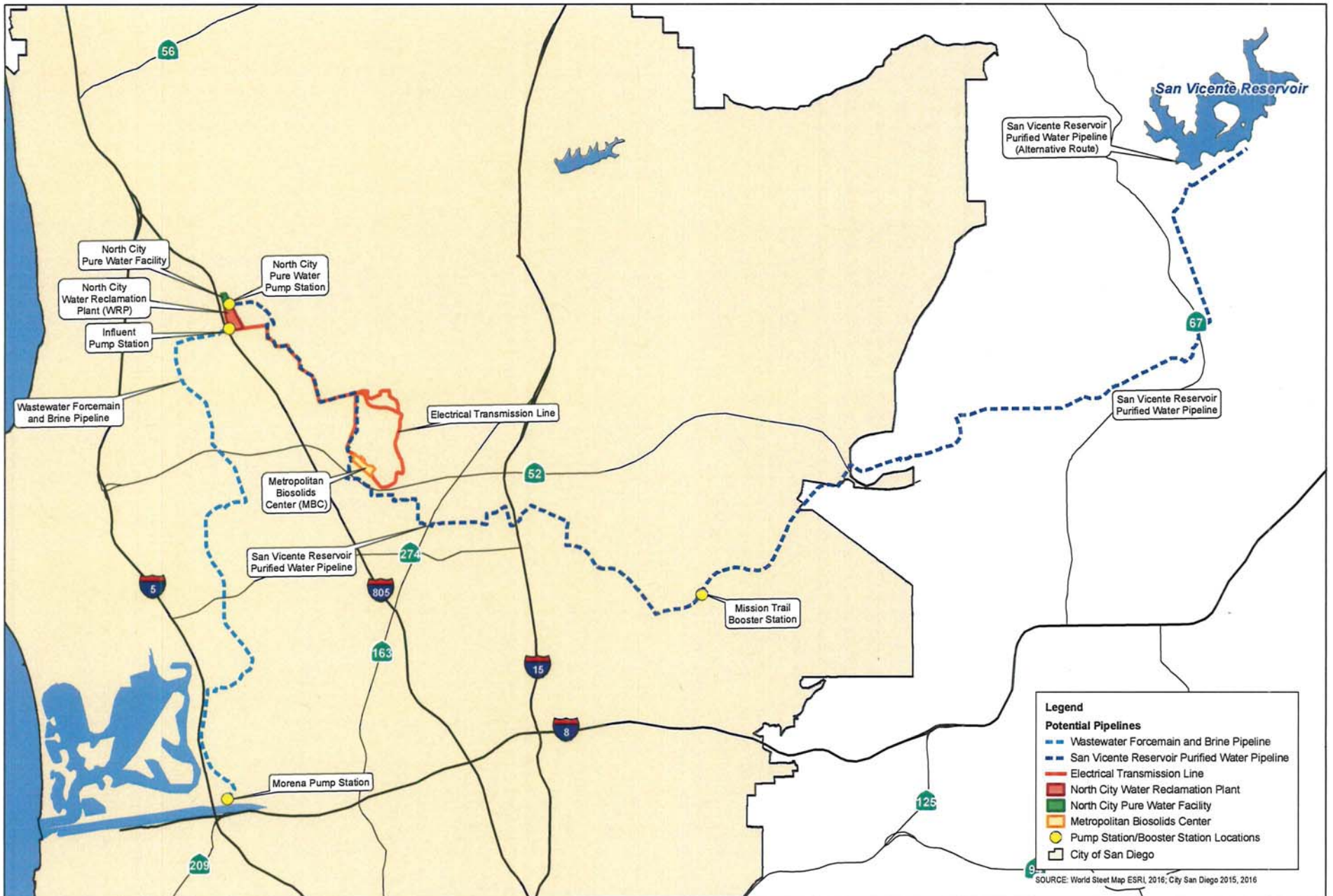
TRANSMITTED: Via USPS Certified Mail



North City Project - Proposed Project - Miramar Reservoir
 Pure Water San Diego Program North City Project EIR/EIS Notice of Preparation

FIGURE 1





North City Project - Alternative A - San Vicente Reservoir
 Pure Water San Diego Program North City Project EIR/EIS Notice of Preparation

CITY OF SAN DIEGO

FIGURE
2

August 7, 2017

lipay Nation of Santa Ysabel
Attn: Clint Linton, Director of Cultural Resources
P.O. Box 130
Santa Ysabel, CA 92070

Sent via USPS/E-mail

**SUBJECT: Conclusion of Consultation under AB 52
Pure Water North City Project - Project No. 499621**

Dear Mr. Linton,

The City of San Diego would like to thank the lipay Nation of Santa Ysabel for meeting with staff on July 14, 2017 to execute the government to government consultation under Assembly Bill (AB) 52 initiated by the lipay Nation of Santa Ysabel on June 29, 2017. City staff appreciated the opportunity to further discuss the above-referenced project. During the consultation, the lipay Nation of Santa Ysabel agreed that no further consultation under AB 52 review is required, and this process is concluded.

The City looks forward to working with you in our efforts to meet the requirements of AB 52 and appreciates the role that you and your organization contribute in this process. Please do not hesitate to contact me at (619) 446-5379 or at mbrunette@sandiego.gov if you have any additional questions. Again, thank you for meeting with staff. We look forward to other collaborative meetings.

Sincerely,



Mark Brunette, Senior Planner
Development Services Department

Analyst: Mark Brunette

cc: Myra Herrmann Tribal Liaison, Planning Department

June 29, 2017

Jamul Indian Village of Kumeyaay Nation
Attn: Lisa Cumper, Secretary/Treasurer
P.O. Box 612
Jamul, CA 91935

Sent via Certified Mail and E-mail

**SUBJECT: Project Notification for AB 52 Consultation
Pure Water North City Project - Project No. 499421**

Dear Ms. Cumper,

The City of San Diego is processing an environmental application for the following project:

The Bureau of Reclamation and the City of San Diego will prepare a joint Environmental Impact Report/Environmental Impact Statement to evaluate the effects of the North City Project, the first phase of the Pure Water San Diego Program (Pure Water Program). The Pure Water Program is a water and wastewater facilities plan to produce potable water from recycled water. The Pure Water Program consists of the design and construction of new advanced water treatment facilities, wastewater treatment facilities, pump stations, and pipelines.

The proposed project will expand the existing North City Water Reclamation Plant and construct an adjacent North City Pure Water Facility with a purified water pipeline to Miramar Reservoir. A project alternative would install a longer pipeline to deliver product water to the larger San Vicente Reservoir. Other project components include: a new pump station and forcemain to deliver additional wastewater to the North City Water Reclamation Plant, a brine discharge pipeline, and upgrades to the existing Metropolitan Biosolids Center to accommodate additional biosolids from the increased treatment capacity at the North City Water Reclamation Plant.

A new electrical transmission line is proposed, connecting the North City Water Reclamation Plant to the future cogeneration facility at the Metropolitan Biosolids Center to deliver power for North City Project components. The electrical transmission line would cross Marine Corps Air Station Miramar and will require approval by the United States Marine Corps.

At your earliest convenience, please complete a review of this proposed project and please notify the City if "government-to-government" consultation is necessary pursuant the requirements of **AB 52** within **30 Days of receipt of this letter**. Should the City not receive a response within **thirty (30) days**, it will be presumed that you have declined consultation. Location maps for each alternative are attached for your reference. Figure 1 shows the location of the facilities and pipelines for the proposed project. Figure 2 shows the location of the proposed facilities and pipelines for the San Vicente Alternative.

If you have any questions or need clarification regarding this project, please contact Mark Brunette at (619) 446-5379 or at mbrunette@sandiego.gov.



Mark Brunette, Senior Planner
Development Services Department

Analyst: Mark Brunette
CC: Myra Herrmann, Tribal Liaison, Planning Department

ATTACHMENTS: Figure 1: Proposed Project – Miramar Reservoir
 Figure 2: Alternative A – San Vicente Reservoir

TRANSMITTED: Via USPS Certified Mail

***Subject: Email Correspondence with Jamul Indian Village of Kumeyaay Nation
Concerning Project Notification for AB 52 Consultation Pure Water North
City Project – Project No. 499421***

From: Brunette, Mark [mailto:MBrunette@sandiego.gov]
Sent: Wednesday, July 5, 2017 2:32 PM
To: Lisa Cumper; Red Tail Monitoring & Research Inc; Jesse Pinto
Cc: Szymanski, Jeffrey; Herrmann, Myra; Tracy, Christopher
Subject: RE: PTS 499621 - Pure Water North City Project - AB 52 Notification

Hi Lisa,

We will add this project to the agenda for the next meeting.

Thank you,

Mark Brunette
Senior Planner
City of San Diego
Department of Development Services
Environmental Analysis Section
1222 First Avenue, MS 501
San Diego, CA 92101
O: (619) 446-5379 F: (619) 687-5982

From: Lisa Cumper [mailto:lcumper@jamulindianvillage.com]
Sent: Wednesday, July 05, 2017 1:28 PM
To: Brunette, Mark <MBrunette@sandiego.gov>; Red Tail Monitoring & Research Inc
<cjlinton73@aol.com>; Jesse Pinto <jpinto@jamulindianvillage.com>
Subject: Re: PTS 499621 - Pure Water North City Project - AB 52 Notification

Hi Mark,

Yes, Jamul would like to consult on this project, please add it to our list of items to discuss at our next meeting.

Thank you.

Respectfully,

Lisa K. Cumper
Tribal Historic Preservation Officer /
Tribal Liaison

*Subject: Email Correspondence with Jamul Indian Village of Kumeyaay Nation Concerning
Project Notification for AB 52 Consultation Pure Water North City Project*

Jamul Indian Village of California

P.O. Box 612, Jamul CA 91935

desk: 619.669.4855

cell: 619.928.8689

fax: 619.669.4817

email: lcumper@jamulindianvillage.com

web: www.jamulindianvillage.com

On Thu, Jun 29, 2017 at 7:31 AM, Brunette, Mark <MBrunette@sandiego.gov> wrote:
Ms. Cumper,

Please see the attached AB 52 Initial Notification Letter for PTS 499621 - Pure Water North City Project. A hardcopy will be sent via Certified Mail. Please inform us if further AB 52 Consultation is desired for this project (within 30 Days of receipt of the hardcopy) and we'll be happy to coordinate accordingly.

Sincerely,

Mark Brunette

Senior Planner

City of San Diego

Department of Development Services

Environmental Analysis Section

1222 First Avenue, MS 501

San Diego, CA 92101

O: (619) 446-5379 F: (619) 687-5982

August 7, 2017

Jamul Indian Village
Attn: Lisa Cumper, Secretary/Treasurer
P.O. Box 612
Jamul, CA 91935

Sent via USPS/E-mail


**SUBJECT: Conclusion of Consultation under AB 52
Pure Water North City Project - Project No. 499621**

Dear Ms. Cumper,

The City of San Diego would like to thank Jamul Indian Village for meeting with staff on July 14, 2017 to execute the government to government consultation under Assembly Bill (AB) 52 initiated by Jamul Indian Village on July 5, 2017. City staff appreciated the opportunity to further discuss the above-referenced project. During the consultation, Jamul Indian Village agreed that no further consultation under AB 52 review is required, and this process is concluded.

The City looks forward to working with you in our efforts to meet the requirements of AB 52 and appreciates the role that you and your organization contribute in this process. Please do not hesitate to contact me at (619) 446-5379 or at mbrunette@sandiego.gov if you have any additional questions. Again, thank you for meeting with staff. We look forward to other collaborative meetings.

Sincerely,



Mark Brunette, Senior Planner
Development Services Department

Analyst: Mark Brunette

cc: Myra Herrmann Tribal Liaison, Planning Department

Subject: Email Correspondence between Dudek and the City of San Diego Concerning Project Notification for AB 52 Consultation Pure Water North City Project – Project No. 499421

From: Brunette, Mark [mailto:MBrunette@sandiego.gov]
Sent: Friday, July 14, 2017 2:35 PM
To: Balo, Keli; Shawn Shamlou
Subject: Pure Water AB 52 Consultation Meeting Results

I met with representatives of the Iipay Nation of Santa Ysabel and the Jamul Indian Village of Kumeyaay Nation today. Both of these Native American groups are satisfied that the required archaeological and Native American monitoring for Pure Water North City project will be satisfactory to address any potential impacts to Tribal Cultural Resources. They agreed that no further consultation is required and, therefore, consultation is now completed for this project in accordance with the requirements of AB 52.

I am still waiting on a response from Mesa Grande to my consultation notification letter. This Native American group has until August 9th to request consultation. I will let you know if I receive a request.

Thanks,

Mark

Subject: Email Correspondence between Mesa Grande Band of Mission Indians and the City of San Diego Concerning Project Notification for AB 52 Consultation Pure Water North City Project – Project No. 499421

From: Brunette, Mark [mailto:MBrunette@sandiego.gov]
Sent: Friday, June 30, 2017 7:06 AM
To: mgndn71@yahoo.com
Subject: RE: PTS 499621 - Pure Water North City Project - AB 52 Notification

Mario,

Per our phone conversation a revised AB 52 consultation letter with your contact information is being sent to you via certified mail. Attached to the letter will be a CD with the Cultural Resources Inventory Report for the Pure Water North City project. I have attached an electronic copy of the revised consultation letter.

Please let me know if you have any questions.

Thanks,

Mark Brunette
Senior Planner
City of San Diego
Department of Development Services
Environmental Analysis Section
1222 First Avenue, MS 501
San Diego, CA 92101
O: (619) 446-5379 F: (619) 687-5982

From: mario [mailto:mgndn71@yahoo.com]
Sent: Thursday, June 29, 2017 2:30 PM
To: Brunette, Mark <MBrunette@sandiego.gov>
Subject: Re: PTS 499621 - Pure Water North City Project - AB 52 Notification

hello mark, my name is mario Morales, cultural resource representative for the mesa grande band of mission indians. if you could give me a call at your convenience id appreciate it, thank you.
760 622 1336.
Sent from Yahoo Mail on Android

David Friedberg

Subject: Cultural Resources Inventory for a Commercial Development Project on Twentynine Palms Highway in Morongo Valley, San Bernardino County, California

On Thu, Jun 29, 2017 at 7:34 AM, Brunette, Mark

<MBrunette@sandiego.gov> wrote:

Mr. Oyos,

Please see the attached AB 52 Initial Notification Letter for PTS 499621 - Pure Water North City Project. A hardcopy will be sent via Certified Mail. Please inform us if further AB 52 Consultation is desired for this project (within 30 Days of receipt of the hardcopy) and we'll be happy to coordinate accordingly.

Sincerely,

Mark Brunette
Senior Planner
City of San Diego
Department of Development Services
Environmental Analysis Section
1222 First Avenue, MS 501
San Diego, CA 92101
O: (619) 446-5379 F: (619) 687-5982

June 29, 2017

Mesa Grande Band of Mission Indians
Attn: Mario Morales, Cultural Resources Representative
PMB 366
35008 Pala Temecula Road
Pala, CA 92059

Sent via Certified Mail and E-mail

**SUBJECT: Project Notification for AB 52 Consultation
Pure Water North City Project - Project No. 499621**

Dear Mr. Morales,

The City of San Diego is processing an environmental application for the following project:

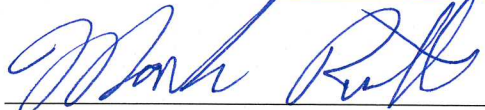
The Bureau of Reclamation and the City of San Diego will prepare a joint Environmental Impact Report/Environmental Impact Statement to evaluate the effects of the North City Project, the first phase of the Pure Water San Diego Program (Pure Water Program). The Pure Water Program is a water and wastewater facilities plan to produce potable water from recycled water. The Pure Water Program consists of the design and construction of new advanced water treatment facilities, wastewater treatment facilities, pump stations, and pipelines.

The proposed project will expand the existing North City Water Reclamation Plant and construct an adjacent North City Pure Water Facility with a purified water pipeline to Miramar Reservoir. A project alternative would install a longer pipeline to deliver product water to the larger San Vicente Reservoir. Other project components include: a new pump station and forcemain to deliver additional wastewater to the North City Water Reclamation Plant, a brine discharge pipeline, and upgrades to the existing Metropolitan Biosolids Center to accommodate additional biosolids from the increased treatment capacity at the North City Water Reclamation Plant.

A new electrical transmission line is proposed, connecting the North City Water Reclamation Plant to the future cogeneration facility at the Metropolitan Biosolids Center to deliver power for North City Project components. The electrical transmission line would cross Marine Corps Air Station Miramar and will require approval by the United States Marine Corps.

At your earliest convenience, please complete a review of this proposed project and please notify the City if "government-to-government" consultation is necessary pursuant the requirements of **AB 52** within **30 Days of receipt of this letter**. Should the City not receive a response within **thirty (30) days**, it will be presumed that you have declined consultation. Location maps for each alternative are attached for your reference. Figure 1 shows the location of the facilities and pipelines for the proposed project. Figure 2 shows the location of the proposed facilities and pipelines for the San Vicente Alternative.

If you have any questions or need clarification regarding this project, please contact Mark Brunette at (619) 446-5379 or at mbrunette@sandiego.gov.



Mark Brunette, Senior Planner
Development Services Department

Analyst: Mark Brunette

CC: Myra Herrmann, Tribal Liaison, Planning Department

ATTACHMENTS: Figure 1: Proposed Project – Miramar Reservoir
 Figure 2: Alternative A – San Vicente Reservoir

TRANSMITTED: Via USPS Certified Mail

Subject: Email Correspondence between Dudek and the City of San Diego Concerning Project Notification for AB 52 Consultation Pure Water North City Project – Project No. 499421

From: Brunette, Mark [mailto:MBrunette@sandiego.gov]
Sent: Thursday, August 10, 2017 11:33 AM
To: Shawn Shamlou; Balo, Keli
Cc: Matthew DeCarlo; Andrew Talbert; Megan Lawson; Micah Hale
Subject: RE: Results of Pure Water North City AB 52 Consultation Meeting on July 14, 2017

Shawn and Keli,

The City of San Diego did not receive a request for consultation from the Mesa Grande Native American group within the 30-day response period prescribed by AB 52 (Which ended yesterday). Therefore, pursuant to AB 52, no consultation regarding Tribal Cultural Resources is required with Mesa Grande.

Mark Brunette
Senior Planner
City of San Diego
Department of Development Services
Environmental Analysis Section
1222 First Avenue, MS 501
San Diego, CA 92101
O: (619) 446-5379 F: (619) 687-5982

APPENDIX D (CONFIDENTIAL)

New DPR Site Records and Updates

APPENDIX E (CONFIDENTIAL)

Resources in APE Maps

APPENDIX F
Artifact Catalog

CATNO	SITE	RTYPE	UNO	USIZE	TOPLEV	BOTLEV	SCREEN	CLASS	OBJECT	MAT	COND	CT	WT	COMMENTS
1	P-37-013630	4	TU-1	2	0	10	1	14	44	27	7	5	1.5	Quad A
2	P-37-013630	4	TU-1	2	0	10	1	8	29	19	2	6	13.5	Quad A
3	P-37-013630	4	TU-1	2	0	10	1	13	39	23	7	3	0.2	Quad A
4	P-37-013630	4	TU-1	2	0	10	1	1	4	18	7	11	2.5	Quad A
5	P-37-013630	4	TU-1	2	0	10	1	1	3	18	1	7	6.1	Quad A
6	P-37-013630	4	TU-1	2	0	10	1	1	4	4	7	2	0.1	Quad A
7	P-37-013630	4	TU-1	2	0	10	1	1	4	11	7	9	4.0	Quad A
8	P-37-013630	4	TU-1	2	0	10	1	1	3	9	4	3	0.1	Quad A
9	P-37-013630	4	TU-1	2	0	10	1	1	3	11	1	3	0.2	Quad A
10	P-37-013630	4	TU-1	2	0	10	1	1	3	4	4	1	0.2	Quad A
11	P-37-013630	4	TU-1	2	0	10	1	1	1	4	7	1	0.6	Quad A
12	P-37-013630	4	TU-1	2	0	10	1	1	4	9	7	1	0.1	Quad A
13	P-37-013630	4	TU-1	2	0	10	1	5	18	4	4	1	0.8	Quad A
14	P-37-013630	4	TU-1	2	0	10	1	11	37	20	7	4	0.1	Quad A
15	P-37-013630	4	TU-1	2	0	10	1	14	44	27	7	6	25.2	Quad B
16	P-37-013630	4	TU-1	2	0	10	1	8	29	19	2	7	10.0	Quad B
17	P-37-013630	4	TU-1	2	0	10	1	8	30	19	15	1	2.5	Quad B
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23	P-37-013630	4	TU-1	2	0	10	1	1	1	4	7	1	1.7	Quad B
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26	P-37-013630	4	TU-1	2	0	10	1	1	3	9	1	1	0.2	Quad B
27	P-37-013630	4	TU-1	2	0	10	1	1	4	9	7	4	0.7	Quad B
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33	P-37-013630	4	TU-1	2	0	10	1	5	18	11	3	1	1.3	Quad B

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43	P-37-013630	6	STP-1	3	0	20	1	1	4	11	7	9	1.5	
44	P-37-013630	6	STP-1	3	0	20	1	1	3	11	1	2	1.0	
45	P-37-013630	6	STP-2	3	0	20	1	8	29	19	7	3	7.4	
46	P-37-013630	6	STP-2	3	0	20	1	11	37	20	7	28	4.4	
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53	P-37-013630	6	STP-2	3	0	20	1	1	2	9	7	1	0.1	
54	P-37-013630	6	STP-2	3	0	20	1	1	4	11	7	6	0.6	
55	P-37-013630	6	STP-2	3	0	20	1	1	3	11	1	7	2.5	
56	P-37-013630	6	STP-2	3	0	20	1	5	18	18	4	1	0.6	
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61	P-37-013630	6	STP-2	3	20	30	1	1	4	18	7	10	3.1	
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63	P-37-013630	6	STP-2	3	20	30	1	1	4	4	7	1	0.5	
64	P-37-013630	6	STP-2	3	20	30	1	1	3	4	4	2	2.2	
65	P-37-013630	6	STP-2	3	20	30	1	1	1	4	4	1	0.2	
66	P-37-013630	6	STP-2	3	20	30	1	1	4	9	7	1	0.1	
67	P-37-013630	6	STP-2	3	20	30	1	1	3	9	4	1	0.1	

68	P-37-013630	6	STP-2	3	20	30	1	1	4	11	7	1	0.1	
69	P-37-013630	6	STP-3	3	0	20	1	8	29	19	16	3	7.1	
70	P-37-013630	6	STP-3	3	0	20	1	11	37	20	7	5	5.0	
71	P-37-013630	6	STP-3	3	0	20	1	7	27	6	7	1	85.8	
72	P-37-013630	6	STP-3	3	0	20	1	1	4	11	7	2	0.1	
73	P-37-013630	6	STP-3	3	0	20	1	1	1	11	4	1	0.5	
74	P-37-013630	6	STP-3	3	0	20	1	1	2	10	4	1	1.7	
75	P-37-013630	6	STP-3	3	0	20	1	1	3	9	1	1	0.2	
76	P-37-013630	6	STP-3	3	0	20	1	1	4	18	7	2	0.3	
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78	P-37-013630	6	STP-3	3	20	30	1	8	29	19	16	4	11.6	
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80	P-37-013630	6	STP-3	3	20	30	1	1	3	18	1	2	5.1	
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82	P-37-013630	6	STP-3	3	20	30	1	1	4	11	7	1	1.6	
83	P-37-013630	6	STP-3	3	20	30	1	1	3	11	4	1	0.3	
84	P-37-013630	6	STP-3	3	20	30	1	1	3	9	1	1	0.1	
85	P-37-013630	6	STP-4	3	0	20	1	1	3	18	7	1	0.2	
86	P-37-013630	6	STP-4	3	0	20	1	1	3	9	7	1	0.1	
87	P-37-013630	4	TU-1	2	0	10	1	5	17	9	8	1	0.1	Quad A

CATNO	SITE	RTYPE	UNO	USIZE	TOPLEV	BOTLEV	SCREEN	CLASS	OBJECT	MAT	COND	CT	WT	COMMENTS
1	P-37-036497	6	STP-1	3	0	20	1	7	27	6	7	1	92.2	Not an artifact
2	P-37-036497	6	STP-2	3	0	0	1	7	27	6	7	1	62.1	
3	P-37-036497	6	STP-2	3	0	20	1	1	4	18	7	1	0.2	
4	P-37-036497	6	STP-2	3	0	20	1	1	3	18	4	1	14.7	
5	P-37-036497	6	STP-2	3	0	20	1	1	2	18	1	1	31.8	