APPENDIX F

Cultural Resources Inventory/ Evaluation Report

DRAFT
Cultural Resources Inventory/Evaluation Report for the Municipal Waterways Maintenance Plan City of San Diego Project #616992

Prepared for:

The City *of* SAN DIEGO

Transportation & Storm Water Department
Storm Water Division – Operations & Maintenance Section
2781 Caminito Chollas, MS46
San Diego, California 92105
Contact: Anne Jarque

Prepared by:

DUDEK
605 Third Street
Encinitas, California 92024
Matthew DeCarlo, MA; Brad Comeau, MSc, RPA; and Micah J. Hale, PhD, RPA

Matthew H. DeCarlo

NOVEMBER 2019

Printed on 30% post-consumer recycled material.

Cultural Resources Inventory/Evaluation Report for the Municipal Waterways Maintenance Plan

TABLE OF CONTENTS

SECTION **PAGE NO.**

TABLE OF CONTENTS (CONTINUED)

SECTION **PAGE NO.**

APPENDICES

TABLES

TABLE OF CONTENTS (CONTINUED)

PAGE NO.

FIGURES

TABLE OF CONTENTS (CONTINUED)

PAGE NO.

TABLE OF CONTENTS (CONTINUED)

PAGE NO.

TABLE OF CONTENTS (CONTINUED)

PAGE NO.

TABLE OF CONTENTS (CONTINUED)

PAGE NO.

TABLE OF CONTENTS (CONTINUED)

PAGE NO.

ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
APE	area of potential effect
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
City	City of San Diego
CM	Construction Manager
CRHR	California Register of Historical Resources
DPR	California Department of Parks and Recreation
EIR	Environmental Impact Report
FMP	Facility Maintenance Plan
MMP	Master Storm Water System Maintenance Program
MLD	Most Likely Descendant
MMC	Mitigation Monitoring Coordination
MWMP	Municipal Waterways Maintenance Plan
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
PA	Programmatic Agreement
PI	Principal Investigator
PRC	California Public Resources Code
RE	resident engineer
SCIC	South Coastal Information Center
SHPO	State Historic Preservation Officer
TCR	Tribal Cultural Resource

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

NATIONAL ARCHAEOLOGICAL DATABASE INFORMATION

Authors:	Matthew DeCarlo, MA; Brad Comeau, MSc; Micah J. Hale, PhD, RPA
Firm:	Dudek
Project Proponent:	City of San Diego – Transportation & Storm Water Department
Report Date:	October 2019
Report Title:	Cultural Resources Inventory/Evaluation Report for the Municipal Waterways Maintenance Plan, City of San Diego, San Diego County, California
Type of Study:	Cultural Resources Inventory and Evaluation
Resources:	P-37-000580, P-37-005017, P-37-007208, P-37-010669, P-37-011165, P-37-012091, P-37-013002, P-37-013072, P-37-016029, P-37-025706, P-37-025853, P-37-031491, P-37-031737
U.S. Geological Survey Quads:	Del Mar, CA (1994); Escondido, CA (1996); Imperial Beach, CA (1996); La Jolla, CA (1996); La Mesa, CA (1994); National City, CA (1996); Otay Mesa, CA (1996); Point Loma, CA (1975); Poway, CA (1996); Township 13 South: Range 2 West; Township 14 South: Range 1 West, 2 West, 3 West; Township 15 South: Range 2 West, 3 West, 4 West; Township 16 South: Range 1 West, 2 West, 3 West, 4 West; Township 17 South: Range 1 West, 2 West; Township 18 South: Range 1 West, 2 West; Township 19 South: Range 1 West, 2 West
Acreage:	1,018.1
Permit Numbers:	Not Applicable
Keywords:	City of San Diego; storm water; routine maintenance plan

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

MANAGEMENT SUMMARY

The City of San Diego's (City) Transportation & Storm Water Department is preparing an Environmental Impact Report (EIR) to address the potential significant environmental effects resulting from implementation of the proposed *Municipal Waterways Maintenance Plan* (MWMP). The proposed MWMP is intended to establish an effective and streamlined program that allows for waterway facilities (channels/ditches, basins, and structures) to be maintained, thus reducing flood risk while minimizing impacts and potential adverse effects of maintenance. The City contracted with Dudek to initiate the processing of an EIR. As a requirement of the EIR, this cultural resource evaluation was conducted for the MWMP's area of potential effect (APE), which includes a 100-foot buffer around all potential MWMP project facilities, staging areas, and access areas (69 facility groups). Historical built environment resources, including facilities that are older than 45 years, are considered in a separate report titled *Historical Resources Inventory/Evaluation Report for the Municipal Waterways Maintenance Plan, City of San Diego, San Diego County, California* (Dudek 2019).

Maintenance of the waterway facilities was governed by the Master Storm Water System Maintenance Program (MMP). In 2013, the City developed the MMP to govern channel operation and maintenance activities. Since the MMP was last updated, the *Madera Oversight Coalition vs. County of Madera* court ruling determined that, under the California Environmental Quality Act, identification of potential historical resources and evaluation of their significance cannot be deferred. To comply with these new regulations, Dudek has updated the MMP's technical report. The MWMP and this cultural resource report replaces the MMP and its governing archaeological resources analysis, respectively.

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 1,179 studies have been previously conducted within 0.25 miles of the MWMP APE. Of these, 314 studies inventoried portions of the MWMP APE. These previous studies have identified 347 cultural resources within 0.25 mile of the MWMP APE. Of these, 31 cultural resources fall within the APE.

To determine the cultural sensitivity of the MWMP APE, this inventory reviewed previous studies of the MWMP facilities conducted under the MMP. Additionally, Dudek requested a search of the Native American Heritage Commission Sacred Lands File. The search identified culturally sensitive areas within the MWMP APE. Dudek also contacted local Native American representatives to determine if any Tribal Cultural Resources were present. To date, no Tribal Cultural Resource locations have been specified by the Native American representatives. Tribal consultation in accordance with Assembly Bill 52 has been completed by the Planning Department.

The MWMP APE is located in a highly developed area and it was determined prior to field work that survey of the entire APE would be unnecessary. By cross-referencing cultural resource site records and historical aerial photography, Dudek identified 11 MWMP facilities that intersect cultural resources that may not have been completely disturbed. On October 20 and November 14, 2017, and April 16, 2018, a Dudek archaeologist visited several MWMP facilities to determine the cultural sensitivity and the extent of previous ground disturbance.

Depending on the cultural sensitivity of an area, previous development, and the invasiveness of the maintenance activity, many facilities can undergo specific maintenance activities without risk of impact to cultural resources. This negates the need to conduct additional cultural resource review to identify and mitigate potential cultural resource impacts for those particular facilities. By conducting this inventory/evaluation, Dudek has determined the cultural resource sensitivity of each of the potential MWMP project facilities and the potential of each proposed maintenance activity to disturb archaeological deposits. Dudek used the results of this inventory/evaluation to design an MWMP Facility Maintenance Plan that identifies which facilities and maintenance activities do not require further cultural resource review. Due the complex variables that must be considered, a list of review-exempt maintenance activities would not be sufficient to identify non-exempt activities at each MWMP facility. Therefore, Dudek created an archaeological review matrix to specify which maintenance activities are exempt at which MWMP facility. The archaeological review matrix would help streamline the City's archaeological resources review process for all facilities in this study (see Table 4 in Section 5.4, Archaeological Review Matrix, of this report). The archaeological resource review matrix eliminates the majority of archaeological resource review required for routine maintenance of facilities located in previously disturbed soils. For those MWMP project facilities and activities that do require subsequent archaeological resource review, including on-site monitoring during maintenance, mitigation measures are proposed to reduce the potential for impact below a level of significance, in accordance with the City's Historical Resource Guidelines (City of San Diego 2001).

1 PROJECT DESCRIPTION AND LOCATION

The City of San Diego's (City) Transportation & Storm Water Department is preparing an Environmental Impact Report (EIR) to address the potential significant environmental effects resulting from the implementation of the proposed *Municipal Waterways Maintenance Plan* (MWMP). The proposed MWMP is intended to establish an effective and streamlined program that allows for waterway facilities (channels/ditches, basins, and structures) to be maintained, thus reducing flood risk while minimizing impacts and potential adverse effects of maintenance. The proposed MWMP outlines specific activities, maintenance methods, and procedures to guide future maintenance and repair activities.

The City contracted Dudek to initiate the processing of an EIR. As a requirement of the EIR, this cultural resources inventory/evaluation was conducted for the MWMP's area of potential effect (APE) for facilities identified as potentially requiring project-level maintenance (i.e., facility selection list). This report describes the results of that inventory and evaluates the proposed MWMP maintenance activities to determine their potential to impact cultural resources. The potential of impact would determine the level of further archaeological review necessary before conducting future maintenance activities. In accordance with the City of San Diego Historical Resources Guidelines, separate technical reports are required for the cultural and historical resources.

Maintenance of the waterway facilities was governed by the Master Storm Water System Maintenance Program (MMP). In 2013, the City developed the MMP to govern channel operation and maintenance activities in an efficient, economic, environmentally and aesthetically acceptable manner to provide flood control for the protection of life and property. The cultural resources report for the MMP (Affinis 2011) identifies a specific planning, impact assessment and mitigation process for channel maintenance activities within portions of the jurisdiction of the City. Since the Affinis report was last updated, the *Madera Oversight Coalition vs. County of Madera* court ruling determined that, under the California Environmental Quality Act (CEQA), identification of potential historical resources and evaluation of their significance cannot be deferred. To comply with these new regulation, Dudek updated this technical report to include a screening matrix to identify the maintenance activities that have the potential to cause impacts to cultural resources and that would require additional identification, evaluation, and potential treatment measures. The MWMP matrix also identifies those activities that would be considered exempt from additional cultural review. The MWMP and this cultural resources report replaces the MMP and its governing archaeological resources analysis (Affinis 2011), respectively.

The City's municipal storm water system is distributed throughout the 342-square-mile metropolitan area (Figure 1, Overview, and Figures 1-1 through 1-12, Project Location Maps, provided at the end

of this report). The system conveys storm water runoff from natural and developed areas to receiving waters. Major drainage systems are (from north to south) Los Peñasquitos Canyon Creek, Rose Canyon Creek, San Diego River, Alvarado Canyon Creek, Chollas Creek, Otay River, Nestor Creek, and Tijuana River. The City's jurisdiction spans eight watersheds s: San Dieguito River, Los Peñasquitos, Mission Bay, San Diego River, Pueblo San Diego, Sweetwater, Otay, and Tijuana River. The MWMP APE is located in the following California U.S. Geological Survey 7.5-minute topographic quadrangles: Del Mar, Escondido, Imperial Beach, La Jolla, La Mesa, National City, Otay Mesa, Point Loma, and Poway.

Maintenance and repairs are important components of operating the storm water conveyance system and providing reliable flood risk reduction throughout the City. Many storm water facilities were originally designed to require ongoing maintenance and repair. For example, concrete-lined trapezoidal channels are often designed to convey the 100-year storm event, but if sediment accumulates in the channels and vegetation establishes within the sediment, the conveyance capacity is often reduced, and adjacent developed properties are at greater risk of flooding. In other cases, storm water facilities damaged during large storm events require repair (e.g., replacement of broken concrete lining or dislodged riprap) to continue to provide safe storm water conveyance according to the original facility design. Finally, there are areas of the City where development or conditions have changed within the watershed, resulting in greater or faster storm water flows than predicted during the facility design, or the original design does not meet current standards. In these cases, a Capital Improvement Program project is often needed to address the potential flood risk that exists or erosion potential due to a design that no longer meets the needs of the surrounding area; however, maintenance (removal of accumulated vegetation and sediment) may help alleviate the flood risk on an interim basis until a Capital Improvement Program project can be designed and constructed.

The following are the primary objectives of the MWMP:

- Public safety and flood risk reduction
    - Protect life and property adjacent to, downstream, and upstream of affected channels from flooding and environmental degradation.
- Responsiveness to reduce flood risk
    - Provide for timely and consistent routine operations and maintenance in the affected channels and associated storm water conveyance infrastructure.
- Avoid, minimize, and/or mitigate potential effects to environmental resources
    - Avoid, minimize, and/or mitigate significant adverse environmental effects resulting from routine maintenance of storm water facilities.

  - Incorporate and adapt to water quality management strategies intended to protect water quality and address flooding impacts.
- Proactive and timely approval process
  - Provide project-level analysis upfront to expedite subsequent authorizations for routine and preventive maintenance activities within storm water facilities.
  - Identify a review-and-approval process to include additional storm water facilities and maintenance activities that follow the protocols and requirements of the MWMP.
  - Reduce the need to conduct emergency maintenance during significant storm events by implementing preventive maintenance activities.

As stated above, the objectives of the MWMP require the ability for the City's Transportation & Storm Water Department to be responsive to newly identified flood risks while also streamlining approvals for routine preventive maintenance that reduces flood risks. To accomplish this, the MWMP identifies the following:

1. A range of plan-wide activities that may occur throughout the storm water system where flood risks may arise and that would be conducted in accordance with a regulatory framework identified under the MWMP and associated permits.
2. A list of Facility Maintenance Plans (FMPs) that provide specific details and requirements for the majority of facilities that are likely to require routine maintenance and repair.

Together, these two components provide operational flexibility while also providing specific detailed analysis for the majority of anticipated maintenance and repair activities to streamline the review and approval process.

This technical report was drafted based on a facility evaluation list of 69 facility groups. Of those facility groups, the MWMP proposes FMPs for 66 facility groups. This technical report provides a project-level analysis for those proposed FMPs. The conclusions of this project-level analysis may be used to analyze additional similar or related activities identified for a program-level analysis in the MWMP program area; however, such program-level analysis is not included in this technical report.

Figure 1 and Figures 1-1 through 1-12 illustrate two groups of facilities: those on the facility evaluation list and additional facilities within storm water conveyance system:

1. **Facility Evaluation List.** These are facilities where routine maintenance is most likely to be needed (potential MWMP project facilities). All of these facilities were evaluated to determine if an FMP would be proposed under the MWMP. The APE encompasses all of these facilities

plus associated staging, access, loading, and stockpiling areas. These facilities are represented in Figures 1-1 through 1-12 as follows:

a. Project FMPs (identified in yellow)

b. Project Facilities Evaluated (No FMP Proposed) (identified in blue with black outline)

2. **Additional Facilities Subject to Limited Program-Level Activities.** These are additional facilities monitored annually that are the most likely locations where additional programmatic activities may occur. These facilities are identified in blue in Figures 1-1 through 1-12. These facilities are not analyzed in this technical report, but the conclusions of this report may be used to develop a program-level analysis for similar or related activities.

In addition to the footprint of the potential MWMP project facilities, work staging areas and crew access routes were also inventoried. To ensure that all potentially impacted archaeological resources are identified, the current APE includes a 100-foot-wide buffer around all proposed facilities, staging areas, and access routes (see Figures 2A–2C, APE Map Overview, and Figures 2-1 through 2-157, APE Maps). Large portions of the APE are located within highly developed areas, and access to the entirety of the linear facilities was impossible. As such, a pedestrian survey was deemed to be unnecessary in highly developed areas of the APE. Only sections of the APE with adjacent cultural resources were subject to site visits (see Chapter 3, Methods).

This report documents the results of the MWMP archaeological resources inventory, including a records search, site visits, and Native American participation. The goal of this inventory/evaluation is to provide data to the City to aid the development of the MWMP and determine which MWMP project facilities and maintenance activities require further archaeological review.

1.1 REGULATORY CONTEXT

The proposed MWMP 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 the MWMP.

1.1.1 36 CFR 800 AND SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT

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 USC 470f).

Title 36 of the 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 Code of Federal Regulations (CFR) Section 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 as those outlined under 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 (36 CFR 60.4):

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.

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's 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 (36 CFR Part 800.5(1)):

> An undertaking may alter, directly or indirectly, any of the characteristics of a historic property hat 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.

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.

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 (PRC) Section 5020.1(j)). In 1992, the California legislature established the California Register of Historical Resources (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" (PRC 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 (PRC Section 5024.1(c)):

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.

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 (PRC 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 be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the Native American Heritage Commission (NAHC) to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resources 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 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 NAHC within 24 hours (California Health and Safety Code Section 7050.5c). The NAHC will notify the Most Likely Descendant (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.

1.1.6 CALIFORNIA ENVIRONMENTAL QUALITY ACT

As lead agency, the City (i.e., its Transportation & Storm Water Department) is responsible for the MWMP's compliance with CEQA. As described further below, the following CEQA statutes and CEQA Guidelines are relevant to the analysis of archaeological and historic resources:

1. PRC Section 21083.2(g): Defines "unique archaeological resource."
2. PRC 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. PRC Section 21074 (a): defines "Tribal cultural resources" and Section 21074(b): defines a "cultural landscape."
4. PRC 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. PRC 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.

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" (PRC 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 PRC Section 5024.1(q)).

CEQA also applies to "unique archaeological resources." PRC 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 52 to apply to "tribal culture resources" as well. Specifically, PRC Section 21074 provides guidance for defining tribal cultural resources as either of the following:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following: (A) Included or determined to be eligible for inclusion in the California Register of Cultural Resources. (B) Included in a local register of cultural resources as defined in subdivision (k) of § 5020.1.
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of § 5024.1. In applying the criteria set forth in subdivision (c) 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 (PRC 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 (PRC 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 (PRC 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); PRC Section 5020.1(q)). In turn, according to 14 CCR 15064.5(b)(2), 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.

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 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, PRC Sections 21083.2(b)(1)–21083.2(b)(4) states the following:

> [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.

If these "preservation in place" options are not feasible, mitigation may be accomplished through data recovery (PRC Section 21083.2(d); 14 CCR 15126.4(b)(3)(C)). PRC Section 21083.2(d) states the following:

> Excavation 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;
   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.

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 PRC Section 5097.98.

1.1.7 CITY OF SAN DIEGO SIGNIFICANCE DETERMINATION THRESHOLDS

As lead agency, the City (i.e., Transportation & Storm Water Department) implements its *California Environmental Quality Act (CEQA) Significance Determination Thresholds* (City of San Diego 2016) to assess whether a proposed project may have a significant effect on the environment under Section 21082.2 of CEQA. Included in this document are the Initial Study Checklist Questions and Significance Thresholds.

Initial Study Checklist Questions

1. An alteration, including the adverse physical or aesthetic effects and/or the destruction of a prehistoric or historic building (including an architecturally significant building), structure, or object or site?
2. Any impact to existing religious or sacred uses within the potential impact area?
3. The disturbance of any human remains, including those interred outside of formal cemeteries?

Significance Thresholds

Federal, state, and local criteria have been established for the determination of historical resource significance. The Historical Resources Regulations of the Land Development Code pertain only to historical resources that meet the definitions contained in Chapter 11, Article 3, Division 1 of the code and may differ from the definition of historical resources in these Guidelines and from a determination of significance under CEQA.

1.1.8 CITY OF SAN DIEGO HISTORICAL RESOURCES REGULATIONS

The Historical Resources Regulations of the Land Development Code (Chapter 14, Article 3, Division 2; City of San Diego 2018) states the following:

> The purpose of these regulations is to protect, preserve and, where damaged, restore the historical resources of San Diego, which include historical buildings, historical structures or historical objects, important archaeological sites, historical districts,

> historical landscapes, and traditional cultural properties. These regulations are intended to assure that development occurs in a manner that protects the overall quality of historical resources. It is further the intent of these regulations to protect the educational, cultural, economic, and general welfare of the public, while employing regulations that are consistent with sound historical preservation principles and the rights of private property owners.

The City's General Plan Program EIR states the following (City of San Diego 2008):

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

Section 143.0212 of the Historical Resources Regulations dictates the need for site-specific survey and to determine the presence of cultural resources. Should the City Manager determine that a site-specific survey is require, that survey would be conducted consistent with the Historical Resources Guidelines of the Land Development Manual.

The City of San Diego Historical Resources Guidelines (City of San Diego 2001) outlines its purpose as follows:

> The purpose of this document is to provide property owners, the development community, consultants and the general public with explicit guidelines for the management of historical resources located within the jurisdiction of the City of San Diego. These guidelines are designed to implement the City's Historical Resources Regulations contained in the Land Development Code (Chapter 14, Division 3, Article 2) in compliance with applicable local, state and federal policies and mandates, including, but not limited to, the City's Progress Guide and General Plan, the California Environmental Quality Act of 1970, and Section 106 of the National Historic Preservation Act of 1966. The intent of the guidelines is to ensure consistency in the management of the City's historical resources, including identification, evaluation, preservation/mitigation and development.

The City's Historical Resources Guidelines (City of San Diego 2001) observe the following:

> Historical resources include all properties (historic, archaeological, landscapes, traditional, etc.) eligible or potentially eligible for the National Register of Historic Places, as well as those that may be significant pursuant to state and local laws and registration programs such as the California Register of Historical Resources or the City of San Diego Historical Resources Register. 'Historical resource' means site improvements, buildings, structures, historic districts, signs, features (including significant 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 the 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. Historical resources also include traditional cultural properties. The following definitions are based, for the most part, on California's Office of Historic Preservation's (OHP) Instructions for Recording Historical Resources and are used to categorize different types of historical resources when they are recorded.

In general, the City's Historical 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. To apply the criteria and determine the significance of potential project impacts to a cultural resource, the APE of that 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 this technical report. Matthew DeCarlo, MA, served as field director and co-authored this technical report. Brad Comeau, MSc, RPA, served as a contributing author (see Appendix A for personnel qualifications). Clint Linton of Red Tail Monitoring and Research Inc. participated in the records search analysis and aided in the identification of culturally sensitive MWMP facility locations. Already familiar with the MWMP facilities, Mr. Linton determined that his presence during the site visits was not necessary to assess possible impacts to Tribal Cultural Resources (TCRs).

1.3 REPORT STRUCTURE

Following this introduction, an environmental and cultural context is provided for characterizing cultural resources. Next, inventory methods are reviewed. A description of the records search and site visit results follow, including descriptions of facility adjacent archaeological resources. The following section evaluates the archaeological sensitivity of the MWMP facilities, the impact potential of the proposed maintenance activities, and presents the archaeological review matrix. Recommendations and management considerations then follow. Two sets of appendices (confidential and non-confidential) are attached. The non-confidential appendices include Appendix A, Project Personnel Qualifications, and Appendix C, NAHC Sacred Lands File Search Results and Tribal Correspondence. The confidential appendices include Appendix B, South Coastal Information Center Records Search Results; Appendix D, Updated DPR Site Records; and Appendix E, Resources in APE Location Maps and Field Photographs.

2 SETTING

2.1 NATURAL SETTING

The MWMP facilities are located throughout the City of San Diego in San Diego County. The MWMP APE extends from its southwestern boundary in the Tijuana River Valley to its northeastern boundary in Rancho Bernardo. The elevation of the MWMP program area ranges from approximately 40 feet above mean sea level at facilities on the La Jolla shoreline to 500 feet above mean sea level at channels near the base of Cowles Mountain. Each of the waterway channels and drain structures are associated with larger watersheds which have been divided into eight watersheds: San Dieguito River, Los Peñasquitos, Mission Bay, San Diego River, Pueblo San Diego, Sweetwater, Otay, and Tijuana River. The MWMP facilities are located in or immediately adjacent to developed urban areas.

For detailed discussion relating to the environmental context of this area, please consult the biological resources, hydrology, and other technical reports prepared for the MWMP.

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). Native American aboriginal lifeways did not cease at European contact. “Protohistoric” refers to the chronological trend of continued Native American aboriginal lifeways at the cusp of the recorded historic period in the Americas. The tribal cultural context spans all of the archaeologically based chronologies, further described below.

2.2.1 TRIBAL CULTURAL CONTEXT

The Kumeyaay (also known as the Ipay/Tipay) have roots that extend thousands of years in what is now San Diego County and northern Baja California. The pre-contact cultural sequences are locally characterized by the material culture recovered during archaeological investigations as early as the 1920s, and through early accounts of Native American life in the San Diego region, recorded as a means to salvage scientific knowledge of native lifeways. The best information of

Native American lifeways, however, comes from the Kumeyaay themselves, from the stories and songs passed down through the generations, in their own words. According to ethnographies based on interviews with local tribal elders, there are hundreds of words that describe a given landform, showing a close connection with nature. There are also stories associated with the land. The San Diego area in general, including Old Town, the San Diego River Valley, and the City as it existed as late as the 1920s, was known as *qapai* (meaning uncertain). According to Kumeyaay elder Jane Dumas, some native speakers referred to what is now Interstate 8 as *oon-ya*, meaning trail or road, describing one of the main routes linking the interior of San Diego to the coast. The Kumeyaay are the identified Most Likely Descendants for all Native American human remains found in the City.

2.2.2 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 P-37-004669 (CA-SDI-4669), in La Jolla. A human burial from P-37-004669 was radiocarbon dated to 9,590–9,920 years before present (approximately 95% probability) (Hector 2007). The burial is part of a larger site complex that contained more than 29 human burials associated with an assemblage that fits the Archaic profile (i.e., large amounts of groundstone, battered cobbles, and expedient flake tools). In contrast, typical Paleoindian assemblages include large stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of groundstone tools. Prime examples of this pattern are sites that were studied by Emma Lou Davis (1978) on China Lake Naval Air Weapons Station near Ridgecrest, California. These sites contained fluted and unfluted stemmed points and large numbers of formal flake tools (e.g., shaped scrapers, blades). Other typical Paleoindian sites include the Komodo site (MNO-679)—a multicomponent fluted point site, and MNO-680—a single component Great Basin 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 P-37-000210 (CA-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). P-37-000210 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 P-37-000149 (CA-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 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).

2.2.3 ARCHAIC (8000 BC–AD 500)

The more than 1500-year overlap between the presumed age of Paleoindian occupations and the Archaic period highlights the difficulty in defining a cultural chronology in the San Diego region. If San Dieguito is the only recognized Paleoindian component in the San Diego region, then the

dominance of hunting tools implies that it derives from Great Basin adaptive strategies and is not necessarily a local adaptation. Warren et al. (2004) admitted as much, citing strong desert connections with San Dieguito. Thus, the Archaic pattern is the earliest local socioeconomic adaptation in the San Diego region (Hale 2001, 2009).

The Archaic pattern is relatively easy to define with assemblages that consist primarily of processing tools: millingstones, handstones, battered cobbles, heavy crude scrapers, incipient flake-based tools, and cobble-core reduction. These assemblages occur in all environments across the San Diego region, with little variability in tool composition. Low assemblage variability over time and space among Archaic sites has been equated with cultural conservatism (Byrd and Reddy 2002; Warren 1968; Warren et al. 2004). Despite enormous amounts of archaeological work at Archaic sites, little change in assemblage composition occurs until the bow and arrow is adopted at around AD 500, as well as ceramics at approximately the same time (Griset 1996; Hale 2009). Even then, assemblage formality remains low. After the bow is adopted, small arrow points appear in large quantities and already low amounts of formal flake tools are replaced by increasing amounts of expedient flake tools. Similarly, shaped millingstones and handstones decrease in proportion relative to expedient, unshaped groundstone tools (Hale 2009). Thus, the terminus of the Archaic period is equally as hard to define as its beginning because basic assemblage constituents and patterns of manufacturing investment remain stable, complimented only by the addition of the bow and ceramics.

2.2.4 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 (Rogers 1945; Wallace 1955; Warren et al. 2004). However, several other subdivisions continue to be used to describe various shifts in assemblage composition, including the addition of ceramics and cremation practices. In northern San Diego County, the post-AD 1450 period is called the San Luis Rey Complex (True 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.

2.2.5 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 1846; Fages 1937; Geiger and Meighan 1976; Harrington 1934; Laylander 2000). The principal intent of these researchers was to record the precontact, culturally specific practices, ideologies, and languages that had survived the destabilizing effects of missionization and colonialism. This research, often understood as "salvage ethnography," was driven by the understanding that traditional knowledge was being lost due to the impacts of modernization and cultural assimilation. Alfred Kroeber applied his "memory culture" approach (Lightfoot 2005, p. 32) by recording languages and oral histories within the San Diego region. Kroeber's 1925 assessment of the impacts of Spanish missionization on local Native American populations supported Kumeyaay traditional cultural continuity (Kroeber 1925, p. 711):

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

In some ways this interpretation led to the belief that many California Native American groups simply escaped the harmful effects of contact and colonization all together. This, of course, is untrue. Ethnographic research by Dubois, Kroeber, Harrington, Spier, and others during the early twentieth century seemed to indicate that traditional cultural practices and beliefs survived among local Native American communities. These accounts supported, and were supported by, previous governmental decisions that 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. Shipek (Shipek 1991, as summarized in County of San Diego 2007, p. 6):

> 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.

Based on ethnographic information, it is believed that at least 88 different languages were spoken from Baja California Sur to the southern Oregon state border at the time of Spanish contact (Johnson and Lorenz 2006, p. 34). The distribution of recorded Native American languages has been dispersed as a geographic mosaic across California through six primary language families (Golla 2007, p. 71). Based on the MWMP facility locations, 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 (Laylander 2010; Luomala 1978).

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 then 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 (Pigniolo 2004; True 1966).

The Kumeyaay generally lived in smaller family subgroups that would inhabit two or more locations over the course of the year. While less common, there is sufficient evidence that there were also permanently occupied villages, and that some members may have remained at these locations throughout the year (Owen 1965; Shipek 1982, 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; Pigniolo 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 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).

2.2.6 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 contact 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 that, 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. 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.

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 that 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-fabricated 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 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 Little Landers 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 as the State Normal School in the 1920s, followed by development of the College and Navajo communities. Farming and ranching was active in Mission Valley until the middle portion of the twentieth century, when the uses were converted to commercial and residential. Dairy farms and chicken ranches could be found adjacent to the San Diego River where motels, restaurants, office complexes, and regional shopping malls exist today. 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 with commercial mixed-use and residential on moderate-sized lots.

Tierrasanta, previously owned by the United States Navy, was developed in the 1970s and 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.

3 METHODS

To determine the cultural sensitivity of waterway facility locations, this study synthesizes all previously conducted cultural resource studies concerning the MWMP APE. The analysis of this information has enabled Dudek to make recommendations for the MWMP that would reduce possible impacts to cultural resources and potential effects to cultural resources. Because segments of the MWMP APE are located in highly developed areas and because the waterway facilities have been previously analyzed, much of the APE has been previously inventoried. Below is a description of how the current study analyzed previous records, spatial information, and historic aerial photographs, and conducted field visits to help develop an MWMP that complies with federal, state, and local cultural resources regulations.

3.1 BACKGROUND RESEARCH

An examination of existing maps, records, and reports was conducted by Dudek to assure the MWMP avoided potential impacts to previously recorded cultural resources. Dudek conducted a records search on April 17, 2017, April 11, 2018, and September 14, 2018, of data obtained from the South Coastal Information Center (SCIC) at San Diego State University. The search encompassed the APE and a 0.25-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 MWMP program area and to identify previous studies in the vicinity. In addition to a review of previously prepared site records and reports, the records search also reviewed historical maps of the MWMP program 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.

3.2 AERIAL PHOTOGRAPH ANALYSIS

Dudek conducted an examination of the MWMP facilities on aerial photographs and satellite images. This analysis showed the current level of development surrounding the MWMP facilities and adjacent property. The level of development contributes to the cultural sensitivity of the area and the facilities. Those areas that are completely paved or landscaped are unlikely to have cultural resources on the surface. Maintenance activities at MWMP facilities located adjacent to undeveloped land are more likely to encounter cultural resources.

The SCIC records showed that several MWMP facilities bisect previously recorded cultural resources. Dudek consulted aerial photographs from Historicaerials.com to determine if the facilities and surrounding area were developed before or after the resource was recorded. In some cases, these

aerial maps show that the resource has been completely destroyed or overlain by construction of the facility or adjacent development.

3.3 SITE RECONNAISSANCE

Site visits of the MWMP facilities were conducted on October 23 and November 14, 2017, April 16, 2018, and September 19, 2018. The MWMP APE is located in a highly developed area and it was determined prior to field work that survey of the entire APE would be unnecessary. Many of the MWMP facilities are surrounded by buildings, pavement, and landscaping, obscuring any remnants of archaeological sites. The aerial photograph analysis indicated which segments of the MWMP APE have been completely developed and would be unnecessary to visit. A Dudek archaeologist instead visited portions of the APE where ground surface was visible and archaeological resources were previously identified. The archaeologist did not survey portions of the APE that were inaccessible due to private property restrictions or were so densely vegetated that ground visibility was completely obscured.

An iPad Air with georeferenced MWMP facility maps and GPS capabilities accompanied the archaeologist during the site visits. Records of sites previously identified within the APE were loaded onto the iPad for field reference. Fieldwork was conducted by Dudek archaeologist Matthew DeCarlo. An invitation to join the field visits as a Native American Monitor was extended to Red Tail Monitoring and Research Inc. manager Clint Linton. Considering his familiarity with the waterway facilities and their low resource potential, Mr. Linton declined the invitation.

Access and visibility varied greatly at each of the visited MWMP facilities. Access to some facilities was blocked by private property or active roadways. Other facilities were surrounded by dense brush, completely obscuring the ground surface.

Documentation of cultural resources was compiled 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 site updates required for this evaluation were recorded on California Department of Parks and Recreation (DPR) Form DPR 523 (Series 1/95), using the *Instructions for Recording Cultural Resources* (Office of Historic Preservation 1995). Copies of existing site records were present during site visits to compare against the existing site status.

4 RESULTS

4.1 ARCHAEOLOGICAL RECORDS SEARCH

4.1.1 SOUTH COASTAL INFORMATION CENTER RECORDS SEARCH

The search of the SCIC records identified 347 cultural resources within 0.25 miles of the APE. Of the 347 identified, 31 archaeological resources fall within the APE (see Table 1, Cultural Resources in Area of Potential Effect, and Confidential Appendix B). The prehistoric sites include eight artifact scatters, one shell scatter, a collection of hearths, and six habitation sites. The historic-period sites include a road, a ranch or homestead complex; a redwood flume segment; a locally designated pottery site that includes a kiln, two single-family residences, a pottery production building, and a drying shed; and four refuse dumps. Six of the resources have previously been evaluated and recommended eligible for listing on the CRHR or NRHP. Two of the resources have been listed on the City of San Diego Historical Resources Register, five have been recommended not eligible or not possessing further research potential, and three sites have been completely destroyed. The remaining resources have not been evaluated.

Table 1
Cultural Resources in Area of Potential Effect

Label	Trinomial	Intersects	Era	Description	Evaluation Status
P-37-000580	CA-SDI-580	Yes	Prehistoric	Prehistoric artifact scatter	Not evaluated
P-37-000581	CA-SDI-581	Yes	Prehistoric	Prehistoric artifact scatter	Not evaluated
P-37-001010	CA-SDI-1010	Within 100 feet	Prehistoric	Lithic scatter	No longer extant
P-37-002611	CA-SDI-2611	Within 100 feet	Prehistoric	Lithic artifact scatter	Not evaluated
P-37-004609	CA-SDI-4609	Yes	Prehistoric	Prehistoric village	Recommended eligible
P-37-005017	CA-SDI-5017	Yes	Prehistoric	Prehistoric habitation site	Recommended eligible
P-37-005605	CA-SDI-5605	Yes	Prehistoric	Lithic scatter	Not evaluated
P-37-007208	CA-SDI-7208	Yes	Prehistoric	Prehistoric lithic artifact scatter	Not evaluated
P-37-010669	CA-SDI-10669	Yes	Prehistoric	Prehistoric lithic and shell scatter	Does not possess further

Table 1
Cultural Resources in Area of Potential Effect

Label	Trinomial	Intersects	Era	Description	Evaluation Status
					research potential
P-37-011055	CA-SDI-11055	Within 100 feet	Prehistoric	Prehistoric hearth and artifact scatter	Not evaluated
P-37-011165	CA-SDI-11165	Yes	Prehistoric	Prehistoric habitation site	Not evaluated
P-37-012091	CA-SDI-12091	Yes	Prehistoric	Prehistoric temporary camp and shell midden	Not evaluated
P-37-012337	CA-SDI-12337	Within 100 feet	Prehistoric	Artifact scatter	Determined not eligible
P-37-013072	CA-SDI-13072	Yes	Historical	Historical residential/ranch complex	Not evaluated
P-37-013486	CA-SDI-13486	Yes	Prehistoric	Prehistoric shell and lithic scatter	Not evaluated
P-37-013527	CA-SDI-13527	Yes	Prehistoric	Prehistoric shell and lithic scatter	Not evaluated
P-37-016029	CA-SDI-14599	Yes	Prehistoric	Prehistoric habitation site	No longer extant
P-37-016297	CA-SDI-14789H	Within 100 feet	Historical	Refuse scatter	No longer extant
P-37-016659	—	Within 100 feet	Historical	San Diego Flume System	Recommended eligible
P-37-017028	CA-SDI-15067	Within 100 feet	Historical	Refuse pit	Not evaluated
P-37-018890	CA-SDI-15737	Within 100 feet	Historical	Refuse scatter	Not evaluated
P-37-025706	CA-SDI-17099	Yes	Prehistoric	Prehistoric shell scatter	Not evaluated
P-37-025853	CA-SDI-17203	Yes	Prehistoric	Prehistoric habitation site	Recommended eligible
P-37-030933	—	Within 100 feet	Historical	Isolated cow bone	Not eligible

Table 1
Cultural Resources in Area of Potential Effect

Label	Trinomial	Intersects	Era	Description	Evaluation Status
P-37-031095	CA-SDI-19721	Yes	Prehistoric	Prehistoric hearth features	Not evaluated
P-37-031491		Yes	Historical	Otay Mesa Road	Not evaluated
P-37-031737	CA-SDI-20159	Yes	Historical	Historical refuse dump	Evaluated Designated
P-37-034479	—	Yes	Historical	Pedestrian bridge	Recommended not eligible
P-37-034756	CA-SDI-21620	Within 100 feet	Historical	Kiln, two single-family residences, pottery production building, drying shed	Locally designated HRB #108
P-37-035162	—	Within 100 feet	Historical	Memorial park	Recommended not eligible
P-37-036415	—	Within 100 feet	Historical	Distribution line	Not evaluated

The records search also identified 1,179 previous archaeological studies that have been conducted within 0.25 miles of the APE. Of the 1,179 studies, 314 studies cover portions of the APE (Confidential Appendix B).

4.1.2 PREVIOUS STORM WATER STUDIES

Prior to the implementation of this proposed MWMP, archaeological reviews of maintenance to the MWMP facilities have been conducted under the MMP (Affinis 2011). The MMP stipulates mitigation measures to manage the possible impacts to archaeological resources adjacent to the MWMP facilities. Prior to commencement of the first occurrence of maintenance activities, an archaeologist must determine the potential for the presence of significant historical resources within the activity area. If the potential is high, an individual historic assessment must be prepared that includes a records search and field survey of the activity area. Depending on the findings of the records search and field survey, the archaeologist recommends avoidance, a data recovery program, or a monitoring plan.

Under the MMP, several of the MWMP facilities in the current study have undergone survey or monitoring (see Table 2, Previous MMP Survey and Monitoring Results). These efforts have yet to identify any new or previously identified archaeological resources within routine facility maintenance areas. Each study notes the highly developed or disturbed context of the facilities and the surrounding area. The data from these previous studies influenced Dudek's recommendations in Section 5.3, Activities That Do Not Require Review.

Table 2
Previous MMP Survey and Monitoring Results

MWMP Facility Group Name	MWMP Facility Segment Name-Number	Year	Report Type	Results
Nestor Creek - Nestor	30th St – 1	2017	Survey	Extensive development; no identified resources
Nestor Creek - Nestor	30th St-1/Cerissa-1/ Cedar-1/Cedar-2	2016	Survey	Extensive development; no identified resources
Alvarado Canyon Creek - Alvarado	Alvarado-1	2009	Survey	Extensive development; no identified resources
Alvarado Canyon Creek - Alvarado	Alvarado-1/Mission Gorge-1/Mission Gorge-2	2015	Survey	Extensive development; no identified resources
Alvarado Canyon Creek - Alvarado	Alvarado-1/Mission Gorge-1/Mission Gorge-2	2015	Survey	Extensive development; no identified resources; monitoring recommended
Norfolk Canyon Creek - Fairmount	Baja-1	2018	Survey	Extensive development; no identified resources
Nestor Creek – Nestor	Cedar-1/Cedar-2	2018	Survey	Extensive development; no identified resources; monitoring recommended
Miramar - Engineer	Engineer-1	2017	Records Search	Extensive development; low impact probability
South Chollas Creek - Federal	Federal-1/Federal-2	2018	Survey	Extensive development; no identified resources; monitoring recommended
Soledad Canyon Creek - Flintkote	Flintkote-1	2013	Survey	Extensive development; low impact probability
Soledad Canyon Creek - Flintkote	Flintkote-1	2017	Monitoring	Extensive development; no identified resources

Table 2
Previous MMP Survey and Monitoring Results

MWMP Facility Group Name	MWMP Facility Segment Name-Number	Year	Report Type	Results
Auburn Creek - Home	Home-2/Home-3/Home-4/Home-5	2017	Survey	Extensive development; no identified resources; monitoring recommended
Mission Bay - MBHS	MBHS-1/PB-Olney-1	2014	Survey/ Monitoring	Extensive development; no identified resources
Mission Bay - MBHS	MBHS-1/PB-Olney-1	2014	Survey	Extensive development; no identified resources
Alvarado Canyon Creek – Mission Gorge	Mission Gorge-1/Mission Gorge-2	2010	Survey	Extensive development; no identified resources
Murphy Canyon Creek - Stadium	Murphy Canyon-1/Murphy Canyon-2	2013	Survey	Extensive development; no identified resources
Chollas Creek - National	National-1	2010	Survey	Partial development; no identified resources; monitoring recommended
Chollas Creek - Rolando	Rolando-1	2016	Survey	Extensive development; low impact probability
Chollas Creek - Rolando	Rolando-2	2016	Survey	Extensive development; low impact probability
Soledad Canyon Creek - Sorrento	Roselle-1	2013	Survey	Extensive development; low impact probability
Soledad Canyon Creek - Sorrento	Roselle-1	2016	Monitoring	Extensive development; no identified resources
Soledad Canyon Creek - Sorrento	Roselle-1	2017	Monitoring	Extensive development; no identified resources
Soledad Canyon Creek - Sorrento	Roselle-2	2013	Survey	Extensive development; low impact probability
Tijuana River - Siempre Viva	Siempre Viva-1	2017	Survey	Extensive development; no identified resources
Tijuana River – Pilot & Smuggler's	Smuggler's Gulch-1/Pilot Channel-1	2011	Survey	Extensive disturbance; no identified resources; monitoring recommended

Table 2
Previous MMP Survey and Monitoring Results

MWMP Facility Group Name	MWMP Facility Segment Name-Number	Year	Report Type	Results
Tijuana River - Pilot & Smuggler's	Smuggler's Gulch-1/Pilot Channel-1	2012	Survey	Extensive disturbance; low impact probability
Tijuana River - Pilot & Smuggler's	Smuggler's Gulch-1/Pilot Channel-1	2012	Survey	Extensive disturbance; low impact probability
Tijuana River - Pilot & Smuggler's	Smuggler's Gulch-1/Pilot Channel-2	2014	Monitoring	Extensive disturbance; no identified resources
Tijuana River - Pilot & Smuggler's	Smuggler's Gulch-1/Pilot Channel-3	2015	Survey	Extensive disturbance; low impact probability
Tijuana River - Pilot & Smuggler's	Smuggler's Gulch-1/Pilot Channel-4	2016	Survey	Extensive disturbance; low impact probability
Tijuana River - Pilot & Smuggler's	Smuggler's Gulch-1/Pilot Channel-5	2017	Survey	Extensive disturbance; low impact probability
Tijuana River – Smythe	Smythe-1	2016	Monitoring	Extensive disturbance; no identified resources
Soledad Canyon Creek – Sorrento and Flintkote	Sorrento Valley-1/Flintkote-1/Roselle-1/Roselle-2	2013	Survey	Extensive development; no identified resources; monitoring recommended
Murphy Canyon Creek - Stadium	Stadium-1	2009	Survey	Extensive development; no identified resources
Los Peñasquitos Lagoon - Tripp	Tripp-1	2010	Survey	Extensive development; no identified resources; monitoring recommended
Los Peñasquitos Lagoon - Tripp	Tripp-1	2015	Records Search	Extensive development; no identified resources
Washington Canyon Creek - Washington	Washington-1	2016	Monitoring	Extensive development; no identified resources
Washington Canyon Creek - Washington	Washington-2	2016	Monitoring	Extensive development; no identified resources

MMP = Master Storm Water System Maintenance Program; MWMP = *Municipal Waterways Maintenance Plan;* MBHS = Mission Bay High School; PB = Pacific Beach

4.2 NATIVE AMERICAN HERITAGE COMMISSION SACRED LANDS FILE SEARCH

A search of the NAHC Sacred Lands File was conducted for the MWMP APE on April 19, 2017 (Appendix C). The NAHC results letter indicated the presence of TCRs within the MWMP APE located on the Imperial Beach and Point Loma Quadrangles. Specific locations and details on the type of resources were not provided. Additionally, the NAHC response letter included a list of Native American group representatives to contact for information about where resources may intersect the MWMP APE. This will help guide communications with tribal groups and representatives that maintain specific traditional associations with particular sections of the MWMP APE. To date, there have been five responses to these outreach letters (Appendix C). Victoria Harvey, Archaeological Monitoring Coordinator with the Agua Caliente Band of Cahuilla Indians, claimed that the MWMP APE is not in the tribe's traditional use area. The Agua Caliente Band of Cahuilla Indians has chosen to defer consultation to other tribes in the area. Vincent Whipple, Cultural Resources Representative for the Rincon Band of Luiseño Indians, stated that the portion of the MWMP APE in Escondido is within the Aboriginal Territory of the Luiseño People; however, the tribe has no new information to share with Dudek regarding TCRs within the MWMP APE. Ray Teran, Resource Manager with Viejas Band of Kumeyaay Indians, says that the proposed MWMP site has cultural significance to Viejas and requested that a Kumeyaay cultural monitor be present for ground-disturbing activities associated with the MWMP. Lisa Cumper, Tribal Historic Preservation Officer for the Jamul Indian Village, stated that there are TCRs in Imperial Beach and recommended Native American Monitoring in the area. Merri Lopez-Keifer, chief legal counsel for the San Luis Rey Band of Mission Indians, responded to the outreach letter and notified Dudek that the San Luis Rey Band of Mission Indians is aware of TCRs in proximity to the proposed MWMP APE. She recommends the presence of a Luiseño Native American monitor during ground-disturbing activities. With regard to information they can provide Dudek, the tribe requested that Dudek contact the tribe's Cultural Resource Manager, Cami Mojado. Dudek contacted Ms. Mojado on the telephone and she asked for greater details concerning the proposed MWMP components near Escondido. Dudek sent Ms. Mojado an email describing the MWMP facilities with attached historical aerials that demonstrate the previous impacts to the area. Ms. Mojado then requested previously conducted cultural reports for the Escondido portion of the MWMP APE. Dudek sent Ms. Mojado site records and a survey report for the area. After a few weeks, Dudek sent an email to Ms. Mojado inquiring if she had any thoughts concerning the MWMP APE. To date, Ms. Mojado has not responded.

Under CEQA, the lead agency is responsible for formal government-to-government consultation with Native American tribes under Assembly Bill 52. The City has initiated formal consultation with representatives from two local California Native American Kumeyaay tribes: Lisa Cumper, Tribal Historic Preservation Office (THPO) representing the Jamul Indian Village, and Clint Linton, Director of Cultural Resources for the Iipay Nation of Santa Ysabel. This early consultation

provided an overview of the proposed MWMP, along with locations where maintenance work would be conducted; however, technical analysis had not yet been conducted, and as such, consultation was considered ongoing until such time that additional information could be provided to the tribal representatives. In February 2019, additional information was provided to the tribal representatives, and a subsequent consultation meeting was held to discuss archaeological and tribal cultural resources and the City's impact analysis methodology. A final consultation meeting was conducted in October 2019 to discuss edits resulting from prior tribal input, impact analysis methodology, and the project-level and programmatic mitigation approach. Any information regarding tribal cultural resources discussed during consultation has been incorporated, where applicable, into this report and the applicable EIR section.

4.3 SITE RECONNAISANCE

The archival review identified 31 cultural resources located within or in proximity to the MWMP APE (Table 1). From this, Dudek determined that not all resources within the APE would require a site visit. Facilities that traverse highly sensitive areas did not require a site visit to determine that the facilities would require further cultural review. Likewise, aerial photographs revealed that development has destroyed some resources within the APE, so a site visit was not conducted. This review enabled Dudek to identify 11 of the 31 recorded resources that intersect with MWMP facilities, including prehistoric and historic archaeological and tribal cultural resources that may not have been completely disturbed and required further evaluation (Table 3, Evaluation of Cultural Resources within the MWMP Area of Potential Effect). On October 20 and November 14, 2017; April 16, 2018; and September 19, 2018, a Dudek archaeologist visited these MWMP facilities to determine their cultural sensitivity and the extent of previous ground disturbance. Clint Linton of Red Tail Environmental aided in the determination of culturally sensitive areas within the MWMP APE. Already familiar with the MWMP facilities, Mr. Linton determined that his presence during the site visits was not necessary to assess possible impacts to TCRs. The condition of each site and its relationship to the MWMP APE is described below. Any updates to existing DPR site records can be found in Confidential Appendix D. Resource location maps and field photographs showing the resource proximity to the APE can be found in Confidential Appendix E.

Table 3
Evaluation of Cultural Resources within the MWMP Area of Potential Effect

Site Number	Trinomial	Era	Description	MWMP Facility Segment Name-Number	APE Proximity	Evaluation Status
P-37-005017	CA-SDI-005017	Prehistoric	Prehistoric habitation site	Mission Bay – MBHS – PB/Olney-1	Intersect	Recommended eligible
P-37-007208	CA-SDI-007208	Prehistoric	Prehistoric lithic artifact scatter	Tijuana River – Cactus-1&2, Siempre Viva-1 and La Media-1	Intersect	Not evaluated
P-37-011165	CA-SDI-011165	Prehistoric	Prehistoric habitation site	South Chollas Creek – Federal-1	Intersect	Not evaluated
P-37-012091	CA-SDI-012091	Prehistoric	Prehistoric temporary camp and shell midden	Chollas Creek – National-1	Intersect	Not evaluated
P-37-016029	CA-SDI-014599	Prehistoric	Prehistoric habitation site	South Chollas Creek – Imperial-1	Intersect	Destroyed
P-37-025706	CA-SDI-017099	Prehistoric	Prehistoric shell scatter	South Chollas Creek – Alpha-1	Intersect	Not evaluated
P-37-025853	CA-SDI-017203	Prehistoric	Prehistoric habitation site	Chollas Creek – National-1	Intersect	Recommended eligible
P-37-031095	CA-SDI-019721	Prehistoric	Prehistoric hearth features	Los Peñasquitos – 5/805 Fwys-1	Intersects	Not evaluated

Table 3
Evaluation of Cultural Resources within the MWMP Area of Potential Effect

Site Number	Trinomial	Era	Description	MWMP Facility Segment Name-Number	APE Proximity	Evaluation Status
P-37-031491	—	Historical	Otay Mesa Road	Tijuana River – Smythe-1	Intersect	Not evaluated
P-37-031737	CA-SDI-020159	Historical	Historical refuse dump	Torrey – Torrey Pines-1	Intersect	Evaluated Designated
P-37-034756	CA-SDI-021620	Historical	Historical pottery kiln	Torrey – Torrey Pines-1	Within 100 feet	Evaluated Designated

MWMP = *Municipal Waterways Maintenance Plan*; APE = area of potential effect; MBHS = Mission Bay High School; PB = Pacific Beach

P-37-005017; CA-SDI-5017

This resource consists of *La Rinconada de Jamo*, an ethnohistoric Native American village located at the mouth of Rose Canyon. The site was recorded by archaeologist in the late 1970s and described as a large habitation site including many cobble hearth features, scattered ground and flaked stone artifacts, and midden soil with burned shell. In 1986, an archaeological index of the site was constructed with the focus of documenting the extent and variation of the cultural deposit at the time to measure future preservation and research efforts. The index identified groundstone tools, flaked stone tools, ceramics, bone artifacts, shell, historic artifacts, charcoal, and other habitation debris. The presence of a ceramic pipe and red-tailed hawk remains was interpreted as evidence of ceremonial activities. The rich midden deposits reached a depth of at least 2 meters (approximately 6.5 feet). The site has been repeatedly tested and monitored for development efforts. All previous reports noted that the area has been highly modified and developed, much of the land being plowed by the 1970s. In spite of the previous developments, midden soil was observed during excavations. While monitoring excavations for the installation of storm sewer improvements, archaeologists identified midden soil under fill soil as deep as 1.5 meters (approximately 5 feet). The recorded site boundary of P-37-005017 covers more than 320 acres. Recent geoarchaeolgoical investigation were recently conducted to determine if archaeological remnants of *La Rinconada de Jamo* are located within a proposed sewer group (Homburg and McLean 2017). Ten soil cores were excavated to depth ranging from 19 to 24 feet within the site boundaries of P-37-005017. Four borings were located immediately north of Grand Avenue, near Mission Bay Drive-1. The geoarchaeological investigation identified artificial fill on the surface of three of the four boring locations along Grand Avenue. This supports soil maps that show the land south of Grand Avenue to be fill land and unlikely to contain cultural deposits. MWMP facilities Mission Bay High School (MBHS)-1, Pacific Beach (PB)-Olney-1, and Mission Bay Drive-1 are within the site boundary of P-37-005017 but within sediments known to be fill.

The current study revisited P-37-005017 where it intersects MWMP facilities MBHS-1, PB-Olney-1, and Mission Bay Drive-1. PB-Olney-1 is located between a leveled and developed residential area and a paved road with a dirt shoulder. The residential side of the channel has been completely covered with building or landscaping while the dirt shoulder of the road is leveled and used for car parking. The base of the earthen-bottom facility is overgrown with vegetation (Exhibit 1, Appendix E). MBHS-1 is concrete-lined and located between residential development and a paved schoolyard. Mission Bay Drive-1 is located within a golf course. The channel is overgrown with vegetation but its banks are covered by well-manicured grass. Considering the intense development of the channels and their surroundings, maintenance staging activities and surficial excavations within the channel are unlikely to identify intact archaeological deposits.

P-37-007208; CA-SDI-7208

This prehistoric site was originally recorded in 1979 as a light-density lithic scatter. Within the 80-acre site's boundary, only 21 lithic artifacts were identified. Since its initial recordation, P-37-007208 has been subject to multiple studies and its boundaries have expanded to over 730 acres. All studies have found the site to consist of a very light lithic scatter and a surface collection identified tools including choppers, perforators, scrapers, and hammerstones. The boundaries of this extensive site include undeveloped lots and extensive development, including MWMP facilities La Media-1 and Siempre Viva-1.

The current study visited MWMP facilities La Media-1 and Siempre Viva-1 to determine the cultural sensitivity of the area. La Media-1 is located along the shoulder of a busy freeway on-ramp. The channel is filled with vegetation and marshy land dominates the opposite site. Ground visibility is zero and no cultural artifacts or features were observed. Siempre Viva-1 is an extensive channel that courses through business parks. Much of the channel is surrounded by asphalt or landscapes developments (Exhibit 2, Appendix E). Other sections are adjacent to leveled dirt lots. The area has been highly disturbed and no cultural resources were identified along the banks of the channels. A previous study conducted testing excavations in this area and found no subsurface deposits. Considering the low density of surface artifacts at P-37-007208 and the development surrounding the channels, maintenance staging activities and surficial excavations within the channel are unlikely to identify intact archaeological deposits.

P-37-011165; CA-SDI-11165

This prehistoric site was originally recorded in 1978 and updated in 1989 as a concentration of midden soil, a hearth feature, and a light scatter of artifacts including potsherds, projectile points, stone tools, and shell and faunal materials. The midden soil was concentrated in the western extent of the site near Kelton Street, while the artifact scatter spread toward the east and terminated near Federal Boulevard. The western terminus of MWMP feature Federal-1 meets the eastern extent of P-37-011165.

The current study revisited P-37-011165 where it meets MWMP feature Federal-1. This section of the channel has been highly developed and includes roadway bridges, a storage facility, and other extensive earthmoving. No artifacts were identified where the channel and resources meet. Considering the extensive previous developments and the low artifact density reported at the eastern extent of P-37-011165, maintenance staging activities and surficial excavations within the channel are unlikely to identify intact archaeological deposits.

P-37-012091; CA-SDI-12091

This prehistoric site was originally recorded in 1991 as a subsurface temporary camp or habitation shell midden located along the banks of Chollas Creek. The site represented three strata of occupation though the original record does note that there was substantial disturbance from fill operations and other developments. In 2014, monitoring of utility line relocation identified prehistoric and historic artifacts on the eastern boundary of P-37-012091. Recovered prehistoric artifacts include shell, bone, stone tools, cores, debitage, groundstone, and fire-affected rock. The boundary of P-37-012091 is bisected by MWMP facility National-1.

The current study revisited P-37-012091 where it is bisected by National-1 to determine the sensitivity of the area. The area surrounding National-1 has been highly developed with commercial and industrial buildings and yards. The banks of National-1 have been leveled and are covered by landscaping, vegetation, or cleared dirt paths (Exhibit 3, Appendix E). No cultural materials were identified during the revisit. There is a low potential of identifying cultural resources during non-invasive activities along the banks of National-1 channel. Considering the extensive previous disturbances, surficial excavations within the channel is also unlikely to identify intact archaeological deposits.

P-37-016029; CA-SDI-14599

This prehistoric resource was originally recorded as an occupation site containing handstones, hammerstones, and flaked stone tools. In 1997, the site was revisited and found to be highly modified. Imperial Ave covered the southern half of the site while MWMP facility Imperial-1 and a leveled field covered the northern half of the site. The previous study did not relocate any artifacts or features on the surface and only identified modern trash and four fragments of debitage in 14 shovel test units. The previous study determined that the land north of the channel was completely disturbed and that the P-37-016029 was destroyed.

The current study revisited the recorded boundaries of P-37-016029 and found it to be in the same condition as reported in 1997. Imperial-1 is a very steep and heavily vegetated channel. The southern bank is adjacent to Imperial Avenue and the northern bank has been completely leveled and consists of a well-maintained public walking path. The complete development of the area suggests that staging activities and surficial excavations within the channel are unlikely to identify intact archaeological deposits.

P-37-025706; CA-SDI-17099

This resource was recorded in 2004 as a disturbed scatter of shell and possible midden soil. No artifacts or features were identified. The scatter was identified in a vacant lot surrounded by residential development and adjacent to MWMP facility Alpha-1 (Exhibit 4, Appendix E). The current

study revisited P-37-025706 to determine the cultural sensitivity of the area. After surveying the original site boundaries, the current study could not locate any shell. The residential development of the area and concrete lining of the channels banks has highly disturbed the area. There is a low potential of identifying cultural resources during non-invasive activities along the banks of Alpha-1 channel. Considering the extensive previous disturbances, surficial excavations within the channel are also unlikely to identify intact archaeological deposits.

P-37-025853; CA-SDI-17203

This prehistoric site was originally recorded in 2004 as a "greasy black shell midden" and a single ceramic sherd. The midden was discovered during trenching activities for a sewer line. The midden was located 33 centimeters (13 inches) below the street surface and varied from 17 to 20 centimeters (7 to 8 inches) in thickness. The site boundary was expanded in 2006 when midden, marine invertebrate shell, two possible groundstone fragments, and a ceramic fragment were identified. A testing program was implemented to evaluate the significance of the site in 2009. Two 1×1 meter testing units and 19 shovel test pits produced large quantities of marine shell, debitage, flaked lithic artifacts, ceramics, and bone, as well as a hearth feature. The excavations revealed that the cultural stratum was located 30 to 150 centimeters (12 to 60 inches) below the surface. Cultural materials are more prevalent toward the interior of the site and the deposits are more greatly disturbed at the periphery of the site. MWMP facilities National-1 and -2 bisect the site boundary of P-37-025853.

The current study revisited P-37-025853 where it is bisected by National-1, National-2, and Martin-1 to determine the sensitivity of the area. The areas surrounding both facilities have been highly developed with commercial and residential buildings and landscaping. The banks of the facilities have been leveled and are covered by landscaping, vegetation, buildings, or cleared yards. Due to fencing and private property, the banks of the facilities could not be surveyed for cultural materials. This area is considered culturally sensitive and there is a potential for identifying cultural materials during ground-disturbing activities.

P-37-031095; CA-SDI-19721

This prehistoric site was recorded in 2009 as five discrete hearth features and were discovered during the grading of the 5-805 Fwys-1 facility. Shell fragments were found in association with the hearth features. The five hearth features were located in an area measuring 12 by 14 meters. The eastern portion of the 5-805 Fwys-1 facility extends into the western extent of the resource.

The current study revisited P-37-031095 and found that the resource boundary is located within the 5-805 Fwys-1 facility. The area has been completely developed and the resource boundary consists of wetland within the basin of the 5-805 Fwys-1 facility and its northern ascending bank. No surface

artifacts could be located on the surface. Considering the cultural sensitivity of the area and the identification of the subsurface resource during construction of the facility, there is potential that MWMP ground-disturbing activities may encounter other cultural materials.

P-37-031491

This historic Otay Mesa Road is shown on the 1904 U.S. Geological Survey San Diego quadrangle. Portion of the historic feature have been removed or updated beyond recognition while others are still used and described as a paved, undivided two-lane highway. The recorded alignment of Otay Mesa Road intersects the eastern extent of MWMP facility Smythe-1. Aerial photographs show that the area has been highly developed, with no remnants of the historical feature. The current study revisited P-37-031491 but could not find any remnants of the roadway. Considering the surficial nature of the resource and the extensive development, it appears that the resource is no longer extent in the MWMP APE and it is unlikely that ground-disturbing activities would encounter any archaeological deposits.

P-37-031737; CA-SDI-20159

This historical refuse deposit was originally recorded in 2010 and consists of thousands of intact artifacts. The deposit consists primarily of expendable glass and ceramic containers and some table and kitchen ware. The diagnostic artifacts date the site from around the 1880s to the 1930s. The deposit is concentrated in the upper 30 centimeters (12 inches) but extends to 80 centimeters (30 inches) in depth. Because contaminated soils were found on site, the resource was capped under a non-woven geotextile fabric and 2 to 5 feet of culturally sterile soil. The southernmost portion of the site was also covered in asphalt. MWMP facility Torrey Pines-1 is located south of the resource.

The current study revisited P-37-031737 where it is adjacent to MWMP facility Torrey Pines-1 to determine the sensitivity of the area. The resource is located in Pottery Canyon Park, locally designated resource Historic Resources Board (HRB) No. 108. The resource location is protected by a wooden fence but it appears that the vegetation has recently been removed from that area. Immediately south of the resource boundary is an asphalt road. South of the road is another wooden fence which separates the public from MWMP facility Torrey Pines-1 (Exhibit 5, Appendix E). The channel is overgrown with vegetation and covered with tree duff. Considering the obstacles that separate the channel from P-37-031737 and because the resource was previously capped, it is unlikely that MWMP staging activities would identify any archaeological resources near the banks of Torrey Pines-1. Removal of eroded sediments within the channels is also unlikely to identify intact archaeological deposits because erosion would have removed any resources that may have been present and replaced them with sediments from further upstream.

P-37-034756; CA-SDI-21620

This historical structure was recorded in 2014 as a wood-fired pottery kiln. The kiln was used by La Jolla Canyon Clay Products Company, which was established in 1928. An interpretive sign near the kiln says that the kiln was used as recently as the 1980s. The kiln is located 60 feet south of MWMP facility Torrey Pines-1 within the historically designated Pottery Canyon Park (HRB No. 108).

The current study revisited P-37-03475 and found it in the same condition as previously recorded. It is located within a residential yard that borders a public park. Thick vegetation separates the kiln from MWMP facility Torrey Pines-1. The resource is easily avoidable and not within the immediate boundary of the facility. No artifacts or other features associated with the kiln were observed, nor have any been previously recorded. The kiln structure is highly avoidable, and MWMP maintenance activities would not impact this resource; however, the Pottery Works, its associated buildings, and all parcels in Pottery Canyon Park are included in the HRB No. 108 designation. As such, some MWMP maintenance activities within Pottery Canyon Park parcels would be subject to further cultural review.

5 ARCHAEOLOGICAL REVIEW EXEMPTIONS

Depending on the cultural sensitivity of an area, previous development, and the invasiveness of the maintenance activity, many facilities can undergo specific maintenance activities without risk of impact to cultural resources. This negates the need to conduct additional cultural resource review to identify and mitigate potential cultural resource impacts for those particular facilities. By conducting this inventory/evaluation, Dudek has determined the cultural resource sensitivity of each of the potential MWMP project facilities and the potential of each proposed maintenance activity to disturb archaeological deposits. Dudek used the results of this inventory/evaluation to design an MWMP Facility Maintenance Plan that identifies which facilities and maintenance activities do not require further cultural resource review.

The Section 106 regulations, specifically 36 CFR 800.14(c), allow for the development of cultural resource review maintenance plans by stipulating the identification of classes or categories of activities and or facilities that would be exempt from Section 106 or cultural resource review. Maintenance plans have been applied to similar projects in the past including the statewide California Department of Transportation Section 106 PA and the U.S. Army Corps of Engineers Section 106 PA for the Columbia River Power System Projects in northwestern United States.

5.1 ARCHAEOLOGICAL RESOURCE SENSITIVITY

Ground-disturbing maintenance activities associated with the proposed MWMP (e.g., grubbing/clearing/blading, grading, trenching, boring, disking) that enter into previously undisturbed soils have the potential to impact archaeological resources. However, if these excavation activities are conducted in artificial fill or engineered soils, then these activities would not impact archaeological resources. Some facility areas have been so severely disturbed in the past that they preclude the existence of intact archaeological deposits. Significant previous disturbances include the facilities original construction and all subsequent alteration, modification, and maintenance. Many basin and channel facilities underwent deep excavations during their construction which would have displaced any archaeological resources and native soils that may have been present. Although many of the channels have earthen bottoms and follow the path of the natural drainages that predated them, channel centerline clearing activities (e.g., removing sediment, vegetation, or debris) have a low potential of impacting resources. Multiple flood episodes from the prehistoric to the modern era have displaced any surface and subsurface archaeological resources from the channels. In summary, since many of the facilities have been constructed within artificial fill or engineered earth and since erosion has displaced any original sediments within the channel, many of the proposed earth-moving maintenance activities do not have the potential to impact subsurface archaeological resources.

Though they were partially or completely excavated during their construction and were subject to continued erosional episodes, some MWMP basin and channel facilities still maintain a high level of sensitivity. Some MWMP facilities were constructed in areas with documented ethnohistoric villages such as at north Mission Bay. Areas in Sorrento Valley have produced significant amounts of sensitive materials. In spite of extensive development, there is an increased possibility that sensitive archaeological deposits and remains would be uncovered during earthmoving activities within these channels. Due to this increased sensitivity, ground-disturbing maintenance in specific MWMP facilities would not be exempt from further cultural review.

Proposed maintenance activities that do not include ground-disturbance (vegetation and graffiti removal, herbicide and rodenticide activities, facility maintenance and repair) still have the potential to impact archaeological resources. Maintenance activity staging areas and crews accessing the channels can disturb adjacent archaeological resources with surface components. The probability that a non-invasive maintenance activity would impact an archaeological resource is specific to each MWMP facility. Some facilities are located in areas where no archaeological resources have previously been identified. Additionally, the areas surrounding many facilities have been highly disturbed at the time of the facilities construction. Facilities are often located within residential, commercial, and industrial areas which were leveled prior to their construction. Archaeological surface resources or subsurface deposits in these areas would have been destroyed or displaced during construction. As a result, non-invasive maintenance activities are unlikely to impact archaeological resources unless the MWMP facility is located adjacent to previously recorded resources in an undisturbed context.

5.2 PROPOSED MWMP ACTIVITIES

Following are descriptions of MWMP maintenance activities that may occur at MWMP facilities. The activity descriptions provide the purpose of the maintenance or repair, including managing vegetation, removing sediment, clearing outlet/inlet drain structures, and repairing infrastructure.

Maintenance Activities

- **Vegetation Management.** Vegetation management refers to grubbing, blading, mowing, trimming, and removing vegetation. Vegetation management activities include vegetation removal and vegetation control activities such as mowing and/or herbicide application. Grubbing and mowing include the removal of aboveground vegetation, leaving root systems mostly intact. Trimming includes the removal of limbs or branches from select vegetation that is generally above waist height and limited to woody vegetation or overhanging vegetation. Removal is the complete removal of aboveground vegetation and roots, up to the as-built

sediment depth. Removal could be conducted through a variety of methods, including mechanized removal, hand removal, and/or herbicide application.

- **Invasive Plant Species Management**. In channels or facilities that contain substantial stands of invasive plant species, efforts would be made to remove and eradicate these invasive vegetation communities using mechanized, hand, or herbicide treatment methods within the limits of the permitted work area. Varied methods may be used to accomplish invasive species management, including mechanized removal that would involve removal of root structures and sediment, mechanized grubbing or mowing that leaves roots and sediment intact, and/or hand removal.
- **Sediment and Debris Removal.** Sediment and debris removal involves the removal of excess accumulated sediment and/or debris (i.e., trash and other waste materials). Accumulated sediment can reduce the flow capacity of a facility and increase the potential for flooding. Sediment removal under the MWMP would only be allowed up to the as-built/original design or established maintenance baseline of the facility, and would not include expansion of the facility capacity beyond the original design. Direct methods used for sediment removal include excavation (with equipment in the channel or equipment staged outside the channel) and dredging.
- **Structural Clearing/Trash Fences**. Structural clearing involves removal of built-up debris and vegetation from within or areas directly adjacent to an outlet/inlet structure and/or trash fence. Channels/ditches often occur directly adjacent to an outlet/inlet structure. Direct methods used for structural clearing include excavation (with equipment in the channel/ditch adjacent to the outlet/inlet structure and equipment staged outside the channel/ditch adjacent to the outlet/inlet structure) and Vactor trucks staged outside the channel/ditch adjacent to the outlet/inlet, which can vacuum small amounts of sediment or standing water from within an outlet/inlet structure.

Repair Activities

- **Concrete Repair (Major and Minor).** Concrete, including shotcrete or gunite repair and replacement activities, would involve maintenance within developed concrete-lined channels or structures where the concrete lining or structure's form is damaged, cracked, or eroded based on existing constructed or original as-built conditions. Typical minor concrete repair activities include spot repairs to damaged concrete panels (channel lining), barrier walls, or headwall structures. Typical major concrete repair activities include reconstructing the channel lining, barrier walls, or headwall structures because they are missing or damaged enough that they need to be removed and replaced entirely. The terms "repair" and "replacement" are often referenced interchangeably; however, the extent to which the lining

or form is damaged or compromised would determine whether the activity is considered a minor or major repair.

- **Bank Repair.** Bank repair activities occur in channels along stream banks. Bank repair involves the repair and stabilization of banks when a weakened, unstable, or failing bank causes or threatens damage to an adjacent property; increases the flood risk; threatens public safety; impacts roads, transportation, or access routes; generates erosion; increases downstream sediment yields; or impacts riparian habitat and/or other natural resource values. Methods for bank repair include bank regrading (involving equipment within or outside the channel); installation of engineered backfilled soils; use of erosion-control fabric; planting of native vegetation; and, where existing riprap is damaged, replacement of riprap.

All associated maintenance and repair activities would include temporary access/loading, temporary staging, temporary stockpiling, temporary flow diversion, and water pollution control plans. Specific access points, routes, and loading areas for each of the facilities are provided in the MWMP. Access and loading locations were determined by using previous access routes selected to limit disturbance to adjacent properties and provide safe access for maintenance crews. Where a ramp is not present, a temporary ramp may be built for channel access either by using approved fill material brought from off site or by collecting and contouring sediment from the channel itself.

5.3 ACTIVITIES THAT DO NOT REQUIRE REVIEW

Dudek has analyzed the proposed maintenance activities and determine that some activities do not have the potential to impact archaeological resources. If a particular maintenance activity does not have the potential to impact an archaeological resource, then the activity does not require further archaeological resource review. If it does have the potential to impact an archaeological resource, then some level of archaeological review is required. It is possible for the same maintenance activity to be exempt from further review at one MWMP facility while requiring further review at another facility. For example, mechanical vegetation clearing on engineered soil is usually exempt from further review. If, however, a previously recorded archaeological site is adjacent to the facility, further archaeological review would be required to assure that activity staging and crewmembers avoid impacts to the resource. A discussion of archaeological sensitivity that justifies the variation of required archaeological review is provided in Section 5.1, Archaeological Resource Sensitivity.

Other system-wide-scale projects in the northwestern United States have proposed a list of maintenance activities that would not require review provided no extenuating circumstances (high archaeological sensitivity) existed. This list has been approved by multiple lead federal agencies and SHPOs. The following list of activities have been classified as "Routine Activities" as part of an executed Section 106 system-wide PA for the multipurpose operations of 14 projects of the federal Columbia River Power

System in the northwestern United States. The Columbia River Power System project included the acquisition of lands within the Columbia River Basin by the U.S. Army Corps of Engineers and the U.S. Bureau of Reclamation to construct 14 dams and their associated lakes or reservoirs. The current study proposes that the MWMP Facility Maintenance Plan reflect this approved list of exempt activities.

Per the PA for the Columbia River Power System project, the following activities would not require an archaeological resource review investigation since they would have "little or no potential to cause effects on historic properties." This PA was approved and signed in 2009 by the U.S. Army Corps of Engineers (Northwest District), Bonneville Power Administration, U.S. Bureau of Reclamation (Pacific Norwest Region), the Advisory Council on Historic Preservation, the U.S. Forest Service, the U.S. Bureau of Indian Affairs, various Native American groups, and the SHPOs for the following states: Idaho, Montana, and Oregon. A partial list of "Routine Activities" is included from the Columbia River Power System PA for those activities that reflect similar proposed activities for the currently proposed MWMP:

1. Blading, ground clearing, or excavation that occurs entirely within fill, and where the fill itself does not contribute to the historic significance of a property.
2. Blading, ground clearing, or excavation within areas where existing ground disturbance entirely encompasses the area that would be affected by the activity and where the past disturbance was so severe as to preclude the existence of intact cultural deposits, and no known properties are present.
3. Use of existing gravel pits, including further materials extraction and stockpiling within the pit, where no lateral expansion of the previously excavated area of the pit will occur.
4. Adding rock fill or gravel to roads where no new ground disturbance will occur and no recorded properties are within the roadbed.
5. Treatment of weed infestations that does not violate the chemical label, does not involve ground disturbance, where no features (such as pictographs or petroglyphs) that might be damaged are present, and does not occur within landscaped areas where native plant communities might be harvested.
6. Rodent control that does not involve ground disturbance, no movement, removal, or alteration of rock, or contamination of native or traditional foods and plant fibers.
7. Installation, repair, or replacement of monitoring equipment where no ground disturbance occurs, there will be no movement, removal, or alteration of rock, the activity is not located within the boundaries of an historic property, or where the property has been determined "not eligible" for the National Register in consultation with the SHPO/THPO. Examples of

such equipment are stream flow or dissolved gas gauges, weather stations, animal traps, and security monitoring or transmitting devices.

8. Excavations for maintaining, removing, or replacing ditches, dikes, levees, or gates, when the property or items are less than 50 years in age or have been determined "not eligible" in consultation with the SHPO/THPO, where they are not within or part of an historic property, and where excavations, including heavy equipment operation, occur within the demonstrated vertical and horizontal limits of previous construction, and within previously surveyed areas.
9. Repair or replacement of equipment or material that is not original to a historic structure and where the replacement will not cause an effect upon the historic or architectural values and defining features of historic properties.
10. Maintenance of existing walks, paths, sidewalks, and work that is conducted within the demonstrated vertical and horizontal limits of previous construction or disturbance, and no known properties are within the work area.
11. Maintenance within existing road or parking lot profiles, such as repaving, grading, cleaning inboard ditches, repairing, brushing, or replacing gates within the demonstrated vertical and horizontal limits of previous construction or disturbance.

It is generally understood that maintenance activities within areas of previously disturbed soils (horizontally and vertically) and/or maintenance activities that do not disturb previously undisturbed soils would not affect cultural resources. The current records search review, site visits, and discussions with Native American representatives suggest that the continued use and maintenance of existing facilities would not disturb enough sediments to reveal previously undocumented resources unless those facilities are located in archaeologically sensitive areas.

5.4 ARCHAEOLOGICAL REVIEW MATRIX

Depending on the archaeological sensitivity of an MWMP facility and the invasiveness of the proposed maintenance activity, the level of required archaeological review varies greatly. As exemplified above, mechanical vegetation clearing on engineered soil may or may not be exempt from further archaeological review depending on the presence of previously identified archaeological resources. Due to the complex variables that must be considered, a list of review-exempt maintenance activities is not sufficient to identify non-exempt activities at each MWMP facility. Therefore, Dudek has designed an archaeological review matrix to specify which maintenance activities are exempt from further archaeological review at which MWMP facility. Due to the complexity of variables involved in a general activity like vegetation management, the matrix provides more detailed activity descriptions that account for different methods used to accomplish

each task. For example, mechanized vegetation removal may occur through excavation with equipment in the facility, excavation with equipment staged outside the facility, or by hand, each of which is treated as a separate activity in the matrix.

Maintenance activities that do not pose a significant impact to archaeological resources at specified MWMP facilities are marked with an "X" in the matrix and do not require further review. Maintenance activities marked with "Review" would require further archaeological review at the specified MWMP facility (i.e., implementation of mitigation measures to reduce potential impacts to below a level of significance).

The Archaeological Review Matrix would help to streamline the City's archaeological resources review process for all facilities in this study (Table 4, Archaeological Review Matrix). The Archaeological Review Matrix eliminates the majority of archaeological resource review required for routine maintenance of facilities located in previously disturbed soils. Although the Archaeological Review Matrix indicates which activities are exempt from further archaeological review, it does not indicate which activities are exempt from further built environment or paleontological review. See the review matrices in the accompanying historical resources (Appendix E of the MWMP Draft EIR) and paleontological (Appendix H of the MWMP Draft EIR) technical reports.

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

Table 4
Archaeological Review Matrix

Facility Group Name	Facility/ IAMFLOC Number	Segment Name – Number	Excavation (Previous Disturbance) - Equipment In Channel	Excavation (Previous Disturbance) - Equipment Outside Channel	Dredging	Earthen Bank Grading	Concrete Repair (Major) Possible Over-Excavation)	Temporary Access/ Loading, Staging, or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand Removal of Vegetation	Mowing of Vegetation	Resource	Proximity	Site Description
San Dieguito River Watershed														
Green Valley Creek - Pomerado	1-04-030	Pomerado - 1	x	x	x	N/A	x	x	x	x	x	P-37-000580	Intersects	Prehistoric scatter
Green Valley Creek - Pomerado	1-04-033	Pomerado - 2	x	x	x	N/A	x	x	x	x	x	P-37-000581	Intersects	Prehistoric scatter
Green Valley Creek - Paseo del Verano	1-04-200	Paseo del Verano - 1	x	x	x	x	N/A	x	x	x	x	None		
Los Peñasquitos Watershed														
Los Peñasquitos Canyon Creek – Sorrento	2-01-000	Sorrento Valley - 1	Review	Review	Review	Review	N/A	x	x	x	x	None	N/A	N/A
Los Peñasquitos Lagoon - Industrial	2-01-120	Industrial – 1	Review	Review	Review	Review	N/A	x	x	x	x	None	N/A	N/A
Los Peñasquitos Lagoon - Industrial	2-01-122	Industrial - 2	x	x	x	N/A	Review	x	x	x	x	None	N/A	N/A
Los Peñasquitos Lagoon – Tripp	2-01-130	Tripp - 1	x	x	x	N/A	Review	x	x	x	x	P-37-036415	Adjacent	Distribution line
Los Peñasquitos Canyon Creek - Black Mountain	2-01-200	Black Mountain - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Los Peñasquitos Canyon Creek - Black Mountain	2-01-210	Black Mountain - 2	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Los Peñasquitos Canyon Creek - 5-805 Basin	2-01-900	5-805 Fwys - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-37-031095	Intersects	Prehistoric hearths
Soledad Canyon Creek – Sorrento	2-03-000	Roselle - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-001010	Adjacent	Destroyed Prehistoric artifact scatter
Soledad Canyon Creek – Sorrento	2-03-002	Roselle - 2	x	x	x	N/A	Review	x	x	x	x	P-001010	Adjacent	Destroyed Prehistoric artifact scatter
Soledad Canyon Creek – Sorrento	2-03-004	SorValRd - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-37-004609	Intersects	Prehistoric Village
Soledad Canyon Creek – Sorrento	2-03-006	SorValRd - 2	Review	Review	Review	Review	N/A	x	x	x	x	None	N/A	N/A
Carroll Canyon Creek – Carroll	2-03-012	Carroll Canyon - 1	Review	Review	Review	Review	N/A	x	x	x	x	None	N/A	N/A
Soledad Canyon Creek - Flintkote	2-03-100	Flintkote - 1	x	x	x	N/A	Review	x	x	x	x	None	N/A	N/A
Soledad Canyon Creek – Dunhill	2-03-150	Dunhill - 1	Review	Review	Review	Review	N/A	x	x	x	x	None	N/A	N/A

Table 4
Archaeological Review Matrix

Facility Group Name	Facility/ IAMFLOC Number	Segment Name – Number	Excavation (Previous Disturbance) - Equipment In Channel	Excavation (Previous Disturbance) - Equipment Outside Channel	Dredging	Earthen Bank Grading	Concrete Repair (Major) Possible Over-Excavation)	Temporary Access/ Loading, Staging, or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand Removal of Vegetation	Mowing of Vegetation	Resource	Proximity	Site Description
Chicarita Creek - Via San Marco	2-05-140	Via San Macro - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
10405 Sorrento Valley	SS-025270	10405 Sorrento Valley	x	x	x	N/A	Review	x	x	x	x	P-37-004609	Intersects	Prehistoric Village
Mission Bay Watershed														
Torrey Pines – Torrey	3-00-120	Torrey Pines - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-37-031737; P-37-034756	Adjacent	Historic trash dump; pottery kiln. All parcels within Pottery Canyon Park are listed on the City's Historical Resources Register (No. 108)
Alta La Jolla – Vickie	3-00-150	Vickie - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Mission Bay – MBHS	3-02-101	PB-Olney - 1	x	x	x	x	N/A	x	x	x	x	P-37-005017	Adjacent	Prehistoric Habitation
Mission Bay – MBHS	3-02-103	MBHS - 1	x	x	x	N/A	x	x	x	x	x	P-37-005017	Adjacent	Prehistoric Habitation
Mission Bay – Mission Bay Drive	3-02-130	Mission Bay Drive - 1	x	x	x	x	N/A	x	x	x	x	P-37-005017	Adjacent	Prehistoric Habitation
Miramar – Engineer	3-03-901	Engineer - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Tecolote Creek – Chateau	3-04-055	Chateau - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Tecolote Creek – Chateau	3-04-250	Chateau - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Tecolote Creek – Morena	3-04-101	Morena - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Tecolote Creek – Genesee	3-04-160	Genesee - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
San Diego River Watershed														
San Diego River – Nimitz	4-01-103	Nimitz - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
San Diego River – Nimitz	4-01-105	Nimitz - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
San Diego River – Nimitz	4-01-107	Nimitz - 3	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
San Diego River – Valeta	4-01-120	Valeta - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A

Table 4
Archaeological Review Matrix

Facility Group Name	Facility/ IAMFLOC Number	Segment Name – Number	Excavation (Previous Disturbance) - Equipment In Channel	Excavation (Previous Disturbance) - Equipment Outside Channel	Dredging	Earthen Bank Grading	Concrete Repair (Major) Possible Over-Excavation)	Temporary Access/ Loading, Staging, or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand Removal of Vegetation	Mowing of Vegetation	Resource	Proximity	Site Description
San Diego River – Camino del Rio	4-03-101	Camino del Arroyo - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
San Diego River – Camino del Rio	4-03-103	Camino del Rio - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Murphy Canyon Creek – Stadium	4-04-000	Stadium - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Murphy Canyon Creek – Stadium	4-04-002	Stadium - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Murphy Canyon Creek – Stadium	4-04-006	Murphy Canyon - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Murphy Canyon Creek – Stadium	4-04-008	Murphy Canyon - 2	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Alvarado Canyon Creek – Mission Gorge	4-07-002	Mission Gorge - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Alvarado Canyon Creek – Mission Gorge	4-07-004	Mission Gorge - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Alvarado Canyon Creek – Mission Gorge	4-07-009	Mission Gorge - 3	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Alvarado Canyon Creek – Mission Gorge	4-07-011	Mission Gorge - 4	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Alvarado Canyon Creek – Alvarado	4-07-021	Alvarado - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Alvarado Canyon Creek – Alvarado	4-07-023	Alvarado - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Alvarado Canyon Creek – Alvarado	4-07-250	Alvarado - 3	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Murray Reservoir – Cowles Mountain	4-07-901	Cowles Mountain - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Murray Reservoir – Cowles Mountain	4-07-911	Cowles Mountain - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Norfolk Canyon Creek – Fairmount	4-08-008	Fairmount - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Norfolk Canyon Creek – Fairmount	4-08-011	Fairmount - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Norfolk Canyon Creek – Fairmount	4-08-014	Fairmount - 3	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A

Table 4
Archaeological Review Matrix

Facility Group Name	Facility/ IAMFLOC Number	Segment Name – Number	Excavation (Previous Disturbance) - Equipment In Channel	Excavation (Previous Disturbance) - Equipment Outside Channel	Dredging	Earthen Bank Grading	Concrete Repair (Major) Possible Over-Excavation)	Temporary Access/ Loading, Staging, or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand Removal of Vegetation	Mowing of Vegetation	Resource	Proximity	Site Description
Norfolk Canyon Creek – Fairmount	4-08-017	Fairmount - 4	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Norfolk Canyon Creek – Fairmount	4-08-105	Baja - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Norfolk Canyon Creek – Fairmount	4-08-150	Aldine - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
1331 Washington	OT03537	1331 Washington	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
1277 Camino Del Rio South	IN10399	1277 Camino Del Rio South	x	x	x	N/A	x	x	x	x	x	P-37-011055	Adjacent	Prehistoric hearth and artifact scatter
5505 Friars Road	OT05573	5505 Friars Road	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
1660 Hotel Circle North	OT03321	1660 Hotel Circle North	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
901 Hotel Circle South	HW02440	901 Hotel Circle South	x	x	x	N/A	x	x	x	x	x	P-37-030933	Adjacent	Isolated cow bone
2087 Hotel Circle South	HW02437	2087 Hotel Circle South	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Pueblo San Diego														
Maple Canyon Creek – Maple	5-02-140	Maple - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Washington Canyon Creek – Washington	5-02-151	Washington - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Washington Canyon Creek – Washington	5-02-152	Washington - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Mission Hills Canyon Creek – Titus	5-02-162	Titus - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Powerhouse Canyon Creek – Pershing	5-03-011	Pershing - 1	x	x	x	N/A	x	x	x	x	x	P-37-016659	Within 70 feet	San Diego Flume System
Powerhouse Canyon Creek – Pershing	5-03-100	Pershing - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
San Diego Bay – 28th St	5-03-901	28th St - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A

Table 4
Archaeological Review Matrix

Facility Group Name	Facility/ IAMFLOC Number	Segment Name – Number	Excavation (Previous Disturbance) - Equipment In Channel	Excavation (Previous Disturbance) - Equipment Outside Channel	Dredging	Earthen Bank Grading	Concrete Repair (Major) Possible Over-Excavation)	Temporary Access/ Loading, Staging, or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand Removal of Vegetation	Mowing of Vegetation	Resource	Proximity	Site Description
Chollas Creek - National	5-04-004	National - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-37-012091; P-37-025853	Intersects	Prehistoric habitation refuse
Chollas Creek - National	5-04-006	National - 2	x	x	x	N/A	Review	x	x	x	x	P-37-025852	Intersects	Prehistoric shell scatter
Chollas Creek – Rolando	5-04-044	Cartagena - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Chollas Creek – Rolando	5-04-046	Rolando - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Chollas Creek – Rolando	5-04-048	Rolando - 2	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Chollas Creek – Martin	5-04-101	Martin - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-37-025853	Intersects	Prehistoric habitation refuse
Chollas Creek – J St	5-04-163	J St – 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Auburn Creek – Home	5-04-220	Home - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Auburn Creek – Home	5-04-224	Home - 2	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Auburn Creek – Home	5-04-227	Home - 3	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Auburn Creek – Home	5-04-229	Home - 4	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Auburn Creek – Home	5-04-231	Home - 5	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Auburn Creek – Wightman	5-04-239	Wightman - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Auburn Creek – Wightman	5-04-241	Wightman - 2	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Auburn Creek – Oakcrest	5-04-245	Oakcrest - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Chollas Creek – Megan	5-04-260	Megan - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Chollas Creek – Megan	5-04-262	Megan - 2	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Chollas Creek – 54th St.	5-04-280	54th St - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
South Chollas Creek – Southcrest	5-05-006	Alpha - 1	x	x	x	x	N/A	x	x	x	x	P-37-025706; P-37-034479	Intersects	Shell scatter; Pedestrian bridge
South Chollas Creek – Southcrest	5-05-008	Ocean View - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
South Chollas Creek – Euclid	5-05-019	Euclid - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
South Chollas Creek – Euclid	5-05-021	Euclid - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
South Chollas Creek – Federal	5-05-035	Federal - 1	x	x	x	x	N/A	x	x	x	x	P-37-011165	Intersects	Prehistoric midden and artifact scatter

Table 4
Archaeological Review Matrix

Facility Group Name	Facility/ IAMFLOC Number	Segment Name – Number	Excavation (Previous Disturbance) - Equipment In Channel	Excavation (Previous Disturbance) - Equipment Outside Channel	Dredging	Earthen Bank Grading	Concrete Repair (Major) Possible Over-Excavation)	Temporary Access/ Loading, Staging, or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand Removal of Vegetation	Mowing of Vegetation	Resource	Proximity	Site Description
South Chollas Creek – Federal	5-05-037	Federal - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
South Chollas Creek Encanto Branch – Castana	5-05-205	Castana - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
South Chollas Creek Encanto Branch – Imperial	5-05-304	Imperial - 1	x	x	x	x	N/A	x	x	x	x	P-37-016029	Intersects	Lithic artifact scatter
South Chollas Creek Encanto Branch – Imperial	5-05-306	Imperial - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
South Chollas Creek Encanto Branch – Jamacha	5-05-603	Jamacha - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
South Chollas Creek Encanto Branch – Jamacha	5-05-606	Jamacha - 2	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
South Chollas Creek Encanto Branch – Jamacha	5-05-610	Jamacha - 3	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
South Chollas Creek Encanto Branch – Jamacha	5-05-702	Lobrico - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
South Chollas Creek Encanto Branch – Jamacha	5-05-802	Cadman - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Paleta Creek – Cottonwood	5-06-005	Cottonwood - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Paleta Creek – Cottonwood	5-06-008	Cottonwood - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Paleta Creek – Solola	5-06-020	Solola - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Paleta Creek – Solola	5-06-023	Solola - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Paleta Creek – Solola	5-06-025	Cervantes - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
3644 Roselawn	OT03694	3644 Roselawn	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
4202 J Street	HW04013	4202 J Street	x	x	x	N/A	x	x	x	x	x	P-37-035162	Adjacent	Memorial park
1206 Goodyear	OT05573	1206 Goodyear	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Sweetwater Watershed														
Sweetwater River - Parkside	5-11-003	Parkside - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A

Table 4
Archaeological Review Matrix

Facility Group Name	Facility/ IAMFLOC Number	Segment Name – Number	Excavation (Previous Disturbance) - Equipment In Channel	Excavation (Previous Disturbance) - Equipment Outside Channel	Dredging	Earthen Bank Grading	Concrete Repair (Major) Possible Over-Excavation)	Temporary Access/ Loading, Staging, or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand Removal of Vegetation	Mowing of Vegetation	Resource	Proximity	Site Description
Otay Watershed														
Nestor Creek – Nestor	5-22-008	Cedar - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Nestor Creek – Nestor	5-22-010	Cedar - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Nestor Creek – Nestor	5-22-013	Dahlia - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Nestor Creek – Nestor	5-22-016	Cerissa - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Nestor Creek – Nestor	5-22-023	Grove - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Nestor Creek – Nestor	5-22-028	30th St - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Nestor Creek – Outer	5-22-110	Outer - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Nestor Creek – Outer	5-22-112	Outer - 2	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Tijuana River Watershed														
Tijuana River - Pilot & Smuggler's	6-01-020	Pilot Channel - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Tijuana River - Pilot & Smuggler's	6-01-100	Smuggler's Gulch - 1	x	x	x	x	N/A	x	x	x	x	P-37-002611; P-37-010669; P-37-013486; P-37-013527	Intersects	Prehistoric lithic scatter; Prehistoric habitation site; Prehistoric shell and lithic scatter; Prehistoric shell and lithic scatter
Tijuana River – Tocayo	6-02-115	Tocayo - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Tijuana River – Tocayo	6-02-118	Tocayo - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Tijuana River – Smythe	6-03-135	Via Encantadoras - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Tijuana River – Smythe	6-03-138	Via Encantadoras - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Tijuana River – Smythe	6-03-143	Via Encantadoras - 3	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A

Table 4
Archaeological Review Matrix

Facility Group Name	Facility/ IAMFLOC Number	Segment Name – Number	Excavation (Previous Disturbance) - Equipment In Channel	Excavation (Previous Disturbance) - Equipment Outside Channel	Dredging	Earthen Bank Grading	Concrete Repair (Major) Possible Over-Excavation)	Temporary Access/ Loading, Staging, or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand Removal of Vegetation	Mowing of Vegetation	Resource	Proximity	Site Description
Tijuana River – Smythe	6-03-147	Smythe - 1	x	x	x	x	N/A	x	x	x	x	P-37-031491	Intersects	Historic path of Otay Mesa Road
Tijuana River – Smythe	6-03-150	Via de la Bandola - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Spring Canyon Creek – Cactus	6-04-251	Cactus - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Spring Canyon Creek – Cactus	6-04-253	Cactus - 2	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Tijuana River – Siempre Viva	6-05-110	Siempre Viva - 1	x	x	x	x	N/A	x	x	x	x	P-37-007208	Intersects	Prehistoric lithic scatter
Tijuana River – La Media	6-06-011	La Media - 1	x	x	x	x	N/A	x	x	x	x	P-37-007208	Intersects	Prehistoric lithic scatter

Notes: Activities marked with "x" do not require further archaeological review. Facilities listed as "None" under "Resource" do not require additional evaluation.
IAMFLOC = Infrastructure Asset Management Functional Location; MBHS = Mission Bay High School; PB = Pacific Beach; N/A = not applicable

6 MANAGEMENT CONSIDERATIONS

6.1 REGULATORY ANALYSIS – IMPACTS TO CULTURAL RESOURCES

The goal of this inventory is to evaluate if the employment of routine maintenance activities to MWMP facilities has the potential to significantly impact archaeological resources under CEQA or to have an adverse effect to historic properties under Section 106 of the NHPA. To determine the potential for impact, Dudek considered the presence of previously recorded archaeological resources, the condition of those resources, the extent of land development and previous disturbance, and the invasiveness of the proposed maintenance activities. Historical built environment resources, including facilities themselves that are older than 45 years, are considered in a separate report.

An archival review was conducted to reveal the presence or absence of previously identified archaeological resources within the MWMP APE. The review revealed that few cultural resources have been identified near the MWMP APE. The lack of recorded resources may be the result of the extensive development of the area. Historical aerial photographs show that the MWMP facilities were constructed in conjunction with the residential or commercial development. All but a few of the MWMP facilities are surrounded by development including modified terrain, building, pavement, and landscaping. Maintenance at facilities with completely developed surroundings have no potential to significantly impact known archaeological resources. The records search conducted for this study did identify several resources that intersect or are adjacent to MWMP facilities. Again, historical aerials show that many of these resources were identified prior to development of the area and have since been destroyed or covered by buildings, pavement, or landscaping. The proposed MWMP maintenance activities are unlikely to significantly impact archaeological resources. Dudek visited those archaeological resources that are within the MWMP APE but whose site boundaries have not been completely capped by development (Table 3). These site visits located no surface manifestation of these resources. Because there is no evidence of the resources on the surface, surficial activities pose no potential to significantly impact archaeological resources.

Many of the maintenance activities proposed by the MWMP are non-invasive and require no ground disturbance. Non-invasive maintenance activities include hand removal of vegetation and graffiti removal, herbicide and rodenticide activities, temporary access/loading, temporary stockpiling, and temporary water diversion. If the area surrounding the facility contains no archaeological resources or if it is completely developed, the non-invasive activities would have no potential to significantly impact archaeological resources.

Proposed ground-disturbing MWMP activities include channel clearing and bank repair. As described in Section 5.1, Archaeological Resource Sensitivity, many channels and basins underwent deep

excavation during their construction. The construction would have displaced any archaeological resources or native soils that were present. Repeated water flow and erosion episodes would have displaced any resources from natural or engineered earthen-bottom facilities and replaced the surface stratum of the channel with displaced sediments from upstream. Considering the repeated disturbance, MWMP activities that disturb the surface of the channels are unlikely to significantly impact archaeological resources.

The majority of MWMP-proposed activities do not have the potential to significantly impact historical resources under CEQA or have an adverse effect on historic properties under Section 106 of the NHPA. There are circumstances at specific facilities, such as areas of extreme cultural sensitivity, which would require further archaeological review prior to maintenance. Dudek reviewed the sensitivity of the MWMP facilities and created the Archaeological Review Matrix (Table 4) to guide the City's MWMP and prevent significant impacts to archaeological resources. Maintenance activities that do not pose a significant impact to archaeological resources at specified MWMP facilities are marked with an "X" in the Archaeological Review Matrix (Table 4) and would not require further archaeological review or monitoring during maintenance. Maintenance activities that are not exempt and would require further archaeological review at the specified MWMP facility are identified in Table 4 with "Review." These facilities are located within archaeologically sensitive areas and, because details about the proposed maintenance activity are not currently known (e.g., exact location, access points, excavation method, or depth), the maintenance activity could potentially impact a cultural resource. The City would retain a qualified archaeologist to review maintenance activities once these specific details are known. The archaeologist would then determine the potential impacts to resources and recommend the appropriate mitigation measures. Likewise, the City will conduct subsequent consultation with Native American representatives to determine if maintenance activities have the potential to impact TCRs. Table 5, Non-Exempt Activities, is an abbreviated version of Table 4 that shows only those facilities and activities that would require further review. Should further review determine that the proposed maintenance activities have the potential to impact TCRs or archaeological resources, additional mitigation may be required, including avoidance measures, archaeological testing, or data recovery. The City has established a discovery process for significant resources identified in pipeline, trenching, and other linear projects within the public right-of-way. Linear project data recovery procedures include in-situ recordation, recovery, laboratory analysis, curation, and reporting. Additional mitigation may result from future tribal consultation.

The Archaeological Review Matrix (Table 4) indicates which activities are exempt from further archaeological review, but it does not indicate which activities are exempt from further built-environment or paleontological review. For those activities, see the review matrices in the accompanying historical resources (Appendix E) and paleontological (Appendix H) technical reports.

Table 5
Non-Exempt Activities

Facility Name	Facility/ IAMFLOC Number	Segment/ Number	Excavation (Previous Disturbance) - Equipment In Channel	Excavation (Previous Disturbance) - Equipment Outside Channel	Dredging	Earthen Bank Grading	Concrete Removal (Possible Over-Excavation)	Temporary Access/ Loading, Staging, or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand Removal of Vegetation	Mowing of Vegetation	Resource	Proximity	Site Description
Los Peñasquitos Watershed														
10405 Sorrento Valley	HW04220	10405 Sorrento Valley	x	x	x	N/A	Review	x	x	x	x	P-37-004609	Intersects	Prehistoric village
Carroll Canyon Creek	2-03-012	Carroll Canyon - 1	Review	Review	Review	Review	N/A	x	x	x	x	None	N/A	N/A
Los Peñasquitos Canyon Creek - 5-805 Basin	2-01-900	5-805 Fwys - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-37-031095	Intersects	Prehistoric hearths
Los Peñasquitos Canyon Creek - Sorrento Valley	2-01-000	Sorrento Valley - 1	Review	Review	Review	Review	N/A	x	x	x	x	None	N/A	N/A
Peñasquitos Lagoon - Industrial	2-01-120	Industrial - 1	Review	Review	Review	Review	N/A	x	x	x	x	None	N/A	N/A
Peñasquitos Lagoon - Industrial	2-01-122	Industrial - 2	x	x	x	N/A	Review	x	x	x	x	None	N/A	N/A
Peñasquitos Lagoon - Tripp	2-01-130	Tripp - 1	x	x	x	N/A	Review	x	x	x	x	P-37-036415	Adjacent	Distribution line
Soledad Canyon Creek - Dunhill	2-03-150	Dunhill - 1	Review	Review	Review	Review	N/A	x	x	x	x	None	N/A	N/A
Soledad Canyon Creek - Flintkote	2-03-100	Flintkote - 1	x	x	x	N/A	Review	x	x	x	x	None	N/A	N/A
Soledad Canyon Creek - Sorrento	2-03-000	Roselle - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-001010	Adjacent	Destroyed Prehistoric artifact scatter

Table 5
Non-Exempt Activities

Facility Name	Facility/ IAMFLOC Number	Segment/ Number	Excavation (Previous Disturbance) - Equipment In Channel	Excavation (Previous Disturbance) - Equipment Outside Channel	Dredging	Earthen Bank Grading	Concrete Removal (Possible Over-Excavation)	Temporary Access/ Loading, Staging, or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand Removal of Vegetation	Mowing of Vegetation	Resource	Proximity	Site Description
Soledad Canyon Creek - Sorrento	2-03-002	Roselle - 2	x	x	x	N/A	Review	x	x	x	x	P-001010	Adjacent	Destroyed Prehistoric artifact scatter
Soledad Canyon Creek - Sorrento	2-03-004	SorValRd - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-37-004609	Intersects	Prehistoric village
Soledad Canyon Creek - Sorrento	2-03-006	SorValRd - 2	Review	Review	Review	Review	N/A	x	x	x	x	None	N/A	N/A
Mission Bay Watershed														
Torrey Pines-Torrey	3-00-120	Torrey Pines – 1	Review	Review	Review	Review	N/A	x	x	x	x	P-37-031737; P-37-034756	Adjacent	Historic trash dump; pottery kiln. All parcels within Pottery Canyon Park are listed on the City's Historical Resources Register (No. 108)
Pueblo San Diego														
Chollas Creek - National	5-04-004	National - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-37-012091; P-37-025853	Intersects	Prehistoric habitation refuse
Chollas Creek - National	5-04-006	National - 2	x	x	x	N/A	Review	x	x	x	x	P-37-025852	Intersects	Prehistoric shell scatter
Chollas Creek - Martin	5-04-101	Martin - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-37-025853	Intersects	Prehistoric habitation refuse

Notes: Activities marked with "x" do not require further archaeological review. Facilities listed as "None" under "Resource" do not require additional evaluation.
IAMFLOC = Infrastructure Asset Management Functional Location; N/A = not applicable

6.2 MITIGATION MEASURES

Maintenance activities that have been determined to be non-exempt from further archaeological review (Table 4, Archaeological Review Matrix) pose a potentially significant impact to archaeological resources that are listed in or eligible for listing in the CRHR or NRHP. This includes those archaeological resources that have not been formally evaluated. Impacts to at-risk cultural resources would be avoided by requiring further archaeological review prior to implementation of MWMP maintenance activities. For all those non-exempt activities, the City would retain a qualified archaeologist to review the maintenance activity once all details of the maintenance plan are known. The archaeologist would determine the activity's potential to impact known cultural resources, and recommend appropriate mitigation measures (MM-CR-1 through MM-CR-3). The City will conduct subsequent consultation with Native American representatives to determine if additional mitigation measures are required to avoid impacts to TCRs. Mitigation measures are required to reduce potentially significant impacts to archaeological and tribal cultural resources to less than significant.

Because there is always a potential for encountering resources during ground-disturbing activities anywhere in the City, such as, but not limited to excavation or debris and/or sediment removal, the procedures established in the City's *Whitebook – Standard Specification for Public Works Construction* (Whitebook) (City of San Diego 2015) shall be implemented. Section 6-3.2.1 of the Whitebook specifically requires that in the event that unanticipated resources such as a Native American, archaeological, and/or paleontological item be identified subsurface, soil disturbance in the area of discovery must cease until the item is properly evaluated and salvaged. The procedures of the Whitebook shall apply to all maintenance activities at all facilities, including those marked exempt (x) in the Archaeological Review Matrix (Table 4).

This report was completed in compliance with federal, state, and local regulations. Separate mitigation measures are not required. Rather, each mitigation measure has been designed to fulfill the requirements of Section 106 of the NHPA, CEQA Statutes and Guidelines, and the City's Historical Resources Guidelines. The City would be the lead agency implementing all cultural resources mitigation measures.

Implementation of the following mitigation measures would reduce potential adverse effects/significant impacts to cultural resources to **less than significant**.

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

I. Prior to Start of Activities Marked as Requiring Further Review in Table 4, Archaeological Review Matrix, and as Determined Necessary by a Qualified Archaeologist's Review of the Proposed Maintenance Activity

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 roles and responsibilities of all parties involved in the monitoring and/or treatment program, including inter-agency relationships for the purposes of compliance with Section 106 of the National Historic Preservation Act (NHPA), California Environmental Quality Act (CEQA), and the City of San Diego (City) Historical Resources Regulations and Historical Resources Guidelines (HRG).
- Reporting protocols
- Construction monitoring methods
- Avoidance and protection measures for all cultural resources
- Procedures for evaluating resource significance, and/or data recovery for significant resources (known and unanticipated discoveries) that cannot be avoided within the linear footprint, unless human remains are encountered and require removal for the purpose of repatriation. City established data recovery procedures include in-situ recordation, recovery, laboratory analysis, curation and/or repatriation, and reporting.
- Consultation obligations and timelines for providing feedback
- Post-construction requirements

2. The PI shall prepare the draft CRMTP and submit to the City of San Diego Point of Contact for review and to facilitate any stakeholder consultation obligations.

MM-CR-2 **Avoidance of Cultural Resources.** The following measure shall be implemented to protect known archaeological resources that may also be tribal cultural resources (hereafter referred to as "cultural resources") which have not been evaluated for significance or that have been evaluated as significant under Section 106 and CEQA.

I. Prior to Start of Activities Marked as Requiring Further Review in Table 4, Archaeological Review Matrix, and as Determined Necessary by a Qualified Archaeologist's Review of the Proposed Maintenance Activity

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/or CEQA, shall 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, environmentally sensitive area signage, or other measures deemed appropriate and as specified in the CRMTP.

MM-CR-3 **Construction Monitoring.** The following monitoring program shall be implemented to protect unknown archaeological or tribal cultural resources that may be encountered during construction and/or maintenance-related activities.

I. Prior to Permit Issuance or Bid Opening/Bid Award for Activities Marked as Requiring Further Review in Table 4, Archaeological Review Matrix, and Tribal Cultural Resources, of the EIR and as Determined Necessary by a Qualified Archaeologist's Review of the Proposed Maintenance Activity

A. Entitlements Plan Check

1. Prior to permit issuance or Bid Opening/Bid Award, whichever is applicable, the Environmental Designee (ED) 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.

B. Letters of Qualification have been submitted to ED

1. Prior to Bid Award, the City's Transportation & Storm Water Department (TSW) shall submit a letter of verification to Mitigation Monitoring Coordination (MMC) identifying the PI for the project and the names of all persons involved in the archaeological monitoring program, as defined in the City's 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 TSW 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, TSW 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 ¼ mile radius.

B. PI Shall Attend Precon Meetings

1. Prior to beginning any work that requires monitoring; TSW shall arrange a Precon Meeting that shall include the PI, Native American consultant/monitor (where Native American resources may be impacted), MMC representative, Project Consultant(s), TSW, Construction Manager (CM) (if applicable), Resident Engineer (RE) (if applicable), and other parties of interest. 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, TSW shall schedule a focused Precon Meeting with MMC, the PI, RE, or CM, if appropriate, prior to the start of any work that requires monitoring.

2. Acknowledgement of Responsibility for Curation (Capital Improvement Program or Other Public Projects)

   TSW 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 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 (CSVR). The CSVR's shall be emailed 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, 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 email with photos of the resource in context, if possible.
4. No soil shall be exported off-site until a determination can be made regarding the significance of the resource specifically if Native American resources are encountered.

C. Determination of Significance

1. The PI and Native American consultant/monitor, where Native American resources are discovered shall evaluate the significance of the resource. If Human Remains are involved, follow protocol in Section 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 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, as appropriate, MMC, and the PI, if the Monitor is not qualified as a PI. MMC will notify the appropriate Senior Planner in the Environmental Analysis Section (EAS) of the Development Services Department to assist with the discovery notification process.
2. The PI shall notify the Medical Examiner after consultation with the RE, either in person or via telephone.

B. Isolate discovery site

1. Work shall be directed away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner in consultation with the PI concerning the provenience of the remains.
2. The Medical Examiner, in consultation with the PI, will determine the need for a field examination to determine the provenience.
3. If a field examination is not warranted, the Medical Examiner will determine with input from the PI, if the remains are or are most likely to be of Native American origin.

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

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

2. NAHC will immediately identify the person or persons determined to be the Most Likely Descendent (MLD) and provide contact information.
3. The MLD will contact the PI within 24 hours or sooner after the Medical Examiner has completed coordination, to begin the consultation process in accordance with CEQA Section 15064.5(e), the California Public Resources and Health & Safety Codes.
4. The MLD will have 48 hours to make recommendations to the property owner or representative, for the treatment or disposition with proper dignity, of the human remains and associated grave goods.
5. Disposition of Native American Human Remains will be determined between the MLD and the PI, and, if:
    a. The NAHC is unable to identify the MLD, OR the MLD failed to make a recommendation within 48 hours after being granted access to the site, 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, the landowner shall reinter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance, 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. The document shall be titled “Notice of Reinterment of Native American Remains” and shall include a legal description of the property, the name of the property owner, and the owner’s acknowledged signature, in addition to any other information required by PRC 5097.98. The document shall be indexed as a notice under the name of the owner.
    d. Upon the discovery of multiple Native American human remains during a ground disturbing land development activity, the

landowner may agree that additional conferral with descendants is necessary to consider culturally appropriate treatment of multiple Native American human remains. Culturally appropriate treatment of such a discovery may be ascertained from review of the site utilizing cultural and archaeological standards. Where the parties are unable to agree on the appropriate treatment measures the human remains and 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, TSW/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 CSVR and submit to MMC via email 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.

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, as appropriate, a minimum of 24 hours before the work is to begin.

2. The RE, 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 City's 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 Archaeological Data Recovery Program or Pipeline Trenching Discovery Process shall be included in the Draft Monitoring Report.

b. Recording Sites with State of California Department of Parks and Recreation

The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program in accordance with the City's 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.
5. MMC shall notify the RE, 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, as appropriate for donor signature with a copy submitted to MMC.
4. The RE, 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 and MMC.

D. Final Monitoring Report(s)

1. The PI shall submit one copy of the approved Final Monitoring Report to the RE 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

6.3 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be **less than significant** after mitigation is incorporated.

7 REFERENCES

Affinis. 2011. "Archaeological Resources Analysis for the Master Storm Water System Maintenance Program, San Diego, California." Report on file at the South Coastal Information Center.

Basgall, M.E., and M. Hall. 1990. "Adaptive Variation in the North-Central Mojave Desert." Paper presented at the 55th Annual Meeting of the Society for American Archaeology, Las Vegas, Nevada.

Basgall, M.E., and M. Hall. 1993. *Adaptive Variation in the North-Central Mojave Desert*. Paper Presented at the 55th Annual Meeting of the Society for American Archaeology, Las Vegas.

Basgall, M.E., L. Johnson, and M.J. Hale. 2002. "An Evaluation of Four Archaeological Sites in the Lead Mountain Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California." Submitted to U.S. Army Corps of Engineers, Fort Worth, Texas.

Bean, L.J., and F.C. Shipek. 1978. "Luiseño." In *Handbook of North American Indians*, Vol. 8, *California*, edited by R.F. Heizer, 550–563. Washington, D.C.: Smithsonian Institution.

Boscana, G. 1846. "Chinigchinich: A Historical Account of the Origin, Customs, and Traditions of the Indians at the Missionary Establishment of St. Juan Capistrano, Alta California." In *Life in California*, edited by A. Robinson, 227–341. New York, New York: Wiley & Putnam.

Byrd, B.F., and S.N. Reddy. 2002. "Late Holocene Adaptations along the Northern San Diego Coastline: New Perspectives on Old Paradigms." In *Cultural Complexity on the California Coast: Late Holocene Archaeological and Environmental Records*, edited by J.M. Erlandson and T.L. Jones, 41–62. Los Angeles, California: University of California–Los Angeles Press.

City of San Diego. 2001. Historical Resources Guidelines. Adopted September 1999; amended April 2001. https://www.sandiego.gov/sites/default/files/legacy/development-services/industry/pdf/ldmhistorical.pdf.

City of San Diego. 2007. *City of San Diego Final Program Environmental Impact Report for the Draft General Plan*. September 2007. https://www.sandiego.gov/planning/genplan/documents/peir.

City of San Diego. 2015. *Whitebook – Standard Specification for Public Works Construction.*

City of San Diego. 2016. *California Environmental Quality Act: Significance Determination Thresholds*. July 2016.

City of San Diego. 2018. "Historical Resources Regulations." San Diego Municipal Code. San Diego, California.

County of San Diego. 2007. Ordinance No. 9890 (N/S). County of San Diego Board of Supervisors. San Diego, California.

CSP (California State Parks). 2009. "Preservation Matters." *The Newsletter of the California Office of Historic Preservation* 2(3): 3–21.

Davis, E.L. 1978. *The Ancient Californians: Rancholabrean Hunters of the Mojave Lakes Country*. Los Angeles, California: Natural History Museum of Los Angeles County.

Fages, P. 1937. *A Historical, Political, and Natural Description of California* (1775). Translated by Herbert Ingram Priestly. Berkeley, California: University of California Press.

Gallegos, D.R. 1987. "San Dieguito River-La Jolla: Chronology and Controversy." San Diego County Archaeological Society, Research Paper No. 1.

Gallegos, D., and C. Kyle. 1988. *Five Thousand Years of Maritime Subsistence at Ballast Point Prehistoric Site SDI-48 (W-164), San Diego, California*. San Diego, California: WESTEC Services.

Geiger, M., and C.W. Meighan. 1976. *As The Padres Saw Them: California Indian Life and Customs as Reported by the Franciscan Missionaries, 1813–1815.* Santa Barbara, California: Santa Barbara Mission Archive Library.

Golla, V. 2007. "Linguistic Prehistory." In *California Prehistory: Colonization, Culture, and Complexity*, edited by T.L. Jones and K.A. Klar, 71–82. New York, New York: Altamira Press.

Griset, S. 1996. "Southern California Brown Ware." Unpublished PhD dissertation; University of California, Riverside.

Hale, M.J. 2001. "Technological Organization of the Millingstone Pattern in Southern California." Master's thesis; California State University, Sacramento.

Hale, M.J. 2009. "San Diego and Santa Barbara: Socioeconomic Divergence in Southern California." PhD dissertation; University of California, Davis.

Harrington, J.P. 1934. "A New Original Version of Boscana's Historical Account of the San Juan Capistrano Indians of Southern California." *Smithsonian Miscellaneous Collections* 92(4).

Hector, S.M. 1984. "Late Prehistoric Hunter-Gatherer Activities in Southern San Diego County." PhD dissertation; University of California, Los Angeles.

Hector, S.M. 2007. "Archaeological Investigations at University House Meeting Center and Chancellor Residence, CA-SDI-4669 (SDM-W-12), University of California at San Diego, La Jolla, California." ASM Affiliates.

Homburg, J.A., J.A. Miller, and R. McLean. 2013. Geoarchaeological Assessment: Mission Bay Golf Course, City of San Diego, San Diego County, California.

Homburg, J.A., and R. McLean. 2017. *Searching for La Rinconada: Final Geoarchaeological Assessment: Sewer Group 786 and Sewer & Water Group 955: City of San Diego, San Diego County, California*. On file at SCIC.

Johnson, J.R., and J.G. Lorenz. 2006. "Genetics, Linguistics, and Prehistoric Migrations: An Analysis of California Indian Mitochondrial DNA Lineages." *Journal of California and Great Basin Anthropology* 26:33–64.

Kroeber, A. 1925. *Handbook of the Indians of California.* Washington D.C.: Smithsonian Institution.

Laylander, D. 1985. "Some Linguistic Approaches to Southern California's Prehistory." *San Diego State University Cultural Resource Management Center Casual Papers* 2(1): 14–58.

Laylander, D. 2000. *Early Ethnography of the Californias, 1533-1825*. Salinas, California: Coyote Press Archives of California Prehistory.

Laylander, D. 2010. "Linguistic Prehistory." Research Issues in San Diego Prehistory. Accessed August 31, 2012. http://www.sandiegoarchaeology.org/Laylander/Issues /index.htm

Lightfoot, K.J. 2005. "Indians, Missionaries, and Merchants." Berkeley, California: University of California Press.

Luomala, K. 1978. "Tipai and Ipai." In *California*, edited by Robert F. Heizer, 592–609. *Handbook of the North American Indians*, Vol. 8, William C. Sturtevant, general editor. Washington, D.C.: Smithsonian Institution.

Meighan, C.W. 1959. "California Cultures and the Concept of an Archaic Stage." *American Antiquity* 24:289–305.

Office of Historic Preservation. 1995. "Instructions for Recording Historical Resources." California State Parks, Office of Historic Preservation. March 1995. http://ohp.parks.ca.gov/pages/1054/files/manual95.pdf.

Owen, R.C. 1965. "The Patrilineal Band: A Linguistically and Culturally Hybrid Social Unit." *American Anthropologist* 67:675–690.

Pigniolo, A.R. 2004. "Points, Patterns, and People: Distribution of the Desert Side-Notched Point in San Diego." *Proceedings of the Society for California Archaeology* 14:27–39.

Pigniolo, A.R. 2005. "Subsistence, Settlement, and Environmental Change at San Diego Bay." *Proceedings of the Society for California Archaeology* 18:255–259.

Preston, W.L. 2002. "Portents of Plague from California's Protohistoric Period." *Ethnohistory* 49:69–121.

Rogers, M.J. 1929. "The Stone Art of the San Dieguito Plateau." *American Anthropologist* 31:454–467.

Rogers, M.J. 1945. "An Outline of Yuman Prehistory." *Southwestern Journal of Anthropology* 1:167–198.

Shipek, F.C. 1982. "Kumeyaay Socio-Political Structure." *Journal of California and Great Basin Anthropology* 4:296–303.

Shipek, F.C. 1985. "Kuuchamaa: The Kumeyaay Sacred Mountain." *Journal of California and Great Basin Anthropology* 7(1): 67–74.

Spier, L. 1923. "Southern Diegueño Customs." *University of California Publications in American Archaeology and Ethnology* 20:295–358.

True, D.L. 1966. "Archaeological Differentiation of Shoshonean and Yuman Speaking Groups in Southern California." PhD dissertation; University of California, Los Angeles.

True, D.L. 1980. "The Pauma Complex in Northern San Diego County: 1978." *Journal of New World Archaeology* 3(4): 1–39.

Wallace, W.J. 1955. "A Suggested Chronology for Southern California Coastal Archaeology." *Southwestern Journal of Anthropology* 11:214–230.

Warren, C.N. 1964. "Cultural Change and Continuity on the San Diego Coast." PhD dissertation; University of California, Los Angeles.

Warren, C.N. 1968. "Cultural Tradition and Ecological Adaptation on the Southern California Coast." In *Archaic Prehistory in the Western United States*, edited by C. Irwin-Williams, 1–14. Portales, New Mexico: Eastern New Mexico University Contributions in Anthropology.

Warren, C.N., G. Siegler, and F. Dittmer. 2004. "Paleoindian and Early Archaic Periods." In Prehistoric and Historic Archaeology of Metropolitan San Diego: A Historic Properties Background Study. Prepared for the Metropolitan Wastewater Department, City of San Diego. Encinitas, California: ASM Affiliates.

Wilken, M.A. 2012. "An Ethnobotany of Baja California's Kumeyaay Indians." Master's thesis; San Diego State University.

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

Map Sheet Extent

Project Facility Maintenance Plans (FMPs)

Project Facilities Evaluated (No FMP Proposed)

Additional Facilities (Limited Program-Level Activities)

Sheet 1

Sheet 2

Sheet 3

Sheet 4

Sheet 5

Sheet 6

Sheet 7

Sheet 8

Sheet 9

Sheet 10

Sheet 11

Sheet 12

N

0 2.5 5 Miles

SOURCE: ESRI, 2017; SANDAG, 2017

DUDEK

The City of SAN DIEGO

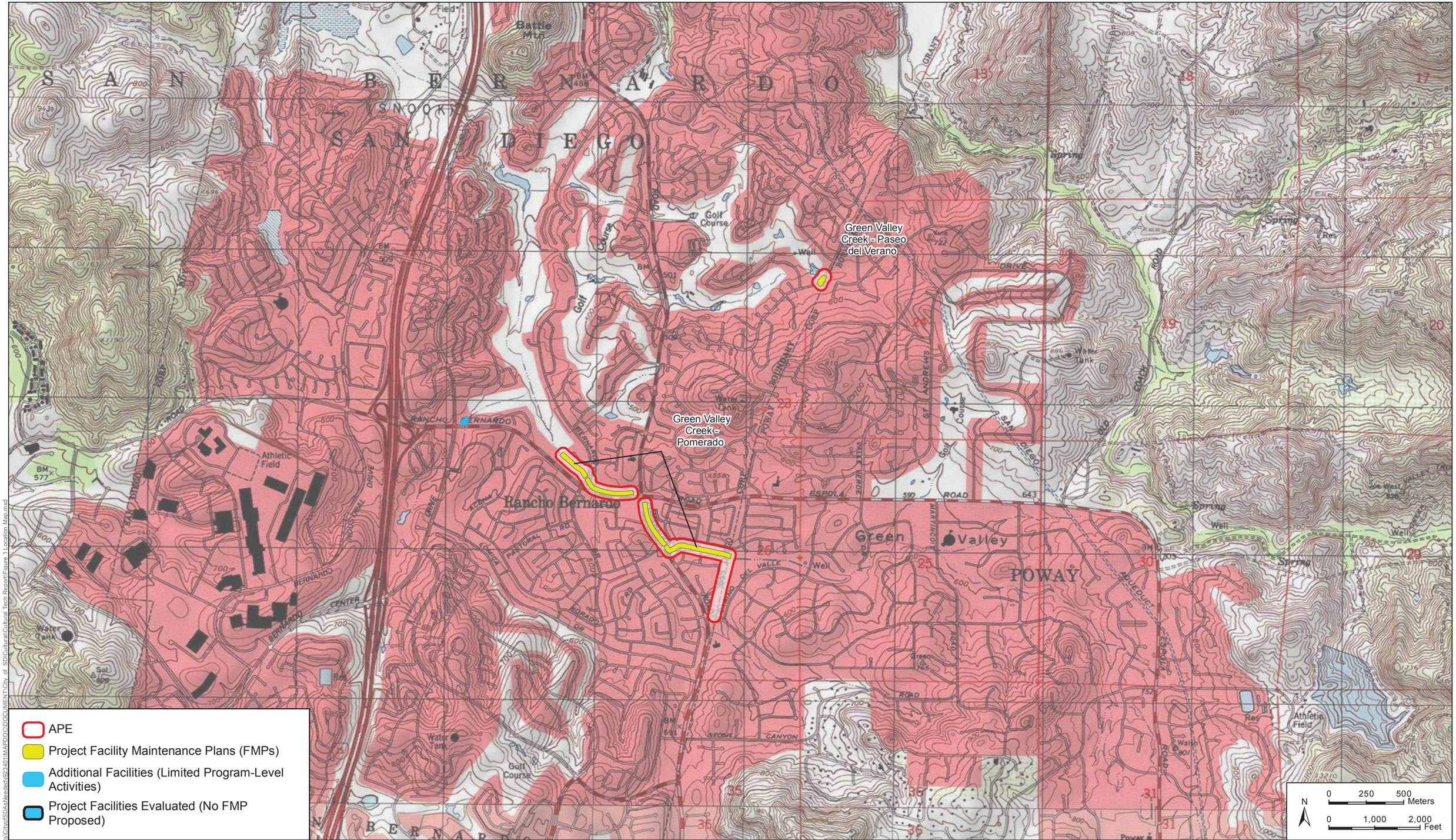
Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

Figure 1 Overview

Date: 8/14/2019 - Last saved by: cbattle - Path: Z:\Projects\CityofSDAsNeeded\92340\MAPDOC\DOCUMENTS\City_of_SD\Cultural\Cultural Tech Report\Figure 1 Overview.mxd

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



DUDEK

The City of SAN DIEGO

SOURCE: California Division of Mines and Geology Bulletin, 1975; California Geological Survey, 2007

Sheet: 1 of 12

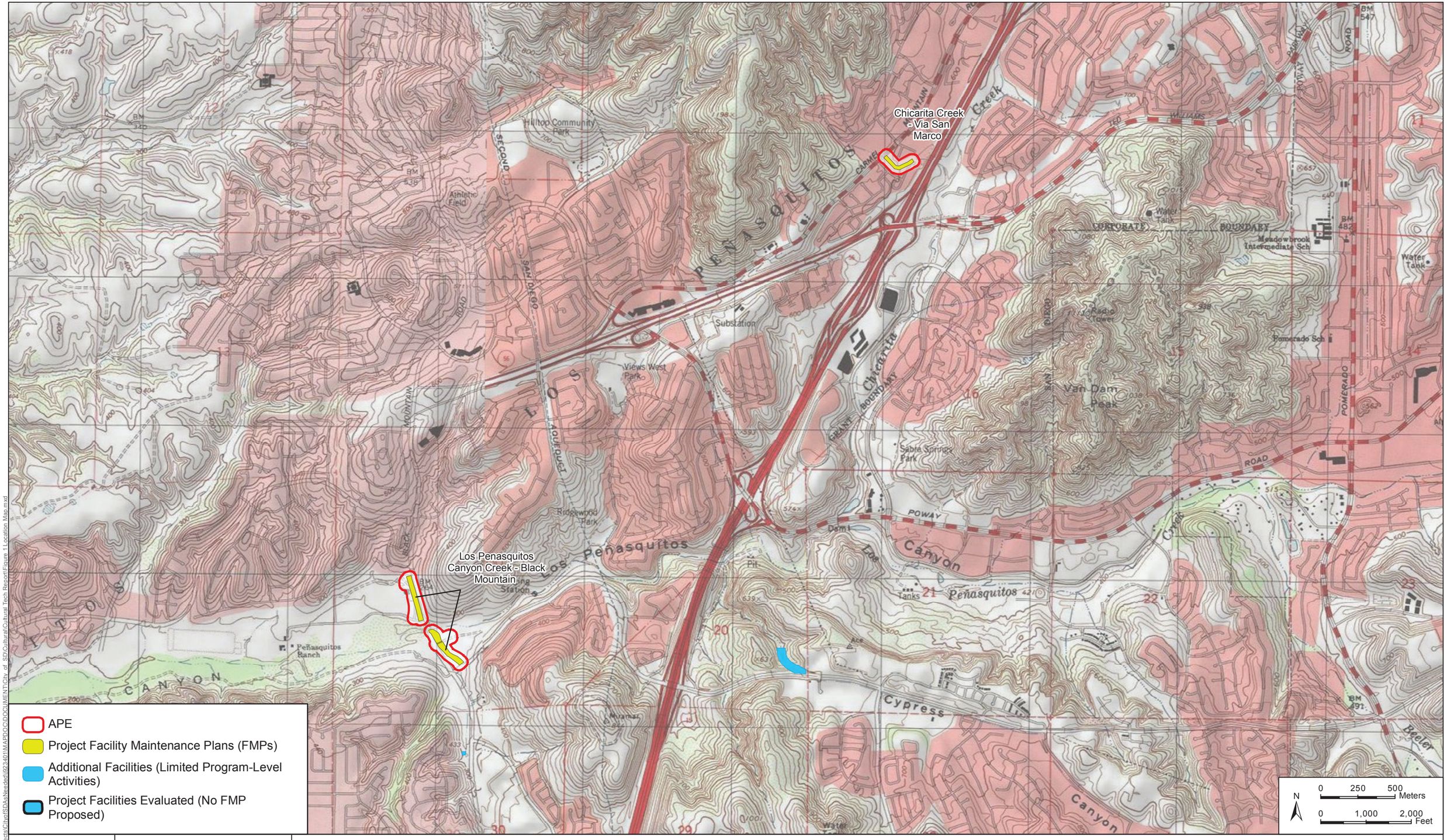
Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

Figure 1-1 - Location Map

Document Path: Z:\Projects\CityofSDAsNeeded\823401\MAP\DOC\DOCUMENT\City of SD\Cultural\Cultural Tech Report\Figure 1-1 ocation Map.mxd

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



SOURCE: California Division of Mines and Geology Bulletin, 1975

DUDEK

The City of SAN DIEGO

Sheet: 2 of 12

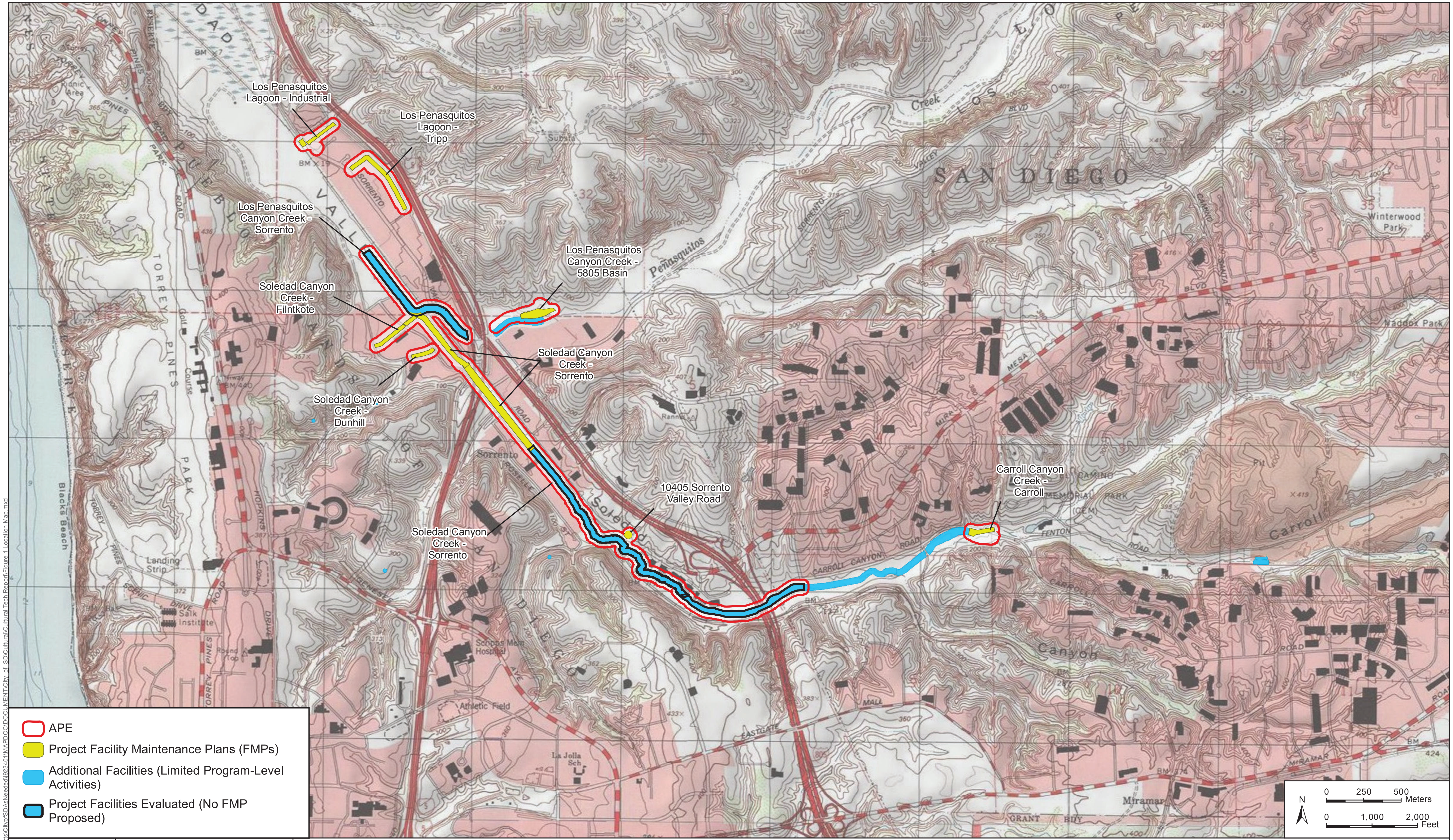
Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

Figure 1-2 - Location Map

Document Path: Z:\Projects\CityofSDAsNeeded\d923401\MAPDOC\DOCUMENT\City of SD\Cultural\Cultural Tech Report\Figure 1_Location Map.mxd

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



DUDEK

The City of SAN DIEGO

SOURCE: California Division of Mines and Geology Bulletin, 1975

Sheet: 3 of 12

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

Figure 1-3 - Location Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

Torrey Pines - Torrey

APE

Project Facility Maintenance Plans (FMPs)

Additional Facilities (Limited Program-Level Activities)

Project Facilities Evaluated (No FMP Proposed)

N

0 250 500 Meters

0 1,000 2,000 Feet

SOURCE: California Division of Mines and Geology Bulletin, 1975

DUDEK

The City of SAN DIEGO

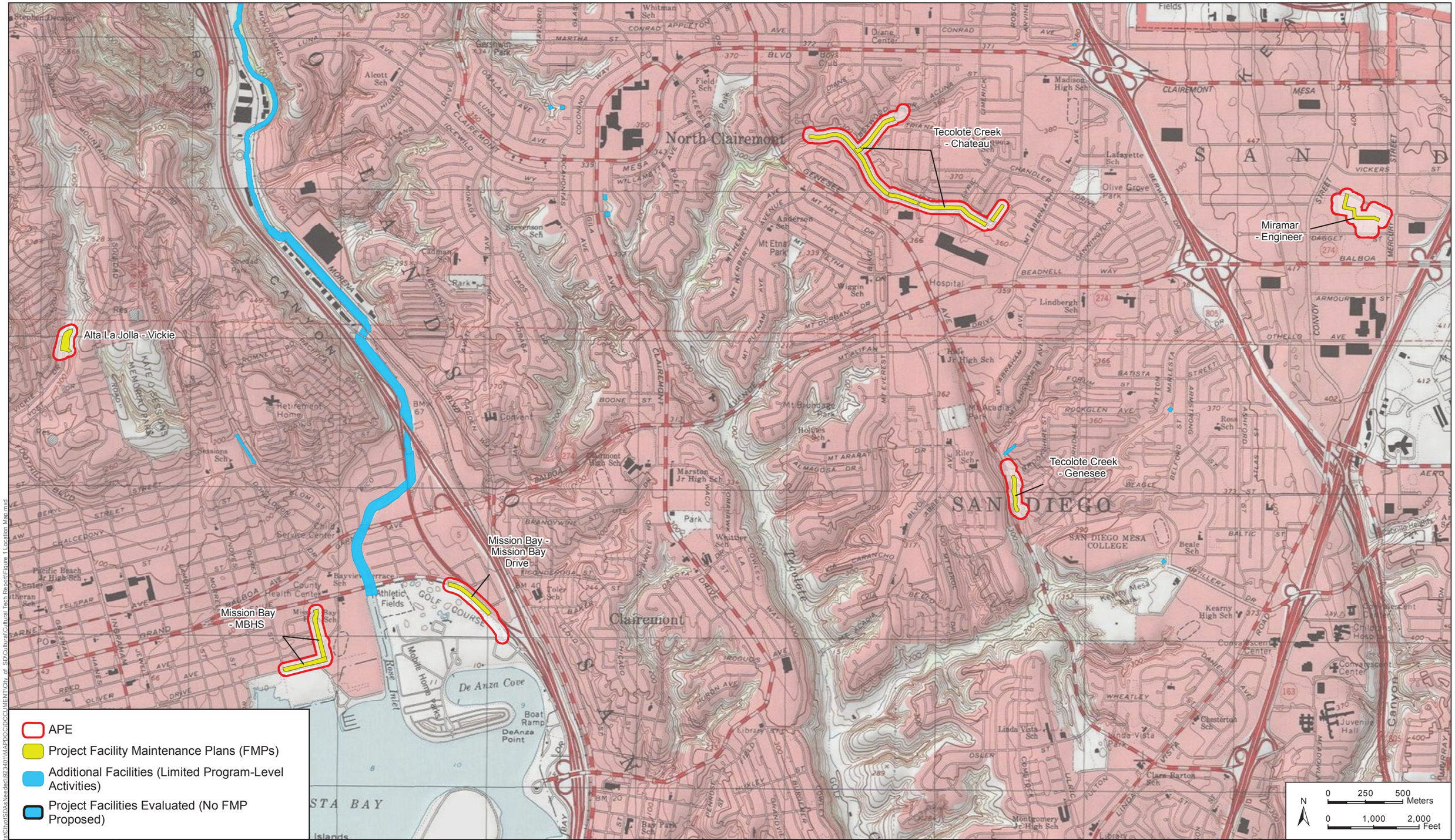
Sheet: 4 of 12

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

Figure 1-4 - Location Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



SOURCE: California Division of Mines and Geology Bulletin, 1975

DUDEK

The City of SAN DIEGO

Sheet: 5 of 12

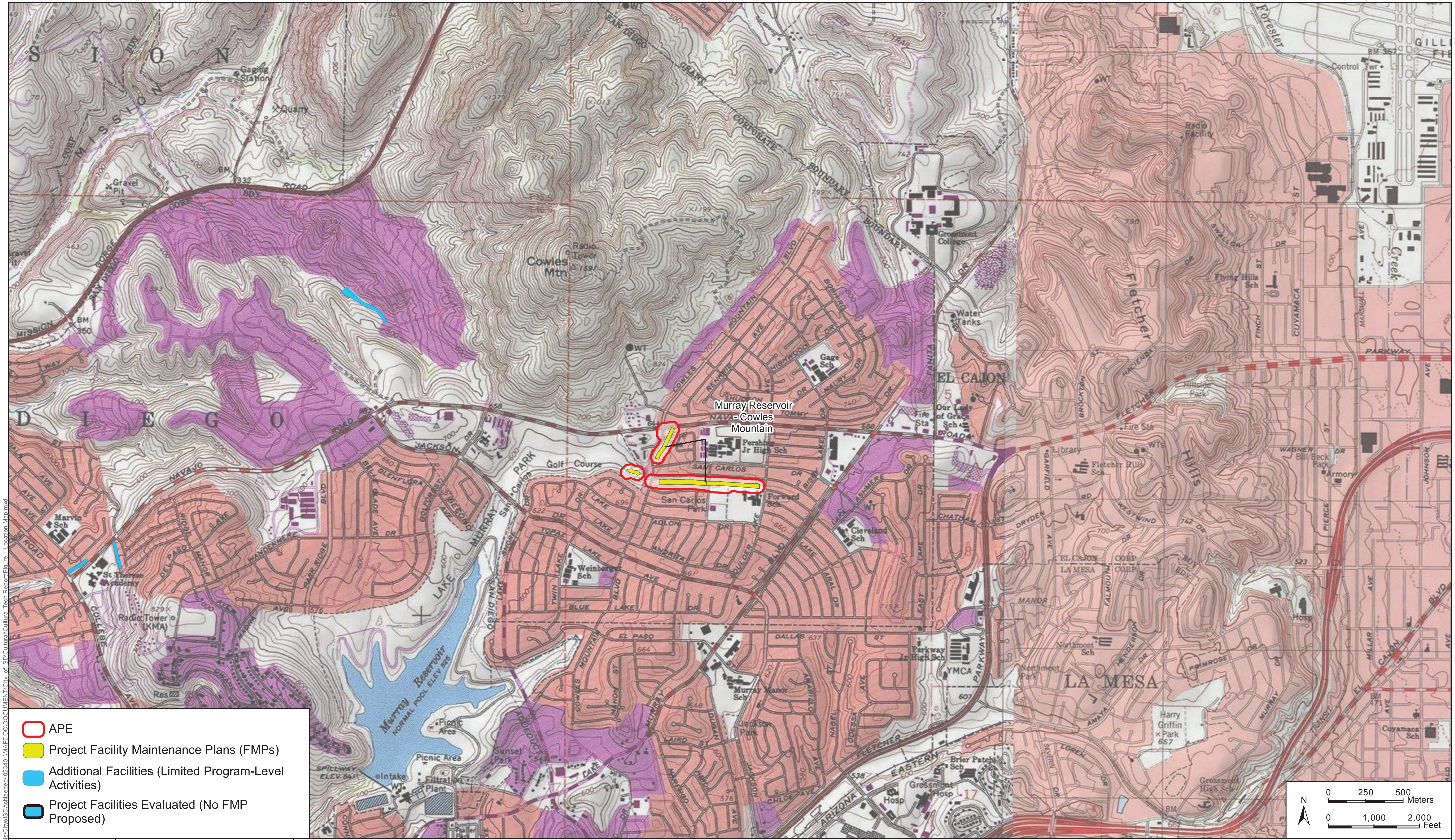
Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

Figure 1-5 - Location Map

Document Path: Z:\Projects\CityofSDAsNeeded\d2340\1MAP\DOC\DOCUMENT\City of SD\Cultural\Cultural Tech Report\Figure 1-Location Map.mxd

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



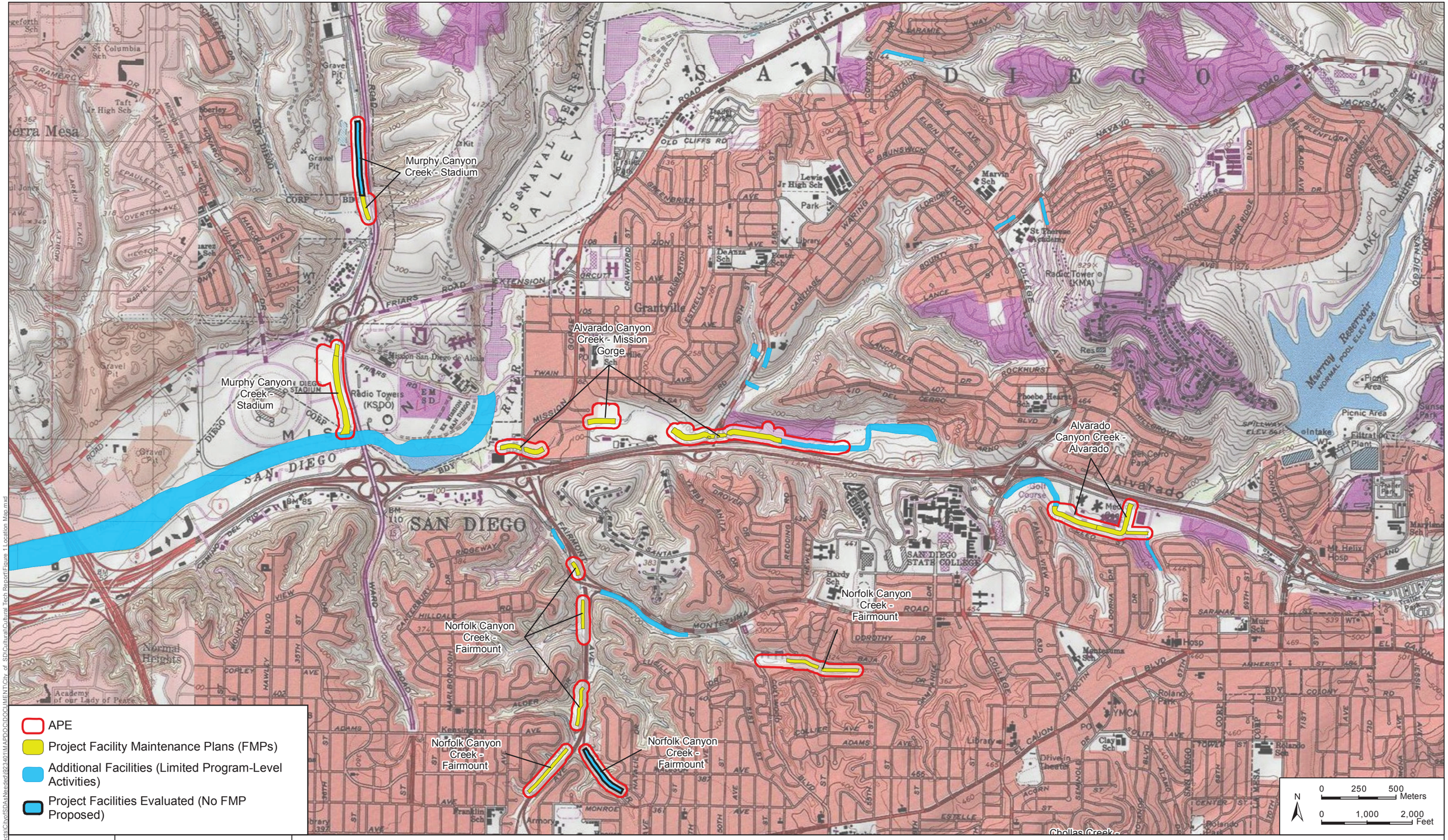
DUDEK	The City of SAN DIEGO	SOURCE: California Division of Mines and Geology Bulletin, 1975	Sheet: 6 of 12

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

Figure 1-6 - Location Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



SOURCE: California Division of Mines and Geology Bulletin, 1975

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

Tecolote Creek - Morena

5505 Friars Rd

1660 Hotel Circle North

901 Hotel Circle South

2087 Hotel Circle South

San Diego River - Camino del Rio

1277 Camino Del Rio South

1331 Washington

San Diego River - Nimitz

San Diego River - Valeta

Mission Hill Canyon Creek - Titus

Washington Canyon Creek - Washington

Maple Canyon Creek - Maple

- APE
- Project Facility Maintenance Plans (FMPs)
- Additional Facilities (Limited Program-Level Activities)
- Project Facilities Evaluated (No FMP Proposed)

N

0 250 500 Meters

0 1,000 2,000 Feet

SOURCE: California Division of Mines and Geology Bulletin, 1975

DUDEK

The City of SAN DIEGO

Sheet: 8 of 12

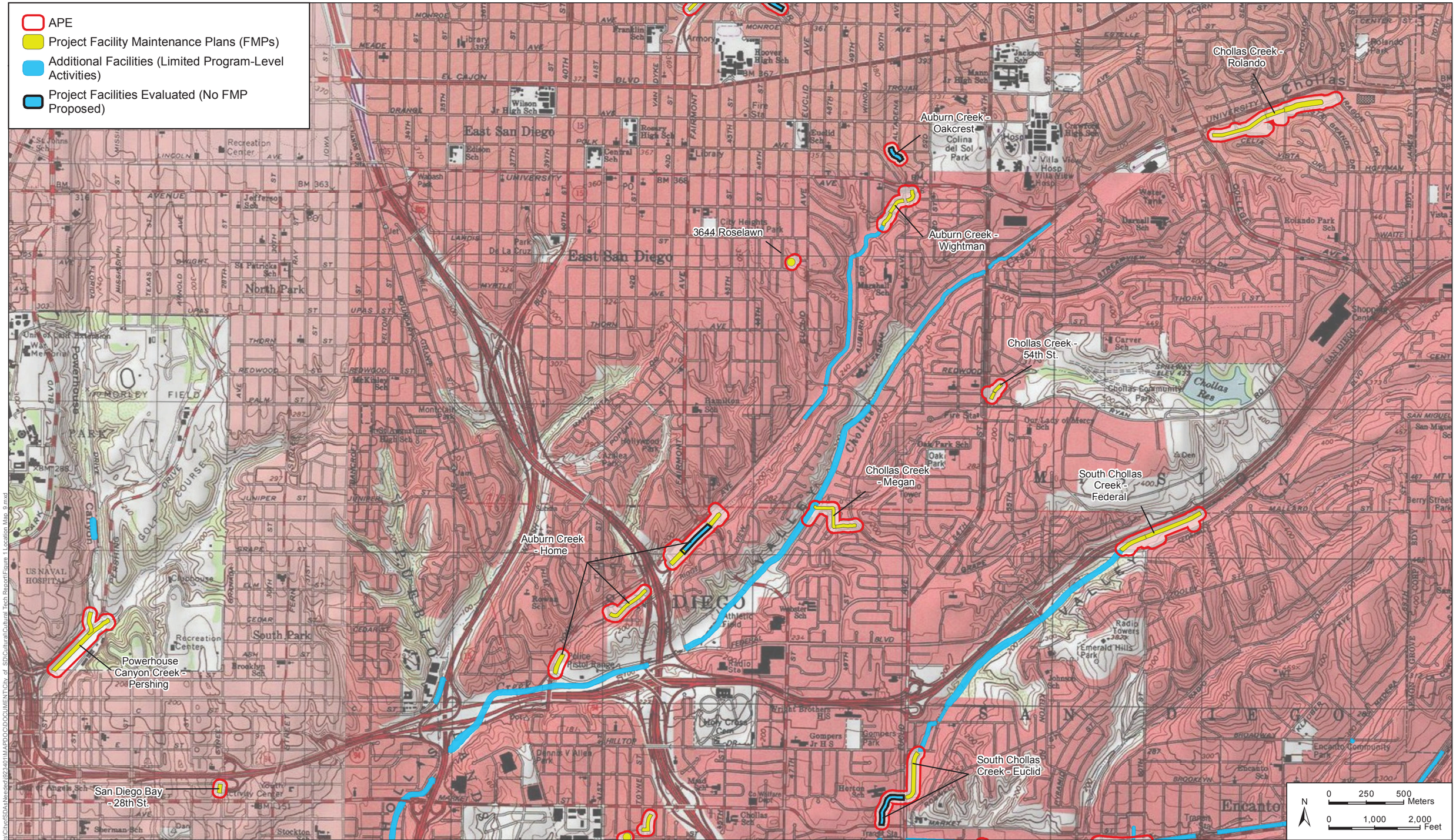
Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

Figure 1-8 - Location Map

Document Path: Z:\Projects\CityofSDAsNeeded\823401\MAP\DOC\DOCUMENT\City of SD\Cultural\Cultural Tech Report\Figure 1-Location Map.mxd

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



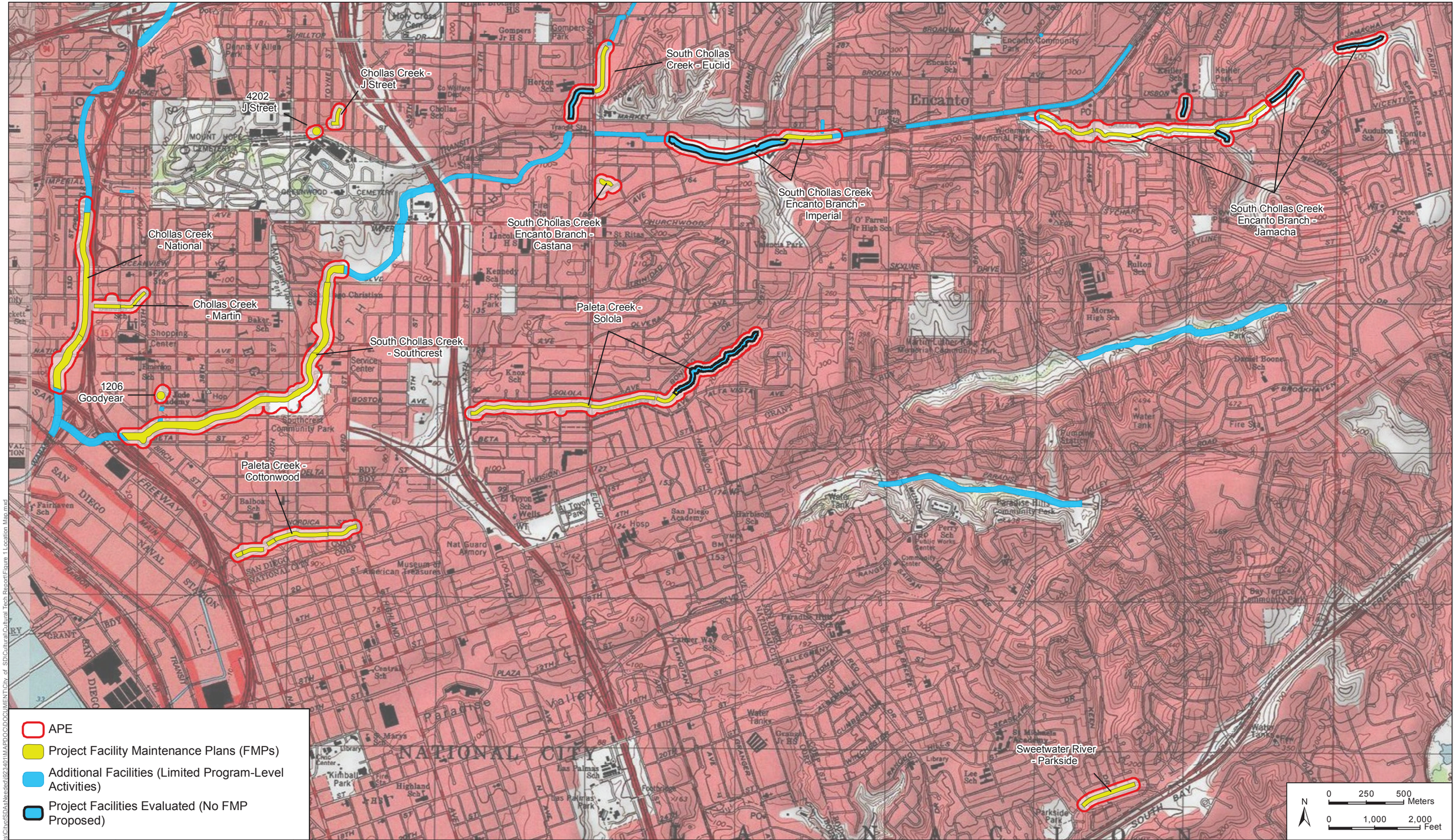
Document Path: Z:\Projects\CityofSDAsNeeded\923401\MAPDOC\DOCUMENT\City of SD\Cultural\Cultural Tech Report\Figure 1Location Map_9.mxd

DUDEK

The City of SAN DIEGO

SOURCE: California Division of Mines and Geology Bulletin, 1975

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



SOURCE: California Division of Mines and Geology Bulletin, 1975

DUDEK

The City of SAN DIEGO

Sheet: 10 of 12

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

Figure 1-10 - Location Map

Document Path: Z:\Projects\CityofSDAsNeeded\923401\MAP\DOC\DOCUMENT\City of SD\Cultural\Cultural Tech Report\Figure 1-Location Map.mxd

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

Nestor Creek - Nestor

Nestor Creek - Outer

Nestor Creek - Nestor

Nestor Creek - Nestor

Tijuana River - Tocayo

Tijuana River - Tocayo

Tijuana River - Smythe

Tijuana River - Smythe

Tijuana River - Pilot & Smugglers

- APE
- Project Facility Maintenance Plans (FMPs)
- Additional Facilities (Limited Program-Level Activities)
- Project Facilities Evaluated (No FMP Proposed)

N

0 250 500 Meters

0 1,000 2,000 Feet

SOURCE: California Division of Mines and Geology Bulletin, 1975

Document Path: Z:\Projects\CityofSDAsNeeded\923401\MAP\DOC\DOCUMENT\City_of_SD\Cultural\Cultural_Tech_Report\Figure_1-1_ocation_Map.mxd

DUDEK

The City of SAN DIEGO

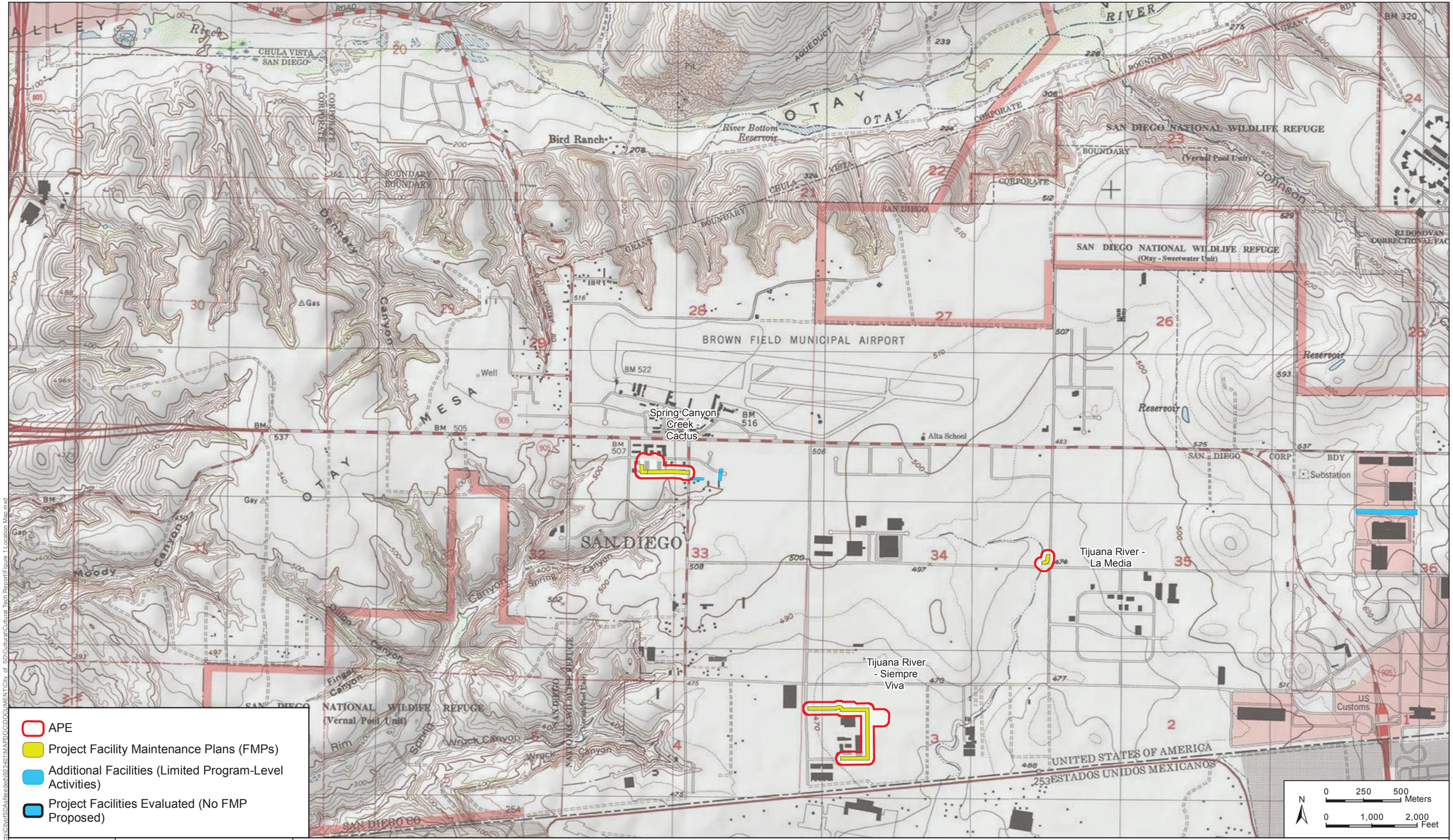
Sheet: 11 of 12

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

Figure 1-11 - Location Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



SOURCE: California Division of Mines and Geology Bulletin, 1975

DUDEK

The City of SAN DIEGO

Cultural Resources Inventory Report

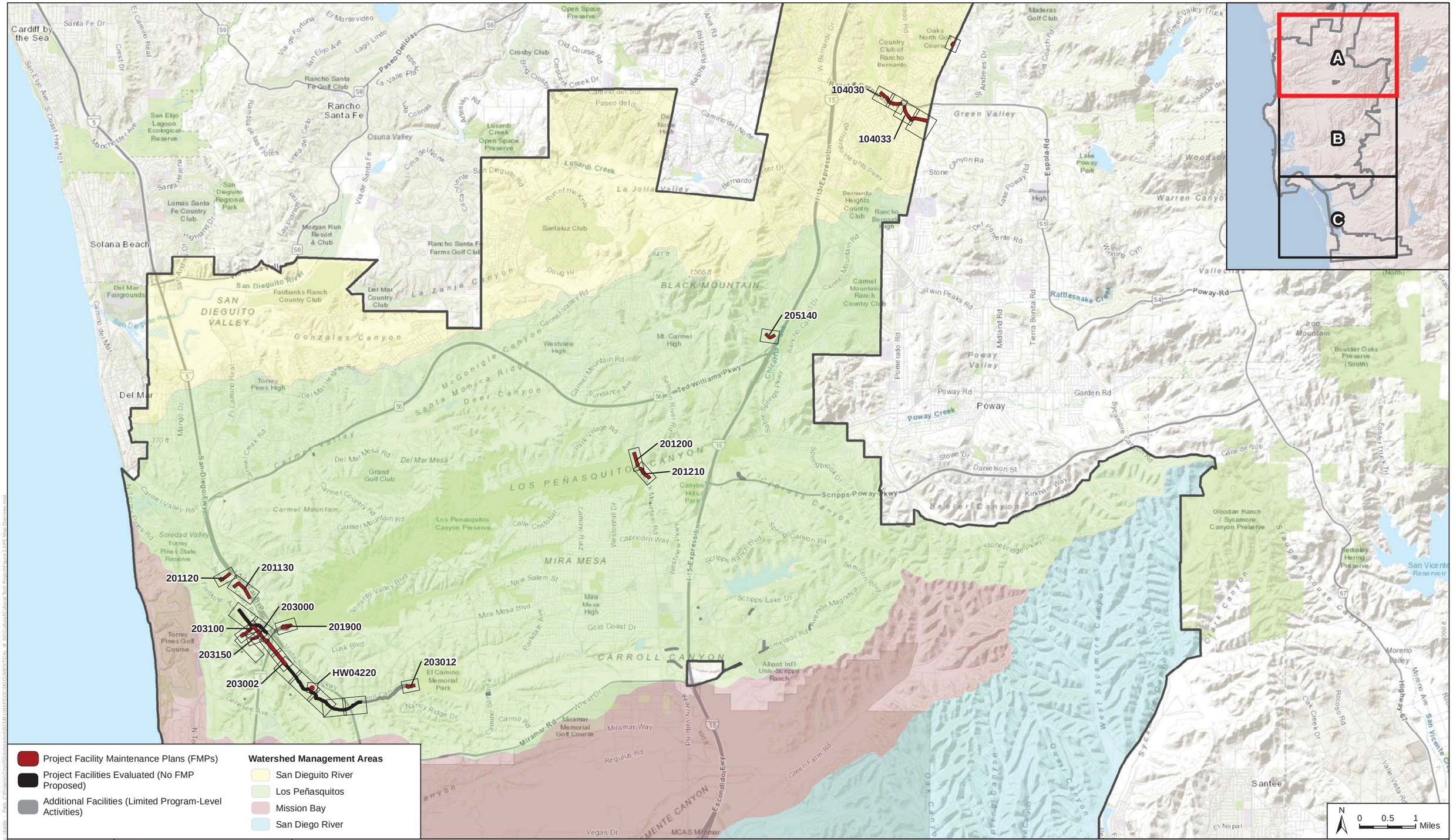
Sheet: 12 of 12

Municipal Waterways Maintenance Plan

Figure 1-12 - Location Map

Document Path: Z:\Projects\City\SDA\Needed\g2340\1\MAPDOC\DOCUMENT\City of SD\Cultural\Cultural Tech Report\Figure 1 Location Map.mxd

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



DUDEK

The City of SAN DIEGO

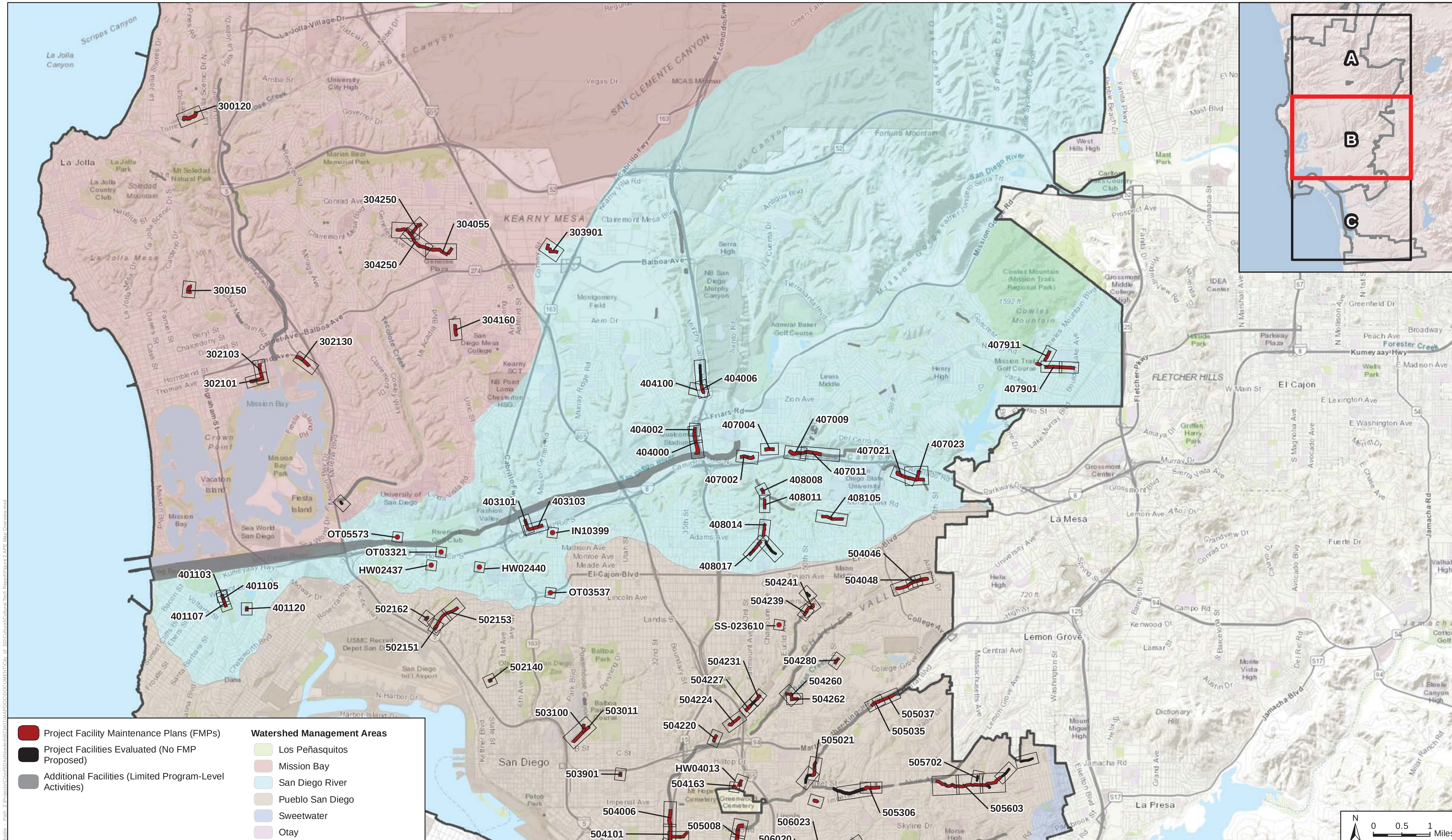
SOURCE: ESRI, 2017; SANDAG, 2017

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

Figure 2-A - APE Map Overview

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



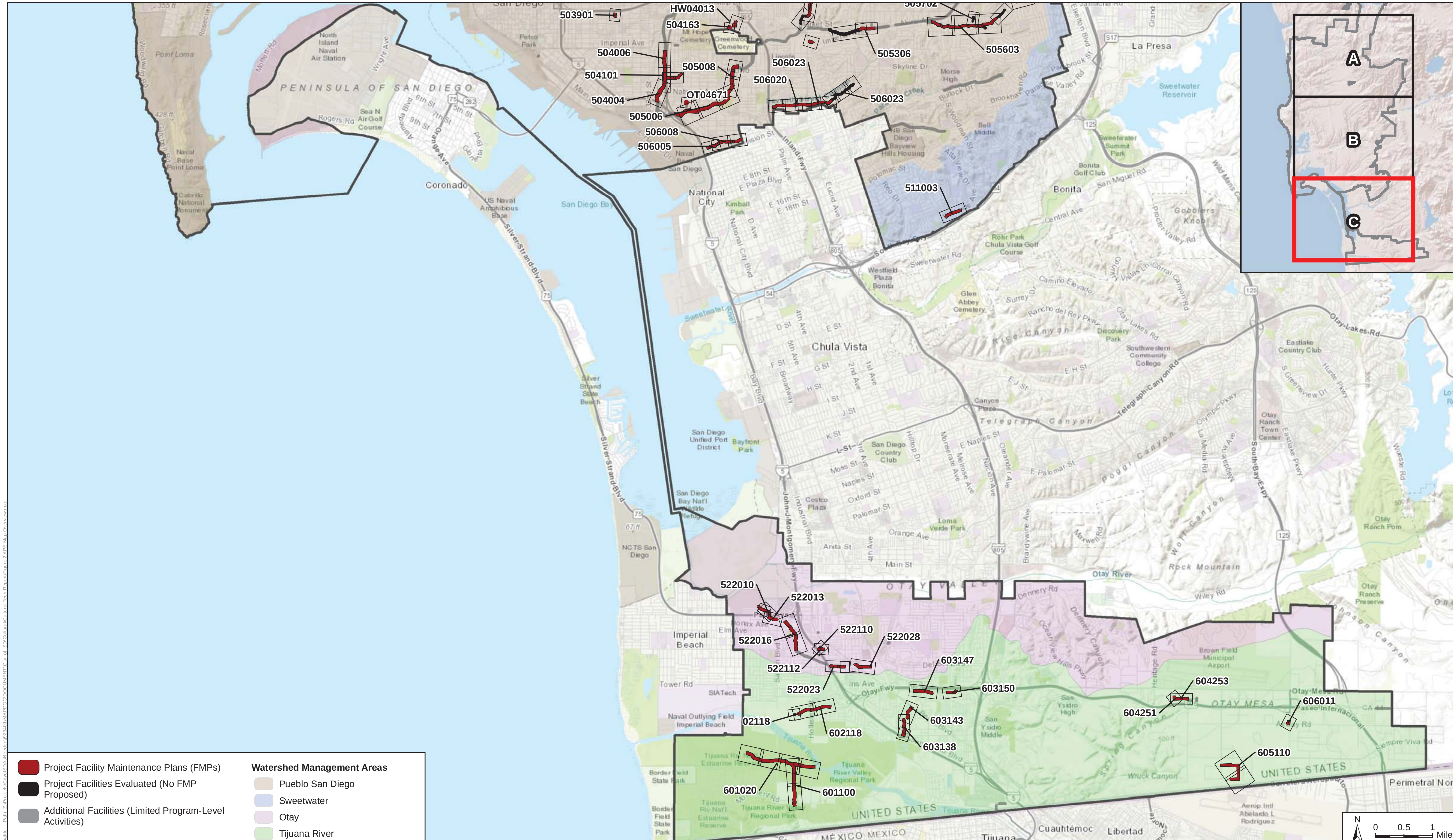
SOURCE: ESRI, 2017; SANDAG, 2017

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

Figure 2-B - APE Map Overview

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING


503901
HW04013
504163
504006
504101
504004
505008
OT04671
505006
506008
506005
506023
506020
506023
505306
505603
511003
522010
522013
522016
522110
522028
522112
522023
603147
603150
02118
602118
603143
603138
601020
601100
604253
604251
606011
605110
A
B
C
Project Facility Maintenance Plans (FMPs)
Project Facilities Evaluated (No FMP Proposed)
Additional Facilities (Limited Program-Level Activities)
Watershed Management Areas
Pueblo San Diego
Sweetwater
Otay
Tijuana River
PENINSULA OF SAN DIEGO
Coronado
National City
Chula Vista
Bonita
La Presa
Imperial Beach
UNITED STATES
MÉXICO MEXICO
Tijuana
N
0
0.5
1
Miles

SOURCE: ESRI, 2017; SANDAG, 2017

DUDEK

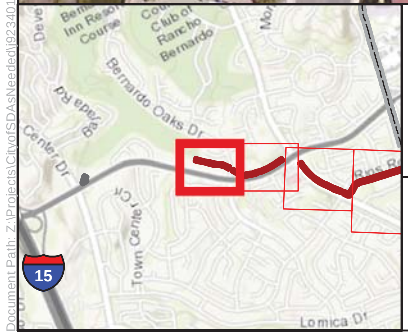
The City of SAN DIEGO

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

Figure 2-C - APE Map Overview

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



Project Facility Maintenance Plans (FMPs)
APE
Maintenance Area

Activity Area

Access/Loading/Staging/Stockpiling Area

N

0 50 100 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

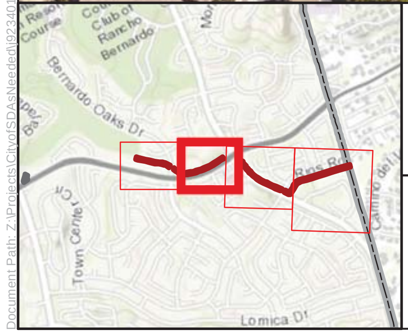
Cultural Resources Inventory Report

San Dieguito River Watershed

Green Valley Creek - Pomerado

Figure 2-1 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



Project Facility Maintenance Plans (FMPs)

Maintenance Area

APE

Activity Area

Access/Loading/Staging/Stockpiling Area

N

0 50 100 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

San Dieguito River Watershed

Green Valley Creek - Pomerado

Figure 2-2 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

Project Facility Maintenance Plans (FMPs)
Maintenance Area
APE

Activity Area

Access/Loading/Staging/Stockpiling Area

0 65 130 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

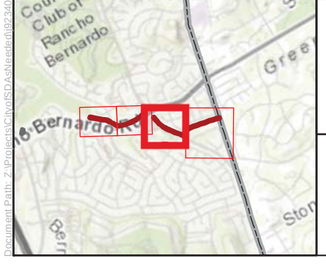
San Dieguito River Watershed

Green Valley Creek - Pomerado

Figure 2-3 - APE Map

Document Path: Z:\Projects\CityofSD\AsNeeded\692401\MAPDOC\DOCUMENT\City_of_SD\Cultural\Cultural_Tech Report\Figure 2 APE Map.mxd

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



Project Facility Maintenance Plans (FMPs) Maintenance Area

APE

Activity Area

Access/Loading/Staging/Stockpiling Area

N

0 65 130 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

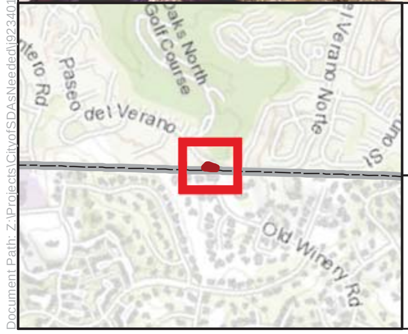
Cultural Resources Inventory Report

San Dieguito River Watershed

Green Valley Creek - Pomerado

Figure 2-4 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



Project Facility Maintenance Plans (FMPs)

APE

Maintenance Area

Activity Area

Access/Loading/Staging/Stockpiling Area

0 37.5 75 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

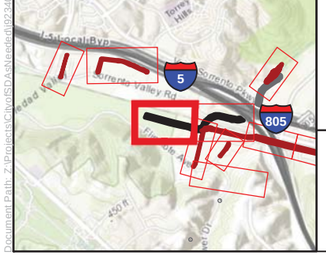
Cultural Resources Inventory Report

San Dieguito River Watershed

Green Valley Creek - Paseo del Verano

Figure 2-5 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



Project Facility Maintenance Plans (FMPs)

Project Facilities Evaluated (No FMP Proposed)

APE

Activity Area

Access/Loading/Staging/Stockpiling Area

Maintenance Area

0 55 110 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

Los Peñsaquitos Watershed

Los Penasquitos Canyon Creek - Sorrento

Figure 2-6 - APE Map

Document Path: Z:\Projects\CityofSD\ASNeeded\823a011MAP\DOCUMENT\City_of_SD\Cultural\Cultural_Tech Report\Figure 2 APE Map.mxd

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING


Sorrento Valley - 1 (201000)
Flintkote - 1 (203100)
Roselle - 1 (203000)
Roselle - 2 (203002)
SORRENTO VALLEY RD
ROSELLE ST
I-805 NB
I-805 SB
I-5 SB
I-5 NB
VISTA SORRENTO PY
I-5 LOCAL BYPASS NB
I-5 SB LOCAL BYPASS RA
I-5 LOCAL BYPASS SB
Project Facility Maintenance Plans (FMPs)
Project Facilities Evaluated (No FMP Proposed)
Additional Facilities (Limited Program-Level Activities)
APE
Activity Area
Access/Loading/Staging/Stockpiling Area
Maintenance Area
0 55 110 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

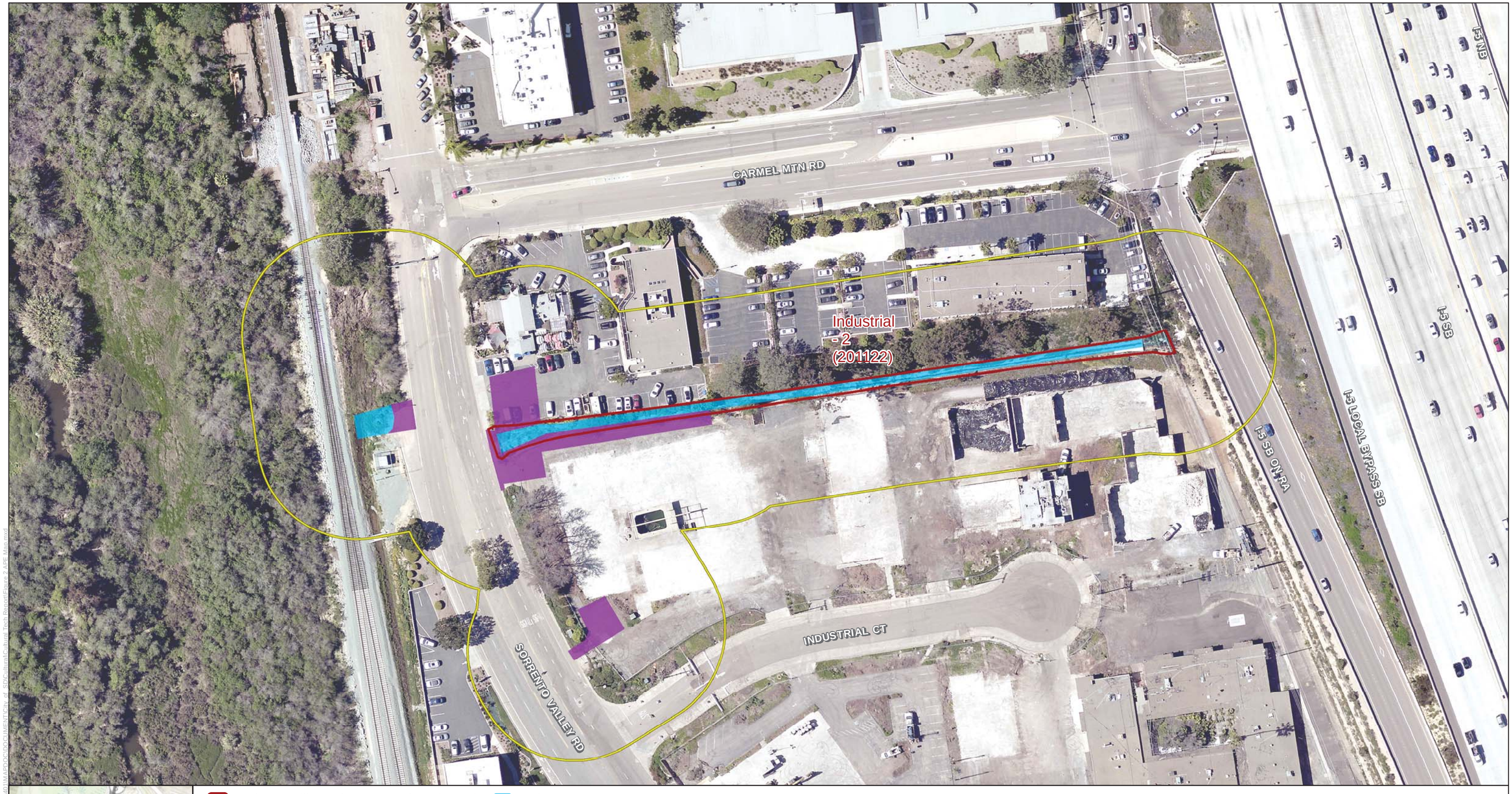
Cultural Resources Inventory Report

Los Peñsaquitos Watershed

Los Penasquitos Canyon Creek - Sorrento

Figure 2-7 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



Project Facility Maintenance Plans (FMPs)
Maintenance Area
APE

Activity Area

Access/Loading/Staging/Stockpiling Area

0 37.5 75 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

Los Peñsaquitos Watershed

Los Penasquitos Lagoon - Industrial

Figure 2-8 - APE Map

Document Path: Z:\Projects\CityofSD\AsNeeded\923401\MAPDOC\DOCUMENT\City_of_SD\Cultural\Cultural_Tech Report\Figure 2 APE Map.mxd

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

I-5 NB
I-5 SB
I-5 LOCAL BYPASS SB
I-5 SB ON RA
I-5 LOCAL BYPASS NB
CALLE MARIPOSA DE
VISTA SORRENTO PY
TRIPP CT
SORRENTO VALLEY RD
Tripp - 1
(201130)

Project Facility Maintenance Plans (FMPs)
Maintenance Area
APE
Activity Area
Access/Loading/Staging/Stockpiling Area

N
0 55 110 Feet

DUDEK
The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

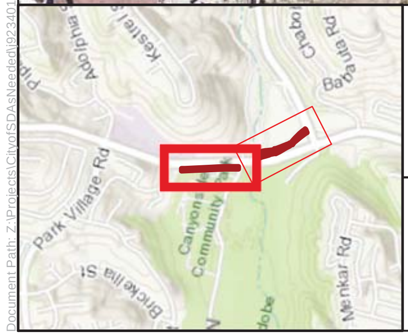
Los Peñasquitos Watershed

Los Penasquitos Lagoon - Tripp

Figure 2-9 - APE Map

Document Path: Z:\Projects\CityofSDAs\Needed\923401\MAP\DOC\DOCUMENT\City of_SD\Cultural\Cultural Tech Report\Figure 2-9 APE Map.mxd

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



Project Facility Maintenance Plans (FMPs)

APE

Maintenance Area

Activity Area

Access/Loading/Staging/Stockpiling Area

0 40 80 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

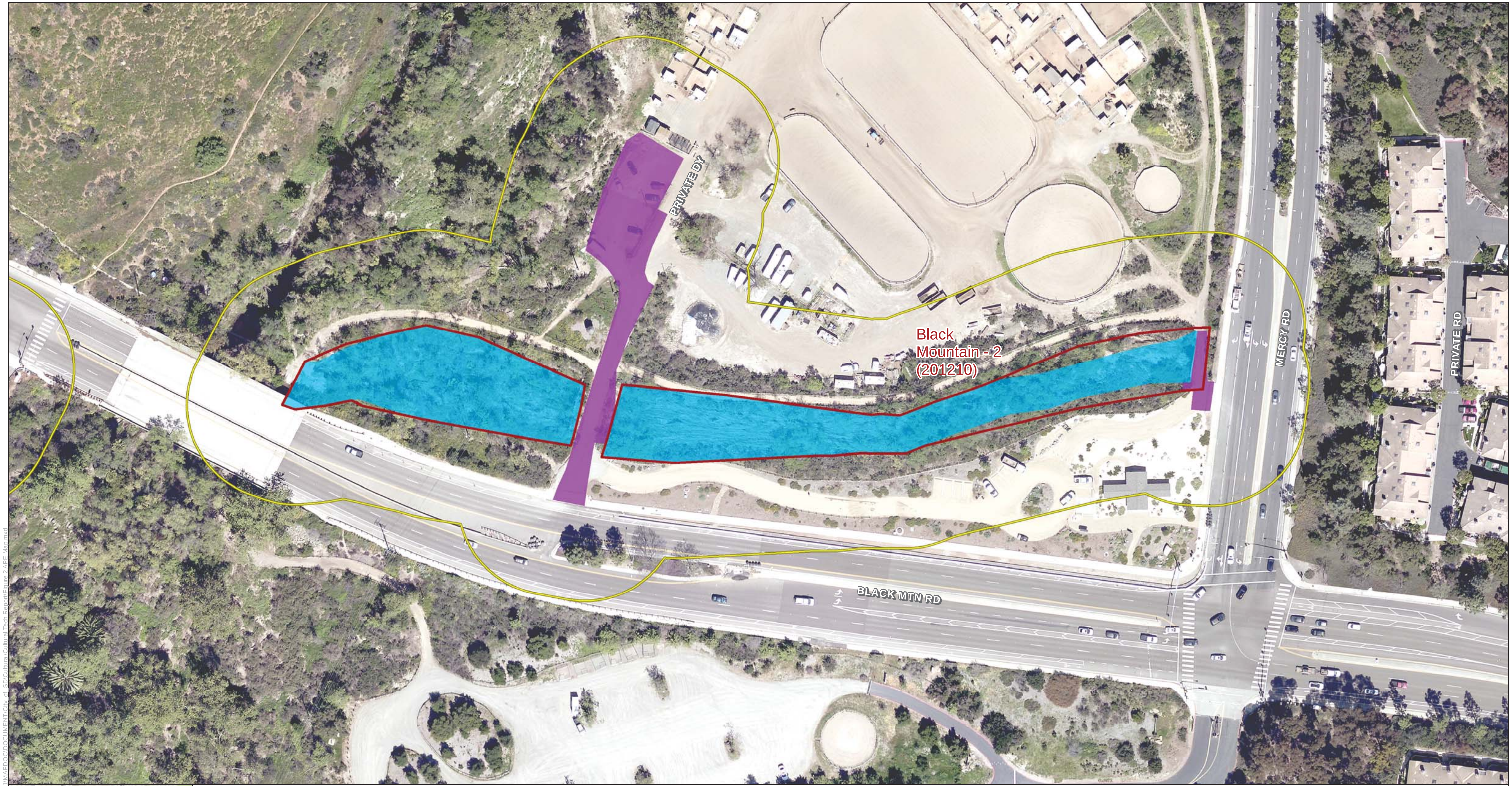
Cultural Resources Inventory Report

Los Peñsaquitos Watershed

Los Penasquitos Canyon Creek - Black Mountain

Figure 2-10 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



Project Facility Maintenance Plans (FMPs)
APE
Activity Area
Access/Loading/Staging/Stockpiling Area
Maintenance Area

0 40 80 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

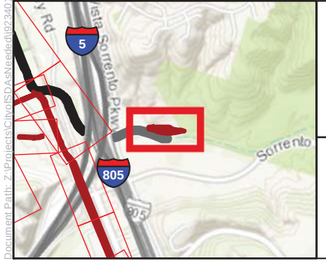
Cultural Resources Inventory Report

Los Peñsaquitos Watershed

Los Penasquitos Canyon Creek - Black Mountain

Figure 2-11 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



Project Facility Maintenance Plans (FMPs)

Additional Facilities (Limited Program-Level Activities)

APE

Activity Area

Access/Loading/Staging/Stockpiling Area

Maintenance Area

N

0 37.5 75 Feet

SOURCE: SANDAG, 2014

DUDEK

The City of SAN DIEGO

Los Peñsaquitos Watershed

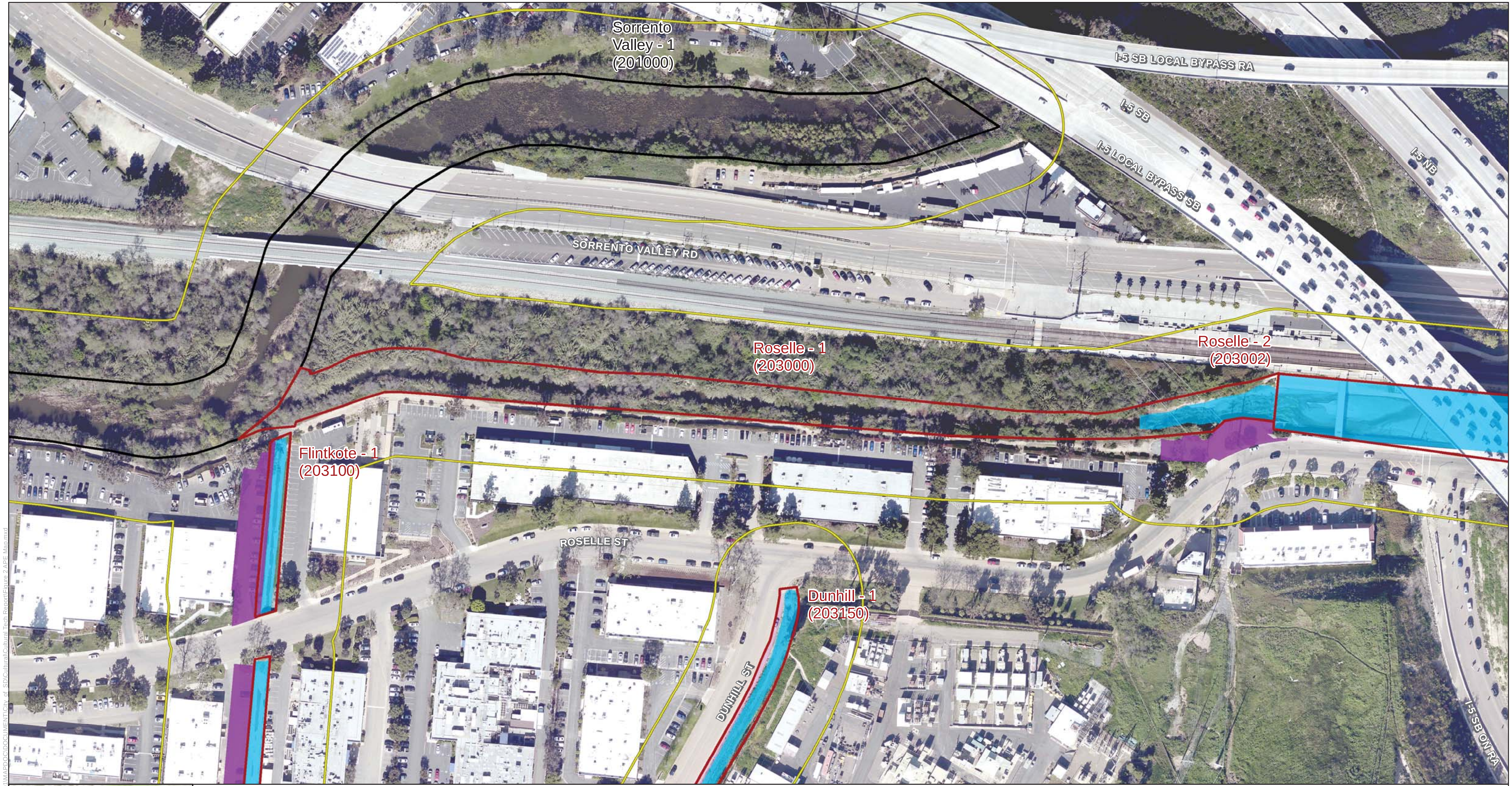
Municipal Waterways Maintenance Plan

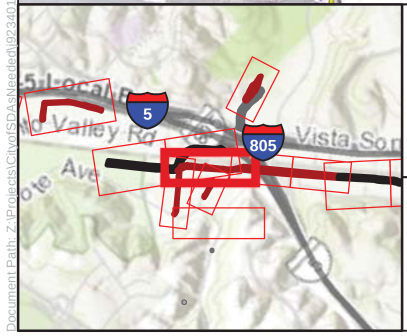
Los Penasquitos Canyon Creek - 5-805 Basin

Cultural Resources Inventory Report

Figure 2-12 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING





Project Facility Maintenance Plans (FMPs)
Project Facilities Evaluated (No FMP Proposed)
APE

Activity Area
Access/Loading/Staging/Stockpiling Area
Maintenance Area

N
0 60 120 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

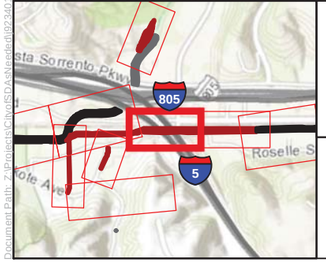
Los Peñsaquitos Watershed

Soledad Canyon Creek - Sorrento

Figure 2-13 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

I-5 SB
I-5 LOCAL BYPASS SB
I-5 NB
SORRENTO VALLEY BL
SORRENTO VALLEY RD
ALLEY
Roselle - 1
(203000)
Roselle - 2
(203002)
ROSELLE ST
I-5 SB ON RA
I-5 NB OFF RA



Project Facility Maintenance Plans (FMPs)
Maintenance Area
APE

Activity Area

Access/Loading/Staging/Stockpiling Area

0 40 80 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

Los Peñsaquitos Watershed

Soledad Canyon Creek - Sorrento

Figure 2-14 - APE Map

Document Path: Z:\Projects\CityofSD\ArcGIS\MXD\DOCUMENT\City of SD\Cultural\Cultural Tech Report\Figure 2 APE Map.mxd

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

ALLEY

BEGONIA ST

ARBUTUS ST

SORRENTO VALLEY RD

Roselle - 2
(203002)

SorValRd - 1
(203004)

I-5 NB OFF RA

ROSELLE ST

Project Facility Maintenance Plans (FMPs)

Project Facilities Evaluated (No FMP Proposed)

APE

Activity Area

Access/Loading/Staging/Stockpiling Area

Maintenance Area

0 40 80 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

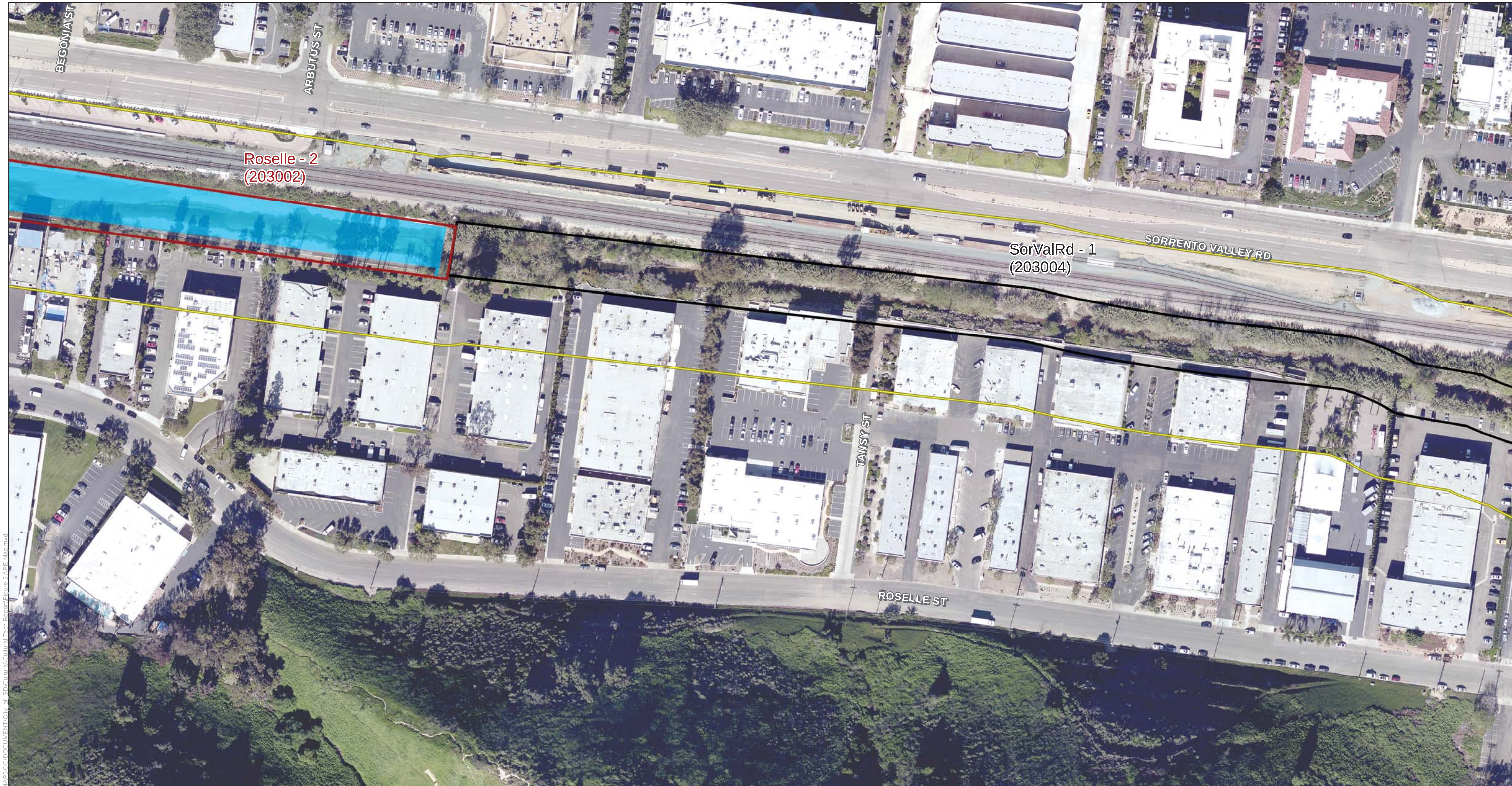
Los Peñsaquitos Watershed

Soledad Canyon Creek - Sorrento

Figure 2-15 - APE Map

Document Path: Z:\Projects\CityofSDAsNeeded\823a01\MAPDOC\DOCUMENT\City_of_SD\Cultural\Cultural Tech Report\Figure 2 APE Map.mxd

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



Project Facility Maintenance Plans (FMPs)
Project Facilities Evaluated (No FMP Proposed)
APE

Activity Area
Maintenance Area

0 60 120 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

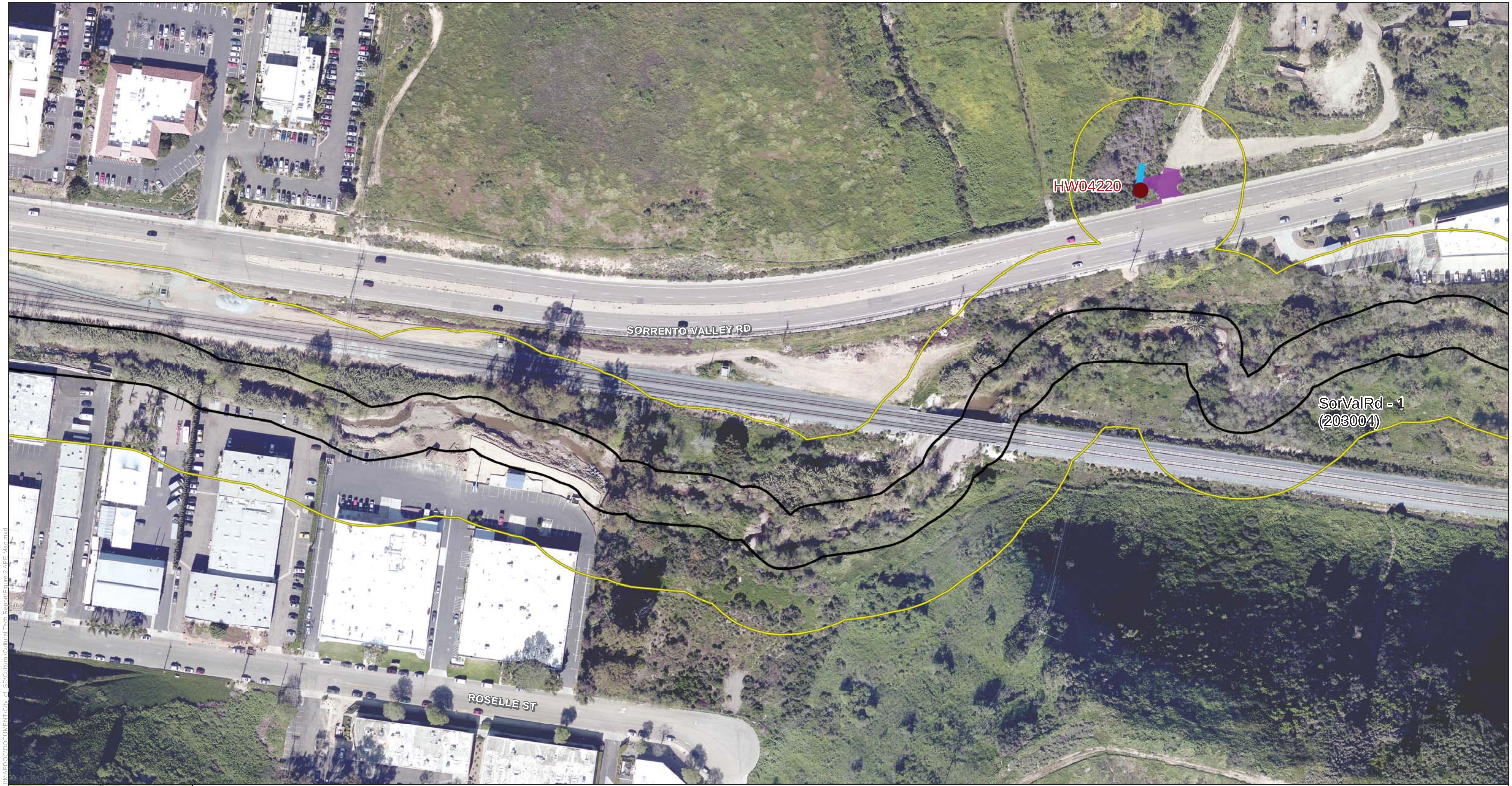
Cultural Resources Inventory Report

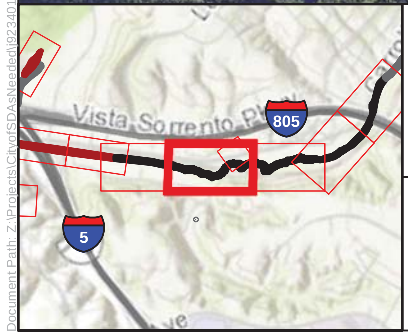
Los Peñsaquitos Watershed

Soledad Canyon Creek - Sorrento

Figure 2-16 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING





Structure - IAMFLOC Number
Project Facilities Evaluated (No FMP Proposed)
APE

Activity Area
Access/Loading/Staging/Stockpiling Area
Maintenance Area

0 60 120 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

Los Peñsaquitos Watershed

Soledad Canyon Creek - Sorrento

Figure 2-17 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

Project Facilities Evaluated (No FMP Proposed)

APE

N

0 60 120 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

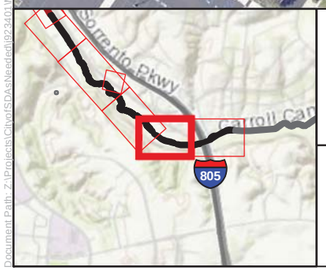
Cultural Resources Inventory Report

Los Peñsaquitos Watershed

Soledad Canyon Creek - Sorrento

Figure 2-18 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



Project Facilities Evaluated (No FMP Proposed)

APE

N

0 60 120 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

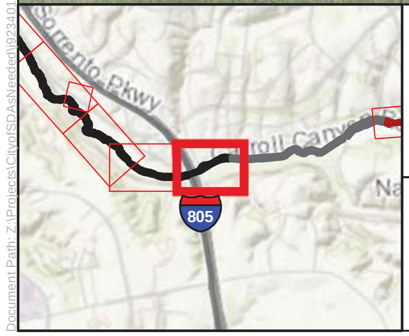
Los Peñsaquitos Watershed

Soledad Canyon Creek - Sorrento

Figure 2-19 - APE Map

Document Path: Z:\Projects\CityofSD\ASNeeded\(823401\MAPDOC\DOCUMENTC\by_of_SD\Cultural\Cultural_Tech Report\Figure 2 APE Map.mxd

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



Project Facilities Evaluated (No FMP Proposed)

Additional Facilities (Limited Program-Level Activities)

APE

N

0 60 120 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

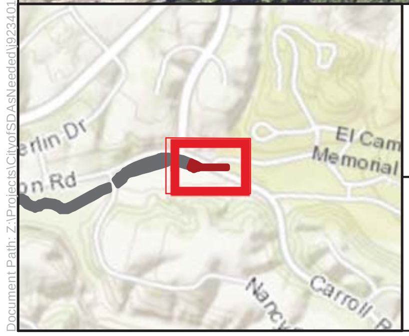
Cultural Resources Inventory Report

Los Peñsaquitos Watershed

Soledad Canyon Creek - Sorrento

Figure 2-20 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



- Project Facility Maintenance Plans (FMPs)
- Additional Facilities (Limited Program-Level Activities)
- APE

Activity Area

- Access/Loading/Staging/Stockpiling Area
- Maintenance Area

N

0 30 60 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

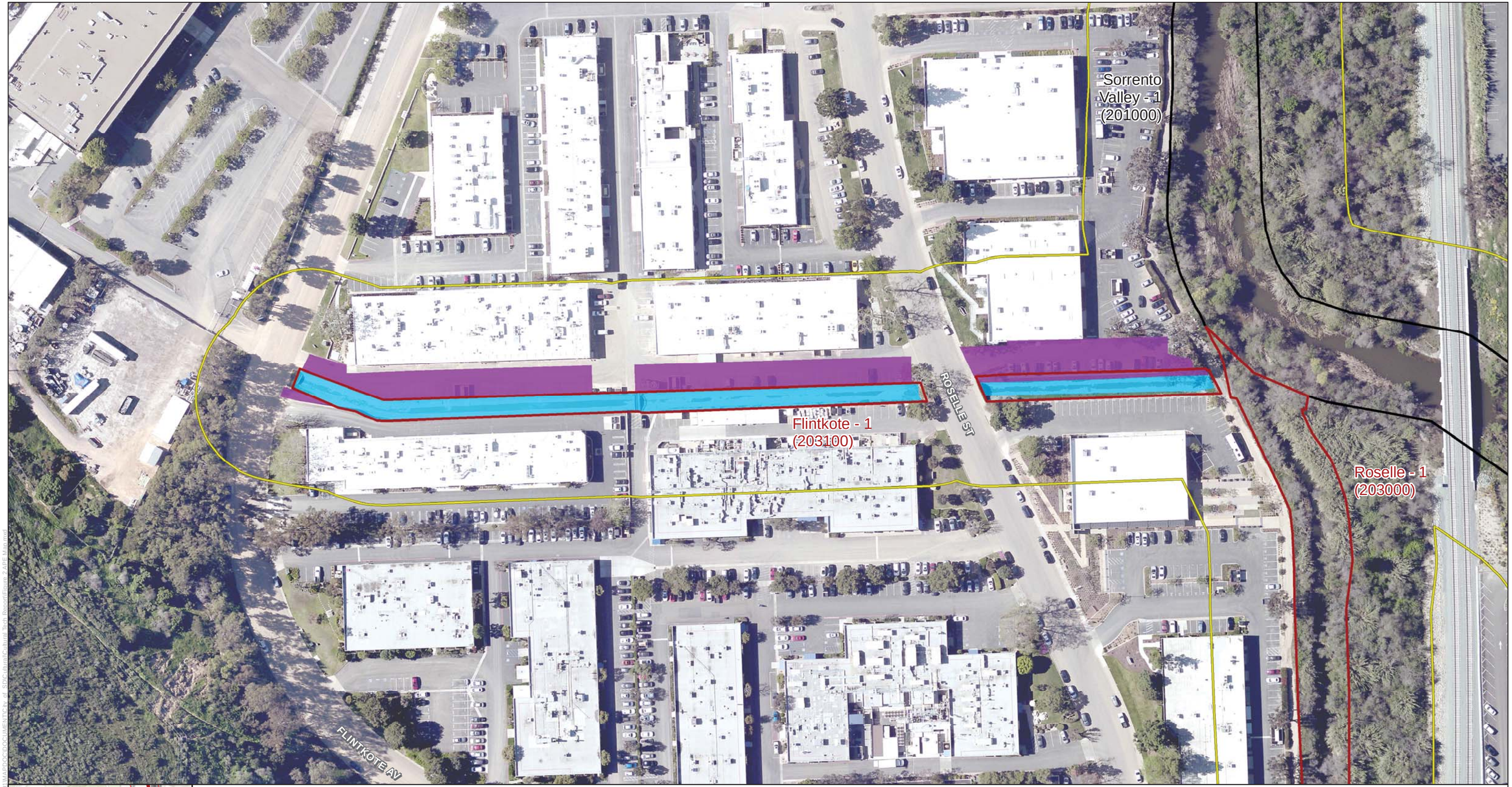
Cultural Resources Inventory Report

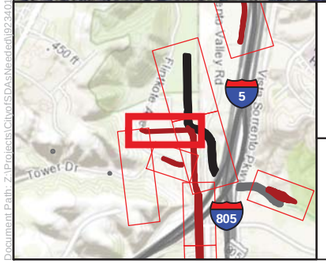
Los Peñsaquitos Watershed

Carroll Canyon Creek - Carroll

Figure 2-21 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING





- 🟥 Project Facility Maintenance Plans (FMPs)
- ⬛ Project Facilities Evaluated (No FMP Proposed)
- 🟨 APE

Activity Area

- 🟪 Access/Loading/Staging/Stockpiling Area
- 🟦 Maintenance Area

N

0 45 90 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

Los Peñsaquitos Watershed

Soledad Canyon Creek - Flintkote

Figure 2-22 - APE Map

Document Path: Z:\Projects\CityofSDAsNeeded\j923401\MAPDOC\DOCUMENT\City_of_SD\Cultural\Cultural Tech Report\Figure 2 APE Map.mxd

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

Project Facility Maintenance Plans (FMPs)
Maintenance Area
APE

Activity Area

Access/Loading/Staging/Stockpiling Area

N

0 30 60 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

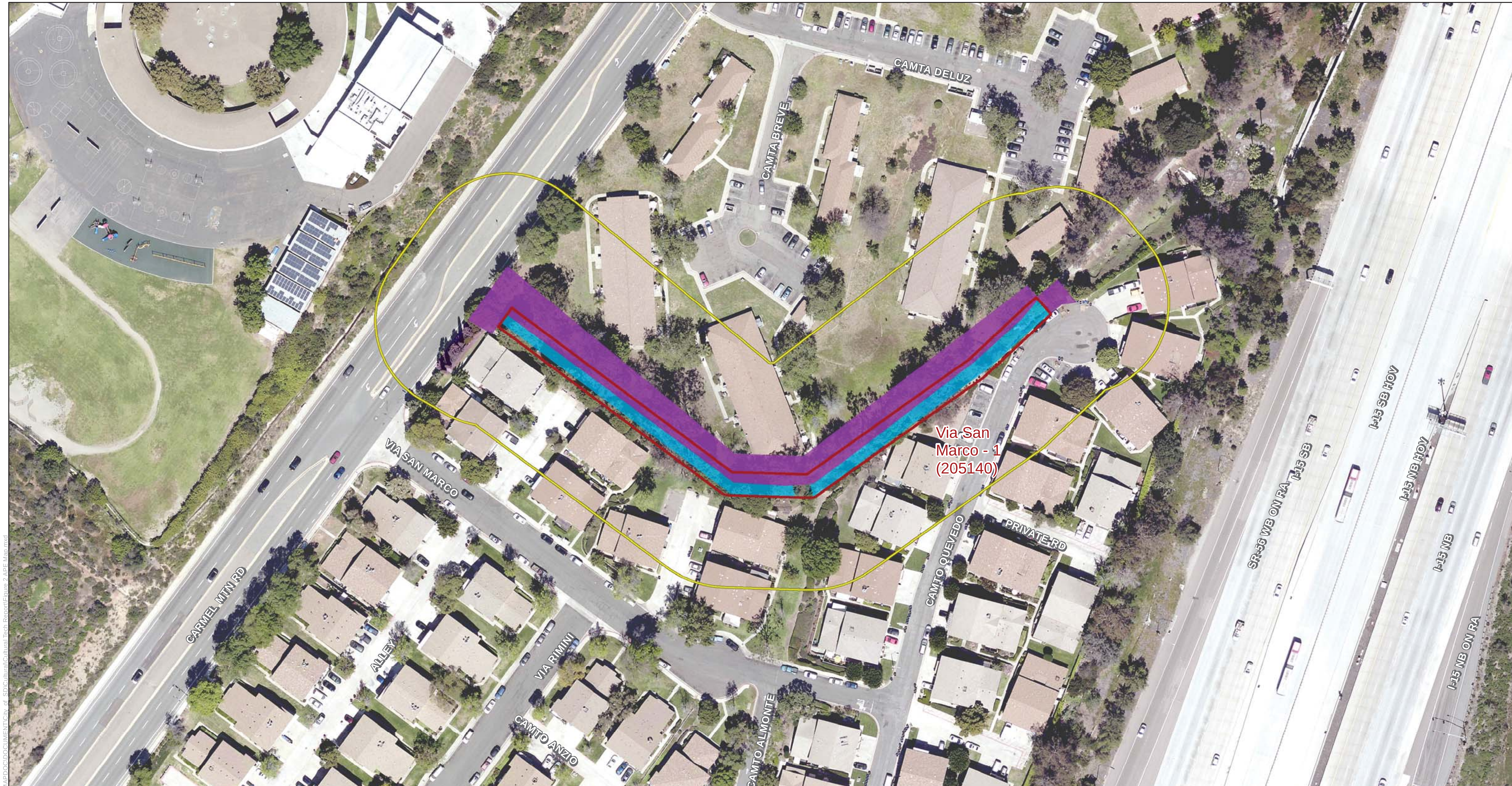
Cultural Resources Inventory Report

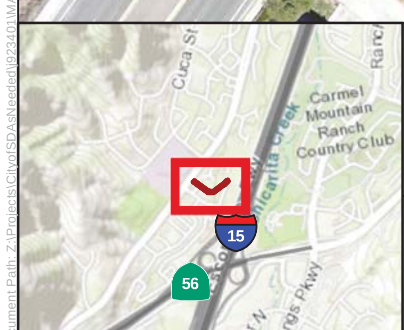
Los Peñsaquitos Watershed

Soledad Canyon Creek - Dunhill

Figure 2-23 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING





Project Facility Maintenance Plans (FMPs)

Maintenance Area

APE

Activity Area

Access/Loading/Staging/Stockpiling Area

N

0 40 80 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

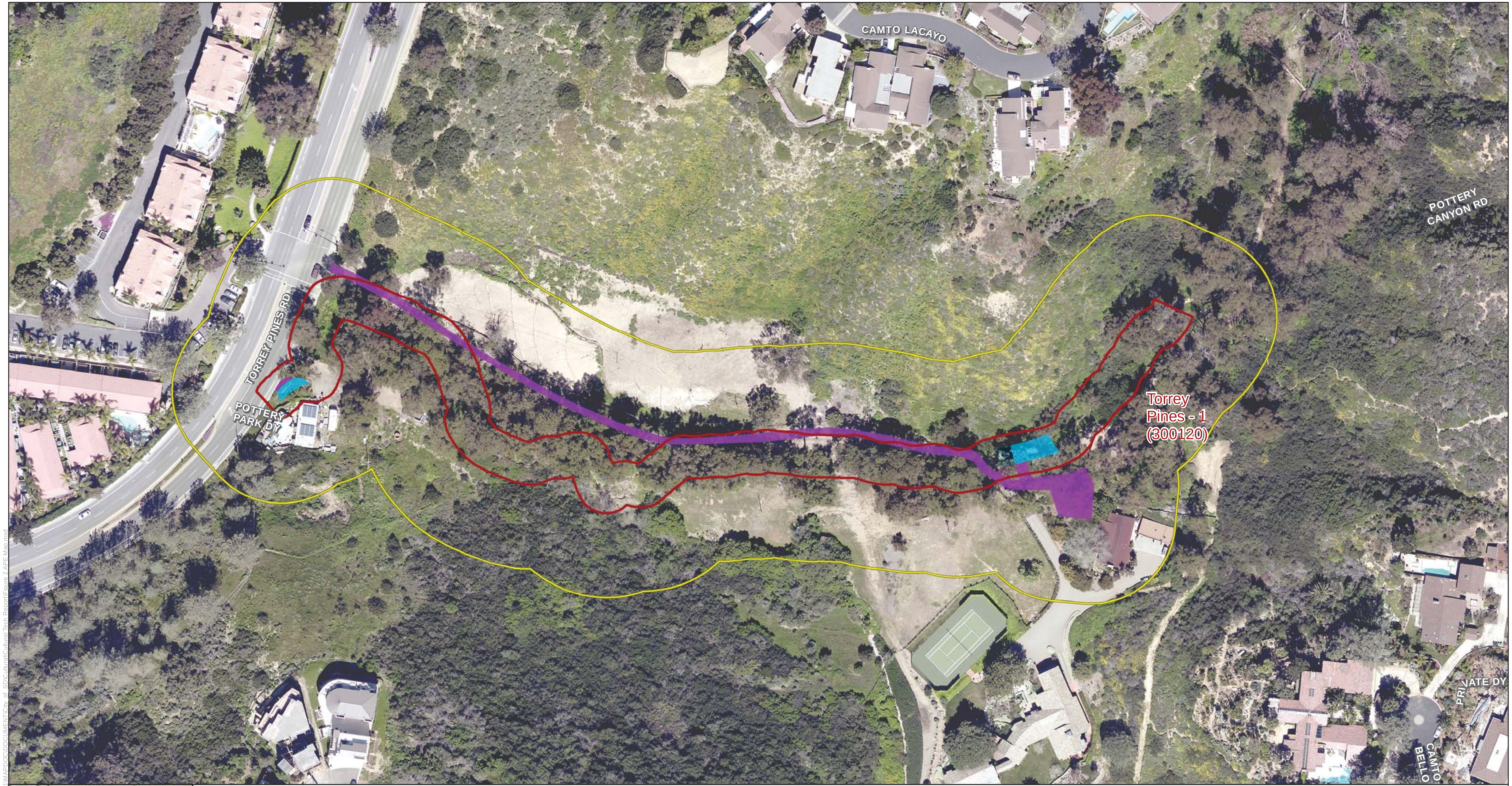
Cultural Resources Inventory Report

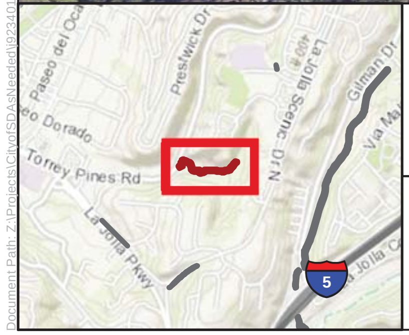
Los Peñsaquitos Watershed

Chicarita Creek - Via San Marco

Figure 2-24 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING





Project Facility Maintenance Plans (FMPs)
APE
Activity Area
Access/Loading/Staging/Stockpiling Area
Maintenance Area

N
0 45 90 Feet

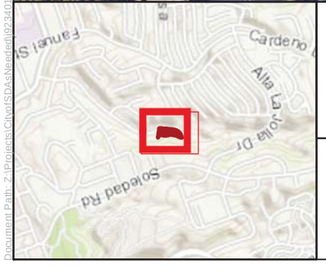
DUDEK
The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan
Cultural Resources Inventory Report

Mission Bay Watershed
Torrey Pines - Torrey
Figure 2-25 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



Project Facility Maintenance Plans (FMPs)
Maintenance Area
APE

Activity Area

Access/Loading/Staging/Stockpiling Area

N
0 37.5 75 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

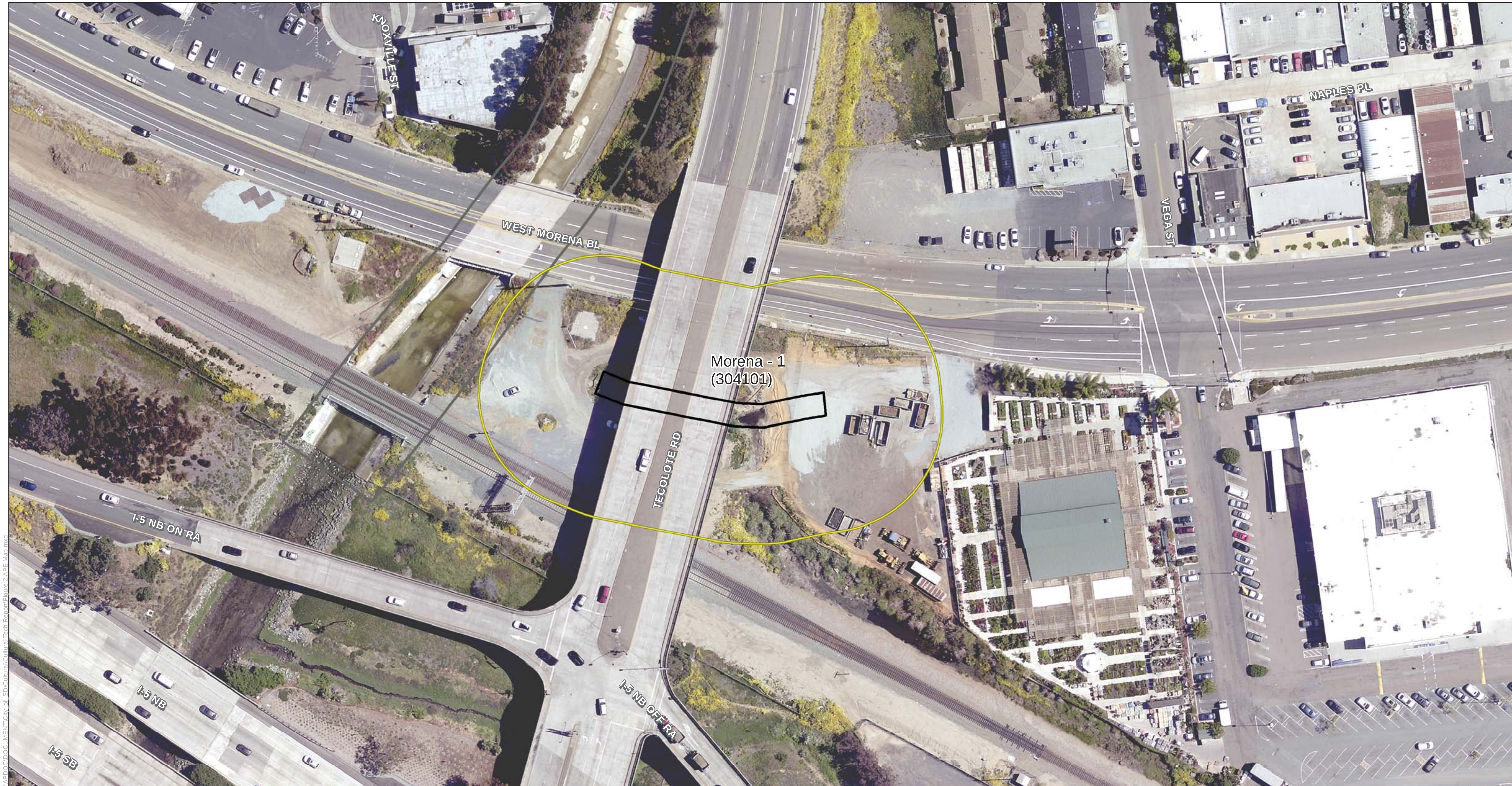
Mission Bay Watershed

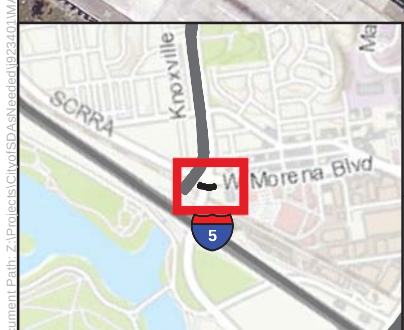
Alta La Jolla - Vickie

Figure 2-26 - APE Map

Document Path: Z:\Projects\CityofSD\GIS\Needed\jl\923401\MAPDOC\DOCUMENT\Cty of SD\Cultural\Cultural Tech Report\Figure 2 APE Map.mxd

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING





Project Facilities Evaluated (No FMP Proposed)

Additional Facilities (Limited Program-Level Activities)

APE

N

0 30 60 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

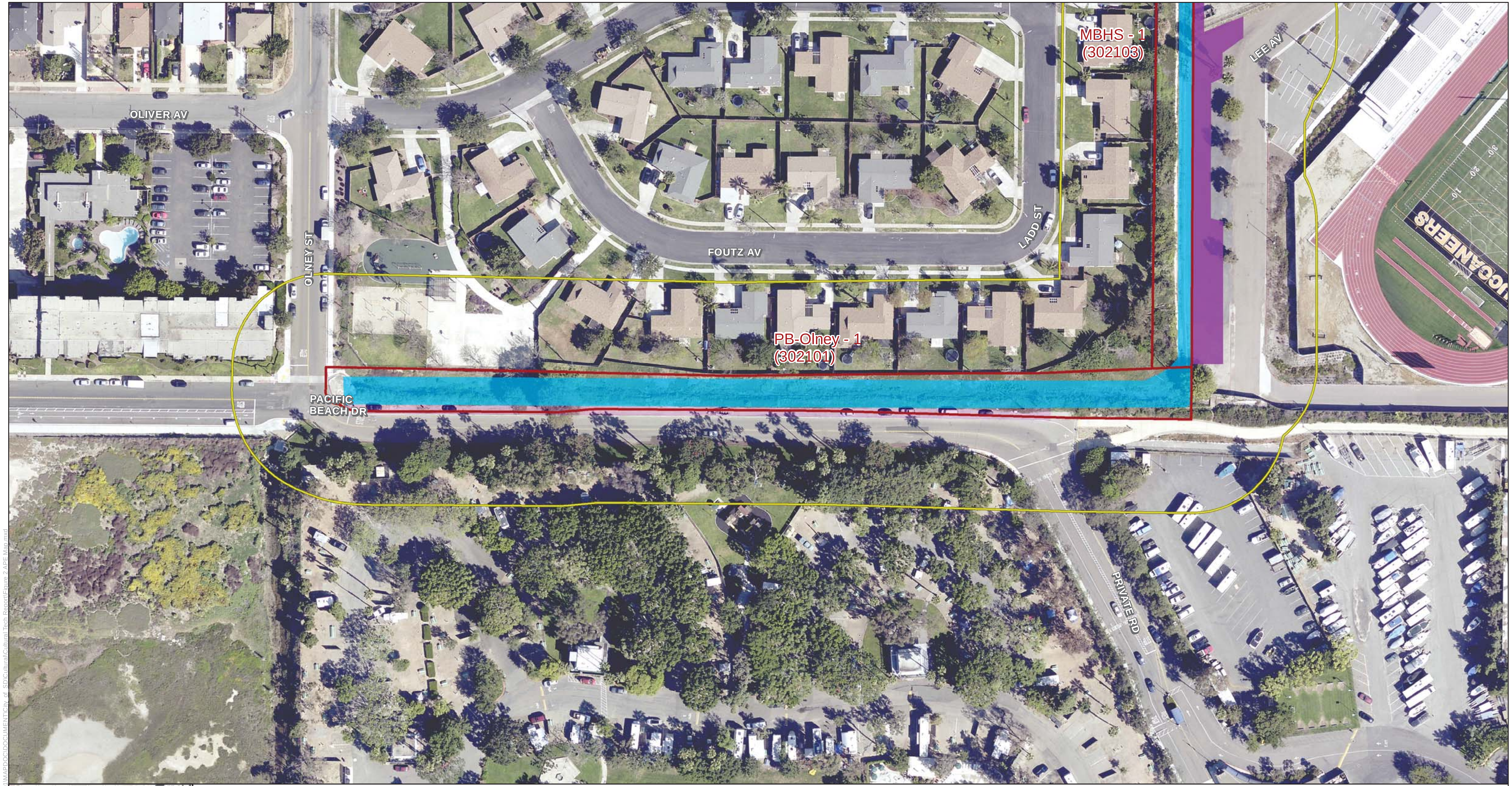
Cultural Resources Inventory Report

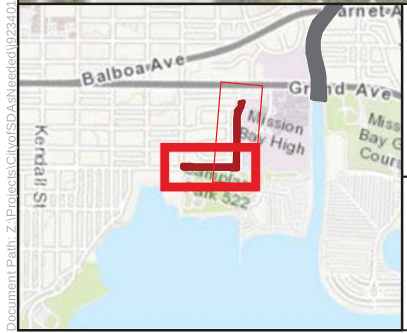
Mission Bay Watershed

Tecolote Creek - Morena

Figure 2-27 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING





Project Facility Maintenance Plans (FMPs)

APE

Maintenance Area

Activity Area

Access/Loading/Staging/Stockpiling Area

N

0 40 80 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

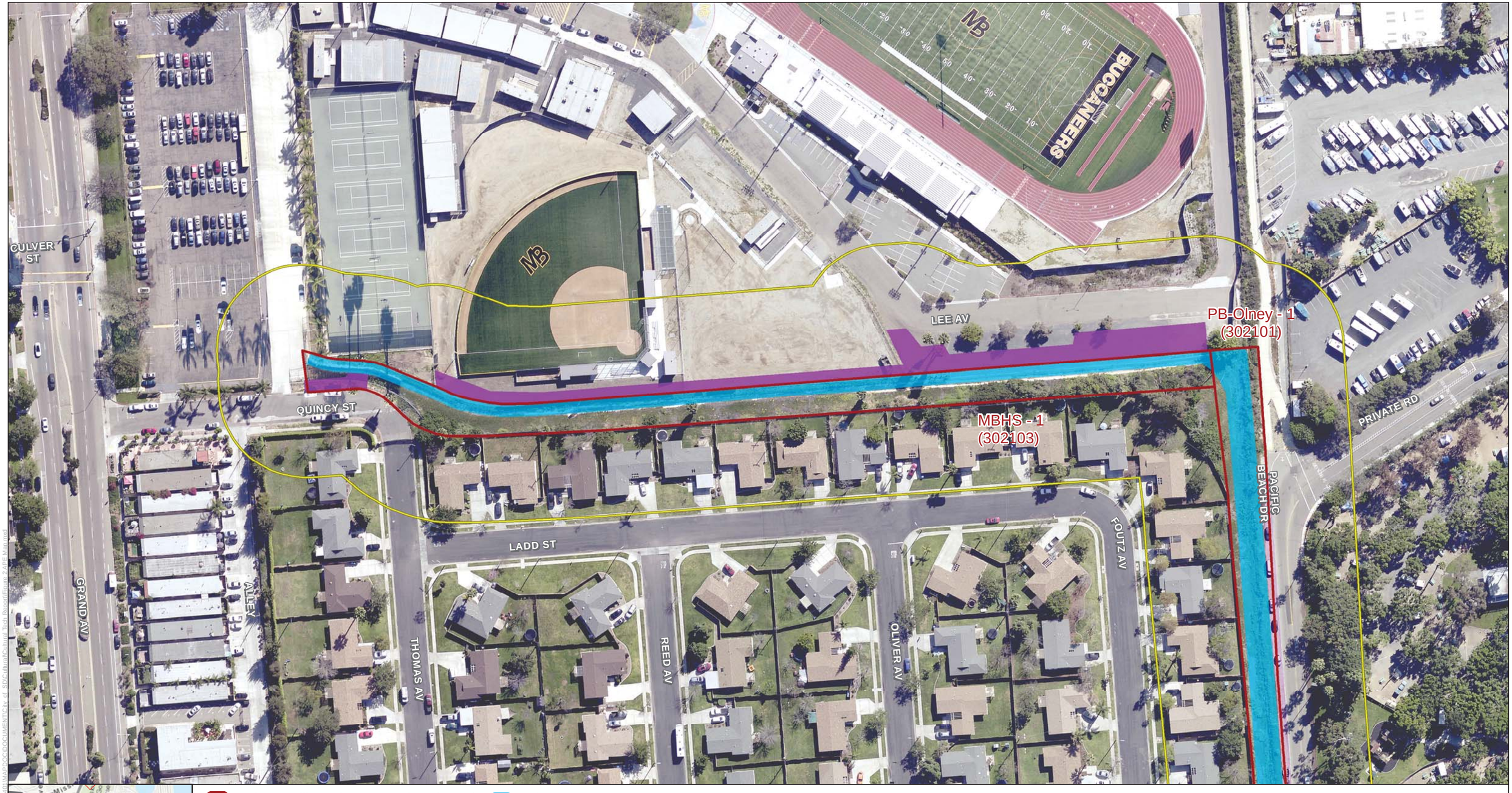
Cultural Resources Inventory Report

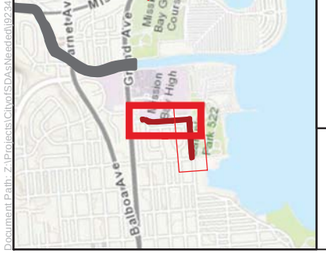
Mission Bay Watershed

Mission Bay - MBHS

Figure 2-28 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING





Project Facility Maintenance Plans (FMPs)
Maintenance Area
APE

Activity Area

Access/Loading/Staging/Stockpiling Area

N

0 45 90 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

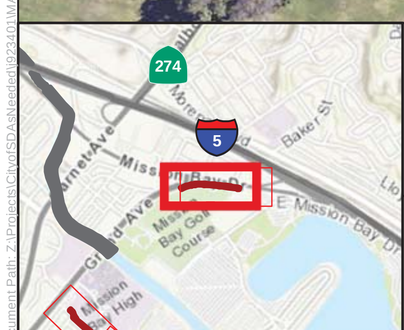
Mission Bay Watershed

Mission Bay - MBHS

Figure 2-29 - APE Map

Document Path: Z:\Projects\City\of\SD\AsNeeded\923401\MAPDOC\DOCUMENTC\Ry_of_SD\Cultural\Cultural Tech Report\Figure 2 APE Map.mxd

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



Project Facility Maintenance Plans (FMPs)
Maintenance Area
APE
Activity Area
Access/Loading/Staging/Stockpiling Area

N
0 45 90 Feet

DUDEK
The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan
Cultural Resources Inventory Report

Mission Bay Watershed
Mission Bay - Mission Bay Drive
Figure 2-30 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

ENGINEER RD

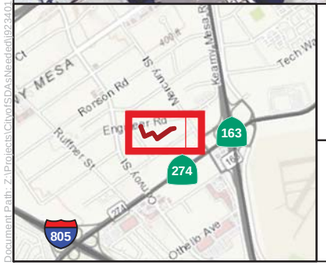
MERCURY ST

BRINELL ST

DAGGET ST

SR-163

Engineer - 1
(303901)



Project Facility Maintenance Plans (FMPs)
Maintenance Area
APE

Activity Area

Access/Loading/Staging/Stockpiling Area

0 50 100 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

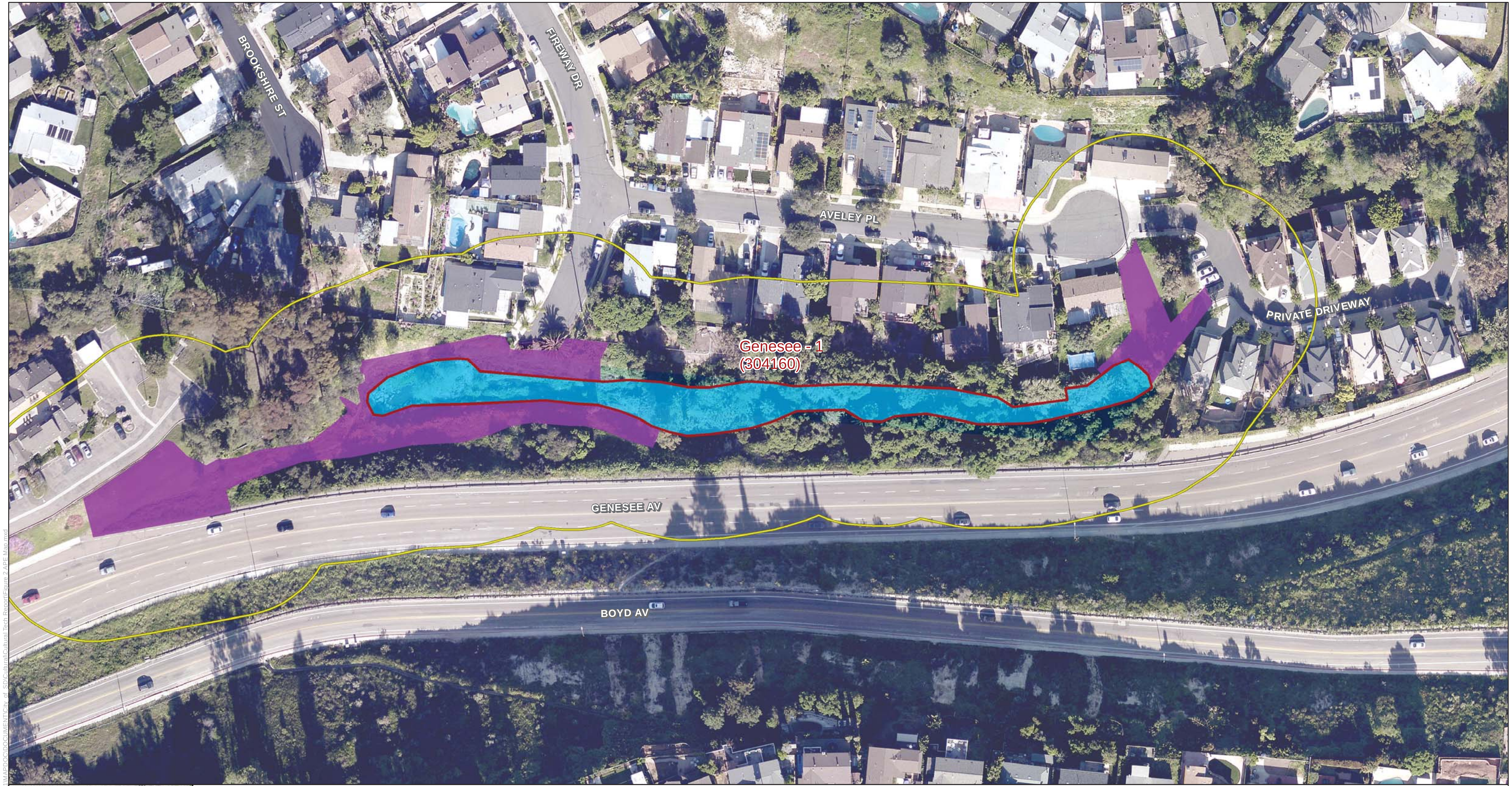
San Diego River Watershed

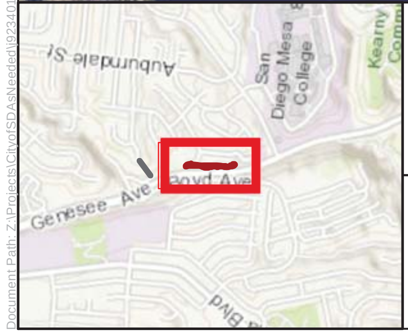
Miramar - Engineer

Figure 2-31 - APE Map

Document Path: Z:\Projects\CityofSDAsNeeded\823401\MAPDOC\DOCUMENT\City of SD\Cultural\Cultural Tech Report\Figure 2 APE Map.mxd

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING





Project Facility Maintenance Plans (FMPs)
APE
Maintenance Area

Activity Area

Access/Loading/Staging/Stockpiling Area

0 37.5 75 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

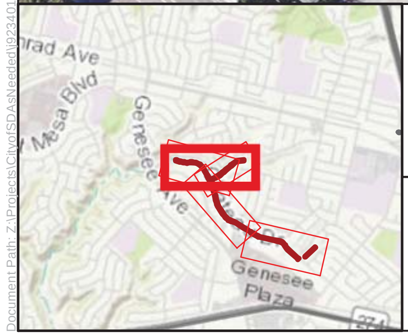
Cultural Resources Inventory Report

Mission Bay Watershed

Tecolote Creek - Genesee

Figure 2-32 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



Project Facility Maintenance Plans (FMPs)
APE
Maintenance Area

Activity Area

Access/Loading/Staging/Stockpiling Area

N
0 65 130 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

Mission Bay Watershed

Tecolote Creek - Chateau

Figure 2-33 - APE Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

Project Facility Maintenance Plans (FMPs)
Maintenance Area
APE

Activity Area

Access/Loading/Staging/Stockpiling Area

0 62.5 125 Feet

DUDEK

The City of SAN DIEGO

SOURCE: SANDAG, 2014

Municipal Waterways Maintenance Plan

Cultural Resources Inventory Report

Mission Bay Watershed

Tecolote Creek - Chateau

Figure 2-34 - APE Map

Document Path: Z:\Projects\CityofSD\ASNeeded\d923401\MAPDOC\DOCUMENTS\mxd_SDCultural\Cultural Tech Report\Figure 2 APE Map.mxd

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING