



- **Board of Directors**
Engineering, Operations, and Technology Committee

1/13/2026 Board Meeting

8-1

Subject

Review and consider Addendum No. 6 to the certified 2017 Programmatic Environmental Impact Report for the Prestressed Concrete Cylinder Pipe Rehabilitation Program; award a \$61,242,000 construction contract to J.F. Shea Construction Inc. for PCCP rehabilitation of Sepulveda Feeder Reach 2; and authorize an agreement with HDR Engineering Inc. for a not-to-exceed amount of \$1,300,000 for technical support during construction

Executive Summary

The Sepulveda Feeder is one of five prestressed concrete cylinder pipelines (PCCP) originally identified as a priority PCCP line requiring rehabilitation. This pipeline has been in continuous service for over 50 years and has required several urgent repairs to distressed PCCP segments. A recent electromagnetic inspection of the southernmost reaches of the Sepulveda Feeder identified newly distressed PCCP segments in the 3.8-mile portion designated as “Reach 2” that warrant prompt rehabilitation. Final design for the rehabilitation of the Sepulveda Feeder Reach 2 is now complete, and staff recommends proceeding with construction at this time.

This action awards a \$61,242,000 contract to J.F. Shea Construction Inc. for PCCP rehabilitation of Sepulveda Feeder Reach 2; and authorizes a new agreement with HDR Engineering Inc. for a not-to-exceed amount of \$1,300,000, for technical support during construction. This contract will be subject to the terms of Metropolitan’s project labor agreement (PLA). See **Attachment 1** for the Allocation of Funds, **Attachment 2** for the Abstract of Bids, **Attachment 3** for the Listing of Subcontractors for Low Bidder, **Attachment 4** for the Listing of Subconsultants, **Attachment 5** for the Location Map, and **Attachment 6** for Addendum No. 6 to the certified 2017 Programmatic Environmental Impact Report for the Prestressed Concrete Cylinder Pipe Rehabilitation Program.

Proposed Action(s)/Recommendation(s) and Options

Staff Recommendation: Option #1

Option #1

Review and consider Addendum No. 6 to the certified 2017 Programmatic Environmental Impact Report for the Prestressed Concrete Cylinder Pipe Rehabilitation Program, and

- a. Award a \$61,242,000 contract to J.F. Shea Construction Inc. to rehabilitate Sepulveda Feeder Reach 2.
- b. Authorize an agreement with HDR Engineering Inc. for a not-to-exceed amount of \$1,300,000 for technical support during construction.

Fiscal Impact: \$80,000,000 in capital funds. Approximately \$3 million will be incurred in the current biennium and has been previously authorized. The remaining funds for this action will be accounted for in the next biennium’s Capital Investment Plan budget.

Business Analysis: This option would increase the reliability of Metropolitan’s distribution system consistent with the goals identified for the PCCP Rehabilitation Program.

Option #2

Do not award a construction contract to rehabilitate the Sepulveda Feeder PCCP Reach 2, and do not authorize an agreement for technical support during construction at this time.

Fiscal Impact: None

Business Analysis: This option would forgo an opportunity to enhance reliability and extend the service life of the Sepulveda Feeder. This option could lead to higher repair costs, more extensive repairs, and unplanned shutdowns.

Alternatives Considered

Staff considered rehabilitating only the distressed PCCP segments in the Sepulveda Feeder Reach 2, not the entire 3.8-mile reach. This option would focus on the rehabilitation of approximately 2.5 miles, containing the two 15-wire break segments, as well as clusters of 5- and 10-wire break segments. However, in the past, the Sepulveda Feeder has required several urgent repairs to its PCCP segments, with the most recent in 2023. Due to the shorter-than-expected service life because of stray currents from nearby utilities, all PCCP within Reach 2 will need to be lined with new steel liner pipe or replaced at some time.

The selected option will reline the entire Reach 2 with new steel liners. This alternative is a cost-effective approach that manages the risks associated with the Sepulveda Feeder, minimizes the service interruption to member agencies, and furthers Metropolitan's program goal of rehabilitating all PCCP within the Sepulveda Feeder.

Applicable Policy

Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter Contracts

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

Related Board Action(s)/Future Action(s)

By Minute Item 50699, dated January 10, 2017, the Board certified the Final Programmatic Environmental Impact Report for the PCCP Rehabilitation Program, and approved the program for the Second Lower Feeder, Sepulveda Feeder, Calabazas Feeder, Rialto Pipeline, and Allen-McColloch Pipeline for the purposes of CEQA.

By Minute Item 53004, dated October 11, 2022, the Board authorized the General Manager to sign a PLA with the trade councils of Los Angeles, Orange, Riverside, San Bernardino, San Diego Counties, and the Tri-Counties and the signatory unions.

By Minute Item 53598, dated April 9, 2024, the Board appropriated a total of \$636.48 million for projects identified in the Capital Investment Plan (CIP) for Fiscal Years 2024/25 and 2025/26.

By Minute Item pending, dated October 14, 2025, the Board appropriated an additional \$30 million for projects identified in the CIP for Fiscal Years 2024/25 and 2025/26, increasing the biennial CIP appropriation to \$666.48 million.

Summary of Outreach Completed

Metropolitan has reached out to the West Basin Municipal Water District to coordinate a service connection shutdown and partnered with the Los Angeles County Sanitation District to secure a construction staging area. In addition, Metropolitan staff have met with the City of Torrance, Caltrans, and the Los Angeles City Council District 15 and either secured or initiated needed permits with those agencies.

As part of the outreach, Metropolitan will provide advance notifications to nearby residents and businesses to support awareness of construction activities.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

Metropolitan's Board certified the PCCP Rehabilitation Program's Final PEIR on January 10, 2017. At that time, the Board also adopted the Findings, the SOC, the MMRP, and the program itself. On November 4, 2025, Addendum No. 6 to the Final PEIR was prepared to document the proposed minor modifications to the approved project as described in this letter. CEQA and the State CEQA Guidelines require the preparation of an addendum to a previously certified PEIR if changes or additions are necessary, but none of the conditions calling for the preparation of a subsequent Environmental Impact Report (EIR) have occurred (Section 15164 of the State CEQA Guidelines). Instead, the proposed modifications require only minor changes or additions to the evaluation in the certified Final PEIR to make it adequate under CEQA. None of the proposed modifications would result in significant adverse impacts beyond those impacts already disclosed in the Final PEIR.

CEQA determination for Option #2:

None required

Details and Background

Background

In September 2011, Metropolitan's Board authorized the initiation of the PCCP Rehabilitation Program to develop a comprehensive, long-term plan for the replacement or relining of Metropolitan's at-risk PCCP lines. Metropolitan's strategy for maintaining PCCP reliability consists of four coordinated elements: (1) continued assessment and monitoring of PCCP lines; (2) monitoring of stray currents and installation of cathodic protection; (3) near-term repair of distressed PCCP segments; and (4) long-term rehabilitation.

Assessments of Metropolitan's 27 PCCP feeders led to five lines being identified as priority lines to be addressed under the PCCP Rehabilitation Program. These priority lines include: (1) the Allen-McColloch Pipeline; (2) the Calabazas Feeder; (3) the Rialto Pipeline; (4) the Second Lower Feeder; and (5) the Sepulveda Feeder. A proactive, long-term program to rehabilitate these five feeders has been incorporated into Metropolitan's Capital Investment Plan.

In January 2017, Metropolitan's Board certified the Final Programmatic Environmental Impact Report (Final PEIR) for the PCCP Rehabilitation Program for compliance with the CEQA. The inclusion of all five lines within a single programmatic CEQA document provided flexibility to adjust construction sequencing by enabling the rehabilitation of specific reaches of PCCP to move forward based on the most up-to-date condition assessments, operational needs, and priorities. So far, PCCP rehabilitation has focused mostly on the highest-risk portions of the Second Lower Feeder. With more than half of the Second Lower Feeder and key portions of the Allen-McColloch Pipeline completed, PCCP rehabilitation efforts will now shift to the Sepulveda Feeder.

Metropolitan's Sepulveda Feeder originates at the Jensen plant in Granada Hills and extends 42 miles to an interconnection with the Second Lower Feeder in the City of Torrance. The 84-inch diameter Reach 2 of Sepulveda Feeder extends 3.8 miles through the cities of Los Angeles and Torrance. In April 2025, an electromagnetic inspection of the southernmost portion of the Sepulveda Feeder identified 58 pipe segments with wire damage, ranging from 5 to 15 wire breaks. Additionally, 14 pipe segments had become newly distressed since the last inspection in 2018, including two segments with 15 wire breaks. The damaged pipe segments are concentrated at locations near previous repairs along Western Avenue, Del Amo Boulevard, and Van Ness Avenue in the cities of Torrance and Los Angeles.

Staff evaluated the potential impact of the prestressing wire breaks and concluded that the 15-wire break segments do not yet reach the threshold for urgent repair. However, staff recommends rehabilitating the entire Reach 2 as expeditiously as possible due to the risk of continued corrosion and deterioration of the pipeline due to stray currents from nearby cathodically protected oil pipelines. Final design for rehabilitation of Reach 2 is now complete, and staff recommends proceeding with rehabilitation of Reach 2 of the Sepulveda Feeder at this time.

Sepulveda Feeder PCCP Rehabilitation Reach 2 – Construction

This project will reline approximately 20,000 feet of existing PCCP segments within Sepulveda Feeder Reach 2 with new steel liner segments that will accommodate full internal and external pressures on the pipeline. This project will construct four additional maintenance holes and enlarge two existing ones for safer ingress and egress. Three air release and vacuum valves (ARVV) will be relocated from below-grade to above-grade to reduce the risk of cross-contamination of the pipeline's potable water supply, including replacement of all appurtenant isolation valves.

The work will include construction of four temporary access shafts for installation of the new steel liners and the associated installation of temporary traffic controls and subsequent site restoration. This project will be completed over a single shutdown scheduled during cooler months to minimize water supply impacts to member agencies. The planned shutdown for the construction contract extends nearly five months, from November 2026 through April 2027. Metropolitan forces will perform pipeline shutdown work, including the isolation and dewatering of portions of the Sepulveda Feeder and member agency service connection, in preparation for the contractor's work, and its return to service.

A total of \$80 million is required for this work. In addition to the amount of the contract described below, other funds to be allocated for Metropolitan staff include \$6,699,000 for construction management and inspection; \$4,402,000 for Metropolitan force construction activities as described above; \$896,000 for submittals coordination, technical review, and design support during construction; \$1,486,000 for contract administration, environmental review, and project management; \$300,000 for Metropolitan-furnished ARVV isolation valves; and \$3,000,000 for remaining budget. Professional services include \$1,300,000 for submittal review, technical support during construction, and preparation of record drawings by HDR Engineering Inc. (under a new agreement discussed below); \$350,000 for PLA administration services by Parsons Constructors, Inc. under an existing board-authorized agreement; \$175,000 for environmental monitoring and reporting by Helix Group Inc.; and \$150,000 for community outreach services by a public outreach consultant under the General Manager's Administrative Code authority to award contracts of \$250,000 or less. **Attachment 1** provides the allocation of the required funds.

Award of Construction Contract (J.F. Shea Construction Inc.)

Specifications No. 2010 for Sepulveda Feeder PCCP Rehabilitation Reach 2 was advertised for bids on August 27, 2025. As shown in **Attachment 2**, three bids were received and opened on November 5, 2025. The bid from J.F. Shea Construction Inc. in the amount of \$61,242,000 complies with the requirements of the specifications. The other bids were \$85,653,000 and \$94,750,000, while the engineer's estimate for this project was \$95,100,000. Although significantly lower than the engineer's estimate and other bids, the low bidder has successfully completed several PCCP relining projects for Metropolitan and has confirmed the validity of their bid. For this contract, Metropolitan established a Small Business Enterprise participation level of seven percent of the bid amount. J.F. Shea Construction Inc. has agreed to meet this level of participation. The subcontractors for this contract are listed in **Attachment 3**. This contract will be covered by Metropolitan's PLA.

This action awards a \$61,242,000 construction contract to J.F. Shea Construction Inc. for the rehabilitation of Sepulveda Feeder PCCP Reach 2. Engineering Services' performance metric target range for construction management and inspection of projects with construction greater than \$3 million is 9 to 12 percent. For this project, the performance metric goal for inspection is 10.2 percent of the total construction cost. The total cost of construction for this project is \$65,944,000, which includes the amount of the contract (\$61,242,000), Metropolitan force construction and supplies (\$300,000), and Metropolitan force shutdown activities (\$4,402,000).

Technical Support During Construction (HDR Engineering Inc.) – New Agreement

HDR Engineering Inc. (HDR) performed the design for the Sepulveda Feeder PCCP Rehabilitation Reach 2 under a board-authorized agreement. As the engineer of record for the design, HDR is recommended to provide technical support during construction.

HDR was selected through a competitive process via Request for Proposals No. 1374 based on the firm's experience with PCCP and with large diameter pipelines, and specifically for their expertise in traffic control in

dense urban settings and experience in permitting with multiple local agencies. The planned activities include reviewing submittals, responding to requests for information from contractors, advising staff on technical issues as they arise, and preparing record drawings. The estimated cost for these services is \$1.3 million.

This action authorizes a new agreement with HDR Engineering Inc. for a not-to-exceed amount of \$1.3 million to provide technical support services during construction to rehabilitate PCCP portions of the Sepulveda Feeder. For this agreement, Metropolitan has established an SBE participation level of 25 percent. HDR has agreed to meet this level of participation. The planned subconsultants for this work are listed in **Attachment 4**.

Project Milestone

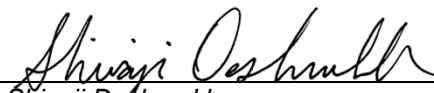
July 2027 – Completion of construction



Mai Hattar
Chief Engineer
Engineering Services

12/30/2025

Date



Shivaji Deshmukh
General Manager

12/30/2025

Date

Attachment 1 – Allocation of Funds

Attachment 2 – Abstract of Bids

Attachment 3 – Listing of Subcontractors for Low Bidder

Attachment 4 – Listing of Subconsultants

Attachment 5 – Location Map

Attachment 6 – Addendum No. 6 to the certified 2017 Programmatic Environmental Impact Report for the Prestressed Concrete Cylinder Pipe Rehabilitation Program

Ref# es12707459

Allocation of Funds for Sepulveda Feeder PCCP Rehabilitation Reach 2

	Current Board Action (Jan. 2026)
Labor	
Studies & Investigations	\$ -
Final Design	-
Owner Costs (Program mgmt., envir. monitoring)	1,486,000
Submittals Review & Record Drwgs.	896,000
Construction Inspection & Support	6,699,000
Metropolitan Force Construction	4,128,000
Materials & Supplies	300,000
Incidental Expenses	274,000
Professional/Technical Services	
HDR Engineering Inc.	1,300,000
Parsons Constructors, Inc.	350,000
Helix Group, Inc.	175,000
Public outreach consultant	150,000
Right-of-Way	-
Equipment Use	-
Contracts	-
J.F. Shea Construction Inc.	61,242,000
Remaining Budget	3,000,000
Total	\$ 80,000,000

The total amount expended to date is approximately \$2.6 million. The total estimated cost to complete rehabilitation of Sepulveda Feeder PCCP Reach 2, including the amount appropriated to date and funds allocated for the work described in this action, is \$83 million.

The Metropolitan Water District of Southern California

Abstract of Bids Received on November 5, 2025, at 2:00 P.M.

Specifications No. 2010 Sepulveda Feeder PCCP Rehabilitation – Reach 2

The work consists of rehabilitation of approximately 20,000 linear feet of prestressed concrete cylinder pipe (PCCP) including excavating access portals and removing portions of existing PCCP for pipeline access, furnishing and installing steel liner cylinders and valves, expanding and welding the steel pipe cylinders, grouting the annular space and applying cement mortar lining, installing Metropolitan-furnished equipment, enlarging manhole access, relocating air valves, rehabilitating a service connection, modifying pipeline appurtenant facilities, disinfecting affected pipeline, restoring site, controlling traffic, and abating hazardous materials.

Engineer's estimate: \$95.1 million

Bidder and Location	Total	SBE \$	SBE %	Met SBE¹
J.F. Shea Construction Inc. Walnut, CA	\$61,242,000	\$5,375,400	9%	Yes
Kiewit Infrastructure West Co. Santa Fe Springs, CA	\$85,653,000	-	-	-
Mladen Buntich Construction Co. Inc. Upland, CA	\$94,750,000	-	-	-

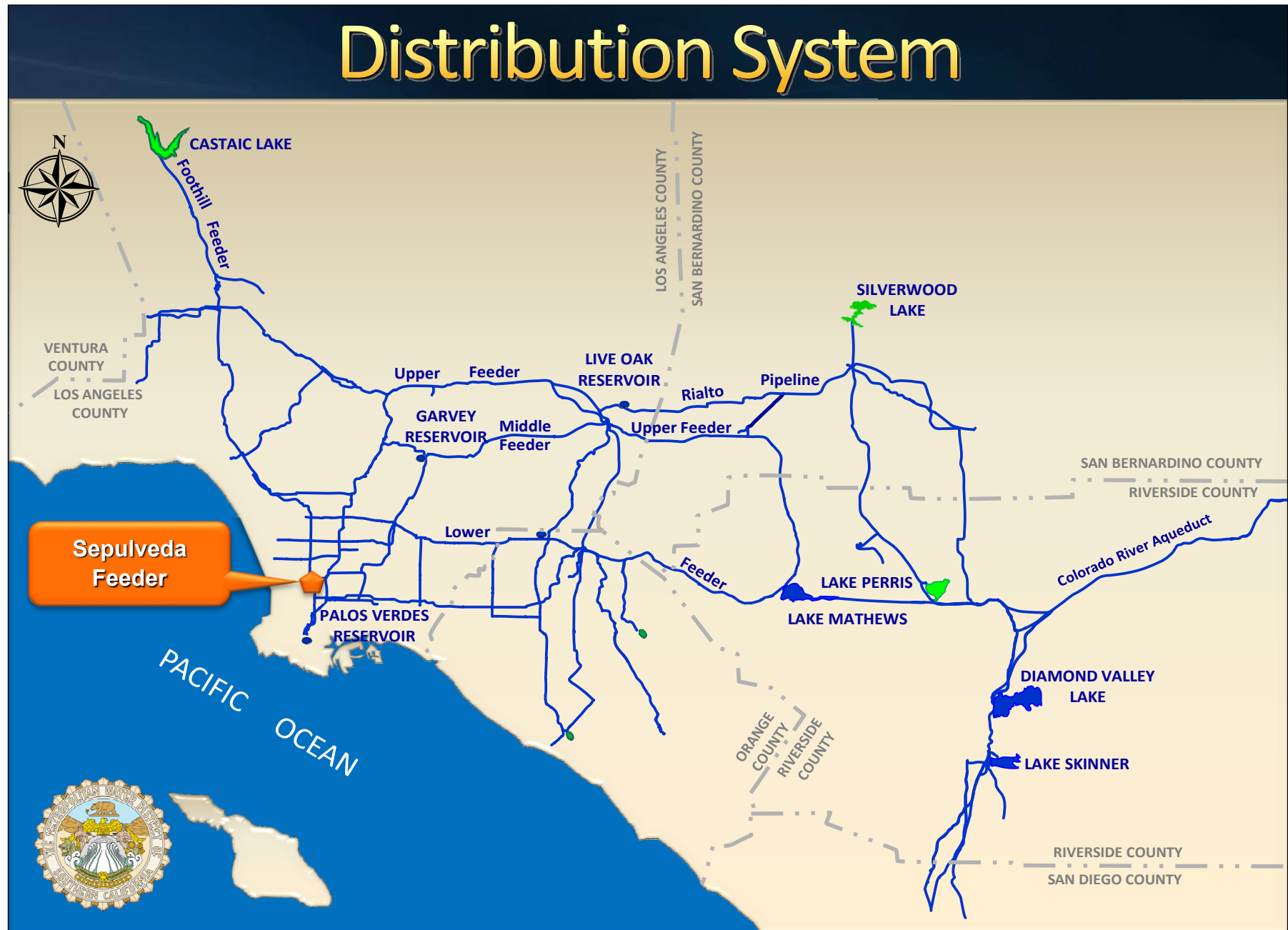
¹ Small Business Enterprise (SBE) participation level established at 7 percent for this contract.

The Metropolitan Water District of Southern California**Subcontractors for Low Bidder****Specifications No. 2010
Sepulveda Feeder PCCP Rehabilitation – Reach 2****Low bidder: J.F. Shea Construction Inc.**

Subcontractor	Service Category; Specialty
Dean's Certified Welding Temecula, CA	Welding
Cell-Crete Monrovia, CA	Grouting
Western Paving Irwindale, CA	Paving
Bayview Paramount, CA	Abatement

The Metropolitan Water District of Southern California
Subconsultants for Agreement with HDR Engineering Inc.
Sepulveda Feeder PCCP Rehabilitation – Reach 2

Subconsultant and Location	Service Category; Specialty
CDM Smith Inc. Boston, MA	Engineering (Pipeline design and estimation services)
DRP Engineering Inc. Alhambra, CA	Engineering Support Services (Computer-aided drafting and design services)



ADDENDUM 6

to the

PROGRAMMATIC ENVIRONMENTAL IMPACT REPORT

for the

PRESTRESSED CONCRETE CYLINDER PIPE
REHABILITATION PROGRAM

SEPULVEDA FEEDER REACH 2

SCH: 2014121055

Background

Lead Agency: The Metropolitan Water District of Southern California

Addendum to Certified Programmatic Environmental Impact Report Pursuant to: California Code of Regulations, Title 14, Division 6, Chapter 3, Article 11, Section 15164.

Background and Description of the Prestressed Concrete Cylinder Pipe Rehabilitation Program

Between 1962 and 1985, 163 miles of Prestressed Concrete Cylinder Pipeline (PCCP) were installed throughout The Metropolitan Water District of Southern California's (Metropolitan's) service area. Under certain subsurface conditions, PCCP lines have an elevated risk of failure compared with other types of pipes. In response to this risk of failure, in the late 1990s, Metropolitan inspected and assessed all 163 miles of PCCP within its distribution system. In 2011, Metropolitan initiated the PCCP Rehabilitation Program (PCCP Program) to rehabilitate PCCP portions of five subsurface water distribution pipelines (also known as feeders) that were identified as having the highest risk for failure based on the inspections. These pipelines are the Allen-McColloch Pipeline, Calabasas Feeder, Rialto Pipeline, Second Lower Feeder, and Sepulveda Feeder.

The PCCP Program is designed to maintain the reliability of Metropolitan's distribution system to minimize risks associated with failures by proactively rehabilitating each portion of PCCP, starting with the pipes that show the greatest risk of failure. The PCCP Program will help Metropolitan avoid possible unplanned system outages, thereby increasing service reliability for customers within Metropolitan's service area.

The following are the objectives of the PCCP Program:

- Reduce the risk of unplanned outages.
- Extend the service life of the pipelines.
- Perform the rehabilitation work in a cost-effective manner.
- Minimize the effects of rehabilitation efforts on Member Agency deliveries.
- Minimize the loss of hydraulic capacity due to rehabilitation.
- Improve system operational and emergency flexibility.

A Programmatic Environmental Impact Report (PEIR) was prepared in accordance with the California Environmental Quality Act (CEQA) of 1970 (Public Resources Code [PRC] Section 21000 et seq.) and the Guidelines for Implementation of CEQA (State CEQA Guidelines) published by the Public Resources Agency of the State of California (California Code of Regulations, Title 14, Section 15000 et seq.). The PCCP PEIR was certified by the Metropolitan Board of Directors on January 10, 2017.

Proposed Project Summary

The Sepulveda Feeder begins at Metropolitan's Jensen Water Treatment Plant in Granada Hills, located in Los Angeles County, and travels south to the Second Lower Feeder Interconnection in the city of Torrance. The proposed project is the implementation of Metropolitan's PCCP Program for the Sepulveda Feeder Reach 2 (SFR2), which is located between the Second Lower Feeder Interconnection in the city of Los Angeles and the Dominguez Channel in the city of Torrance.

The proposed project covers rehabilitation of approximately a 3.8-mile section of 84-inch diameter PCCP, extending from the Second Lower Feeder Interconnection at Sepulveda Feeder Station (SF STA) 2270+05 (located on Western Avenue 300 feet north of 220th Street) to SF STA 2066+51 at the blow-off south of the Dominguez Channel (located on Van Ness Avenue). In the vicinity of the proposed project, Western Avenue is the division between city of Torrance and city of Los Angeles. However, the California Department of Transportation (Caltrans) has jurisdiction of Western Avenue/California State Route 213. Based on discussion with City of Torrance, City of Los Angeles, and Caltrans, Western Avenue would be restored per Caltrans requirements and traffic control plans would require approval by City of Torrance and Caltrans. Review or approval of traffic control plans by Los Angeles Bureau of Engineering (LABOE) or Los Angeles Department of Transportation (LADOT) is not required. Proposed locations for project elements have been identified, including the contractor's work and storage areas; pipe access sites from which the feeder would be relined; enlargement of existing manholes; installation of new manholes; replacement of service connection valves; below ground structures improvements; replacement and relocation of air release/vacuum valves (ARVV); installation of drain lines; replacement of service connection valves; and other ancillary work.

Environmental Consequences

Consistent with the procedures identified in Section 15168(c) of the State CEQA Guidelines, the proposed project is a subsequent activity that is part of the PCCP Program, which "must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared." Metropolitan has prepared the attached modified Environmental Checklist to describe the

environmental consequences of the proposed project and determine if the proposed project would have new effects that were not examined in the PEIR. The impacts of the proposed project are compared to the impacts described in the PEIR to determine whether the proposed project would result in new impacts not previously described and whether those new impacts would be significant, or whether the proposed project would result in significant impacts that are substantially more severe than the impacts identified in the PEIR.

The attached Environmental Checklist is a modified version of the checklist set forth in Appendix G of the State CEQA Guidelines. The analysis presented in the modified Environmental Checklist focuses on project-specific issues not sufficiently addressed in the PEIR. As a result, not all environmental factors or all related questions are included in the Environmental Checklist. Environmental factors and/or threshold questions that were previously analyzed in the PEIR and determined to have less than significant impacts, or those for which adequate mitigation measures have already been identified and incorporated are not re-evaluated in this document. As described in the modified Environmental Checklist that follows, the impacts of the proposed project are either consistent with the impacts described in the PEIR or less severe than those identified in the PEIR; therefore, the proposed project would not result in new significant impacts or substantially more severe significant impacts than those described in the PEIR. Applicable mitigation measures identified in the PEIR will be implemented for the proposed project.

Finding

This Addendum to the PCCP PEIR reflects the independent judgement of Metropolitan. Pursuant to Section 15168 of the State CEQA Guidelines, the proposed project is within the scope of the program covered by the PCCP PEIR. The proposed project would result in no new significant environmental impacts or substantially more severe significant impacts than those described in the PEIR. The Environmental Checklist identifies mitigation measures from the PEIR that will be implemented for the proposed project. No new project-specific mitigation measures were identified. Consequently, the proposed project would not affect the original January 2017 program approval determination, and a supplemental environmental impact report (EIR), subsequent EIR, or Mitigated Negative Declaration to the PEIR is not required.

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ENVIRONMENTAL CHECKLIST

FOR THE

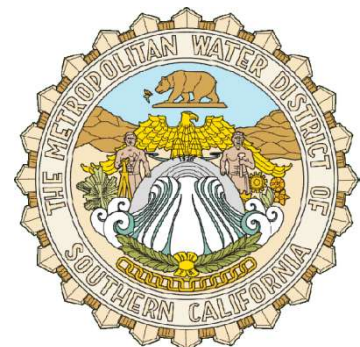
SEPULVEDA FEEDER REACH 2 OF THE PRESTRESSED CONCRETE CYLINDER PIPE REHABILITATION PROGRAM

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Metropolitan Report No. 1527-6
November 2025



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LIST OF ACRONYMS

ANSI	American National Standards Institute
AQMP	Air Quality Management Plan
ARVV	air release/vacuum valve
AWWA	American Water Works Association
bgs	below ground surface
BMPs	best management practices
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CO	carbon monoxide
CRS	Cultural Resources Study
dba	A-weighted decibel
DPM	diesel particulate matter
EIR	Environmental Impact Report
ESA	Environmental Site Assessment
LABOE	Los Angeles Bureau of Engineering
LADOT	Los Angeles Department of Transportation
L _{EQ}	average sound energy over a specified period
LOS	level of service
Metropolitan MM	The Metropolitan Water District of Southern California mitigation measure
N/A	not applicable
NO _x	nitrogen oxides
NSLU	noise sensitive land use
PCCP	Prestressed Concrete Cylinder Pipe
PCCP Program	Prestressed Concrete Cylinder Pipe Rehabilitation Program
PEIR	Programmatic Environmental Impact Report
PRC	Public Resources Code
PRIMP	Paleontological Resources Impact Mitigation Program
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
SCAQMD	South Coast Air Quality Management District
SF STA	Sepulveda Feeder Station Number
SFR2	Sepulveda Feeder Reach 2

TAC	toxic air contaminant
VOC	volatile organic compounds

INTRODUCTION

Purpose of the Environmental Checklist

The purpose of this Environmental Checklist is to assess the potential for new or more severe significant environmental impacts for the Sepulveda Feeder Reach 2 (SFR2; proposed project) rehabilitation beyond those identified in the Programmatic Environmental Impact Report (PEIR) prepared for the Prestressed Concrete Cylinder Pipe (PCCP) Rehabilitation Program (PCCP Program). The PEIR was certified by The Metropolitan Water District of Southern California's (Metropolitan's) Board of Directors on January 10, 2017 (SCH #2014121055) and addressed the potential for environmental impacts at a planning level for each of the five pipelines that would be rehabilitated under the PCCP Program. The proposed project covers rehabilitation of a 3.8-mile section of the 84-inch-diameter Sepulveda Feeder. It extends from the Second Lower Feeder at Sepulveda Feeder Station Number (SF STA) 2270+05 (located on Western Avenue 300 feet north of 220th Street) to SF STA 2066+51 at the blow-off south of the Dominguez Channel (located on Van Ness Avenue). In the vicinity of the proposed project, Western Avenue is the division between city of Torrance and city of Los Angeles. However, California Department of Transportation (Caltrans) has jurisdiction of Western Avenue/California State Route 213.

The PEIR was prepared in accordance with the California Environmental Quality Act (CEQA) of 1970 (Public Resources Code [PRC] Section 21000 et seq.) and the Guidelines for Implementation of CEQA (State CEQA Guidelines) published by the Public Resources Agency of the State of California (California Code of Regulations, Title 14, Section 15000 et seq.). Consistent with the procedures identified in Section 15168(c) of the State CEQA Guidelines, the proposed project is a subsequent activity that is part of the PCCP Program, which "must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared." Metropolitan has prepared an Environmental Checklist to determine if the proposed project would have new effects that were not examined in the PEIR. In accordance with the State CEQA Guidelines Section 15168(c)(1) and (2), in the event that no new or substantially more severe significant effects from the subsequent activity are identified and no new mitigation measures are required, Metropolitan can approve the activity as being within the scope of the program covered by the PEIR, and no new environmental document is required. However, if new or substantially more severe significant impacts or additional mitigation measures are identified, a Negative Declaration or Environmental Impact Report (EIR) is required.

Scope of the Environmental Checklist

The Environmental Checklist used below is a modified version of the checklist set forth in Appendix G of the State CEQA Guidelines. It indicates whether an environmental impact category would have new or more severe significant impacts than those identified in the PCCP PEIR, or whether impacts would be less than or equal to those identified in the PCCP PEIR. In addition, the Environmental Checklist identifies applicable mitigation measures included in the PCCP PEIR for implementation, as part of the proposed project. In certain circumstances, the mitigation measures included in the PCCP PEIR are not applicable to the proposed project because the project location or specific characteristics of the proposed project do not trigger the need for mitigation.

ENVIRONMENTAL CHECKLIST

1. **Title**

Sepulveda Feeder Reach 2 of the Prestressed Concrete Cylinder Pipe Rehabilitation Program

2. **Lead Agency Name and Address**

The Metropolitan Water District of Southern California
700 N. Alameda Street
Los Angeles, California 90012

Mailing Address

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3. **Contact Person and E-mail**

Alfredo Aguirre, Environmental Specialist
EP@mwdh2o.com

4. **Location**

Cities of Los Angeles and Torrance, California

5. **Sponsor's Name and Address**

The Metropolitan Water District of Southern California
700 N. Alameda Street
Los Angeles, California 90012

6. **Land Use**

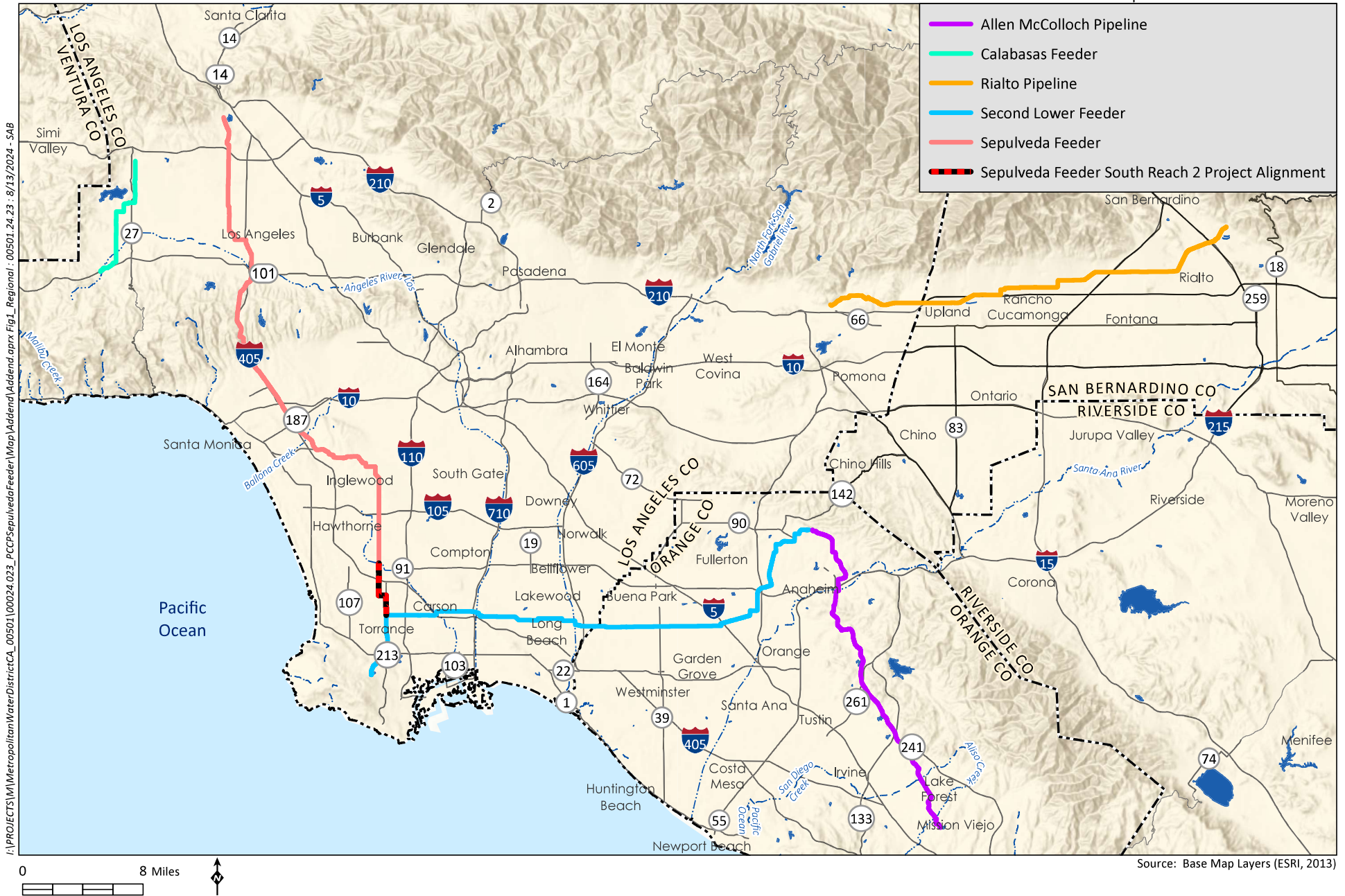
Public Right-of-way

7. **Zoning**

Public Right-of-way (Not Zoned)

8. **Project Description**

The Sepulveda Feeder begins at Metropolitan's Jensen Water Treatment Plant in Granada Hills, located in Los Angeles County, and travels south to the Second Lower Feeder Interconnection in the city of Torrance. The proposed project is the implementation of Metropolitan's PCCP Program for the SFR2, which is located between the Second Lower Feeder Interconnection in the city of Los Angeles and the Dominguez Channel in the city of Torrance. See **Figure 1** for an overview of the PCCP Program and location of the proposed project.



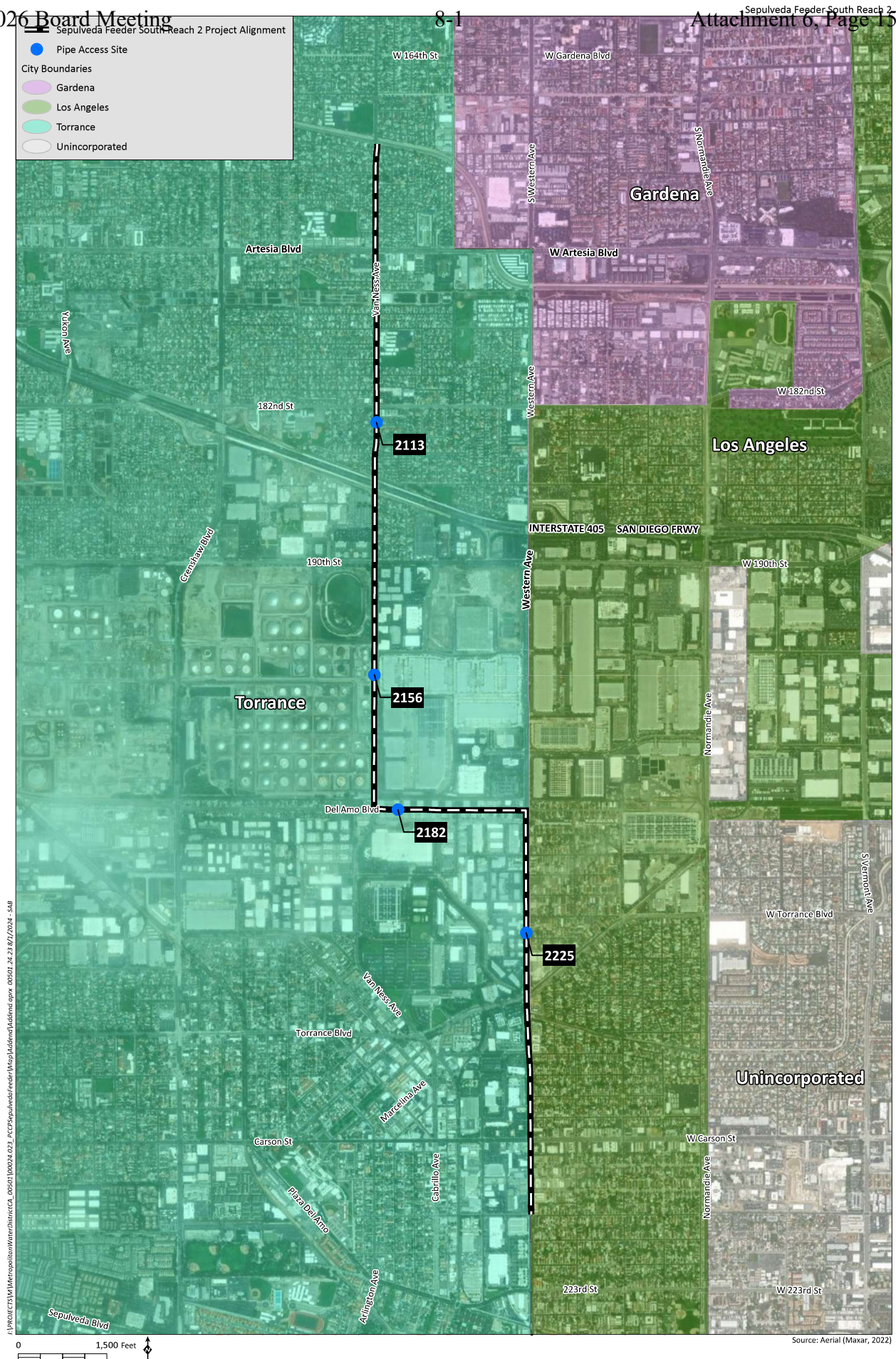
The SFR2 project (proposed project) covers rehabilitation of an approximately 3.8-mile section of 84-inch diameter PCCP, extending from the Second Lower Feeder Interconnection at SF STA 2270+05 (located on Western Avenue 300 feet north of 220th Street) to SF STA 2066+51 at the blow-off south of the Dominguez Channel (located on Van Ness Avenue) (**Figure 2**). In the vicinity of proposed project, Western Avenue is the division between city of Torrance and city of Los Angeles. However, Caltrans has jurisdiction of Western Avenue/California State Route 213. Based on discussion with City of Torrance, City of Los Angeles, and Caltrans, disturbance on Western Avenue would be restored per Caltrans requirements and traffic control plans would require approval by City of Torrance and Caltrans. Review or approval of traffic control plans by Los Angeles Bureau of Engineering (LABOE) or Los Angeles Department of Transportation (LADOT) is not required. Proposed locations for project elements have been identified, including the contractor's work and storage areas; pipe access sites from which the feeder would be relined; enlargement of existing manholes; installation of new manholes; replacement of service connection valves; improvement of below ground structures; replacement and relocation of air release/vacuum valves (ARVV); installation of drain line; replacement of service connection valves; and other ancillary work.

The proposed project would take approximately one year to complete and would include a pipeline shutdown period. The shutdown would be primarily scheduled during low water use months (i.e., the optimum time for pipeline shutdowns is winter months when water demand is less than during the summer months). The following is the proposed construction schedule:

- Mobilization of equipment and traffic control setup would begin as early as October 2026.
- Shutdown of water service on the Sepulveda Feeder would begin in October 2026.
- The proposed project pipeline segment would be returned to service in May 2027.
- Traffic controls and equipment would be removed by the end of July 2027.

Pipeline shutdown for rehabilitation of the SFR2 would begin in October 2026 from STA 2270+35, located on Western Avenue near the intersection of West 220th Street in the city of Torrance and Los Angeles (Western Avenue is the division between the two cities), to STA 2066+51, located in Van Ness Avenue south of the Dominguez Channel in the city of Torrance, for a duration of 6 to 8 months. To perform the rehabilitation, the Sepulveda Feeder would be shut down from the West Coast Feeder to the Second Lower Feeder. Pipeline dewatering will be conducted at various locations along SFR2 as permitted discharges to stormwater conveyances.

The proposed project shutdown would affect service connection WB-39, interrupting water service. During the shutdown, full-service capacity to the WB-39 service area could be fed from member agency piping via WB-21 on the Palos Verdes Feeder, from WB-35 on the Victoria Street Lateral, and from local wells. Other areas along the Sepulveda Feeder affected by the shutdown can also be fed by the Palos Verdes Feeder and the Central Pool. The Central Pool is a Metropolitan service area that delivers water to the major population centers of Los Angeles and Orange counties. The Central Pool has the flexibility to be supplied by three of Metropolitan's five water treatment plants (F.E. Weymouth, Robert B. Diemer, and Joseph Jensen water treatment plants).



The shutdown duration of approximately 6 to 8 months would include pipeline dewatering and startup activities, coiled-cylinder liner insertions, annulus grouting, mortar lining, mortar curing, pumping well enlargements, valve replacements, and other work. Once the work is completed, the Sepulveda Feeder would be re-watered, disinfected, tested, and placed back into service. Disinfection would be in accordance with American Water Works Association (AWWA) and American National Standards Institute (ANSI) standards before being returned to service.

Work would generally occur five days a week (Monday through Friday), for 12 hours each day under normal circumstances. The contractor could request approval for extended hours, in accordance with local cities and municipalities, if necessary. Where construction would be required 24 hours per day, noise attenuation measures as appropriate would be implemented, consistent with the PEIR, and any required jurisdictional permits would be obtained.

The following sections describe the general components of the PCCP Program and how those particular components would be implemented as part of the proposed project.

Project Components

As discussed in the PEIR, project components for PCCP rehabilitation can be categorized as primary, secondary, and associated temporary construction components. These components, and the various methods needed to construct, install, and operate the components, are summarized below, and would be used, as appropriate, for rehabilitation efforts under the proposed project.

- Primary components include the different methods of rehabilitation considered for segments of the pipelines under the PCCP Program. The primary rehabilitation method that would be used for this proposed project would be relining with prefabricated steel cylinder coiled or solid liner pipe.
- Secondary components include permanent appurtenant structures and utility relocations. These appurtenant structures include buried (underground) structures and above ground enclosures. Buried structures include vaults that house piping such as those at interconnections and equipment such as valves, meters, service connections, and blow-offs. Above ground enclosures, typically located in public rights-of-way, on sidewalks or median strips, house ARVVs and air vents.
- Temporary construction components include pipe access sites, structure excavation sites, contractor work areas, ventilation portals, and equipment staging areas.

Primary Project Components

Prestressed Concrete Cylinder Pipe Relining with Steel Cylinder Coiled or Solid Liner Pipe

As discussed in the PEIR, steel cylinder relining rehabilitation of PCCP would involve the following:

- Inserting coiled or solid steel cylinders into the existing PCCP via pipe access sites.
 - Expanding the coiled steel cylinder, where used, to fit properly within the PCCP interior.
 - Welding the expanded steel cylinder within the PCCP.
 - Filling the annular space between the expanded steel cylinder and existing PCCP with concrete grout.
 - Applying a cement mortar lining to the interior surface of the steel cylinder.
-

All of the relining work described above would be done inside the existing pipeline and at pipe access sites along the existing pipeline alignment. Most of the rehabilitation activities would occur within the pipe, and site impacts would occur primarily at the pipe access sites. **Figure 3** shows an example of the type of coiled steel lining and **Figure 4** shows an example of the type of solid steel lining (in progress) that would be inserted into the existing PCCP.



Figure 3. Coiled Steel Pipe Sections

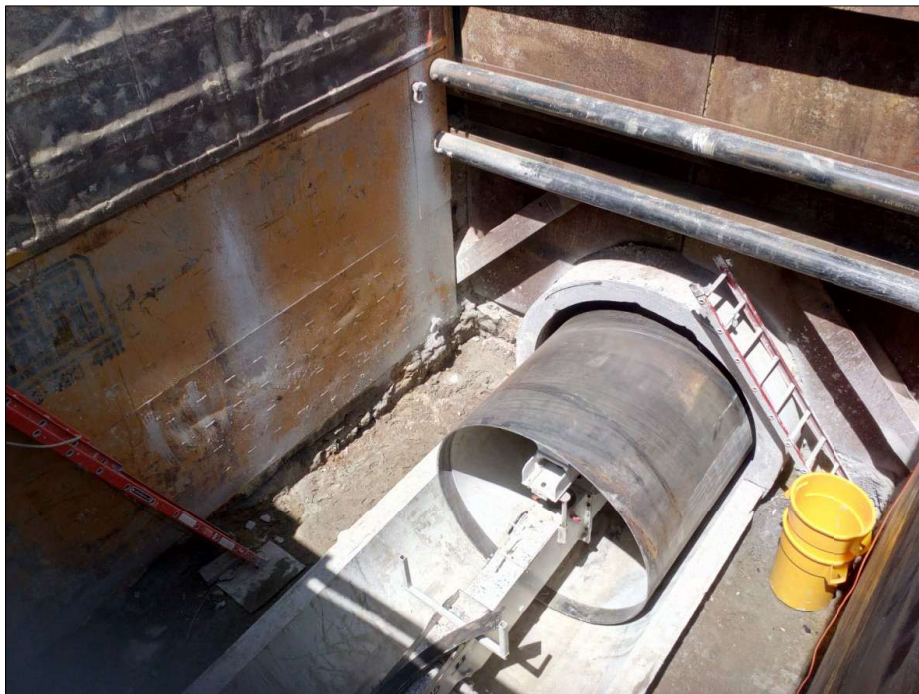


Figure 4. Steel Slip-Lining with Solid Pipe (in Progress)

Secondary Project Components

As discussed in the PEIR, pipeline systems typically include equipment vaults that house water meters, isolation valves, check valves, bypass valves, back-flow preventer valves, pressure-reducing valves, pumping wells, service connections, and blow-offs. Equipment vaults are buried concrete structures that can be accessed from street level to perform maintenance and repairs. The top of the structure is typically several feet below ground surface and the structures are accessed via ladders from street-level hatches or manholes. At some locations, existing underground utilities (power, sanitary sewer, water, or gas) may need to be temporarily or permanently relocated, which would occur within the same construction area and use the same access points as those used to construct the other project components. Above ground enclosures housing electrical panels are typically located along the sidewalk within the public right-of-way.

Buried Equipment Vaults

As described in the PEIR, identified existing buried equipment would be replaced as part of the rehabilitation work. This would include removing the existing equipment and installing the new equipment in the existing vault structure. Some modification to portions of the existing vaults may be needed to accommodate the new equipment.

Manholes and Above Ground Enclosures

Manholes typically provide access for maintenance and repairs and are spaced at regular intervals along pipelines. Existing manholes would be used for ventilation and for access to the interior of the pipeline for personnel, small equipment, and materials during rehabilitation of other project components (e.g., pipeline relining).

The proposed project would include the following activities: manhole enlargement at select pumping wells, pumping well air vent improvements, and relocation of ARVVs that have not previously been relocated to above ground locations. Each activity is described in greater detail below.

Manhole enlargement would occur at two existing pumping well sites shown in **Table 1**. New manholes and/or traffic rated hatches would be installed at side drain locations described in **Table 5** and include small enclosures within the public right-of-way in a median or sidewalk or within Metropolitan-owned property. New manhole locations are described further below in the section discussing side drains.

Table 1. Manhole Enlargement at Pumping Well Sites

Site STA	Location	Approximate Excavation Dimensions (Length x Width, in feet)	Approximate Contractor's Work Area Dimensions (Length x Width, in feet)
2139+08	On the west side of Van Ness Avenue, south of 190 th Street	20 x 20	80 x 45
2205+31	On the west side of Western Avenue, south of Del Amo Boulevard	20 x 20	80 x 40

Note: For irregularly-shaped work areas, the maximum width and length are presented in the table.
STA: Sepulveda Feeder Station Number

Pumping well air vent improvements would occur at two existing pumping well sites shown in **Table 2**. The air vent improvements would involve installation of new piping from the existing manhole to a nearby above ground location and installation of a new ornamental air vent above ground. This would require shallow trenching from the existing underground vault to the new above ground location.

Table 2. Air Vent Improvement Sites

Site STA	Location	Approximate Contractor's Work Area Dimensions (Length x Width, in feet)	Approximate Area of Disturbance (Length x Width x Depth, in feet)
2166+97	On the west side of Van Ness Avenue, south of Prologis Way	20 x 20	12 x 6 x 13
2205+31	On the west side of Western Avenue, south of Del Amo Boulevard	80 x 40	52 x 40 x 13

STA: Sepulveda Feeder Station

California State Water Resources Control Board regulations require that all treated water supply systems be protected from potential contamination. ARVVs currently located in vaults along the project pipeline have a potential to introduce contaminants into the Sepulveda Feeder. The purpose of these valves is to control air pressure in the mainline by automatically opening to the atmosphere to allow air into or out of the pipeline during dewatering or filling operations. Being located in underground vaults that are susceptible to flooding with rain runoff or seepage water, there is a possibility that as these valves open, they will allow water that has flooded the vault into the pipeline, thereby contaminating it with rain runoff or seepage water pollutants. Therefore, per the aforementioned regulations, existing ARVVs in underground vaults along the project would be relocated above ground.

The relocation of ARVVs from underground to above ground would involve installation of new piping from the existing valve connection point in the vault to a nearby above ground location and installation of a new valve above ground. This would require shallow trenching from the existing underground vault to the new above ground location.

For the proposed project, the length of the trench would vary with the size of the street to be crossed, as valves would be moved from their current underground locations within the roadway to a nearby area outside of the roadway. **Table 3** identifies which existing ARVVs valves would be relocated. In addition, the access structures would be retrofitted with locking maintenance hole covers, and the access structure ring would be removed. **Figure 5** shows a typical above ground valve enclosure.

Table 3. ARVV Relocation Sites

Site STA	Location	Approximate Contractor's Work Area Dimensions (Length x Width, in feet)	Approximate Area of Disturbance (Length x Width x Depth, in feet)
2134+76	Within the landscaped area of the sidewalk on the east side of Van Ness Avenue	40 x 40	42 x 4 x 9

Site STA	Location	Approximate Contractor's Work Area Dimensions (Length x Width, in feet)	Approximate Area of Disturbance (Length x Width x Depth, in feet)
2213+76	Within the landscaped area west of the sidewalk on the west side of South Western Avenue	40 x 40	35 x 7 x 9
2268+62	Within the sidewalk on the east side of South Western Avenue	40 x 40	47 x 4 x 9

Note: For irregularly-shaped work areas, the maximum width and length are presented in the table.

STA: Sepulveda Feeder Station



Figure 5. Typical Above Ground ARVV Enclosure

Isolation Valves

As discussed in the PEIR, pipelines have several isolation valves at strategic locations along the pipeline alignment that can be used to isolate or stop water flows. Isolation valves are located subsurface and are used to divide the pipelines into more easily managed sections and separate one part of the pipeline from another. Isolation valves are normally left open when repairs or maintenance of a pipeline are needed.

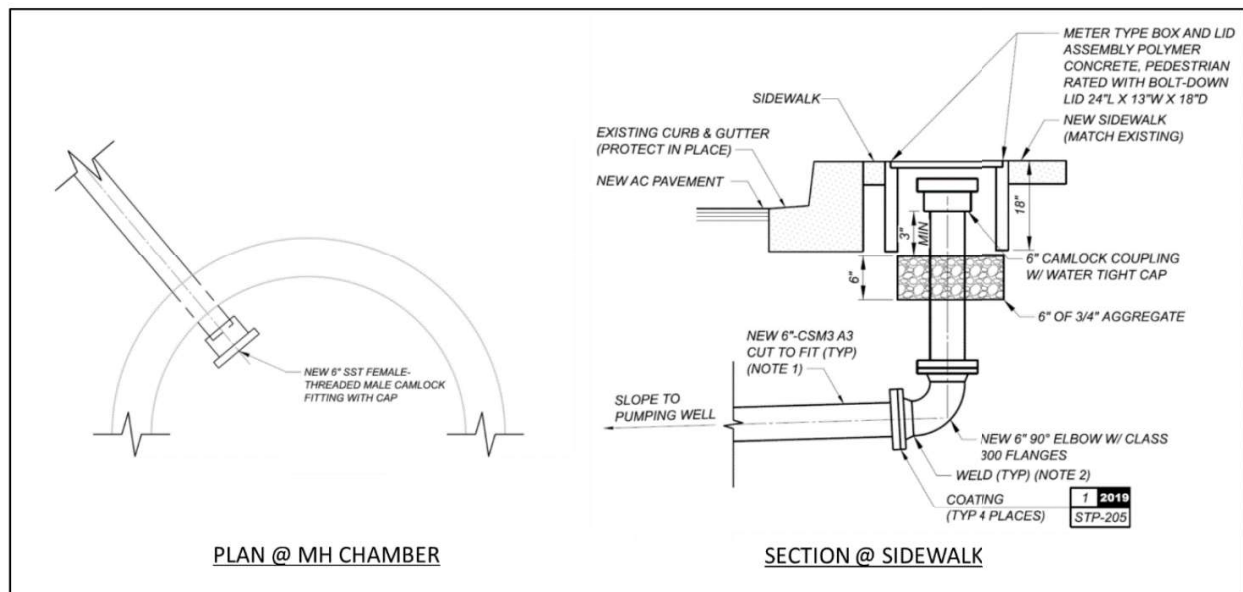
Table 4 identifies the location and improvements that would occur at the isolation valve structures within the project limits. No excavation is anticipated to replace isolation valves since access would be via existing manholes.

Table 4. Isolation Valve Replacement Locations

Site STA	Location	Improvement	Approximate Contractor's Work Area Dimensions (Length x Width, in feet)
2201+66	Within the eastbound lane of Del Amo Boulevard west of the intersection at Western Avenue	Replace isolation valve for WB-39	30 x 80

Side Drains

The proposed project would include the installation of new, permanent, below-grade side drains to convey water discharged from pumping wells located in the middle of the road to the curb and gutter without the need for temporary hoses across the travel lane that would impede traffic. Construction of new side drains associated with the pumping wells would entail trench excavation. **Table 5** describes the locations of the proposed side drain facilities and the approximate disturbance areas associated with their construction. Side drain concepts are shown in **Figure 6**.


Figure 6. Side Drain Concepts
Table 5. Side Drain Discharge Locations

Site STA	Structure	Facility	Approximate Excavation Dimensions (Length x Width, in feet)	Approximate Contractor's Work Area Dimensions (Length x Width, in feet)
2182+77	Manhole	PW	50 x 4 x 20	50 x 40
2268+62	Manhole	ARVV/PW	NA ¹	40 x 40

¹ New side drains will be installed in ARVV relocation trench, no new excavation required.

Potential Utility Conflicts

At some locations, existing underground and/or above ground utilities would be relocated where conflicts cannot be avoided. **Table 6** describes potential locations of utility conflicts by stations and the type and responsible utility agency. The contractor will be responsible for verifying the utility locations and determining if the utilities can be supported in place during construction or will need to be relocated. The underground relocations would occur utilizing many of the same access points and/or other construction locations described in Tables 1, 2, 3, 5, and 7. Additional relocation needs may be discovered during construction. If additional relocation needs are discovered, the contractor would work with the responsible utility and Metropolitan to coordinate relocation efforts.

Table 6. Potential Utility Conflicts

Site Type	Site STA	Utility Type	Responsible Utility Agency
Air Vent	2166+97	Communications Duct	AT&T
PAS/Vent Piping	2182+77	Communications Duct	CenturyLink Communications
PAS/Vent Piping	2182+77	Communications Duct	Frontier Communications
ARVV Relocation	2213+76	3x Unknown	Unknown
PAS	2225+60	Electrical Duct	Unknown
ARVV Relocation	2268+62	Gas	Southern California Gas Company
ARVV Relocation/ Side Drain	2268+62	Wastewater - Abandoned	Mobil Oil
ARVV Relocation/ Side Drain	2268+62	Gasoline	Mobile Oil
ARVV Relocation/ Side Drain	2268+62	Water	City of Torrance

Notes: PAS = Pipe Access Site

Other Improvements

The lining of new tees or outlets for existing ARVVs, blow-offs, and manholes, would be connected directly to the new pipe liner. Existing manholes will be used to access the pipe for restoration of the outlets.

In many cases the tees and outlets were incorporated into a segment of steel pipe “special”, which allows the new liner to be welded directly to the steel pipe special. The new liner would not need to extend through the steel special and therefore no tee or outlet modification is needed in this case.

Temporary Construction Components

As discussed in the PEIR, temporary construction components include pipe access sites, vault excavation sites, contractor work areas with traffic control, utility relocations, and equipment staging areas. The

temporary construction components would be present during rehabilitation activities only. After construction, these components would be removed, and the sites would be returned to pre-construction conditions.

Pipe Access Sites

As discussed in the PEIR, a pipe access site is defined as the entry or exit portal that exposes the underground PCCP section of the pipe or equipment vault to be rehabilitated (i.e., the trench from which new steel cylinders, valves, and temporary underground utility relocations would be installed). Each pipe access site would be located within a contractor's work area. Multiple pipe access sites would be needed to rehabilitate the pipelines and buried equipment vaults included in the PCCP Program.

Spacing of pipe access sites would vary based on a number of factors, including the horizontal and vertical bends of the pipe; the locations of valves, vaults, and other equipment; and other factors. Pipe access sites for the proposed project are shown in **Figure 2**. These pipe access site locations and approximate size of the excavation and work areas are described in **Table 7**.

Existing surface improvements, such as road pavements, sidewalks, and landscaping, would be removed and below and above ground utilities temporarily relocated at each pipe access site, and soils would be excavated and temporarily removed from the site to expose the existing pipeline. Tree removal and trimming would be required at multiple pipe access sites. Once rehabilitation is complete, each pipe access site would either be backfilled with soils originally excavated or backfilled with slurry, and the surface of each access site and surrounding work zone would be restored to preconstruction conditions. Excess soil would be disposed of offsite at an approved location. Work would include re-paving existing roads, repairing or replacing existing sidewalks, and replanting landscaping disturbed during rehabilitation of the pipe.

Pipe Access Site Ingress/Egress

Pipe access sites within roadways would generally be accessed via the public right-of-way (ROW) or within existing Metropolitan easements on public or private property.

Bulkhead Installation

As discussed in the PEIR, bulkheads may be required along various sections of the pipelines to isolate one section of the pipeline from another and to ensure continued and reliable water supply delivery to member agencies while rehabilitation is being performed on another section of pipe.

Contractor's Work Areas

As discussed in the PEIR, contractor's work areas allow for construction activities to occur safely and efficiently within a construction site. Construction activities would include excavation, shoring, pipe removal, pipeline rehabilitation, electrical panel installation, temporary above ground and underground utility relocations, and construction support activities such as ventilation, dewatering, pipe disinfection, and refilling.

Contractor's work areas would be secured and protected by installing temporary fencing barricades, k-rails and implementing other traffic control measures defined in the traffic management and control plan to be prepared as described in the PEIR. The traffic management and control plan shall address project specific traffic control and parking mitigation measures defined in the PEIR. Metropolitan will prepare a

grading and drainage plan that would identify and implement temporary best management practices (BMPs) for erosion and sediment control to minimize the potential for stormwater impacts to water quality during construction as described within the PEIR.

Most of the contractor's work areas are within public ROW including roads, sidewalks and landscaped areas along roadways. Some of the work areas are within Metropolitan easements on private and public property. Tree and grass removal would be required within a few landscaped areas to allow for the storage of equipment; however, disturbed areas would be restored to preconstruction conditions following the completion of the project. Utilities temporarily relocated would be restored to their original or revised location in accordance with the plans and specifications. Contractor's work area locations and dimensions for the project components are described in **Tables 1** through **5** and **Table 7**.

Table 7. Proposed Project Pipe Access Sites for PCCP Relining

Pipe Access Site STA	Location	Alignment	Approximate Excavation Dimensions (Length x Width x Depth, in feet)	Approximate Contractor's Work Area Dimensions (Length x Width, in feet)	Location Type
2113+38	On the east side of Van Ness Avenue	North/South	40 x 20 x 18	250 x 27	Public ROW Roadway Utility
2156+05	On the west side of Van Ness Avenue	North/South	40 x 15 x 16	300 x 35	Public ROW Roadway Utility
2182+77	On the south side of Del Amo Boulevard	East/West	40 x 20 x 21	140 x 40	Public ROW Roadway Utility
2225+60	On the west side of South Western Avenue	North/South	40 x 18 x 16	200 x 52	Public ROW Roadway Utility

Note: For irregularly-shaped work areas, the maximum width and length are presented in the table.
ROW: right-of-way; STA: Sepulveda Feeder Station

Traffic Management and Control

Traffic management and control plans would be prepared and implemented in accordance with the standards of the jurisdictional agencies and submitted for review and approval prior to construction start. Encroachment and other permits would be obtained for work in the public ROW. Temporary lane closures in the areas of construction would be required, however, detours around the site would allow traffic to continue to flow or one-way traffic control would be implemented as needed. Access to commercial businesses and residential properties would be maintained where feasible. However, there could be temporary disruptions to access in some locations in which case a temporary access point would be identified and temporary wayfinding signage during construction would be installed. The traffic management and control plans shall require that public access to hospitals, schools, and other important public institutions remain accessible during hours of operation. If this is not possible, Metropolitan or

their contractor shall work with the institution to determine acceptable detour measures prior to the disruption. Emergency vehicles would be allowed through all traffic control areas as needed.

Staging Areas

Staging areas provide space to store pipes or liners, construction materials such as shoring boxes and pipe bedding materials, and equipment such as excavators and dump trucks. Space within the contractor's work areas may be used as a temporary staging area, however, space limitations require that the majority of materials and equipment be stored at a larger staging area. A potential staging area would be located at an approximately 12-acre lot at Los Angeles Harbor College, one mile east of the project alignment, shown in **Figure 7**. The contractor would be responsible for securing a staging area.



Figure 7. Potential Staging Area at Harbor College

Shutdown Discharge

The Sepulveda Feeder will require draining during the shutdown period. The flow generated from the existing pumping wells, blow-offs and other appurtenances will drain to the surface or be discharged into existing stormwater infrastructure (curb and gutter along roadways, catch basins, and open drainage channels). The dewatering will be performed by Metropolitan staff, following established procedures and in accordance with appropriate discharge permits. The water will be dechlorinated prior to discharge.

CHECKLIST

Organization of the Environmental Checklist

This Environmental Checklist is a modified version of the checklist set forth in Appendix G of the State CEQA Guidelines. The analysis presented in the modified Environmental Checklist focuses on project-specific issues not sufficiently addressed in the PEIR. As a result, not all environmental factors or all related questions are included in the Environmental Checklist. Environmental factors and/or threshold questions that were previously analyzed in the PEIR and determined to have less than significant impacts, or those for which adequate mitigation measures have already been identified and incorporated are not re-evaluated in this document. Based on the analysis that follows, it was determined that no new or more severe significant impacts than those identified in the PEIR would occur as a result of implementation of the proposed project.

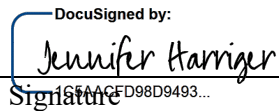
Determination

On the basis of this initial evaluation and application of the State CEQA Guidelines (Section 15162, 15163, and 15164):

	<u>YES</u>	<u>NO</u>
1. Substantial changes are proposed in the project that will require major revisions of the PEIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or	_____	<u>X</u>
2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous PEIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or	_____	<u>X</u>
3. New information of substantial importance to the project becomes available, and		
a. The information was not known and could not have been known at the time the PEIR was certified as complete, and	_____	<u>X</u>
b. The new information shows any of the following:		
i. The project will have one or more significant effects not discussed previously in the PEIR;	_____	<u>X</u>
ii. Significant effects previously examined will be substantially more severe than shown in the PEIR;	_____	<u>X</u>
iii. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project; or	_____	<u>X</u>
iv. Mitigation measures or alternatives that were not previously considered in the PEIR would substantially lessen one or more significant effects on the environment.	_____	<u>X</u>

Findings:

1. The project has effects that were not examined in the EIR; therefore, an Initial Study needs to be prepared leading to either an EIR or a Negative Declaration.	_____	<u>X</u>
2. The agency finds that pursuant to Section 15162, no new effects will occur and no new mitigation measures will be required. The agency can approve the project as being within the scope of the project covered by the PEIR, and no new environmental document is required.	<u>X</u>	_____

DocuSigned by:

 Signature

Jennifer Harriger
 Printed Name

11/5/2025

Date

Manager, Environmental Planning Section
 Title

I. AESTHETICS

<i>Would the proposed project:</i>	<i>New or More Severe Significant Impact than Identified in the PEIR</i>	<i>Impact Less than or Equal to Impact Identified in the PEIR</i>
d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Less than or Equal to Impact Identified in the PEIR. The PCCP PEIR discussed the possible use of lighting in contractor’s work areas and storage areas for safety and security purposes and the potential for that lighting to spill over into adjacent light-sensitive areas, especially residential land uses, which could result in significant construction-related impacts. Permanent lighting was not included as part of the program; therefore, the PCCP PEIR identified no operational impacts related to light and glare. For construction impacts, the following mitigation measure was identified:

- **Mitigation Measure (MM) AES-1** requires that all safety and security lighting at contractor’s work areas and staging areas be directed downward and shielded to avoid light spilling over into residential areas, thereby reducing impacts to a less than significant level.

For the proposed project, nighttime work and lighting may be required for the 24-hour periods when the SFR2 is either dewatered or returned to service, as well as during some pipeline relining and related ventilation work. Implementation of **MM AES-1** would reduce impacts related to light and glare to below a level of significance.

The severity of the impact would be the same as that identified in the PCCP PEIR.

II. AIR QUALITY

<i>Would the proposed project:</i>	<i>New or More Severe Significant Impact than Identified in the PEIR</i>	<i>Impact Less than or Equal to Impact Identified in the PEIR</i>
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Less than or Equal to Impact Identified in the PEIR. As discussed in the PCCP PEIR, the criteria used to identify consistency with the South Coast Air Quality Management District (SCAQMD) 2012 Air Quality Management Plan (AQMP) included whether there would be air quality violations or delays in attainment or whether there would be exceedances of the assumptions included in the AQMP. Regarding the consistency of the PCCP Program with the assumptions included in the AQMP, programmatic impacts were determined to be less than significant because no permanent land use changes would occur as a result of program implementation. With respect to the potential for air quality violation or delays in attainment, the PCCP Program was determined to result in significant impacts as a result of construction-period emissions exceeding SCAQMD regional mass emissions thresholds, and the following mitigation measure was identified:

- **MM AIR-1** requires controls on emissions from construction equipment through the use of best available control technology devices.

While construction-period emissions would be reduced with implementation of **MM AIR-1**, impacts were determined to remain significant and unavoidable.

The total amount of concurrent construction activities assumed for the proposed project based on the project phasing (up to 4 excavation sites, 3 above ground relocations of ARVVs, and 2 side drain discharge locations) would be less than what was analyzed in the PEIR, which assumed concurrent construction activities for 10 excavation sites, 3 above ground relocations of ARVVs, 2 new valve/vault/blow-off structures, and a 1,000-foot-long segment of parallel pipe in a new alignment. Construction assumptions, including equipment, for the proposed construction activities would be similar to that analyzed in the PEIR; however, the project does not include installation of a parallel pipeline. As such, based on the lower intensity of concurrent construction work for the proposed project compared to what was assessed in the PEIR, it can be concluded that the proposed project would result in less daily emissions than what was considered in the PEIR.

Subsequent to the certification of the PEIR, the Board of the SCAQMD most recently approved the 2022 AQMP, which identifies stationary and mobile source strategies to ensure that federal Clean Air Act deadlines for attainment of the National Ambient Air Quality Standards are met. The proposed project, as was discussed for the program, would not involve changes to land uses such that the assumptions used in the development of the 2022 AQMP would be exceeded. Thus, no conflict with the AQMP would occur.

The severity of the impact would be less than that identified in the PEIR.

<i>Would the proposed project:</i>	<i>New or More Severe Significant Impact than Identified in the PEIR</i>	<i>Impact Less than or Equal to Impact Identified in the PEIR</i>
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Less than or Equal to Impact Identified in the PEIR. As discussed in the PCCP PEIR, concurrent regional mass emissions for the full construction scenario (as described above) would result in emissions that exceed the SCAQMD thresholds for volatile organic compounds (VOCs), nitrogen oxides (NO_x), and carbon monoxide (CO). After the implementation of **MM AIR-1**, thresholds would still be exceeded for NO_x and CO. Thus, regional emissions from the PCCP Program were determined to be significant and unavoidable. The PEIR determined that localized emissions during program rehabilitation efforts would exceed the SCAQMD localized significance thresholds for NO_x, but implementation of **MM AIR-1** would reduce the impact to a less-than-significant level.

As discussed in Item II.a, the proposed project would result in less daily regional emissions than what was considered in the PEIR. Localized emissions would also be no greater than identified in the PEIR, as discussed in Item II.d.

The severity of the impact would be less than that identified in the PEIR.

<i>Would the proposed project:</i>	<i>New or More Severe Significant Impact than Identified in the PEIR</i>	<i>Impact Less than or Equal to Impact Identified in the PEIR</i>
c. Result in a cumulatively considerable net increase in any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Less than or Equal to Impact Identified in the PEIR. Refer to the discussion in Items II.a and II.b. As shown in Table 4.3-7 of the PEIR, the South Coast Air Basin is in non-attainment for federal and state ozone standards. However, emissions from the proposed project would result in less emissions than what was considered in the PEIR, as detailed in Item II.a.

The severity of the impact would be less than that identified in the PEIR.

<i>Would the proposed project:</i>	<i>New or More Severe Significant Impact than Identified in the PEIR</i>	<i>Impact Less than or Equal to Impact Identified in the PEIR</i>
d. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Less than or Equal to Impact Identified in the PEIR. As identified in the PEIR, program rehabilitation activities were determined to have a significant impact on sensitive receptors located in proximity to excavation sites. Such impacts were determined to be reduced with the implementation of **MM AIR-1**, but were found to be significant and unavoidable.

The proposed project would involve rehabilitation activities in proximity to sensitive receptors, such as residences and schools. Excavation areas would occur in residential neighborhoods, as would the above ground relocation of ARVVs and blowers used for pipeline ventilation. Because the locations of these activities are consistent with the distances from sensitive receptors analyzed in the PEIR and the emissions at these locations would be no greater than identified in the PEIR, impacts related to sensitive receptors would be the same as described in the PEIR.

Diesel particulate matter (DPM) is the primary toxic air contaminant (TAC) that would be emitted during construction and would be generated from the use of diesel equipment required for demolition, excavation, trenching, and other construction activities. Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer. The amount to which the receptors could be exposed, which is a function of concentration and duration of exposure, is the primary factor used to determine health risk. The generation of TAC emissions during construction would be variable and sporadic due to the nature of construction activity. Additionally, construction activities would occur in multiple places over 3.8 miles and would not be concentrated in a single location. Therefore, due to the short duration and intermittent nature of construction activities, and due to the highly dispersive properties of DPM, project-related TAC emission impacts during construction would not expose sensitive receptors to substantial pollutant concentrations and the impact would be less than significant.

A CO hotspot is an area of localized CO pollution caused by severe vehicle congestion on major roadways, typically near intersections. If a project increases average delay at signalized intersections operating at Level of Service (LOS) E or F or causes an intersection that would operate at LOS D or better without the project to operate at LOS E or F with the project, a quantitative screening is

required. The increase in daily trips associated with construction of the project would be nominal compared to local traffic volumes, and operation of the project would not result in an increase in traffic. In addition, as discussed below in Item VI.a, Metropolitan would coordinate with the cities of Los Angeles and Torrance, as well as Caltrans, to develop construction traffic control measures and procedures prior to the start of construction on each excavation/pipe access site, to ensure sufficient access and traffic flow. The project would therefore neither cause new severe congestion nor significantly worsen existing congestion. There would be no potential for a CO hotspot or exposure of sensitive receptors to substantial, project-generated, local CO emissions.

The severity of the impact would be the same as that identified in the PEIR.

III. CULTURAL RESOURCES

<i>Would the proposed project:</i>	<i>New or More Severe Significant Impact than Identified in the PEIR</i>	<i>Impact Less than or Equal to Impact Identified in the PEIR</i>
a. Cause a substantial adverse change in the significance of a historical resource, as defined in Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Less than or Equal to Impact Identified in the PEIR. The PCCP PEIR noted that ground-borne vibration from excavation and concrete cutting could potentially affect the nearby built environment and impacts to historical resources in the vicinity of program-related work could be potentially significant.

Mitigation was identified to reduce potential impacts to historical resources:

- **MM CUL-1** requires a qualified cultural resource specialist to determine the presence of identified or eligible historical resources and to provide measures to prevent impacts to those resources as appropriate.

In accordance with **MM CUL-1**, a Cultural Resources Study (CRS) was completed for the proposed project by Rincon (2024) and is provided as Appendix A. The records search completed in support of the CRS identified thirteen cultural resources studies within 0.25-mile of the project, although none occurs within the project boundaries and no historic resources were discovered within the project boundaries during the field survey. Ten of those reports discussed areas which either contain parts of the project site or are adjacent to it.

One historic resource was identified through the records search: Resource P-19-178539 is an Irving Gill designed railroad bridge which is listed in the National Register of Historic Places and California Register of Historical Resources. It spans over Torrance Boulevard approximately 700 feet west of the project site and will not be impacted by the current project.

The CRS states that since the project site is located in a residential area and has been previously developed with modern infrastructure, and since no historic resources have been recorded or were observed during surveys of the excavation sites, staging location, or pipeline alignment, additional steps related to **MM CUL-1** would not be necessary for the proposed project. The historical resource identified in the PEIR is outside of the proposed project limits, and proposed activities would not result in a substantial adverse change in the significance of this resource. No mitigation would be required.

The severity of the impact would be less than that identified in the PEIR.

<i>Would the proposed project:</i>	<i>New or More Severe Significant Impact than Identified in the PEIR</i>	<i>Impact Less than or Equal to Impact Identified in the PEIR</i>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Less than or Equal to Impact Identified in the PEIR. The PCCP PEIR discussed how sediments in proximity to pipelines have been previously disturbed and determined that the possibility of encountering intact archaeological resources during PCCP Program activities would be low. The possibility that archaeological resources may be encountered still exists, however, and the PEIR stated that impacts would be potentially significant. The following mitigation measures from the PEIR would reduce programmatic impacts to a less-than-significant level:

- **MM CUL-2** requires a pre-construction, site-specific records search to identify if additional sites or resources have been recorded on or adjacent to the proposed project site. If the proposed project site is found to be within the recorded area of a significant or potentially significant site, then archaeological and/or Native American monitoring during ground-disturbing activities is required.
- **MM CUL-3** requires a pre-construction meeting to inform construction personnel how to identify cultural resources during ground-disturbing activities and what to do if such potential resources are found.
- **MM CUL-4** establishes a protocol in the event that potentially significant cultural resources are unexpectedly encountered during construction.
- **MM CUL-5** requires a professional archaeologist to perform a pedestrian survey of areas where ground-disturbing activities are proposed. If archaeological resources are recorded or are discovered during the survey and avoidance is not feasible, then site testing and evaluation by a professional archaeologist is required.

Table 4.5-10 of the PCCP PEIR did not identify any archaeological resources within 0.25 miles of the proposed project.

Pursuant to **MM CUL-2** and **MM CUL-5**, the CRS for the proposed project included a cultural resources records search, a sacred lands file search, and a field survey. As discussed in Item III.a, the records search completed in support of the CRS identified thirteen cultural resources studies within 0.25 mile of the project, although none occurs within the project boundaries and no archaeological resources were discovered within the project boundaries during the field survey. Ten of those reports discussed areas which either contain parts of the project site or are adjacent to it. Additionally, no cultural resources were discovered within the project boundaries during the pedestrian survey.

In accordance with **MM CUL-2**, Metropolitan requested a Sacred Lands File search from the Native American Heritage Commission in early 2015. The Sacred Lands File search conducted by Metropolitan did not indicate the presence of Native American resources with the potential to be impacted by the project.

Because no archaeological resources have been identified within the proposed project limits, archaeological monitoring and Native American monitoring under **MM CUL-2** would not be required for the proposed project. The proposed project will, however, implement requirements from **MM CUL-3** and **MM CUL-4**, which would ensure impacts to archaeological resources would be less than significant. The severity of the impact would be less than that identified in the PEIR.

Would the proposed project:

*New or More Severe
Significant Impact than
Identified in the PEIR*

*Impact Less than or
Equal to Impact
Identified in the PEIR*

- c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?



Impact Less than or Equal to Impact Identified in the PEIR. Impact Less than or Equal to Impact Identified in the PEIR. Although the PCCP PEIR identified geologic formations located within the vicinity of the SFR2 where there is a potential to find fossils, there are no records of any fossils having been recovered. The PEIR analysis concluded that it would be unlikely that paleontological resources would be discovered in areas with sediments previously disturbed by original pipeline construction; however, the possibility of encountering such resources still remains and the following mitigation measure was identified:

- **MM CUL-6** requires the development and implementation of a site-specific mitigation program to address potential impacts to paleontological resources.

Implementation of **MM CUL-6** would reduce potential impacts resulting from the PCCP Program to a less-than-significant level.

In compliance with **MM CUL-6**, a Paleontological Resources Impact Mitigation Program (PRIMP) for the Sepulveda Feeder was prepared by Rincon (2019), and is provided as Appendix B. According to the paleontological records search performed as part of the PRIMP, no fossil localities have been previously recorded within the proposed project limits.

According to the PRIMP, the geologic units underlying the project area have a paleontological sensitivity ranging from low to high. The older Quaternary alluvium underlying the project area are all assigned a high paleontological sensitivity because they have proven to yield vertebrate fossils near the project area and throughout the Los Angeles Basin.

Requirements in the PRIMP include retention of a qualified paleontologist to implement the PRIMP, a Worker Environmental Awareness Program to train all site personnel prior to the start of work, obtainment of a curation agreement with an accredited museum prior to construction, monitoring during earth moving in previously undisturbed areas, the availability of appropriate equipment and supplies, adherence to guidelines involving bulk matrix sampling, appropriate laboratory preparation and curation protocol, and a final report of findings. Details regarding each of these requirements can be found in Section 3 of Appendix B. With the implementation of the PRIMP, as required by **MM CUL-6**, impacts to paleontological resources would be less than significant.

The severity of the impact would be the same as that identified in the PEIR.

IV. HAZARDS AND HAZARDOUS MATERIALS

Would the proposed project:

*New or More Severe
Significant Impact than
Identified in the PEIR*

*Impact Less than or
Equal to Impact
Identified in the PEIR*

- c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?



Impact Less than or Equal to Impact Identified in the PEIR. As discussed in the PCCP PEIR, construction-related hazardous releases that could occur within 0.25 mile of a school would be from

commonly used materials such as fossil fuels, solvents, and paints and would not include substances listed in 40 Code of Federal Regulations 355, Appendix A, *Extremely Hazardous Substances and Their Threshold Planning Quantities*. Accidental releases of commonly used hazardous materials would be localized and immediately contained and cleaned up. The PEIR determined that program impacts would be less than significant with the implementation of the following mitigation measures:

- **MM HAZ-1** requires the preparation of a project-level analysis of previously identified hazardous materials sites in the vicinity;
- **MM HAZ-2** establishes a protocol for the identification and management of previously unknown hazardous materials sites that may be encountered during construction activities;
- **MM HAZ-3** requires the construction contractor to implement BMPs to minimize human exposure to potential contaminants; and
- **MM HAZ-4** establishes a protocol for the handling of contaminated groundwater that could be encountered during construction.

As shown in **Table 8**, there are three schools within 0.25 mile of the proposed project alignment. Additionally, the main contractor storage area may be located at a vacant lot at Los Angeles Harbor College. Although rehabilitation would involve hazardous materials typical of a construction project, the proposed project would operate in compliance with federal, state, and local regulations. In accordance with **MM HAZ-1**, a project-level analysis of previously identified hazardous materials sites in the vicinity has been conducted (see Item IV.d, below). Additionally, **MM HAZ-2** through **MM HAZ-4** would be implemented for the proposed project, thereby reducing potential impacts to a less-than-significant level.

Table 8. Schools within 0.25 mile of the Proposed Project Alignment

School	Address	Approximate Distance from the Proposed Project
Arlington Elementary School	17800 Van Ness Avenue, Torrance	30 feet east
Casimir Middle School	17220 Casimir Avenue, Torrance	300 feet west
Lincoln Elementary School	2418 166th Street, Torrance	50 feet west

The severity of the impact would be the same as that identified in the PEIR.

Would the proposed project:

New or More Severe
Significant Impact than
Identified in the PEIR

Impact Less than or
Equal to Impact
Identified in the PEIR

- d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment?

☐☒

Impact Less than or Equal to Impact Identified in the PEIR. The PCCP PEIR identified the potential for rehabilitation activities to encounter hazardous materials sites found in various environmental databases. Excavations into contaminated media at known or unknown sites could result in a significant hazard to the construction workers, the public, or the environment. Program

impacts were determined to be potentially significant, but impacts would be mitigated to a less-than-significant level through the implementation of **MM HAZ-1** through **MM HAZ-4** of the PEIR.

A Phase I Environmental Site Assessment (ESA; Citadel Environmental Services, Inc. 2018) was conducted in November 2018, and revised February 2019, of state databases that identify sites for which a hazardous materials release or incident has occurred or sites that generate, store, treat, or dispose of hazardous materials. Specifically, this included the California Department of Toxic Substances Control EnviroStor website and the SWRCB GeoTracker website. A radius of one mile from the Sepulveda Feeder was considered for the Hazardous materials search. Based on the linear aspect of the 37-mile pipeline, the Phase I ESA focuses on properties along the pipeline that may adversely impact the vicinity of the construction areas and workers. Three hazardous materials sites, which have open cases with the Regional Water Quality Control Board (RWQCB), were identified adjacent to the project area. An updated search of the California Department of Toxic Substances Control EnviroStor and SWRCB GeoTracker online databases was completed in October 2025 to verify the status of the three sites (DTSC 2025; SWRCB 2025). Hazardous materials sites include:

Moog, Inc. at 20263 Western Avenue

- Case for other chlorinated hydrocarbons is open and inactive since January 29, 2015. This status remains unchanged as recorded in the GeoTracker database as of October 31, 2025.

Honeywell International at 2525 West 190th Street

- Case for VOCs is open and in assessment and interim remedial action since August 3, 2016. This status remains unchanged as recorded in the GeoTracker database as of October 31, 2025.

Mobil Oil, Torrance Refinery at 3700 West 190th Street

- Case for petroleum hydrocarbons is open and in remediation since March 28, 1988. This status remains unchanged as recorded in the GeoTracker database as of October 31, 2025.

As described above, there are multiple known hazardous materials sites near the proposed project limits with open cases under the oversight of the Los Angeles RWQCB. While these sites are adjacent or in the proximity of the project limits, there is potential for construction crews to encounter previously unknown contaminated media during excavations, which could result in a significant impact. With the implementation of MM HAZ-2 through MM HAZ-4, potential impacts from encountering hazardous materials would be reduced to a less-than-significant level.

After rehabilitation is complete, the operation of the proposed project would be the same as existing conditions.

The severity of the impact would be the same as that identified in the PEIR.

<i>Would the proposed project:</i>	<i>New or More Severe Significant Impact than Identified in the PEIR</i>	<i>Impact Less than or Equal to Impact Identified in the PEIR</i>
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Less than or Equal to Impact Identified in the PEIR. As discussed in the PCCP PEIR, if an excavation were to take place in roadways that serve as emergency/evacuation routes, and

capacity of the affected streets were reduced during construction (such as reducing four lanes to two lanes), the ability of these streets to serve as emergency/evacuation routes may be impaired and impacts would be potentially significant. The following mitigation was identified to address these potentially significant impacts:

- **MM HAZ-7** requires emergency/evacuation routes to be maintained during PCCP Program construction activities by: (1) avoiding the placement of excavation sites in roadways designated as emergency/evacuation routes; (2) working with local jurisdictions to maintain capacity on emergency/evacuation routes when those roadways cannot be avoided; and/or (3) notifying emergency personnel and posting temporary signage to direct emergency/evacuation traffic if detours are necessary.

Implementation of **MM HAZ-7** would reduce programmatic impacts to a less-than-significant level.

The PEIR does not identify an emergency response plan or an emergency evacuation plan for the cities of Torrance and this area of Los Angeles. However, as stated above, implementation of **MM HAZ-7** would reduce impacts to a less-than-significant level. Additionally, as discussed below in Item VI.a, construction traffic control measures and procedures would be implemented as part of the proposed project in order to reduce temporary construction traffic and transportation impacts on city streets. Impacts to emergency response and/or evacuation during project construction would therefore be less than significant. Once rehabilitation is complete, all proposed project sites would be returned to pre-construction conditions, and no related long-term impacts would occur.

The severity of the impact would be less than that identified in the PEIR.

V. NOISE

<i>Would the proposed project:</i>	<i>New or More Severe Significant Impact than Identified in the PEIR</i>	<i>Impact Less than or Equal to Impact Identified in the PEIR</i>
a. Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Less than or Equal to Impact Identified in the PEIR. The PCCP PEIR discussed the potential for noise impacts related to rehabilitation activities such as excavation, concrete sawing, and providing ventilation and power. Since determining noise impacts requires an analysis of ambient noise conditions, the location of receptors, and attenuation of the noise, the PEIR concluded that severity and location of the impacts could not be determined until excavation sites were identified. The following mitigation measures related to construction noise were identified:

- **MM NOI-2** requires a noise consultant to be retained during excavation site planning to assist in locating excavation sites away from sensitive receptors or where sensitive receptors can be shielded from construction noise;
- **MM NOI-3** requires a project-level noise study at all excavation sites where sensitive receptors are present; and
- **MM NOI-4** requires staging areas to be located in areas that would not affect sensitive receptors or where receptors can be shielded from staging noise.

As required by **MM NOI-2** and **MM NOI-3**, a construction noise assessment for the proposed project was prepared by HELIX (2024), and is included as Appendix C. The potential contractor

storage and staging area at Los Angeles Harbor College was sited per **MM NOI-4**. The contractor would be responsible for securing a staging area.

The severity of the impacts would vary depending upon the proximity of construction activity to sensitive receptors, but the PEIR found that it is likely that noise levels would exceed local standards. Thus, program impacts were determined to be significant and unavoidable following the implementation of **MM NOI-2** through **MM NOI-4**.

On Thursday, July 11, 2024, six site-specific field noise measurements were conducted along the pipeline alignment. These measurement locations are summarized in **Table 9**. Measurements ranged from 60.9 to 72.9 A-weighted decibels (dBA).

Table 9. Site Survey Noise Measurement Results

Approximate Location	Time	Measurement (dBA L _{EQ})
SF Sta. 2113	12:33 p.m.	70.7
SF Sta. 2139	12:49 p.m.	65.6
SF Sta. 2156	1:03 p.m.	66.9
SF Sta. 2182	1:17 p.m.	72.2
SF Sta. 2205	1:35 p.m.	60.9
SF Sta. 2225	1:50 p.m.	72.9

L_{EQ}: an average of the sound energy occurring over a specified period, SF Sta.: Sepulveda Feeder Station Number.

The PEIR references the noise elements of each jurisdiction’s general plan and noise ordinance and identifies whether local CEQA thresholds have been adopted. For the proposed project, the applicable thresholds from the cities of Los Angeles and Torrance are included in Table 10

Table 10. Applicable Noise Thresholds

City of Los Angeles CEQA Thresholds Guide
Los Angeles developed a CEQA Thresholds Guide (City of Los Angeles 2006) to establish significance thresholds for construction activities. These thresholds would be applicable to construction activities within 500 feet of a noise-sensitive use. A project would normally have a significant impact on noise levels from construction if: <ul style="list-style-type: none">• Construction activities lasting more than one day would exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use;• Construction activities lasting more than 10 days in a three-month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use; or• Construction activities would exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.
City of Torrance Municipal Code
Article 3 – construction. 46.3.1: <ul style="list-style-type: none">• Construction can occur between 7:30 a.m. to 6:00 p.m. Monday through Friday, and 9:00 a.m. to 5:00 p.m. on Saturdays. Prohibited on Sundays and Holidays observed by City Hall.• Can request extended hours from the Community Development Director.

Excavation to access the pipeline is proposed at the locations shown in **Table 7**. The SFR2 pipe access sites occur in the city of Torrance. However, noise generated by work at Station 2225+60 can travel beyond the city boundaries of Torrance, and into the city of Los Angeles since the station is on the border of the jurisdiction. Likewise, the maintenance hole enlargement sites at Stations 2139+08

and at 2205+31 occur in the city of Torrance. However, at Station 2205+31, noise impacts can travel beyond the city boundaries of Torrance, and into the city of Los Angeles because the station is on the border of the jurisdiction.

The nearest sensitive receptors are residences located at Pipe Access Site 2113 which is located near single-family and multi-family homes, and Pipe Access Site 2225 which is located near single-family homes and a hotel.

The City of Torrance does not set noise level standards for construction and impacts from the various construction activities described below. Therefore, those activities that are located in Torrance would be less than significant when conducted between the hours of 7:30 a.m. to 6:00 p.m. on weekdays and 9:00 a.m. to 5:00 p.m. on Saturdays. If necessary, extended hours can be requested from the Community Development Director. Construction activities, such as dewatering, pipeline relining, and ventilation to support relining work, which occur outside of these specified days and timeframes, however, would represent a significant and unmitigable impact.

Excavation would require the simultaneous use of an excavator and dump truck for short periods of time to access the pipeline segments. Noise impacts would vary by jurisdiction. Construction noise due to pipeline excavation would generate noise levels exceeding the applicable thresholds at Pipe Access Site 2225 located within the City of Los Angeles. Therefore, potential significant impacts would occur at Pipe Access Site 2225 as a result of construction noise from pipeline excavation. Pipe access site construction noise levels are provided below in Table 11.

Table 11. Pipe Access Site Construction Noise

Pipe Access Site	NSLU Jurisdiction	NSLU Distance	Threshold at NSLU (dBA L _{EQ} [1 hour])	Modeled Noise Levels (dBA L _{EQ} [1 hour])	Exceed Standard at NSLU?
2113	City of Torrance	30 feet	NA	77.0	NA
2156	City of Torrance	2,000 feet	NA	43.2	NA
2182	City of Torrance	960 feet	NA	50.5	NA
2225	City of Los Angeles	80 feet	55	74.3	Yes

Source: HELIX 2024; Appendix C
NSLU = Noise Sensitive Land Use; dBA = A-weighted decibels; L_{EQ} = equivalent sound level
NA = not applicable (Torrance does not have daytime noise level limits for construction activities).
Modeled noise would be generated from excavation of the pipe.

A grouting mixer, generator, welder, and crane would be required for relining activity at each excavation area. The loudest equipment types would be a grouting mixer and generator in use simultaneously. Construction noise due to pipeline relining would exceed applicable noise levels at each of the pipe access locations. Construction noise from relining activities, which may occur both during the day and at night, is provided in **Table 12**.

Table 12. Relining Activity Site Construction Noise

Pipe Access Site	NSLU Jurisdiction	NSLU Distance	Day Threshold at NSLU (dBA L_{EQ} [1 hour]) ¹	Night Threshold at NSLU (dBA L_{EQ} [1 hour])	Modeled Noise Levels (dBA L_{EQ} [one hour])	Exceed Day Standard at NSLU?	Exceed Night Standard at NSLU?
2113	City of Torrance	30 feet	NA	50 ¹	82.8	N/A	Yes
2156	City of Torrance	2,000 feet	NA	50	45.5	N/A	No
2182	City of Torrance	960 feet	NA	50	52.8	N/A	Yes
2225	City of Los Angeles	80 feet	55	45 ²	78.9	Yes	Yes

Source: HELIX 2024; Appendix C

¹ City of Torrance Municipal Code Section 46.1.1 Construction of Buildings and Projects - nighttime hours are defined as between 6:00 p.m. and 7:30 a.m. Monday through Friday, before 9:00 a.m. and after 5:00 p.m. on Saturday, and at any time on Sunday. Nighttime construction noise is limited to 50 dBA for residential zones in the city of Torrance.

² Relining activity would fall under the city of Los Angeles standard for construction activity lasting more than 10 days in a three-month period, which is 5 dBA above the 50 dBA ambient noise levels presumed for a residential neighborhood.

NSLU = Noise Sensitive Land Use; dBA = A-weighted decibels; L_{EQ} = equivalent sound level

NA = not applicable (The city of Torrance does not have daytime noise level limits for construction activities)

Ventilation and access to support relining work would be conducted along the project alignment at manhole locations, to provide adequate air supply and access for workers and equipment. A generator, welder, and fan/blower would be in use simultaneously, and could generate elevated noise levels at nearby noise sensitive land uses (NSLUs). For daytime ventilation activities, potentially significant impacts would occur if the ventilation activities were conducted within 265 feet of an NSLU in a residential area in the city of Los Angeles. The city of Torrance does not set daytime construction noise level standards in its municipal code, and impacts would therefore be less than significant when conducted between the hours of 7:30 a.m. and 6:00 p.m. on weekdays and between 9:00 a.m. and 5:00 p.m. on Saturdays. For nighttime ventilation activities, potentially significant impacts would occur if the ventilation activities were conducted within 850 feet of residential uses in the nighttime in Los Angeles, or within 500 feet of residential uses in Torrance.

A jackhammer would be required for maintenance hole refurbishment improvements. For work requiring the use of a jackhammer, noise levels would exceed local standards if located within 1,000 feet of an NSLU in a residential area in the city of Los Angeles. As stated above, the city of Torrance does not set daytime construction noise level standards in its municipal code, so impacts would be less than significant when conducted during the outlined daytime hours.

Relocation of the ARVVs from below ground to above ground would involve running new piping from the existing valve connection point in the vault to a nearby above ground location and installing a new vault above ground. This would require shallow trenching from the existing below ground vault to the new above ground location. Shallow trenching would require the short-term use of a concrete saw and backhoe. Similarly, the replacement of and improvements to isolation valves, flow meters, and service connections would also require shallow trenching, which would require a backhoe and concrete saw. For the use of a backhoe, noise levels would exceed standards if located within 270 feet of an NSLU in the city of Los Angeles. For the use of a concrete saw, noise levels

would exceed standards if located within 2,000 feet of an NSLU in the city of Los Angeles. As stated above, the city of Torrance does not set daytime construction noise level standards in its municipal code, so impacts would be less than significant when conducted during the outlined daytime hours.

Dewatering would require the use of a submersible pump and generator to power the pump. The only audible equipment would be the generator. Dewatering would occur 24 hours per day up to seven days. For dewatering requiring the use of a generator, noise levels from a generator would exceed daytime standards if located within 75 feet of an NSLU in the city of Los Angeles. The city of Torrance does not set daytime construction noise level standards, so impacts would be less than significant when done during the designated daytime hours. For dewatering during nighttime hours, noise levels from a generator would exceed standards if located within 380 feet of an NSLU in the city of Los Angeles or within 215 feet of an NSLU in the city of Torrance.

Construction traffic would travel on local streets. A general rule of thumb is that a doubling of traffic would cause a doubling in sound energy (a 3-dBA increase), which would be perceptible, and therefore a significant increase. The proposed project would result in a minimal increase in traffic during construction that would not constitute a doubling of traffic. Therefore traffic-related noise resulting from construction would not be expected to cause a doubling in noise. Furthermore, overall construction noise impacts would be temporary, and operation of the project would not result in an increase in traffic. Impacts from the addition of construction traffic would be less than significant.

To comply with **MM NOI-3**, the following project-specific measures shall be implemented:

- **MM NOI-3.1 Construction Exterior Noise Level Standards.** Construction noise from project construction activities shall comply with the daytime and nighttime thresholds and hours specified by the cities of Los Angeles and Torrance for sensitive receptors to the maximum extent feasible.

Within the city of Los Angeles, daytime construction activities lasting more than one day and less than 10 days in a three-month period shall comply with the 60 dBA L_{EQ} standard for residential zones. Daytime construction activities lasting more than 10 days in a three-month period shall comply with the 55 dBA L_{EQ} standard for residential zones. Nighttime (9:00 p.m. to 7:00 a.m. on weekdays, before 8:00 a.m. and after 6:00 p.m. on Saturday, and any time on Sunday) activities shall comply with the 45 dBA L_{EQ} standard for residential zones.

Within the city of Torrance, construction activities shall only occur between 7:30 a.m. and 6:00 p.m. Monday through Friday and between 9:00 a.m. and 5:00 p.m. on Saturdays, if feasible. If construction occurs outside these hours, noise levels shall not exceed 50 dBA as measured at property lines.

- **MM NOI-3.2 Noise Reduction Measures for Pipe Access Site Excavation and Relining Activities.** Measures to reduce noise levels to below a level of significance may include the use of noise barriers; noise attenuation devices/modifications to construction equipment; limitations on the hours of operation; or a combination of these measures.

For excavation and pipeline relining activities at all proposed pipe access sites, a 12-foot noise barrier shall be required to reduce noise levels.

All noise barriers shall be solid and constructed of masonry, wood, plastic, fiberglass, steel, or a combination of those materials, with no cracks or gaps through or below the wall. Any seams or cracks must be filled or caulked. If wood is used, it can be tongue and groove or close-butt joints and must be at least 3/4-inch thick or have a surface density of at least 3.5 pounds per square foot. Sheet metal of 18 gauge (minimum) may be used if it meets the other criteria and is properly supported and stiffened so that it does not rattle or create noise itself

from vibration or wind. Noise blankets, hoods, or covers also may be used, provided they are appropriately implemented to provide the required sound attenuation. The noise barrier enclosures should be of an elongated “U” shape, with the elongated sides parallel to the pipeline.

- **MM NOI-3.3 Setback Distances for Mobile Operations (Ventilators, Manholes, Valves).** For construction operations that would require equipment to move along multiple locations along the pipeline alignment, the following setback distances and/or noise barriers shall be necessary to maintain noise levels to within local standards for residential land uses in Los Angeles and Torrance. Setback distances and/or noise barriers shall be used to the extent feasible.

Daytime

For ventilation activities, equipment shall be set back outside of the distances within which noise levels would exceed thresholds, which would be at least 70 feet away with an 8-foot barrier, 110 feet away with a 6-foot barrier, or 265 feet away, with no barrier from an NSLU in a residential area in the city of Los Angeles.

For the continuous use of a jackhammer during a single hour, equipment shall be set back outside of the distances within which noise levels would exceed thresholds, which would be at least 180 feet away with a 6-foot noise barrier or 1,000 feet away with no noise barrier from an NSLU in the city of Los Angeles. Noise generated from a jackhammer is limited to the impact point with the ground, so increasing the height of the noise barrier would not significantly lower noise levels.

A backhoe would be used at numerous and variable locations along the pipeline alignment, noise levels at specific receptors are not provided. Instead, the setback distances needed to meet the cities of Los Angeles’s exterior noise thresholds at land uses located in proximity to anticipated work sites are provided. Due to the short-term use of a backhoe and the mobile nature of its use, a temporary noise barrier would not likely be used. For use of a backhoe, equipment shall be set back outside of the distances within which noise levels would exceed thresholds, which would be at least 270 feet from an NSLU in a residential area in the city of Los Angeles.

For the continuous use of a concrete saw during a single hour, equipment shall be set back outside of the distances within which noise levels would exceed thresholds, which would be at least 300 feet away with a 6-foot noise barrier or 2,000 feet away with no noise barrier from an NSLU in a residential area in the city of Los Angeles. Noise generated from a concrete saw is limited to the impact point with the ground, so increasing the height of the noise barrier would not significantly lower noise levels.

For the continuous use of a generator during a single hour, equipment shall be set back outside of the distances within which noise levels would exceed thresholds, which would be at least 25 feet away with a 6-foot noise barrier or 75 feet away with no noise barrier from an NSLU in a residential area in the city of Los Angeles.

Nighttime

For the continuous use of a generator during a single hour at night, equipment shall be set back outside of the distances within which noise levels would exceed thresholds, which would be at least 135 feet away with a 6-foot noise barrier or 380 feet away with no noise barrier in the city of Los Angeles, and at least 80 feet away with a 6-foot noise barrier or 215 feet away with no noise barrier in the city of Torrance.

For nighttime ventilation activities, equipment shall be set back outside of the distances within which noise levels would exceed thresholds, which would be at least 170 feet away with an 8-foot noise barrier or 850 feet away with no noise barrier in the city of Los Angeles, and at least 95 feet away with an 8-foot noise barrier or 500 feet away with no noise barrier in the city of Torrance.

- **MM NOI-3.4 Nighttime Construction Management Plan.** The project specifications shall require preparation of a Nighttime Construction Management Plan prior to the onset of construction. The plan shall describe measures to reduce noise levels for any nighttime work that may occur. Specific measures to reduce construction noise may include:
 - Placement of noise-generating equipment as far as feasible from noise-sensitive land uses.
 - Utilization of enclosures or other barriers for equipment to reduce noise levels.
 - Construction equipment properly outfitted and maintained with manufacturer-recommended noise-reduction devices.
 - Diesel equipment operated with closed engine doors and equipped with factory-recommended mufflers.
 - Written notification to residents within 100 feet of the project site boundaries, provided a minimum of one week prior to nighttime construction activity. Notification to include a description of activities anticipated, expected dates and hours for construction, and contact information with details of a complaint and response procedure.

For daytime construction, impacts from pipe access site excavation would remain significant at Pipe Access Site 2225 with the use of a 12-foot noise barrier. However, at SFR2 Stations 2113, 2156, and 2182 daytime noise impacts would not be significant, and no noise barrier is required. Impacts associated with Pipe Access Site 2225 excavation and relining are therefore considered significant and unavoidable. As noted above, however, impacts would be consistent with those identified in the PEIR. For activities that would occur at various locations along the pipeline alignment and require equipment to move along the alignment, provided the setback distances with or without inclusion of noise barriers as described in MM NOI-3.3 are maintained, impacts would be reduced to less-than-significant levels.

For nighttime construction, noise levels from nighttime relining activities at two of the three pipe access sites within the city of Torrance (Pipe Access Sites 2113 and 2182), and one pipe access site within the city of Los Angeles (Pipe Access Site 2225) would exceed respective nighttime standards at nearby NSLUs, and impacts would be significant and unavoidable; however, impacts would be consistent with those identified in the PEIR. Two of those pipe access sites would still exceed nighttime noise standards, even with a twelve-foot noise barrier. However, these impacts would be consistent with those identified in the PEIR. Impacts associated with dewatering and ventilation activities within the cities of Los Angeles and Torrance would be less than significant after mitigation, which involves maintaining the setback distances listed in MM NOI-3.3. If dewatering or ventilation activities occur within these setback distances, impacts would be significant but consistent with those identified in the PEIR.

The severity of noise impacts for both daytime and nighttime work would be the same as that identified in the PEIR.

Would the proposed project:

*New or More Severe
Significant Impact than
Identified in the PEIR*

*Impact Less than or
Equal to Impact
Identified in the PEIR*

- b. Expose persons to or generate excessive groundborne vibration or groundborne noise levels?

☐
☒

Impact Less than or Equal to Impact Identified in the PEIR. As discussed in the PCCP PEIR, the severity and location of excessive groundborne vibration or groundborne noise level impacts could not be determined until excavation sites were identified. The following mitigation was identified to reduce such impacts to a less-than-significant level:

- **MM NOI-1** requires a noise and vibration consultant to be retained during excavation site planning to assist in locating excavation sites away from vibration-sensitive land uses wherever possible, or to identify appropriate mitigation to reduce vibration levels at vibration-sensitive land uses to less-than-significant levels.

As stated in the construction noise assessment prepared for the proposed project, numerous pipe access sites would be within 200 feet of single-family and multi-family residences, with the nearest sensitive use living area approximately 30 feet from Pipe Access Site 2113. The greatest source of vibration would be from compaction of the soil following relining activities and prior to final paving of each site. Due to the size of the excavation areas, a small vibratory plate compactor or tamping rammer would likely be used. These are handheld units and would have no measurable vibration beyond 10 to 15 feet. Impacts from excessive vibration would therefore be less than significant.

The severity of the impact would be less than that identified in the PEIR.

Would the proposed project:

*New or More Severe
Significant Impact than
Identified in the PEIR*

*Impact Less than or
Equal to Impact
Identified in the PEIR*

- d. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity, above levels existing without the project?

☐
☒

Impact Less than or Equal to Impact Identified in the PEIR. Temporary or periodic increases in ambient noise levels would result from construction activities associated with the project. These impacts are described in Item V.a, above. Impacts would remain significant and unavoidable.

The severity of the impact would be the same as that identified in the PEIR.

VI. TRANSPORTATION/TRAFFIC

Would the proposed project:	New or More Severe Significant Impact than Identified in the PEIR	Impact Less than or Equal to Impact Identified in the PEIR
a. Conflict with an applicable plan, ordinance, or policy that establishes measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel, and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, and pedestrian and bicycle paths?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Less than or Equal to Impact Identified in the PEIR. As discussed in the PCCP PEIR, the disruption of local and regional traffic caused by capacity reduction from program rehabilitation activities would be significant at some locations, but the level of impacts would be determined at the project level when rehabilitation locations had been identified. The PEIR identified the following mitigation measures to reduce potentially significant impacts:

- **MM TRA-1** requires that excavation sites be located to avoid traffic impacts to the maximum extent feasible;
- **MM TRA-2** requires Metropolitan and/or its contractors to coordinate with the appropriate counties and local jurisdictions to develop construction traffic control measures and procedures prior to the start of construction; and
- **MM TRA-3** requires excavation work zones and construction staging areas to avoid interfering with parking for adjacent land uses, to the extent feasible.

The PEIR determined that implementation of **MM TRA-1** would reduce impacts related to temporary traffic disruptions and reduced capacity in some locations but stated that the severity or location of impacts could not be determined; therefore, programmatic impacts were found to be significant and unavoidable. Temporary programmatic impacts related to construction traffic and parking were determined to be less than significant with the implementation of **MM TRA-2** and **MM TRA-3**.

The proposed project would require work within roadways during ground excavation, trenching, pipe isolation and dewatering activities, and rehabilitation work at the proposed excavation sites (see **Figure 2**). This work would require temporary lane closures on select streets. However, these impacts would be temporary, and the roadways would be restored to existing conditions following the completion of construction. Additionally, in accordance with **MM TRA-1** and **MM TRA-3**, Metropolitan has planned excavation work zones and contractor’s work areas in such a manner as to minimize traffic and parking impacts to the extent feasible. Further, pursuant to **MM TRA-2**, Metropolitan would coordinate with the cities of Los Angeles and Torrance, as well as Caltrans, to develop construction traffic control measures and procedures, prior to the start of construction on each excavation/pipe access site. Site-specific measures to reduce temporary construction traffic and transportation impacts on city streets may include, but would not be limited to, the following:

- Provide advance written notification of construction activities to residences, schools, and businesses around each construction site. Notifications will include a brief overview of the proposed project and its purpose, as well as the proposed construction activities and schedule.

Notification would also include the name and contact information for each Metropolitan project manager or representative responsible for resolving traffic issues for the given pipeline.

- Identify travel routes and establish optimal arrival and departure times to minimize conflicts with residents, schools, and businesses, as feasible.
- Employ provisions to detour pedestrians and bicyclists from project activities near or on sidewalks and bike lanes.
- Implement safety measures, such as signs, flaggers, cones, signage, and advance notice as appropriate.
- Cover all open trenches with steel plating per Caltrans standards when not in use or at the end of each workday, as applicable.

Due to the temporary nature of the anticipated traffic impacts, no permanent off-site roadway improvements would be required for the proposed project. Site-specific traffic control measures would be identified by Metropolitan in coordination with the appropriate jurisdictions, and implementation of these measures would reduce temporary impacts to a less-than-significant level. No long-term mitigation would be required. Following the completion of proposed project rehabilitation activities, operational transportation circulation would be restored to existing conditions.

The severity of the impact would be less than that identified in the PEIR.

<i>Would the proposed project:</i>	<i>New or More Severe Significant Impact than Identified in the PEIR</i>	<i>Impact Less than or Equal to Impact Identified in the PEIR</i>
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Less than or Equal to Impact Identified in the PEIR. As discussed in the PCCP PEIR, no obstacles that would affect sight distance were determined to result from program construction. The PEIR also noted the potential for safety hazards to result from maneuvering of construction-related vehicles and equipment among general-purpose traffic on local streets and that temporary lane closures could affect non-motorized travel along affected road sections. Program impacts were determined to be less than significant with the implementation of **MM TRA-2**.

The proposed project would involve construction equipment and vehicles within fenced work areas. Traffic would be rerouted to avoid these areas such that no increase in hazards would occur. With the implementation of **MM TRA-2**, project-specific impacts would be less than significant.

The severity of the impact would be the same as that identified in the PEIR.

<i>Would the proposed project:</i>	<i>New or More Severe Significant Impact than Identified in the PEIR</i>	<i>Impact Less than or Equal to Impact Identified in the PEIR</i>
e. Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Less than or Equal to Impact Identified in the PEIR. As discussed in the PCCP PEIR, in some cases the program pipelines are within street rights-of-way that serve as emergency response routes and/or evacuation routes. The PEIR stated that if excavation were to take place in roadways

that serve as emergency access and capacity of the affected streets were reduced during construction (such as reducing four lanes to two lanes), the ability of these streets to serve as emergency access routes may be impaired. Implementation of **MM HAZ-7** would reduce impacts to a less-than-significant level. Once rehabilitation is complete, contractors would be required to return the street to preconstruction conditions; therefore, there would be no long-term impacts related to emergency access.

The PEIR identified the following evacuation routes in the study area for the Sepulveda Feeder: La Cienega Boulevard, East Florence Avenue, Crenshaw Boulevard, and South Van Ness Avenue. These, however, were based on the city of Inglewood 1995 General Plan and are therefore specific to the city of Inglewood, which is located 3.4 miles north of the closest portion of the project alignment. At this distance, the project would not affect these identified routes. While the city of Torrance and city of Los Angeles General Plans do not identify specific emergency access/evacuation routes, the County of Los Angeles Department of Public Works has published maps of disaster routes within Los Angeles County (County of Los Angeles Department of Public Works 2008). The project alignment occurs within the following disaster routes identified by the County of Los Angeles Department of Public Works: Western Avenue, Carson Street, and Artesia Boulevard. Work for the proposed project within these roadways would have the potential to affect emergency access and evacuation; however, implementation of **MM HAZ-7** would reduce impacts to a less-than-significant level. Additionally, as discussed in Item VI.a, traffic control measures and procedures would be implemented to reduce temporary construction traffic and transportation impacts on city streets. Temporary, construction-related impacts to emergency access would therefore be less than significant. Once rehabilitation is complete, proposed project sites would be returned to preconstruction conditions; therefore, no long-term impacts would occur.

The severity of the impact would be less than that identified in the PEIR.

<i>Would the proposed project:</i>	<i>New or More Severe Significant Impact than Identified in the PEIR</i>	<i>Impact Less than or Equal to Impact Identified in the PEIR</i>
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Less than or Equal to Impact Identified in the PEIR. As discussed in the PCCP PEIR, program rehabilitation would require temporary lane closures on certain streets. Where the pipeline directly travels under Class II bicycle lanes or encroaches on existing bus stops, work zones could interfere with bus services and bicycle traffic on these streets. Lane closures would be restricted to a short distance and would be short in duration, but temporary impacts could be significant. With implementation of **MM TRA-1** and **MM TRA-2**, however, programmatic impacts were determined to be less than significant.

The PCCP PEIR lists roads with designated Class II bicycle lanes in the vicinity of the Sepulveda Feeder, which include Rinaldi Street, West Sepulveda Boulevard between I-405 and the Mulholland Drive bridge, and South Sepulveda Boulevard between I-10 and 3816 Tuller Avenue; none occur within or near the project alignment and would therefore not have the potential to be affected by the proposed project. Bus routes within the proposed project limits include GTrans Line 2, which travels along Western Avenue, and Torrance Transit Line 5, which travels along Van Ness Avenue. Sidewalks and private driveways are present along the majority of the project alignment. Implementation of **MM TRA-2** and related site-specific traffic control measures that are identified through coordination between Metropolitan and the appropriate jurisdictions would ensure that

temporary impacts to transit and pedestrian facilities during construction activities would be less than significant. Proposed project operation would have no impact on transit, bicycle, or pedestrian travel. The severity of the impact would be the same as that identified in the PEIR.

REFERENCES

Citadel Environmental Services, Inc. 2018. Phase I Environmental Site Assessment Report Pipeline Rehabilitation Project – Sepulveda Feeder. November 27, 2018, Revised February 7, 2019.

City of Los Angeles. 2006. L.A. CEQA Thresholds Guide. Available at:
<http://planning.lacity.org/Documents/MajorProjects/CEQAThresholdsGuide.pdf>.

City of Torrance. 2019. City of Torrance Municipal Code. Chapter 46.3.1, Construction of Buildings and Projects. Available at:
<https://www.codepublishing.com/CA/Torrance/#!/Torrance04/Torrance0406.html#46.3.1>.

County of Los Angeles Department of Public Works. 2008. Disaster Route Maps (by City): City of Torrance. Accessed online at: <https://pw.lacounty.gov/dsg/disasterroutes/city.cfm>.

Department of Toxic Substances Control (DTSC). 2025. EnviroStor Online Database. Available at: <https://www.envirostor.dtsc.ca.gov/public/>. October.

Rincon Consultants, Inc. (Rincon). 2024. Cultural Resources Study for the Prestressed Concrete Cylinder Pipe Rehabilitation Program – Sepulveda Feeder Reach 2 Project, City of Torrance, Los Angeles County, California. August 13.

2019. Paleontological Resources Impact Mitigation Program for the Prestressed Concrete Cylinder Pipe Rehabilitation Program – Sepulveda Feeder. January.

HELIX Environmental Planning, Inc. (HELIX). 2024. Construction Noise Assessment for the Sepulveda Feeder Reach 2 Project. August.

The Metropolitan Water District of Southern California. 2016. Programmatic Environmental Impact Report for the Prestressed Concrete Cylinder Pipe Rehabilitation Program (SCH No. 2014121055). December.

State Water Resources Control Board (SWRCB). 2025. GeoTracker Online Database. Available at: <https://geotracker.waterboards.ca.gov/>. October.

PREPARERS OF THE ENVIRONMENTAL CHECKLIST

The following individuals participated in the preparation of the Environmental Checklist:

The Metropolitan Water District of Southern California (CEQA lead agency)

- Diane Doesserich
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-

Appendix A

Cultural Resources Study

**Rincon Consultants, Inc.**250 East 1st Street, Suite 1400
Los Angeles, California 90012
213-788-4842August 13, 2024
Project No: 17-04026Gwynneth Doyle
Environmental Specialist
The Metropolitan Water District of Southern California
Environmental Planning Section
700 North Alameda Street
Los Angeles, California 90012
Via email: gdoyle@mwdh2o.com**Subject: Cultural Resources Study for the Prestressed Concrete Cylinder Pipe Rehabilitation Program – Sepulveda Feeder Reach 2 Project, City of Torrance, Los Angeles County, California**

Dear Ms. Doyle:

Rincon Consultants, Inc. (Rincon) was retained by HELIX Environmental Planning, Inc. on behalf of The Metropolitan Water District of Southern California (Metropolitan) to conduct a cultural resources study for the Pressed Concrete Cylinder Pipe (PCCP) Program – Sepulveda Feeder Reach 2 Project (project) in the City of Torrance, Los Angeles County, California. This cultural resources study has been completed in accordance with the requirements of Mitigation Measures (MM) CUL-1: Historic Resources Protection Program, MM CUL-2: Avoidance or Monitoring of Archaeological Site and MM CUL-5: Archaeological Survey of Non-Pipeline Area from Metropolitan's Programmatic Environmental Impact Report (PEIR) Volume 2: Findings of Fact, Mitigation Monitoring and Reporting Program (MMRP; SCH No. 2014121055), and Statement of Overriding Considerations for cultural resources (Metropolitan 2016). It presents the methods and results of the tasks conducted by Rincon, in particular a cultural resources records search and a field survey.

Project Location and Description

All work proposed by the project is consistent with the project description presented in the program's PIER. The proposed project entails the rehabilitation of approximately a 3.8-miles of 84-inch diameter PCCP and associated equipment, such as buried equipment vaults and air release/vacuum valves, in the City of Torrance. The project site is entirely within existing public rights-of-way (ROW) including roads, sidewalks and landscaped areas along roadways. It extends from the Second Lower Feeder at STA 2270+05.18 (located on Western Avenue 300-feet north of 220th Street) to STA 2066+51.49 at the blow-off south of the Dominguez Channel (located on Van Ness Avenue). As discussed in the PEIR, rehabilitation of the PCCP within the project site would involve the following:

- Inserting coiled or solid steel cylinders into the existing PCCP via access portals.
- Expanding the coiled steel cylinder, where used, to fit properly within the PCCP interior.
- Welding the steel cylinder within the PCCP.
- Filling the annular space between the steel cylinder and existing PCCP with concrete grout.
- Applying a cement mortar lining to the interior surface of the steel cylinder.



All of the relining work described above would be done inside the existing pipeline and at pipe access sites along the existing pipeline alignment in the ROW. An access site is defined as the entry or exit portal that exposes the underground PCCP section of pipe or equipment vault to be rehabilitated. Four pipe access sites in addition to existing manholes, which will be enlarged by the project, will be needed to rehabilitate the pipelines and buried equipment vaults.

Excavation will occur at each of the four pipe access site locations. Excavation areas will be 40 feet (ft) in length and range in width from 15 to 20 ft and depth from 16 to 21 ft. Existing surface improvements, such as road pavement, sidewalks, and landscaping, would be removed at each excavation area, and soils would be excavated and temporarily removed from the site to expose the existing pipeline. Once rehabilitation is complete, the excavation area would be backfilled with the originally excavated soils, and the surface of each excavation area and surrounding work zone would be restored to pre-project conditions. Project site restoration would involve re-paving existing roads, replacing or repairing existing sidewalks, and replanting landscaping. Pipe access sites and manholes proposed for enlargement by the project are shown on Attachment 1: Figure 1.

Work areas for the project would either be within the existing public ROW or within existing Metropolitan easements on private and public property. While tree and grass removal would be required within a few landscaped areas to allow for the storage of equipment, disturbed areas would be restored to preconstruction conditions or with native vegetation following the completion of the project. Utilities temporarily relocated would be restored to their original or revised location in accordance with the plans and specifications. The proposed project includes the use of an offsite staging area. However, the environmental impacts of the use of this staging area have been previously evaluated and is not considered in the current study.

Cultural Resources Records Search

Methods

In accordance with MM CUL-2, Rincon conducted a search of the California Historical Resources Information System (CHRIS) at the South Central Coastal Information Center (SCCIC) located at California State University, Fullerton on July 9, 2024. The search was conducted to identify previous cultural resources studies and previously recorded cultural resources within a 0.25-mile radius of the project site. Rincon's background research additionally included a review of the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), and the California Points of Historical Interest and Historical Landmarks lists.

Results

The background research and records search identified 12 cultural resources studies that have been previously conducted within 0.25-mile radius of the project site (Attachment 2 and Table 1). Of these, four (LA-05212, LA-05499, LA-10106, and LA 10333) discuss the project site and six (LA-05972, LA-06193, LA-07842, LA-08865, LA-10197, LA-11635) discuss areas adjacent to the project site. However, none of these studies identified resources within or adjacent to the project site.



The Metropolitan Water District of Southern California
**Cultural Resources Study for the Prestressed Concrete
 Cylinder Pipe Rehabilitation Program – Sepulveda Feeder Reach 2 Project**

Table 1 Previously Conducted Studies within 0.25-mile of the Project Site

Report Number	Author	Year	Title	Relationship to Project Site
LA-05212	Duke, Curt	2001	<i>Cultural Resource Assessment: Cingular Wireless Facility No. 072-03 Los Angeles, California</i>	Within
LA-05499	Smith, Philomene C	2000	<i>Negative Archaeological Survey Report: to Cold Plane the Existing Pavement on Route 405 and Overlay With 30mm of Rubberized Asphalt Concrete at Selected On/off-ramps From Vermont Ave. to Manchester Blvd.</i>	Within
LA-10106	Shepard, Richard S.	2002	<i>Improvements to Artesia Boulevard (state Route 91) in the City of Torrance, Southwestern Los Angeles County.</i>	Within
LA-10333	McKenna, Jeanette M	2009	<i>A Brief Historic Context Statement Prepared for the General Plan Update: The City of Torrance, Los Angeles County, California</i>	Within
LA-05972	Duke, Curt	2002	<i>Cultural Resource Assessment AT & T Wireless Services Facility No. 05205a Los Angeles County, California</i>	Adjacent
LA-06193	Holson, John	2000	<i>Archaeological Survey and Record Search for Ospc-0036, LA/Torrance, Torrance and Los Angeles, Los Angeles County (800-39)</i>	Adjacent
LA-07842	Maki, Mary K	2000	<i>Phase I Archaeological Investigation of Limited Areas Within the Torrance Refinery and Atwood, Southwestern Marine and Vernon Terminals, Los Angeles and Orange Counties, California</i>	Adjacent
LA-08865	Bonner, Wayne H	2006	<i>Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate La13125a (Artesia/Van Ness Avenue M8-t5 Mesa-Redondo), West 182nd Street, Torrance, Los Angeles County, California</i>	Adjacent
LA-10197	Sriro, Adam	2001	<i>Negative Archaeological Survey Report: Erosion Control Measures at Various Locations Between La Cienega and Vermont on/off ramps on LA405.</i>	Adjacent
LA-11635	Bonner, Wayne H.	2011	<i>Cultural Resources Records Search and Site Visit Results for AT&T Mobility, LLC Candidate LA0152-01, USID 25673 (Hanjin Worldwide Express), 20435 South Western Avenue, Torrance, Los Angeles County, California</i>	Adjacent
LA-11227	Hudson, Jonathan	2010	<i>Torrance Hospital, 1808 Abalone Avenue, Torrance, Los Angeles County, CA 90501</i>	Outside
LA-11659	Bonner, Wayne H.	2011	<i>Cultural Resources Records Search and Site Visit Results for AT&T Mobility, LLC Candidate LA0665-01, USID 48065 (Storage & Extra), 2545 West 190th Street, Torrance, Los Angeles County, California</i>	Outside

Source: SCCIC July 2024



The background research and records search identified one previously recorded resource (P-19-178539) within 0.25-miles of the project site (Attachment 2 and Table 2). Resource P-19-178539 is an Irving Gill designed railroad bridge which is listed in the NRHP and CRHR. It spans over Torrance Boulevard approximately 700 feet west of the project site and will not be impacted by the current project.

Table 2 Previously Recorded Resources within 0.25-mile of the Project Site

Primary Number	Resource Type	Description	Recorder(s) and Year(s)	NRHP/CRHR Status	Relationship to Project Site
P-19-178539	Historic Structure	Pacific Electric Railroad Bridge designed by Irving Gill	K. Payne (1989); T. Alario (1988); R. Hathaway and J. Chase (1979)	Listed in the NRHP/CRHR	Outside; Approximately 700 feet west

Sources: SCCIC July 2024; National Park Service 2024

Native American Coordination

In accordance with MM CUL-2, Metropolitan undertook Native American coordination for the PCCP in early 2015 by requesting a Sacred Lands File (SLF) search from the Native American Heritage Commission (NAHC). The SLF search conducted by Metropolitan did not indicate the presence of Native American resources with the potential to be impacted by the project.

Field Survey

Methods

In accordance with MM CUL-5, Rincon archaeologist, Andrea Ogaz, MA, RPA, performed a field survey of the project site on July 26, 2024. The survey consisted of pedestrian survey of areas where foot travel could be conducted safely and a windshield survey within paved roadways. During the survey, all exposed ground surfaces were inspected for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock), ecofacts (marine shell and bone), soil discoloration that might indicate the presence of a cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations) or historic debris (e.g., metal, glass, ceramics). The windshield survey consisted of driving the pipeline alignment to identify any potential cultural resources within or along the margins of the alignment. A windshield survey allows for an inspection of the project area where foot travel is unsafe (e.g., within high traffic roadways). A Global Positioning System was used to maintain locational accuracy throughout the pedestrian and windshield portions of the survey. Photographs and field notes were taken to document this effort and are on file with Rincon's Los Angeles office.

Results

The survey described above indicated that the project site is developed with modern infrastructure and traverses through a variety of relatively dense development (Attachment 1: Figure 2 and Figure 3). The proposed excavation sites are paved with asphalt and are located along previously developed roadways. Minimal exposed soils were observed; none observed appear native. No prehistoric or historic cultural resources were identified by the survey.



Conclusions and Recommendations

The current study did not identify any cultural resources within the project site as a result of the SLF search, records search, or field survey. Thus, the findings of this study are consistent with the findings of the PEIR (Metropolitan 2016). Because no archaeological resources have been identified within the project alignment, archaeological monitoring and Native American monitoring required under MM CUL-2 is not necessary for this portion of the project. The project shall adhere to the requirements of MM CUL-3: Preconstruction Meeting for Identifying Cultural Resources by holding a preconstruction meeting that includes a discussion of identifying cultural resources during ground disturbing activities. In addition, if cultural resources are identified during project-related ground-disturbing activities, the project shall adhere to MM CUL-4: Previously Unidentified Resources Encountered during Ground-disturbing Activities, which requires halting construction within 50 feet of the resource until it can be evaluated by a qualified cultural resources specialist and impacts can be mitigated, if necessary.

Although there are properties containing buildings located adjacent to the project site, Rincon determined that a built environment evaluation is not necessary for the current project. The project will occur within the existing paved ROW and the existing conditions within the project site will be restored following implementation of the project, thereby not altering the setting of any adjacently located properties. Thus, it is not necessary to undertake any steps required by MM CUL-1 in support of the proposed project.

Should you have any questions concerning this study, please do not hesitate to contact the undersigned at 805-947-4817 or rperzel@rinconconsultants.com.

Sincerely,

Rincon Consultants, Inc.

A handwritten signature in black ink, reading "Rachel Perzel".

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Attachments

Attachment 1 Project Location Map

Attachment 2 CHRIS Search Results



References

The Metropolitan Water District of Southern California (Metropolitan)

- 2016 Prestressed Concrete Cylinder Pipe Rehabilitation Program Final Programmatic Environmental Impact Report Volume 2: Findings of Fact, Mitigation Monitoring and Reporting Program, and Statement of Overriding Considerations. Prepared with assistance from ICF International. Report on file, The Metropolitan Water District of Southern California, Los Angeles, California.

National Park Service (NPS)

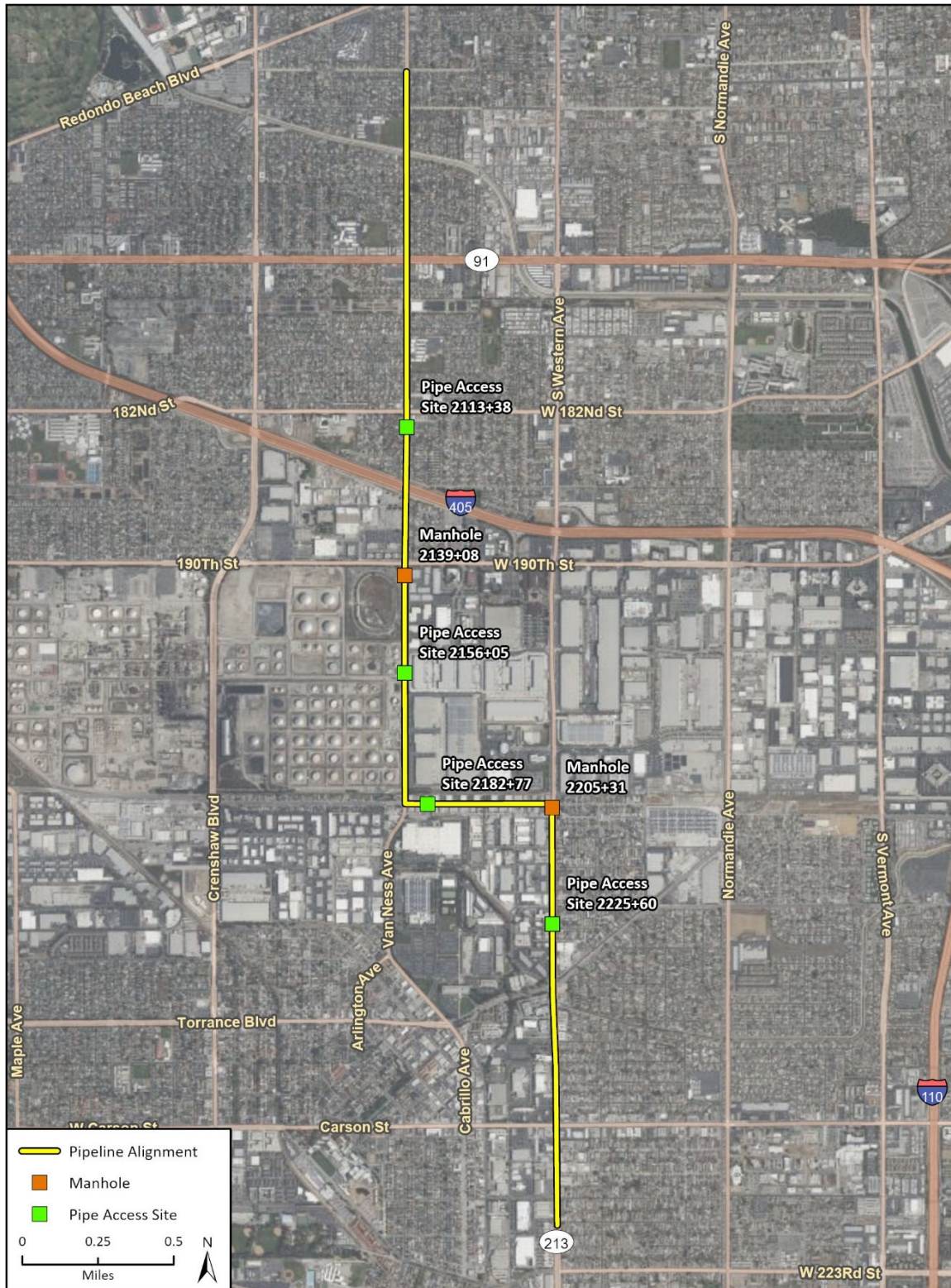
- 2024 National Register of Historic Places Registration Form for the Pacific Electric Railroad Bridge. (Gill, Irving Bridge). Accessed online at https://s3.amazonaws.com/NARAprdstorage/lz/electronic-records/rg-079/NPS_CA/89000854.pdf throughout July 2024.

Attachment 1

Figures



Figure 1 Project Location Map



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17-04026 CR
 CR Fig 1 Pipeline Location Map



Figure 2 Representative Photograph-Existing Conditions Within the Project Site



Figure 3 Representative Photograph-Existing Conditions Within the Project Site



Attachment 2

CHRIS Search Results

Confidential CHRIS Records - Omitted



Prestressed Concrete Cylinder Pipe Rehabilitation Program – Sepulveda Feeder

Paleontological Resources Impact Mitigation Program

prepared for

The Metropolitan Water District of Southern California

Environmental Planning Section

700 North Alameda Street

Los Angeles, California 90012

prepared by

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January 2019

Appendix B

Paleontological Resources Impact Mitigation Program

Prestressed Concrete Cylinder Pipe Rehabilitation Program – Sepulveda Feeder

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Acronyms

bgs	below ground surface
CEQA	California Environmental Quality Act
CGS	California Geological Survey
I	Interstate
LACM	Natural History Museum of Los Angeles County
MM	Mitigation Measure
PCCP	Prestressed Concrete Cylinder Pipeline
PEIR	Programmatic Environmental Impact Report
PRC	Public Resources Code
PRIMP	Paleontological Resources Impact Mitigation Program
SVP	Society of Vertebrate Paleontology
UCMP	University of California Museum of Paleontology
UTM	Universal Transverse Mercator
WEAP	Worker Environmental Awareness Program

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1 Introduction

Between 1962 and 1985, 163 miles of Prestressed Concrete Cylinder Pipeline (PCCP) were installed throughout The Metropolitan Water District of Southern California's (Metropolitan) service area. Under certain subsurface conditions, PCCP lines have an elevated risk of failure compared with other types of pipe. In response to this risk of failure, in the late 1990s, Metropolitan inspected and assessed all 163 miles of PCCP within its distribution system. In 2011, Metropolitan initiated a comprehensive program of inspections to evaluate and rank PCCP lines with the highest risk of failure. The data indicate that the following five pipelines represent the highest risk: Allen-McColloch Pipeline, Calabasas Feeder, Rialto Pipeline, Second Lower Feeder, and Sepulveda Feeder. The PCCP Rehabilitation Program (PCCP Program) was developed to rehabilitate the PCCP portions of the five subsurface water distribution pipelines (also known as feeders) that were identified as having the highest risk as described above.

A Programmatic Environmental Impact Report (PEIR) was prepared for the PCCP Program and certified by the Metropolitan Board of Directors on January 10, 2017 (SCH No. 2014121055). At the request of Metropolitan, Rincon prepared this Paleontological Resources Impact Mitigation Program (PRIMP) for the Sepulveda Feeder (the project) in accordance with Mitigation Measure (MM) CUL-6: Develop a Program to Mitigate Impacts on Paleontological Resources for Each Contract Package.

1.1 Project Description

The Sepulveda Feeder was constructed in 1970 and is 42 miles in length, including 37 miles of PCCP. The Sepulveda Feeder PCCP Rehabilitation project consists of repairs and rehabilitation activities along the 42-mile long transmission main. The pipeline begins at the Joseph Jensen Water Treatment Plant (Station 57+22) in the Granada Hills neighborhood of the city of Los Angeles and extends south generally following Sepulveda Boulevard to the intersection of Western Avenue and West 220th Street in the city of Torrance where it ends at the Second Lower Feeder Interconnection (Station 2273+30). The feeder diameters range from 12.5 feet in Granada Hills to 7 feet in the city of Torrance, with pressure up to 360 pounds per square inch. The scope of the project includes installation of steel liners within existing PCCP and steel lines, installation of seismic resilient joints and in-place replacement of pipeline near local fault lines, relocation of air valves above grade, replacing aging equipment, and modifying or replacing meter, valve, and appurtenant structures. The project is subject to the California Environmental Quality Act (CEQA), with Metropolitan serving as the lead agency.

1.2 Purpose of the Paleontological Resources Impact Mitigation Program

The purpose of this PRIMP is to provide procedures and protocols to reduce impacts to unique paleontological resources potentially encountered during construction of the project. The PRIMP provides monitoring guidelines that must be implemented during construction, procedures to be followed if paleontological resources are discovered during construction, and the procedures for preparation, conservation and curation of recovered paleontological resources.

1.3 Regulatory Framework

Fossils are remains of ancient, often extinct organisms, and as such are a nonrenewable resource. The fossil record is a document of the evolutionary history of life on earth, and fossils can be used to understand evolutionary pattern and process, rates of evolutionary change, past environmental conditions, and the relationships among modern species (i.e., systematics). The fossil record is considered a valuable scientific and educational resource, and individual fossils are afforded protection under state and federal environmental laws, most notably by CEQA Section 15064.5. Regulations applicable to potential paleontological resources in the project area are summarized below.

1.3.1 State Regulations

Paleontological resources (i.e., fossils) are considered nonrenewable scientific resources because once destroyed, they cannot be replaced. As such, paleontological resources are afforded protection under the following state regulations.

a. California Environmental Quality Act

In California, unique paleontological resources, sites, and geologic features, particularly with regard to fossil localities, are afforded protection under a number of state environmental statutes, including CEQA. According to Appendix G of the State CEQA Guidelines, a lead agency must determine if the project would result in the direct or indirect destruction of a unique paleontological resource or site or unique geologic feature, and if such impacts would be significant. Public Resources Code (PRC) § 21081.6 requires the CEQA lead agency to ensure that feasible mitigation measures are implemented to reduce impacts to a less-than-significant level. CEQA does not include a specific definition of “unique paleontological resource or site,” nor does it establish thresholds for significance.

b. Public Resources Code Section 5097.5

PRC § 5097.5 prohibits excavation or removal of any vertebrate paleontological site, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands and specifies that state agencies may undertake surveys, excavations, or other operations as necessary on publicly owned lands to preserve or record paleontological resources. Public lands are defined to include lands owned by or under the jurisdiction of the state or any city, county, district, authority, or public corporation, or any agency thereof. Portions of this project fall outside Metropolitan fee property, on public lands; therefore, Metropolitan will coordinate with the appropriate public land owner and comply with this PRC section.

Violation of the previously outlined state regulations is punishable by civil and criminal penalties, including fines and/or imprisonment, and could result in the revocation of project certification and shut-down of the project at the direction of the appropriate lead agency.

2 Background

California is divided into 11 geomorphic provinces. These provinces are “naturally defined geologic regions that display a distinct landscape or landform” (California Geological Survey 2002). The project alignment is situated at the junction of two major geomorphic provinces: the Transverse Ranges and Peninsular Ranges. Specifically, the project extends through the San Fernando Valley and Santa Monica Mountains in the Transverse Ranges and Los Angeles Basin within the northern Peninsular Ranges. The regional geology of these provinces and the geologic units mapped within the project area are described below.

2.1 Regional Geologic Setting

Transverse Ranges: San Fernando Valley and Santa Monica Mountains

The northern portion of the project is located in the San Fernando Valley within the Transverse Ranges, which extend approximately 275 miles from Point Arguello in Santa Barbara County, east to the San Bernardino Mountains. Near the project area, their southern border is marked by the Anacapa-Santa Monica Hollywood-Raymond-Cucamonga fault zone at the base of the Santa Monica Mountains (Yerkes and Campbell 2005). The San Fernando Valley is a lowland alluvial plain that encompasses the area north of the Santa Monica Mountains, west of the San Gabriel Mountains, and south of the Santa Susana Mountains (Yerkes et al. 1965). The San Fernando Valley is underlain by a structural depression that contains a thick accumulation of more than 20,000 feet of Cenozoic alluvial, shallow marine, and deep shelf sedimentary deposits (McCulloh and Beyer 2004). The San Fernando Valley is structurally complex and is transected by several faults, including the San Fernando fault, Sylmar fault zone, Mission Hills fault, and Verdugo fault.

Peninsular Ranges: Los Angeles Basin

The southern portion of the project is located in the Los Angeles Basin within the Peninsular Ranges, which trend northwest-southeast and extend 900 miles from the Los Angeles Basin to the tip of Baja California in Mexico. The Peninsular Ranges province varies from 30 to 100 miles wide and is bounded on the east by the Colorado Desert and on the west by the coastal plain and the Gulf of California (Norris and Webb 1990). The Los Angeles Basin is a northwest-trending lowland plain at the northern end of the Peninsular Ranges (Yerkes and Campbell 2005). The Los Angeles Basin is approximately 60 miles long and 35 miles wide and is defined by Yerkes et al. (1965) as the region bounded by the northern foothills of the Santa Monica Mountains to the north, the San Jose Hills and the Chino fault on the east, and the Santa Ana Mountains and San Joaquin Hills in the southeast.

The Los Angeles Basin is underlain by a structural depression that was the site of extensive accumulation of interstratified fluvial, alluvial, floodplain, shallow marine, and deep shelf deposits on underlying Mesozoic metamorphic and granitic plutonic basement rocks. Sediment accumulation and subsidence has occurred there since the Late Cretaceous and has reached a maximum thickness of more than 20,000 feet (McCulloh and Beyer 2004; Norris and Webb 1990; Yerkes et al. 1965). During that time, marine transgressions and regressions related to tectonic uplift, subsidence, and Pleistocene glaciation resulted in both marine and terrestrial sedimentary deposits throughout the Los Angeles Basin (Beyer 1995; McCulloh and Beyer 2004).

2.2 Geologic Units in the Project Area

The geology of the project area is mapped at a scale of 1:100,000 by Saucedo et al. (2016) and Yerkes and Campbell (2005). The project includes several geologic units mapped at ground surface, including the Jurassic Santa Monica Slate (Jsm, Jsms), Miocene Topanga Group (Tt), Miocene Modelo Formation (Tm, Tmd, Tms), Pliocene-Pleistocene Saugus Formation (QTs, QTsr), Pleistocene San Pedro Formation (Qsp), Quaternary older alluvium (Qof, Qoa, Qvoa, Qom), and Quaternary younger alluvium (Qf, Qyf, Qya). The geologic units in the project area are described below and depicted in Figure 2.

Santa Monica Slate (Jsm, Jsms)

The Jurassic Santa Monica Slate is mapped in the project area in the Santa Monica Mountains and is well exposed along the roadcuts in the Sepulveda Pass, along Sepulveda Boulevard and Interstate (I-) 405. The undivided (Jsm) and spotted slate (Jsms) units are mapped in the northern project area. The Santa Monica Slate is composed of folded and jointed black slate, with metasiltstone, and fine-grained metagraywacke. The slate is intruded by a Cretaceous granitic pluton, which caused a zone of contact metamorphism and formed phyllite and spotted slate with large crystals of the cordierite mineral. Rare bivalves (pelecypods) have been observed in the slate, but due to the high heat and pressure of metamorphism, most fossils, if present, would have likely been destroyed (Yerkes and Campbell 2005).

Topanga Group (Tt)

The middle Miocene Topanga Group (Tt) is exposed in the Santa Monica Mountains in the northern project area, where it is mapped as undifferentiated. The Topanga Group extends throughout the Santa Monica Mountains and was first described by Kew (1923) at its type section in the central Santa Monica Mountains and later redescribed by Yerkes and Campbell (1979) for exposures in the western Santa Monica Mountains. In the project area, the undivided units of the Topanga Group are unconformably overlain by the Modelo Formation and nonconformably underlain by Mesozoic plutonic igneous rocks of the San Gabriel Mountains (Yerkes and Campbell 2005). Near its type section, the Topanga Group is up to 20,000 feet (6,100 meters) thick and consists of red-brown to orange marine sedimentary deposits, extrusive andesitic and vesicular basaltic volcanic rocks, and extensive dikes and sills (Oakeshott 1958). The Topanga Group consists of three formations; the fine-grained beach sandstone, shelf sandstone, and siltstone of the Topanga Formation; the submarine-deposited extrusive andesitic rock of the Conejo Volcanics; and the turbidite sandstone sequences and interbedded shale of the Calabasas Formation.

Numerous invertebrate remains have been recovered from the sandstone deposits within the Topanga Group, including mollusks of the Temblor Stage (Oakeshott 1958; Weaver and North American Committee on Stratigraphy 1944; Yerkes and Campbell 2005). Vertebrate fossils have also been reported from the Topanga Formation, a unit within the Topanga Group, including whale and sea lion specimens as well as shark gill rakers and fish scales (Koch et al. 2004). The Paleobiology Database (2018) lists one vertebrate locality in the County of Los Angeles for the Topanga Formation, which yielded fossil specimens of *Parapliohippus carrizoensis* (horse).

Modelo Formation (Tm, Tmd, Tms)

The middle to late Miocene Modelo Formation is exposed in the Santa Monica Mountains in the northern project area and is a well-documented fossiliferous geologic unit within Los Angeles County, where the unit is also referred to as the Monterey Formation (Behl 1999; Berndmeyer et al. 2012; Bramlette 1946; Dibblee and Ehrenspeck 1991; University of California Museum of Paleontology (UCMP) online database 2018; Yerkes 1996; Yerkes and Campbell 2005). The unit is dominated by finely laminated fine-grained diatomaceous and siliceous mudrocks, limestone and dolomite, calcareous and

phosphatic mudrocks, chert and porcellanite, with subordinate tuff, sandstone, and conglomerate (Bramlette 1946; MacKinnon 1989). The project area is underlain by an unnamed member composed of thinly-bedded, soft, fissile, white to tan diatomaceous shale (Tm), sandstone (Tms), and undivided deposits (Tmd).

Numerous vertebrate localities have been documented from within the Modelo Formation, which yielded specimens of large sea turtles, whale, dolphins, sea lions, shark bones and teeth, sea cows, fish, birds, and other marine fauna (Bramlette 1946; Harden 1998; Koch et al. 2004). Within Southern California, localities have been especially rich in marine mammals and sharks (Barnes 1976, 1985; Paleobiology database 2018; Woodring et al. 1946). In many localities, the Modelo Formation has produced remarkably well-preserved fossil specimens of whale, dolphin, shark, and fish (Koch et al. 2004). In addition, the Monterey Formation has yielded numerous species of scientifically significant invertebrates, foraminifera, and plants such as kelps and other large soft-bodied seaweeds.

Saugus Formation (QTs, QTsr)

The Pliocene-Pleistocene Saugus Formation is exposed in the San Fernando Valley in the northern project area (Saucedo et al. 2016). The nonmarine to marine deposit is composed of tan to reddish-tan to gray-buff moderately indurated pebble conglomerate, sandstone, and claystone. The Saugus Formation contains a lower member referred to as the Sunshine Ranch Member (QTsr), an unnamed upper member separated by an unconformity, and undivided deposits (QTs). The total thickness of the unit is unknown, but oil well data indicates that it may be as much as 12,000 feet thick (Winterer and Durham 1962). The Saugus Formation was first described from exposures in Soledad Canyon near the town of Saugus and is comprised of interfingering marine, brackish water, and nonmarine deposits that grade upward into nonmarine fluvial and alluvial deposits. According to Beyer et al. (2009), the Saugus Formation lithology includes pebble conglomerates with clasts up to boulder size, interstratified with poorly sorted, medium- to coarse-grained, moderately lithified, arkosic sandstones of a light grey to buff color, and gray-green siltstone.

The lower member of the Saugus Formation has yielded abundant invertebrate fossils, most notably mollusks. They include at least 43 bivalve species, 49 gastropod species, and at least 1 scaphopod species. In addition to mollusks, the Saugus Formation has yielded barnacles, crabs, sponges, bryozoans, brachiopods, and echinoids (Groves 1991). The Saugus Formation has also yielded terrestrial vertebrate fossil specimens, mostly from its upper unit. At least three vertebrate localities have been recovered in northern Los Angeles County, which yielded specimens of horse, dog, alligator lizard, and pocket gopher (The Planning Center/DC&E 2012; Winterer and Durham 1962).

San Pedro Formation (Qsp)

The San Pedro Formation is mapped in the Los Angeles Basin in the central project area and is divided into three formal members, oldest to youngest: the Lomita Marl, Timms Point Silt, and San Pedro Sand (Jacobs 2005; LaFollette 2009; Woodring et al. 1946). Only the San Pedro Sand member is mapped in the project area (Qsp) (Yerkes and Campbell 2005). The San Pedro Sand is approximately 100 to 300 feet thick and is predominately composed of horizontally- and cross-bedded fine- to medium-grained sand, with subordinate subrounded fine to coarse pebbles, and common silt. Fossiliferous beds of marine shells are widespread, with isolated dense lens concentrations. Secondary limonite is common throughout the unit (Woodring et al. 1946; Powell and Stevens 2000).

The San Pedro Formation has yielded an abundant and diverse marine fauna within Los Angeles County. Numerous invertebrate localities have been recorded within the San Pedro Formation, which yielded several hundred different taxa of gastropods, pelecypods, scaphopods, arthropods, bryozoans, crustaceans, echinoids, and foraminifera (DeBusk and Corsetti 2011; Jacobs 2005; Powell and Stevens 2000). Mollusks are by far the most abundant fossil in the San Pedro Formation and as many as 242

species of mollusk have been recovered from one locality within the San Pedro Sand member (DeBusk and Corsetti 2011). Marine vertebrates have also been recovered from the San Pedro Formation, including whale, bony fish, rays, and sharks. In addition, terrestrial vertebrates including horse, bison, camel, saber-toothed tiger, ground sloth, elephant, rodent, turtle, and numerous specimens of birds have been discovered in the San Pedro Sand, including fossil specimens of ducks, gull, sea eagle, and quail. Between 2007 and 2008, during excavations and construction activities in the San Pedro Sand deposits near Knoll Hill and Pacific Street in San Pedro (approximately 10 miles southeast of the project area), over 15,000 invertebrate and 450 vertebrate fossil were recovered, including specimens of bony fish, shark, ray, amphibian, snake, turtle, bird, rodent, horse, hare, rabbit, gopher, vole, deer, squirrel, and mollusk (DeBusk et al. 2009).

Quaternary Older Alluvium (Qof₁, Qof₂, Qoa, Qvoa, Qvoa₁, Qom)

Much of the southern project area in the Los Angeles Basin is underlain by older Quaternary alluvial fan, basin, and channel deposits (Qof₁, Qof₂, Qoa, Qvoa, Qvoa₁). The alluvium was deposited during the Pleistocene and is composed of unconsolidated to moderately consolidated, poorly-sorted, gravel to coarse-grained sand, with slightly to moderately dissected surfaces and moderate soil development (Dibblee and Ehrenspeck 1991; Saucedo et al. 2016; Yerkes and Campbell 2005). In the central project area near the I-10/I-405 Interchange in the Los Angeles Basin, Quaternary older shallow marine deposits (Qom) are exposed and consist of reddish brown, poorly sorted, slightly consolidated to indurated siltstone, sandstone, and conglomerate deposits (Yerkes and Campbell 2005).

Pleistocene alluvial deposits have a well-documented record of abundant and diverse vertebrate fauna throughout California, especially within the Los Angeles Basin. Fossil specimens of whale, sea lion, horse, ground sloth, bison, camel, mammoth, mastodon, dog, pocket gopher, turtle, ray, bony fish, shark, and bird have been reported (Agenbroad 2003; Bell et al. 2004; Jefferson 1985, 1989, 1991; Maguire and Holroyd 2016; Merriam 1911; Reynolds et al. 1991; Savage 1951; Savage et al. 1954; Scott and Cox 2008; Springer et al. 2009; Tomiya et al. 2011; Wilkerson et al. 2011; Winters 1954; UCMP 2018).

Quaternary Young Alluvium (Qya, Qya₂, Qyf, Qyf₁, Qyf₂, Qf)

Quaternary younger alluvium (Qya, Qya₂) and younger alluvial fan deposits (Qf, Qyf, Qyf₁, Qyf₂) are mapped at ground surface throughout the project area in the San Fernando Valley and Los Angeles Basin. The surficial deposits consist of slightly to poorly consolidated and poorly sorted floodplain deposits composed of clay, silt, sand, and silty sand. Locally, these deposits may be overlain by a slightly to moderately developed soil profile (Saucedo et al. 2016).

Holocene alluvial deposits at the surface are too young to preserve fossil resources but at unknown depths, sediments may transition from too young to support fossils, to early Holocene or late Pleistocene in age in which unique paleontological resources could occur. Existing information (Department of Water Resources 1961) discusses the general range of geologic unit thicknesses in various regions of the Los Angeles Basin; however, specific information on the depth at which Holocene units mapped at the surface become old enough to preserve paleontological resources is not available. While the precise depth of these high sensitivity sediments is unknown, it may be as few as 5 feet (Maguire and Holroyd 2016; Savage 1951).

2.3 Paleontological Resource Assessment

Rincon evaluated the paleontological resource potential of the geologic units present in the project area based on the results of a paleontological locality search conducted at the Natural History Museum of Los Angeles County (LACM) in November 2018 and review of existing information in the primary literature on

known fossils within those geologic units. Using the results of the records search and literature review, Rincon assigned a paleontological sensitivity to each geologic unit within the project area.

2.3.1 Locality Search

A search of the paleontological collections records at the LACM resulted in no previously recorded fossil localities from within or immediately adjacent to the project boundary (McLeod 2018). The LACM reports that there are 32 previously recorded vertebrate fossil localities from the Modelo Formation, Saugus Formation, and Quaternary older alluvium from within approximately 1 to 3 miles of the project area (McLeod 2018). Recovered fossil specimens include taxa of bony fish, shark, marine mammal, rodent, and large terrestrial mammal. See Table 1 below for the record search results.

Table 1 LACM Vertebrate Localities near the Project Area

Locality No.	Geologic Formation	Age	Depth of Discovery	Taxa
LACM 7020, 1267, 1681, 1029, 1038; LACM (CIT) 317, 320, 321, 334	Modelo Formation	Miocene	Not provided	Osteichthyes (undetermined bony fish), Bathylagidae (deep-sea smelt), <i>Eclipes</i> (cod), <i>Syngnathus avus</i> (pipefish), <i>Chalcidichthys malacopterygius</i> (fossil fish), <i>Laytonia californica</i> (fossil fish), <i>Pseudoseriola gillilandi</i> (fossil fish), <i>Argyropelecus bullockii</i> (fossil fish), <i>Carcharocles angustidens</i> (white shark), <i>Isurus oxyrinchus</i> (bonito shark), <i>Atherinops barkeri</i> (topsmelt), <i>Euleptorhamphus</i> (halfbeak), <i>Ganolytes cameo</i> and <i>Xyne grex</i> (herring), Myctophidae (lanternfish), <i>Decapterus</i> (scad), <i>Thyrsoctes kriegeri</i> and <i>Zaphlegulus venturaensis</i> (snake mackerel), <i>Lompoquia</i> (croaker), <i>Sarda stocki</i> (bonito), <i>Scomber</i> (mackerel), <i>Plectrites</i> (porgy), Pleuronectiformes (flounder), Alepocephalidae (slickhead), <i>Bathylagus angelensis</i> (deep-sea smelt), <i>Oncorhynchus</i> (sabre-toothed salmon), Scorpaenidae (rockfish), <i>Chauliodus eximius</i> (viperfish), <i>Cyclothone</i> (bristlemouth), <i>Stomias</i> (dragonfish), <i>Hipposyngnathus imporctor</i> (pipefish), <i>Osteodontornis orri</i> (falsetoothed bird), <i>Sula willetti</i> (booby), <i>Puffinus diatomicus</i> (shearwater)
LACM 1733, 3397, 7152	Saugus Formation	Pliocene-Pleistocene	Not provided	<i>Equus</i> (horse), <i>Bison</i> (bison), <i>Mammuthus</i> (mammoth)
LACM 5745, 3822, 6208, 3263, 5833, 5501, 5462, 7879, 1170, 3252, 5888, 3266, 1344, 3365, 1295, 4206, 1225, 2035, 4444, 1839	Quaternary Older Alluvium	Pleistocene	Between 6 feet-100 feet bgs	<i>Cetacea</i> (whale), <i>Platygonus</i> (peccary), <i>Camelops</i> (camel), <i>Bison</i> , <i>Equus</i> , <i>Mammut</i> (mastodon), <i>Dipodomys</i> (kangaroo rat), <i>Neotoma</i> (wood rat), <i>Microtus</i> (meadow vole), and <i>Thomomys</i> (pocket gopher), <i>Clemmys marmorata</i> (pond turtle), <i>Canis</i> (dog), <i>Felis atrox</i> (lion), <i>Paramylodon</i> (ground sloth), <i>Fulica Americana</i> (coot), <i>Megalonyx jeffersoni</i> (ground sloth), <i>Mustela frenata</i> (weasel), <i>Smilodon fatalis</i> (sabre-tooth cat), <i>Camelops hesternus</i> (camel), <i>Capromeryx minor</i> (pronghorn antelope), <i>Odocoileus hemionus</i> (deer), Sciuridae (squirrel), and <i>Breameryx</i> (pronghorn antelope), <i>Clemmys</i> (pond turtle), <i>Mancalla</i> (puffin), <i>Parapavo</i> (turkey), <i>Paramylodon</i> (ground sloth), <i>Canis dirus</i> (dire wolf), <i>Sylvilagus</i> (rabbit), Sciuridae (squirrel), <i>Cervus</i> (deer), <i>Capromeryx</i> (pronghorn antelope)

Source: McLeod (2018)

(LACM: Natural History Museum of Los Angeles County; bgs: below ground surface)

2.3.2 Paleontological Significance and Sensitivity

a. Evaluating Paleontological Significance

Guidance for evaluating paleontological significance can be found in Scott and Springer (2003). Those authors state significant paleontological resources include “fossil remains of large to very small aquatic and terrestrial vertebrates, remains of plants and animals previously not represented in certain portions of the stratigraphy, and fossils that might aid stratigraphic correlations, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, paleoclimatology, and the relationships of aquatic and terrestrial species” (2003:6). Furthermore, they also advise that impacts might be considered less than significant if dense concentrations of plant and/or invertebrate fossil remains were “so locally abundant that the impacts to the resources do not appreciably diminish their overall abundance or diversity” (2003:6).

More recent guidance has been developed by the Society for Vertebrate Paleontology (SVP 2010), which defines significant paleontologic resources as:

Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information.

Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years) (p. 11).

Therefore, any identifiable vertebrate fossil remains would be considered unique under CEQA, and direct or indirect impacts on such remains would be considered significant. Identifiable invertebrate and plant fossils would be considered unique if they meet the criteria presented above. Determinations should consider the abundance and densities of fossil specimens or newly and previously recorded fossil localities in exposures of the rock units present at a project site.

b. Classifying Paleontological Sensitivity

The SVP (2010) describes sedimentary rock units as having high, low, undetermined, or no potential for containing significant nonrenewable paleontological resources. This criterion is based on rock units within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present. While these standards were specifically written to protect vertebrate paleontological resources, all fields of paleontology have adopted these guidelines:

- I. High Potential (sensitivity).** Rock units from which significant vertebrate or significant invertebrate fossils or significant suites of plant fossils have been recovered are considered to have a high potential for containing significant non-renewable fossiliferous resources. These units include but are not limited to, sedimentary formations and some volcanic formations which contain significant nonrenewable paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas which contain potentially datable organic remains older than Recent, including deposits associated with nests or middens, and areas which may contain new vertebrate deposits, traces, or trackways are also classified as significant.
- II. Low Potential (sensitivity).** Sedimentary rock units that are potentially fossiliferous, but have not yielded fossils in the past or contain common and/or widespread invertebrate fossils of well

documented and understood taphonomic, phylogenetic species and habitat ecology. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils prior to the start of construction. Generally, these units will be poorly represented by specimens in institutional collections and will not require protection or salvage operations. However, as excavation for construction gets underway it is possible that significant and unanticipated paleontological resources might be encountered and require a change of classification from Low to High Potential and, thus, require monitoring and mitigation if the resources are found to be significant.

- III. Undetermined Potential (sensitivity).** Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials. Field surveys by a qualified vertebrate paleontologist to specifically determine the potentials of the rock units are required before programs of impact mitigation for such areas may be developed.
- IV. No Potential.** Rock units of metamorphic or igneous origin are commonly classified as having no potential for containing significant paleontological resources.

2.3.3 Paleontological Resource Potential of the Project Area

Consistent with SVP resource assessment guidelines (2010), Rincon determined the paleontological sensitivity of the project area based on a comprehensive literature review and museum locality search. The results of the study indicate that the geologic units underlying the project area have a paleontological sensitivity ranging from low to high.

The Santa Monica Slate has a low paleontological sensitivity because, although low-grade metamorphic rocks such as slate may preserve fossils, vertebrate fossils are not expected in this unit (McLeod 2018). The Topanga Group, Modelo Formation, Saugus Formation, and San Pedro Formation have a high paleontological sensitivity because they have proven to yield vertebrate fossils near the project area and throughout the San Fernando Valley, Santa Monica Mountains, and Los Angeles Basin. Quaternary older alluvial deposits underlie a large portion of the central project area and have a high paleontological sensitivity because they have proven to yield vertebrate fossils near the project area and throughout the Los Angeles Basin. Holocene surficial alluvial deposits underlie a large portion of the northern and southern project area and have a low paleontological sensitivity at the surface because they are too young to preserve fossilized remains. At shallow depth, the Holocene alluvial deposits overlie sensitive Pleistocene and older deposits across the project area. Therefore, the paleontological sensitivity of the Holocene alluvial deposits is determined to be low to high, increasing at a depth of about 5 feet below ground surface (bgs). (Refer to Figure 3 for a map showing the paleontological sensitivity of the project area, and Table 2 in Section 3.4 for a summary of the paleontological sensitivity of each geologic unit.)

3 Paleontological Resources Impact Mitigation Program

This PRIMP complies with MM CUL-6 *Develop a Program to Mitigate Impacts on Paleontological Resources for Each Contract Package* identified in the PEIR for the PCCP Program (Metropolitan 2016), elements of SVP Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (SVP 2010), and Conditions of Receivership for Paleontologic Salvage Collections (SVP 1996).

3.1 Retention of a Qualified Paleontologist

Prior to the start of ground disturbance Metropolitan will retain an experienced Qualified Paleontologist to implement this PRIMP and assign a Paleontological Monitor to be present during ground disturbance within *in situ* paleontologically sensitive strata (i.e., geologic deposits that are determined to have a high paleontological sensitivity and have not been previously disturbed). A Qualified Paleontologist is defined by the SVP standards as an individual preferably with an M.S. or Ph.D. in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, preferably southern California, and who has at least two years of experience as a paleontological mitigation project supervisor (SVP 2010). The Qualified Paleontologist will be responsible for the following tasks:

- **Worker Environmental Awareness Program (WEAP):** Supervise implementation of the WEAP training and conduct initial training session, or as directed by Metropolitan.
- **Implementation of PRIMP:** Ensure that the PRIMP is implemented in compliance with the approved mitigation measures and SVP (1996, 2010) standard guidelines.
- **Salvage Operations:** Be available for consultation with field monitors and Metropolitan staff on salvage operations, particularly when equipment and additional temporary monitors are needed to accelerate fossil recovery.
- **Monitor Scheduling:** Coordinate and communicate with Metropolitan staff to determine the schedule for work in areas where disturbance will require a Paleontological Monitor (i.e., areas underlain by sediments assigned a high paleontological sensitivity and have not been previously disturbed).
- **Paleontological Oversight:** Directly oversee monitoring to ensure the collection of a representative sample of fossils when and if uncovered by ground-disturbing activities.
- **Locality and Site Data:** Ensure the proper documentation of associated specimen/sample data and corresponding geologic and geographic site data and the plotting of fossil/sample sites on maps.
- **Sediment Sampling:** Direct field and laboratory processing of sediment samples for microvertebrate fossils.
- **Fossil Identification:** Oversee and/or ensure the identification of fossils and the determination of significance (this may require consultation with other paleontological experts).
- **Curation:** Ensure a proper curation facility is identified and a curation agreement is implemented. Ensure that all fossils and pertinent associated data are properly transferred to the curatorial institution.

- **Reporting:** Ensure preparation and Quality Assurance/Quality Control of the draft and final monitoring reports.

The Paleontological Monitor(s) will be assigned by the Qualified Paleontologist and will meet the minimum qualifications per standards set forth by the SVP (2010), which include a B.S. or B.A. degree in geology or paleontology and one year of monitoring experience. The Paleontological Monitor(s) will be responsible for the following tasks:

- **WEAP Training:** Conduct initial training session in accordance with the WEAP, or as directed by Metropolitan.
- **Paleontological Monitoring:** Conduct day-to-day monitoring of all earth-moving activities in any area underlain by sediments assigned a high paleontological sensitivity and have not been previously disturbed.
- **Fossil Discoveries:** Flag newly discovered fossil sites and temporarily divert ground-disturbing equipment around the site, as necessary, until the fossil(s) has been evaluated and, if warranted, salvaged.
- **Fossil Salvage:** Salvage fossils uncovered by ground-disturbing activities.
- **Sediment Samples:** Collect potentially fossiliferous sediment samples to recover microfossils.
- **Log Construction Activity:** Document project-related ground-disturbing activities, their location, and other relevant information including a photographic record.
- **Fossil Data:** Take accurate and detailed field notes and photographs, and record associated specimen/sample and corresponding geologic and geographic site data including Universal Transverse Mercator (UTM) coordinate data.
- **Field Preparation:** Conduct initial (field) processing of fossiliferous sediment samples for microvertebrate fossils.
- **Fossil Preparation:** If directed, prepare fossils to the point of identification.
- **Reporting:** If directed, assist with the preparation of the draft and final reports.

3.2 Worker Environmental Awareness Program

Prior to construction, a WEAP presentation will be prepared and used to train all site personnel prior to the start of work. The WEAP will include at a minimum the following information:

- 1) Review of local, state, and federal laws and regulations pertaining to paleontological resources.
- 2) Types of fossils that could be encountered during ground disturbing activity.
- 3) Photos of example fossils for reference.
- 4) Paleontological monitoring required during the project (including the types, depths and locations of ground disturbing activity that will require paleontological monitoring or spot checking).
- 5) Instructions on the procedures to be implemented should unanticipated fossils be encountered during construction, including stopping work in the vicinity of the find and contacting a qualified professional paleontologist (Qualified Paleontologist).

In addition to these instructions, the Resident Engineer and Inspectors will also receive a list and contact info of the paleontological specialists and other environmental specialist(s) associated with paleontological resources for this project.

3.3 Curation Agreement

A curation agreement with an accredited museum repository will be obtained before the commencement of construction. As per SVP (2010) mitigation guidelines,

Adequate curation and storage of salvaged specimens in an approved repository institution is an essential goal of the paleontological mitigation program. Adequate storage must include curation of individual specimens into the collection of a recognized, not-for-profit repository with a permanent curator, such as a museum or a university (institution).

Conditions of acceptance of recovered fossils will be spelled out in a letter from the designated repository. In addition to the specimens, the repository must maintain “a complete set of GPS data, field notes, photographs, locality forms, and stratigraphic sections.” In addition, “specimens must be stored in a fashion that allows retrieval of specific, individual specimens by future researchers.” An appropriate institution for curation of unique paleontological resources from this project site would preferentially be either the Western Science Center or the LACM. Other similarly accredited institutions such as the Cooper Center or Raymond Alf Museum of Paleontology could be considered if the Western Science Center and LACM refuse receivership.

3.4 Monitoring Earth Moving

Monitoring guidelines will follow procedures established by the SVP (2010). Paleontological monitoring is only required in previously undisturbed areas. While it is anticipated the majority of ground disturbing activity would not disturb previously undisturbed intact native geologic units due to the extensive previous development (e.g., residential, industrial, roads, etc.), project-related excavations that exceed previously disturbed areas in width or depth would require paleontological monitoring as detailed below and in Table 2.

All construction activities that disturb intact native sediments within areas of high paleontological sensitivity (i.e., the Topanga Group, Modelo Formation, Saugus Formation, San Pedro Formation, and Quaternary older alluvium) will be monitored on a full-time basis by a qualified Paleontological Monitor (Figure 3). All construction activities that disturb intact native sediments at a depth greater than 5 feet bgs within areas of low-to-high paleontological sensitivity (i.e., the Quaternary younger alluvium) will be monitored on a full-time basis by a qualified Paleontological Monitor. Paleontological monitoring will not be required for project areas underlain by the Santa Monica Slate, which has low sensitivity.

Table 2 Monitoring Locations and Paleontological Sensitivity in the Project Area

Geologic Unit ¹	Paleontological Sensitivity ²	Monitoring Recommendation and Duration
Jurassic Santa Monica Slate (Jsm, Jsms)	Low	No monitoring required
Miocene Topanga Group (Tt)	High	Full time in excavations in native sediments (i.e., previously undisturbed areas)
Miocene Modelo Formation (Tm, Tmd, Tms)	High	Full time in excavations in native sediments (i.e., previously undisturbed areas)
Pliocene-Pleistocene Saugus Formation (QTs, QTsr)	High	Full time in excavations in native sediments (i.e., previously undisturbed areas)
Pleistocene San Pedro Formation (Qsp)	High	Full time in excavations in native sediments (i.e., previously undisturbed areas)
(Pleistocene) Quaternary older alluvium (Qof ₁ , Qof ₂ , Qoa, Qvoa, Qvoa ₁ , Qom)	High	Full time in excavations in native sediments (i.e., previously undisturbed areas)
(Holocene) Quaternary younger alluvium (Qf, Qyf, Qyf ₁ , Qyf ₂ , Qya)	Low at surface, High below 5 feet	Full time in excavations below 5 feet in native sediments (i.e., previously undisturbed areas)

¹Saucedo et al. (2016) and Yerkes and Campbell (2005)²SVP (2010)

Full-time monitoring is defined as during 100% of earth-moving activities. If, after 50% of excavations are complete in an excavation area, no fossils of any kind have been discovered, then the level of monitoring may be reduced or suspended, at the Qualified Paleontologist's discretion.

The SVP (2010) guidelines recommend paleontologists who monitor excavations must be experienced in locating and salvaging fossils and collecting necessary associated critical data. The Paleontological Monitor must be able to document the stratigraphic context of fossil discovery sites. Paleontological Monitors must be properly equipped with tools and supplies to allow rapid removal of specimens (See Section 3.5). The monitor must also be empowered to temporarily halt or redirect the excavation equipment away from fossils to be salvaged, including the implementation a 50-foot safety buffer and equipment exclusion zone around the area of a fossil discovery and salvage. The Qualified Paleontologist will consult with Metropolitan on salvage operations, particularly regarding the need for extra equipment and operator(s) to accelerate salvage operations.

Excavation methods will vary depending on the type of fossil and the nature of the surrounding matrix. Many macrofossils are easily recognized and removed by hand or with small hand tools. Some may be fragile and require treatment with a hardener before salvage. Others may require encasement within a plaster jacket. Specimens representing all or much of a skeleton may require removal as a whole or in large blocks. Such specimens typically require additional time to excavate and stabilize before removal. Construction schedules will be considered during the recovery of unique fossils, with the goal of reducing or avoiding construction delays.

After excavating the specimen or specimens, the Paleontological Monitor will assign a unique field number to each fossil specimen, fossil locality or sediment sample and record the field number and associated specimen/sample data (identification by taxon and element, sample size, etc.), corresponding geologic data (particularly lithology, stratigraphic unit, stratigraphic level within the unit, inferred age, etc.), and geographic site data (UTM coordinate location, elevation, etc.) in the field notes. Each field number and fossil/sampling site will be plotted on both a 1:24,000-scale topographic map and a measured section of the exposed stratigraphic sequence (if sufficiently exposed). Fossils will be prepared to the point of identification and identified to the lowest possible taxonomic level by a paleontologist who specializes in the appropriate taxonomic group (this may require outside consultation on fossil

identifications). Specimen salvage and/or sediment sample collection and recording of associated data will be completed as quickly as possible to minimize potential delays to excavation activities.

Immediately after the salvage of the specimen or collection of the sample(s), the Paleontological Monitor will remove all materials from the exclusion zone and notify Metropolitan of the status of the salvage operation. Upon receiving approval from Metropolitan and the Qualified Paleontologist, the Paleontological Monitor will communicate to the Construction Manager/Heavy Equipment Operator that earth moving can proceed. Provisions will be made for additional Paleontological Monitors to monitor or help in removing large or abundant fossils to reduce potential delays to excavation schedules.

3.5 Equipment and Supplies

Each Paleontological Monitor will be equipped with hand tools and supplies (e.g., geological hammer, shovel, pick, chisels, whisk broom, buckets, specimen bags, field notebook, daily monitoring report forms, pens, markers, and glue) to allow for the rapid salvage of fossil remains. Additional equipment and supplies (e.g., plaster, burlap, screens, wash tubs, hoses) for stabilizing and salvaging delicate fossil specimens and field processing of fossiliferous sediment samples will be kept on hand and made available when and if required to properly salvage fossil discoveries. The Construction Contractor may be requested to supply heavy equipment (typically a front-end loader) and an operator to assist in the rapid removal of a large fossil specimen(s) or sediment sample(s). Equipment and supplies for preparing fossil specimens, laboratory processing of screened matrix generated by field processing of sediment samples, and for temporary storage of all salvaged fossil specimens will be available via the Qualified Paleontologist.

3.6 Bulk Matrix Sampling and Screening Procedures

In accordance with MM CUL-6, bulk matrix sampling may be necessary to recover small invertebrates or microvertebrates from within sensitive deposits. SVP (2010) provides clear guidelines for the volume of bulk samples to be collected during construction monitoring activities. Fine-grained sedimentary horizons (e.g., mudstones and paleosols) can contain fossils that are too small to be readily visible within the sedimentary matrix and are referred to as "microvertebrates". These microvertebrates may be unique (e.g., small mammal, bird, reptile, amphibian, or fish remains) or may be associated with non-vertebrate paleoenvironmental indicators (e.g., foraminifers, small gastropods, and plant seeds) that can only be recovered through a process of bulk matrix sampling followed by screen washing through mesh screens.

If indicators of potential microvertebrate fossils are found (e.g., plant debris, abundant mollusks, clay clasts, carbonate-rich paleosols, or mudstones), screening of a "test bulk matrix sample" may produce significant returns and indicate whether a larger sample needs to be screen washed. The bulk matrix test sample would consist of 600 pounds (0.4 cubic yard/meter) of sediment or loosely consolidated rock. The bulk matrix test sample would be stored in 5-gallon buckets and covered to reduce contamination prior to screening. If a test sample returns unique fossils, a "standard bulk matrix sample" (4.0 cubic yards/meters, 6,000 pounds or 2,500 kilograms) from each site, horizon, or paleosol should be collected and screen washed. However, the uniqueness of the microvertebrate fossils recovered may justify screen washing even larger amounts. With this possibility in mind, two standard samples (8.0 cubic yards/meters) or more as determined by the Qualified Paleontologist should be collected when the discovery is first made and set aside in case processing of a larger sample is later determined to be necessary.

To avoid construction delays, samples of matrix may need to be removed from the project site and processed elsewhere. Chemicals (e.g., detergents, weak acids, orange oil, etc.) may be necessary to

facilitate the breakdown of matrix. In some cases, the concentrate will need to be further processed using heavy liquids (e.g., zinc bromide, polytungstate, or tetrabromide) to remove mineral grains and create a concentrate enriched with microvertebrate bones and teeth. The concentrate should be directly examined under a microscope to locate and remove individual microfossils.

When warranted, sediment samples will be obtained and stored for potential future analysis by scientists. Such samples may include fine-grained sediment for pollen analysis; organic-rich sediments that may yield important scientific information on the age, paleoecology, or depositional environment of sedimentary units exposed by construction excavations; samples for paleomagnetic or radiometric analysis; and coarse sediment for clast source analysis. The Qualified Paleontologist will determine what samples should be collected during the construction excavation; however, these decisions should be made in the context of reasonable expectations that sample collection will yield valuable results that will add to the scientific record of the geologic units from which samples are collected. Reasonable expectations of positive results might include such evidence as abundant macrofossil discoveries in the immediate vicinity, the presence of abundant fragmentary fossils and lithology indicators of potentially fossiliferous units.

3.7 Laboratory Preparation and Curation

Fossil remains collected during monitoring will be sorted/picked, identified, and catalogued. Once collected, preparation of fossil specimens may involve removal of extraneous and concealing sedimentary matrix from specimens using simple hand tools (e.g., hammers, chisels, X-acto knives, brushes, dental picks, and pin vises), and stabilization with glues or consolidants (e.g., butvar). Once sorted, prepared and stabilized, individual fossils will be identified to the lowest taxonomic level possible (e.g., class, family, genus, species). Descriptions of fossil localities, including geographic, stratigraphic, geologic, and taphonomic data, will be compiled and stored electronically for submission at the time of curation. Curation would require placement of fossils into archival specimen trays with labels containing relevant curatorial information. Field collection and preparation of fossil specimens will be performed by the Qualified Paleontologist with further preparation as needed by an accredited museum repository institution at the time of curation.

Following preparation, fossils will be temporarily stored in an appropriate storage space within the office of the Qualified Paleontologist until they can be properly accessioned at the designated curatorial institution for permanent storage. All fossil resources collected on private property are the property of the land owner and should be provided to the curatorial institution along with a deed of gift. Fossils collected on public lands remain the property of the public entity responsible for those lands (i.e., State, County, City, etc.).

3.8 Report of Findings

Following the completion of paleontological monitoring for the project, a final technical report of findings will be prepared under the direction of the Qualified Paleontologist and will include the results of the paleontological monitoring. The final report will include or discuss the following (as applicable):

- 1) Presentation of background for the project's paleontological monitoring program.
- 2) Discussion of the geology and stratigraphy of units exposed during excavations.
- 3) Discussion of mitigation methods, including fossil treatment, and recommendations for additional work.
- 4) Discussion of the uniqueness and importance of salvaged fossil remains (if any).

- 5) Presentation of the results and findings of analyses conducted on the fossil remains (if any) including all associated locality data included as an appendix.
- 6) Discussion of the research questions that were resolved or raised as a result of the analyses.
- 7) Faunal list of any fossils collected.
- 8) Brief statement of the significance and relationship of the site to similar fossil localities.
- 9) A complete set of field notes.
- 10) Geological maps.
- 11) Stratigraphic sections.
- 12) Photographs.
- 13) A list of identified specimens, if recovered.
- 14) Locality data, including United States Geological Survey standard 1:24,000-scale topographic map showing each locality from which a significant fossil was collected and a measured stratigraphic section or sections, as appropriate, to be included as a *Confidential Appendix*.

The final report, together with its accompanying documents, constitutes the final objective of the PRIMP. Copies of the final report will be deposited with Metropolitan and with the designated museum repository, if applicable. Acceptance of the final report by Metropolitan and accession of any fossil remains discovered into an accredited museum repository will confirm that the project has caused less than significant impacts to unique paleontological resources and will signify completion of the mitigation program for the project.

4 Conclusions

As detailed above, paleontological monitoring will only be necessary when construction activity results in ground disturbances within previously undisturbed intact geologic units by construction and maintenance of pipeline infrastructure or other development. This includes full time monitoring for excavations of native sediments in the Topanga Group, Modelo Formation, Saugus Formation, San Pedro Formation, and Quaternary older alluvium. In addition, full time monitoring should be conducted when ground disturbance extends below 5 feet in Quaternary young alluvium (refer to Table 2 and Figure 3). No monitoring is required in the Santa Monica Slate. Full implementation of and compliance with the mitigation measures in this PRIMP will ensure that adverse impacts to paleontological resources will be kept to a less than significant level as required under CEQA.

5 Preparers

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6 Literature Cited

- Agenbroad, L.D. 2003. New localities, chronology, and comparisons for the pygmy mammoth (*Mammuthus exilis*). In J. Reumer (ed.). Advances in Mammoth Research, Proceedings of the 2nd International Mammoth Conference, Rotterdam, the Netherlands. DEINSEA 9:1-16.
- Barnes, L.G. 1976. Outline of Eastern North Pacific Fossil Cetacean Assemblages. Systematic Zoology v. 25:321–343.
- _____. 1985. The Late Miocene Dolphin Pithanodelphis Abel, 1905 (Cetacea, Kentriodontidae) from California. Contributions in Science No. 367. Natural History Museum of Los Angeles County.
- Behl, R. J. 1999. Since Bramlette (1946): The Miocene Monterey Formation of California Revisited. In E.M. Moores, D. Sloan, and D.L. Stout (eds.), Classic Cordilleran Concepts – A View from California. Geological Society of America Special Paper 338: 301–313.
- Bell, C.J., E.L. Lundelius, Jr., A.D. Barnosky, R.W. Graham, E.H. Lindsay, D.R. Ruez, Jr., H.A. Semken, Jr., S.D. Webb, and R.J. Zakrzewski. 2004. The Blancan, Irvingtonian, and Rancholabrean Mammal Ages. In Woodburne, M.O. (ed.) Late Cretaceous and Cenozoic Mammals of North America. Biostratigraphy and Geochronology. Columbia University Press, New York, pp. 232-314.
- Berndmeyer, C., Birgel, D., Brunner, B., Wehrmann, L.M., Jöns, N., Bach, W., Arning, E.T., Föllmi, K.B., and Peckmann, P. 2012. The Influence of Bacterial Activity on Phosphorite Formation in the Miocene Monterey Formation, California. Palaeogeography, Palaeoclimatology, Palaeoecology 317:171-181.
- Beyer, L.A. 1995. Los Angeles Basin Province (014). In D. Gautier, G.L. Dolton, K.I. Takahashi, and K.L. Varnes (eds.), National Assessment of United States Oil and Gas Resources—Results, Methodology, and Supporting Data. U.S. Geological Survey Digital Data Series 30.
- Beyer, L.A., T.H. McCulloh, R.E. Denison, R.W. Morin, R.J. Enrico, J.A. Barron, and R. J. Fleck. 2009. Post-Miocene Right Separation on the San Gabriel and Vasquez Creek Faults, with supporting chronostratigraphy, western San Gabriel Mountains, California. U.S. Geological Survey, Professional Paper 1759: 1-44.
- Bramlette, M. N. 1946. The Monterey Formation of California and the Origin of its Siliceous Rocks. U.S. Geological Survey Professional Paper 212.
- California Geological Survey (CGS). 2002. California Geomorphic Provinces, Note 36.
- Campbell, R.H., Wills, C.J., Irvine, P.J., and Swanson, B.J. 2014. Preliminary geologic map of the Los Angeles 30' x 60' quadrangle, California. Version 2.0. California Geological Survey, Preliminary Geologic Maps, scale 1:100,000.
- DeBusk, J.L., Strauss, J.J., and Corsetti, C. 2009. Final Paleontological Resources Monitoring and Mitigation Report, Knoll Hill Drive Project, ADP #090325752, San Pedro, Los Angeles County, California. Prepared for CDM by SWCA Environmental Consultants.
- Department of Water Resources. 1961. Appendix A Ground Water Geology, in. Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County. State of California Department of Water Resources Bulletin No. 104. 188pp., 26 plates.

- DeBusk, J.L., and Corsetti, C. 2011. Paleontological Resources Assessment of the Ponte Vista Project, San Pedro area, Los Angeles, California. Prepared for Jeffer Mangels Butler & Mitchell LLP by SWCA Environmental Consultants.
- Dibblee, T.W., and Ehrenspeck, H.E. 1991. Geologic map of the San Fernando and Van Nuys (north 1/2) quadrangles, Los Angeles County, California. Dibblee Geological Foundation, Dibblee Foundation Map DF-33, scale 1:24,000.
- Groves, L.T. 1991. Molluscan Paleontology of the Pliocene-Pleistocene Lower Saugus Formation, Southern California. *American Conchologist*, 19:16-17.
- Harden, Deborah R. 1998 *California Geology*. Upper Saddle River, N.J., Prentice Hall.
- Jacobs, S. 2005. The Pleistocene of the Palos Verdes Peninsula. Los Angeles Basin Geological Society Newsletter, January Meeting.
- Jefferson, G.T. 1985. Review of the Late Pleistocene avifauna from Lake Manix, central Mojave Desert, California. *Contributions in Science, Natural History Museum of Los Angeles County*, 362:1-13.
- 1989. Late Cenozoic tapirs (Mammalia: Perissodactyla) of western North America. *Natural History Museum of Los Angeles County, Contributions in Science*, 406:1-22.
- 1991. A catalogue of late Quaternary vertebrates from California. Part two, mammals. *Natural History Museum of Los Angeles County Technical Report*, 7:1-129.
- Kew, W.S.W. 1923. Geologic formations of a part of southern California and their correlation. *American Association of Petroleum Geologists Bulletin*, 7:411-420.
- Koch, A. L., Vincent L. Santucci, and Ted R. Weasma. 2004. Santa Monica Mountains National Recreation Area Paleontological Survey. Technical Report NPS/NRGRD/GRDTR-04/01. U.S. Department of Interior, National Park Service, Geologic Resources Division, Denver, Colorado.
- LaFollette, P.I. 2009. Pleistocene Mollusca from Knoll Hill, San Pedro, California – Including a Unique Lagoon Fauna in J. L. DeBusk, J. J. Strauss, and C. Corsetti, eds., *Final Paleontological Resources Monitoring and Mitigation Report, Knoll Hill Drive Project, ADP #090325752, San Pedro, Los Angeles County, California*. Prepared for CDM by SWCA Environmental Consultants.
- Mackinnon, T.C. 1989. Petroleum Geology of the Monterey Formation in the Santa Maria and Santa Barbara Coastal and Offshore Areas. In T. Mackinnon, J.W. Randall, and R.E. Garrison (eds.), *Oil in the Monterey California Formation, Los Angeles to Santa Maria, California, July 20–24, 1989*. American Geophysical Union, Washington, D.C., *Field Trip Guidebook T311*, p.11-27.
- Maguire, K.C. and P.A. Holroyd. 2016. Pleistocene vertebrates of Silicon Valley (Santa Clara County, California). *PaleoBios* 33(1):1-14.
- Merriam, J.C. 1911. The Fauna of Rancho La Brea; Part I: Occurrence. *Memoirs of the University of California*, 1(2):197-213.
- McCulloh, T. H., and L. A. Beyer. 2004. Mid-Tertiary isopach and lithofacies maps for the Los Angeles region, California: templates for palinspastic reconstruction to 17.4 Ma. *United States Geological Survey, Professional Paper* 1690:1–32.
- McLeod, S. A. 2018. Paleontological Resources for the proposed Sepulveda Feeder of the Metropolitan Water District of Southern California PCCP Project. Letter Report from the Natural History Museum of Los Angeles County, 27 November 2018.
- Norris, Robert M., and Robert W. Webb. 1990. *Geology of California*. John Wiley & Sons, New York.

- Oakeshott, G. B. 1958. Geology and Mineral Deposits of San Fernando Quadrangle, Los Angeles County, California. California Division of Mines and Geology Bulletin 172, plate 1.
- Paleobiology Database. 2018. Fossilworks web-based portal, <http://fossilworks.org> and paleodb.org, accessed November 2018.
- Powell, C. L., and Stevens, D. 2000. Age and Paleoenvironmental Significance of mega-invertebrates from the San Pedro Formation in the Coyote Hills, Fullerton and Buena Park, Orange County, Southern California. U.S. Geological Survey Open-file Report 00-319.
- Reynolds, R.E., R.L. Reynolds, and A.F. Pajak, III. 1991. Blancan, Irvingtonian, and Rancholabrean(?) land mammal age faunas from western Riverside County, California. In *Inland southern California: the last 70 million years*. M.O. Woodburne, R.E. Reynolds, and D.P. Whistler (eds.) San Bernardino County Museum Association Quarterly, 38(3-4):37-40.
- Saucedo, G. J., H. G. Greene, M.P. Kennedy, and S. P. Bezore. 2016. Geologic Map of the Long Beach 30'x60' Quadrangle, California. Department of Conservation, California Geologic Survey, Regional Geologic Map Series, scale 1:100,000.
- Savage, D.R. 1951. Late Cenozoic vertebrates of the San Francisco Bay region. University of California Publications, Bulletin of the Department of Geological Sciences, 28:215-314.
- Savage, D.E., T. Downs, and O.J. Poe. 1954. Cenozoic land life of southern California in R.H. Jahns ed., *Geology of Southern California*. California Division of Mines and Geology, 170 (III):43-58.
- Scott, E. and S.M. Cox. 2008. Late Pleistocene distribution of Bison (Mammalia; Artiodactyla) from the Mojave Desert of southern California and Nevada. In X. Wang and L.G. Barnes (eds.) *Geology and vertebrate paleontology of western and southern North America: Contributions in Honor of David P. Whistler*. Natural History Museum of Los Angeles County, Science Series, 41:359-82.
- Scott, E., and K. Springer. 2003. CEQA and Fossil Preservation in California. The Environmental Monitor Fall 2003. Association of Environmental Professionals, Sacramento, California.
- Society of Vertebrate Paleontology (SVP). 1996. Conditions of Receivership for Paleontologic Salvage Collections. Society of Vertebrate Paleontology Conformable Impact Mitigation Guidelines Committee. Society of Vertebrate Paleontology News Bulletin 166:31-32, February 1996.
- Society of Vertebrate Paleontology (SVP). 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology Impact Mitigation Guidelines Revision Committee.
- Springer, K., E. Scott, J.C. Sagebiel, and L.K. Murray. 2009. The Diamond Valley Lake local fauna: Late Pleistocene vertebrates from inland southern California. In Albright, L.B. III (ed.), *Papers on Geology, Vertebrate Paleontology, and Biostratigraphy in Honor of Michael O. Woodburne*. Museum of Northern Arizona Bulletin, 65:217-36.
- The Metropolitan Water District of Southern California (Metropolitan). 2016. Final Environmental Impact Report for the Prestressed Concrete Cylinder Pipe Rehabilitation Program. SCH No. 2014121055. Metropolitan Report No. 1527.
- The Planning Center/DC&E. 2012. Environmental Impact Report for Castaic High School. SCH No. 2004031110. Prepared for William S. Hart Union High School District.
- Tomiya, S., J.L. McGuire, R.W. Dedon, S.D. Lerner, R. Setsuda, A.N. Lipps, J.F. Bailey, K.R. Hale, A.B. Shabel, and A.D. Barnosky. 2011. A report on late Quaternary vertebrate fossil assemblages from the eastern San Francisco Bay region, California. *PaleoBios* 30(2):50-71.

University of California Museum of Paleontology (UCMP) Online Database. 2018. UCMP specimen search portal, <http://ucmpdb.berkeley.edu/>.

Weaver, C.E., Chairman, and North American Committee on Stratigraphy. 1944. Correlation of the marine Cenozoic formations of western North America. Geological Society of America Bulletin, 55:569-598.

Wilkerson, G., T. Elam, and R. Turner. 2011. Lake Thompson Pleistocene mammalian fossil assemblage, Rosamond. In Reynolds, R.E. (ed.) The Incredible Shrinking Pliocene. The 2011 Desert Symposium Field Guide and Proceedings. California State University Desert Studies Consortium, Pp. 88-90.

Winterer, E.L., and Durham, D.L. 1962. Geology of Southeastern Ventura Basin Los Angeles County, California. U.S. Geological Survey Professional Paper 334-H, U.S. Department of the Interior, Washington, D.C.

Winters, H.H. 1954. The Pleistocene fauna of the Manix Beds in the Mojave Desert, California. Master's Thesis, California Institute of Technology. 71 pp.

Woodring, W. P., M. N. Bramlette, and W. S. W. Kew. 1946. Geology and Paleontology of Palos Verdes Hills, California. U.S. Geological Survey Professional Paper 207. U.S. Department of the Interior, Washington, D.C.

Yerkes, Robert F., and Russell. H. Campbell. 1979. Stratigraphic nomenclature of the central Santa Monica Mountains, Los Angeles County, California. U.S. Geological Survey Bulletin 1457-E, p. 31.

Yerkes, R.F. 1996. Preliminary geologic map of the San Fernando 7.5' quadrangle, southern California. U.S. Geological Survey, Open-File Report OF-96-88, scale 1:24,000.

Yerkes, R. F., and R. H. Campbell. 2005. Preliminary geologic map of the Los Angeles 30' x 60' quadrangle, southern California. United States Geological Survey, Open-File Report OF-97-254, scale 1:24,000.

Yerkes, R.F., J. E. McCulloh, J. E. Schoellhamer, and J. G. Vedder. 1965. Geology of the Los Angeles Basin California-An Introduction, United States Department of the Interior, Geology Survey, Professional Paper 420-A.

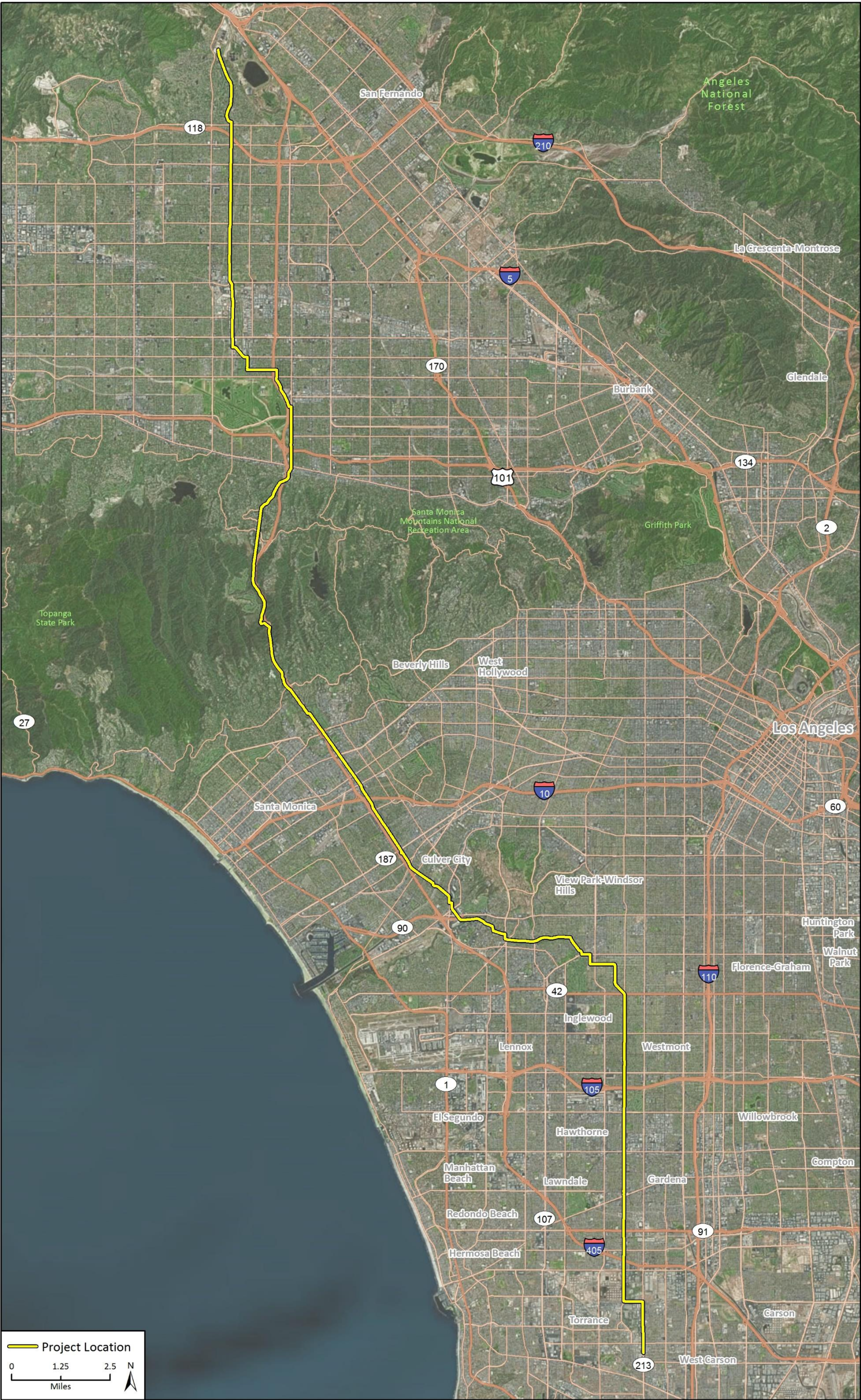
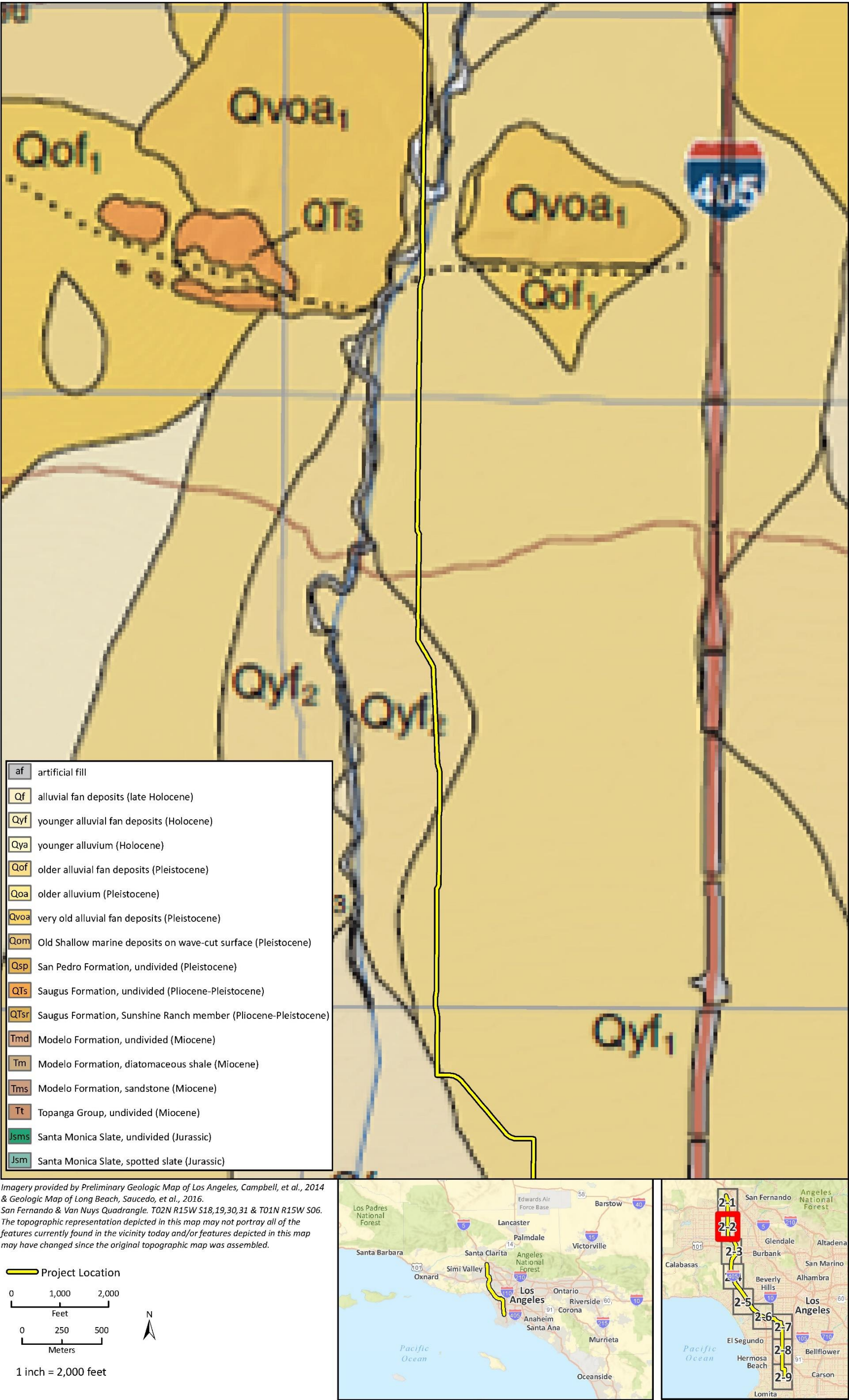


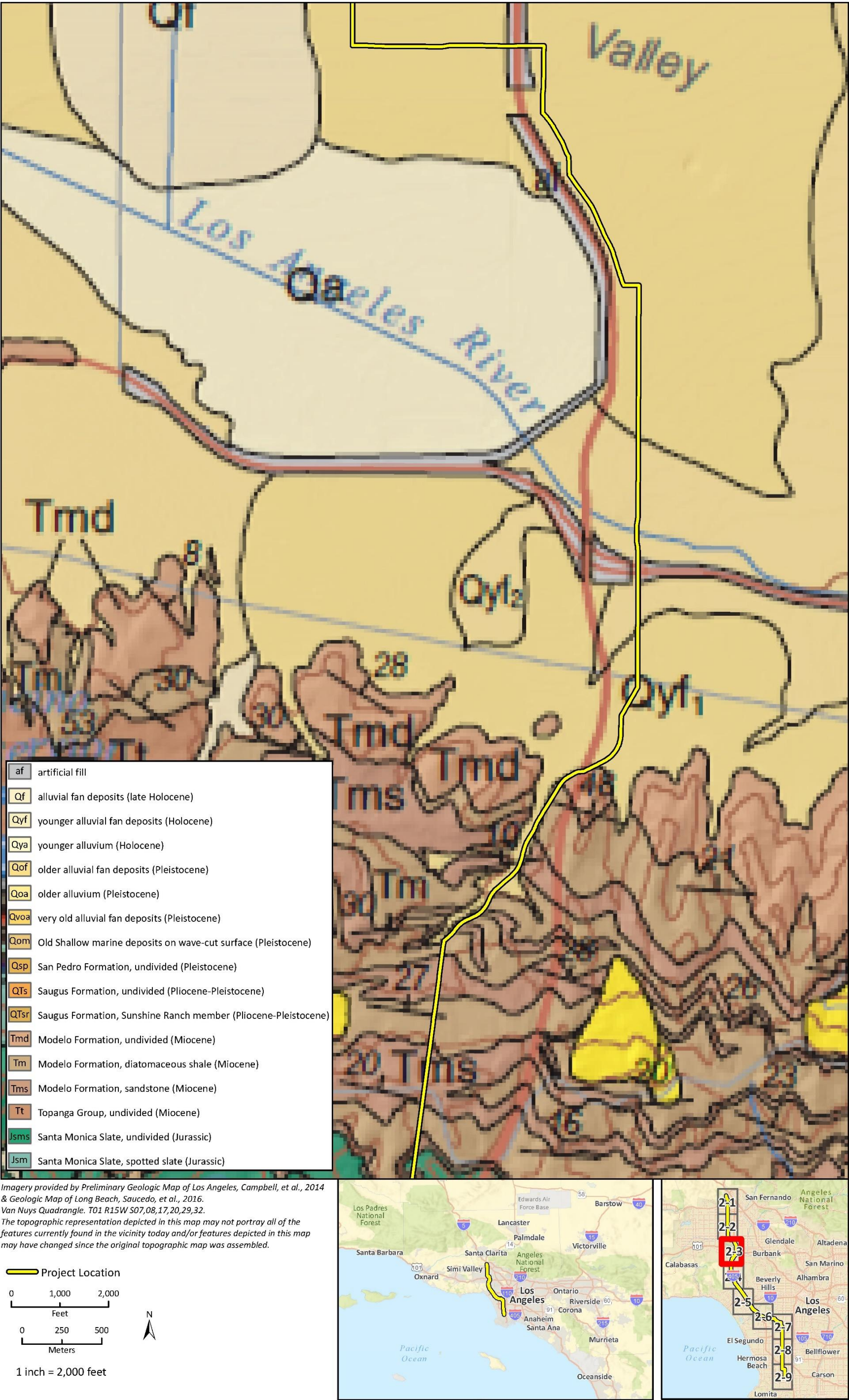
Figure 1 Project Location Map

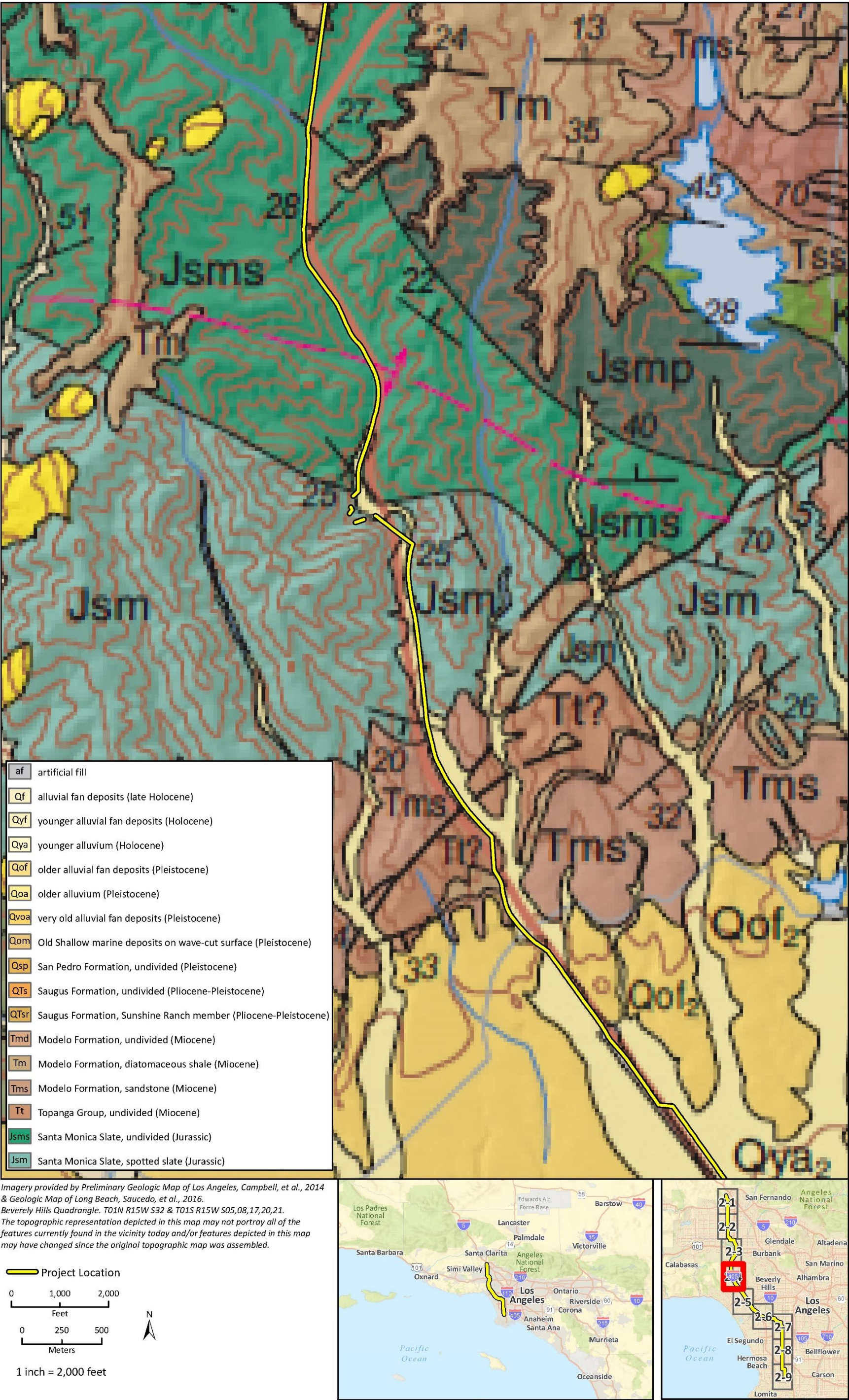
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Figure 2 Geologic units in the project area, Page 1







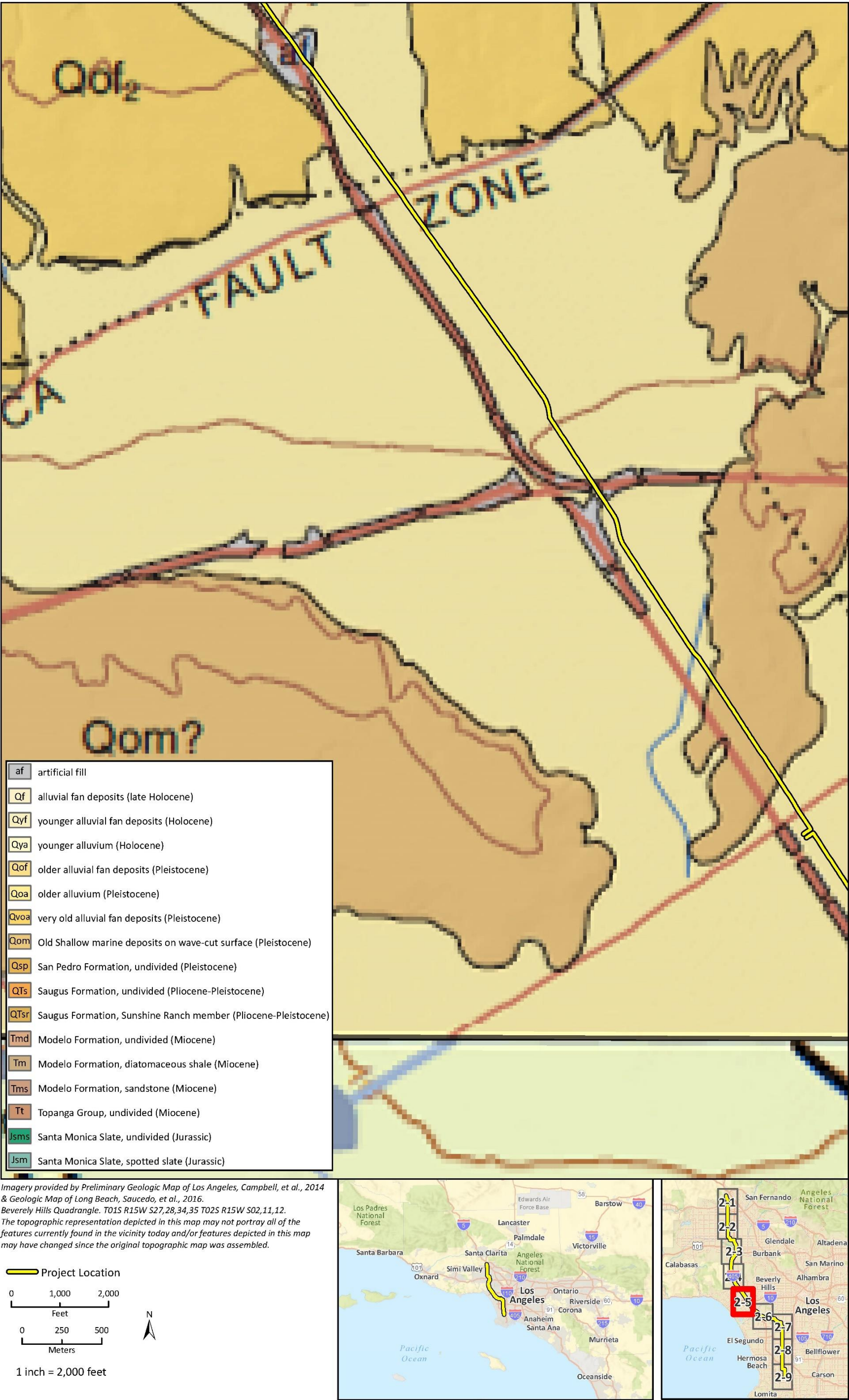
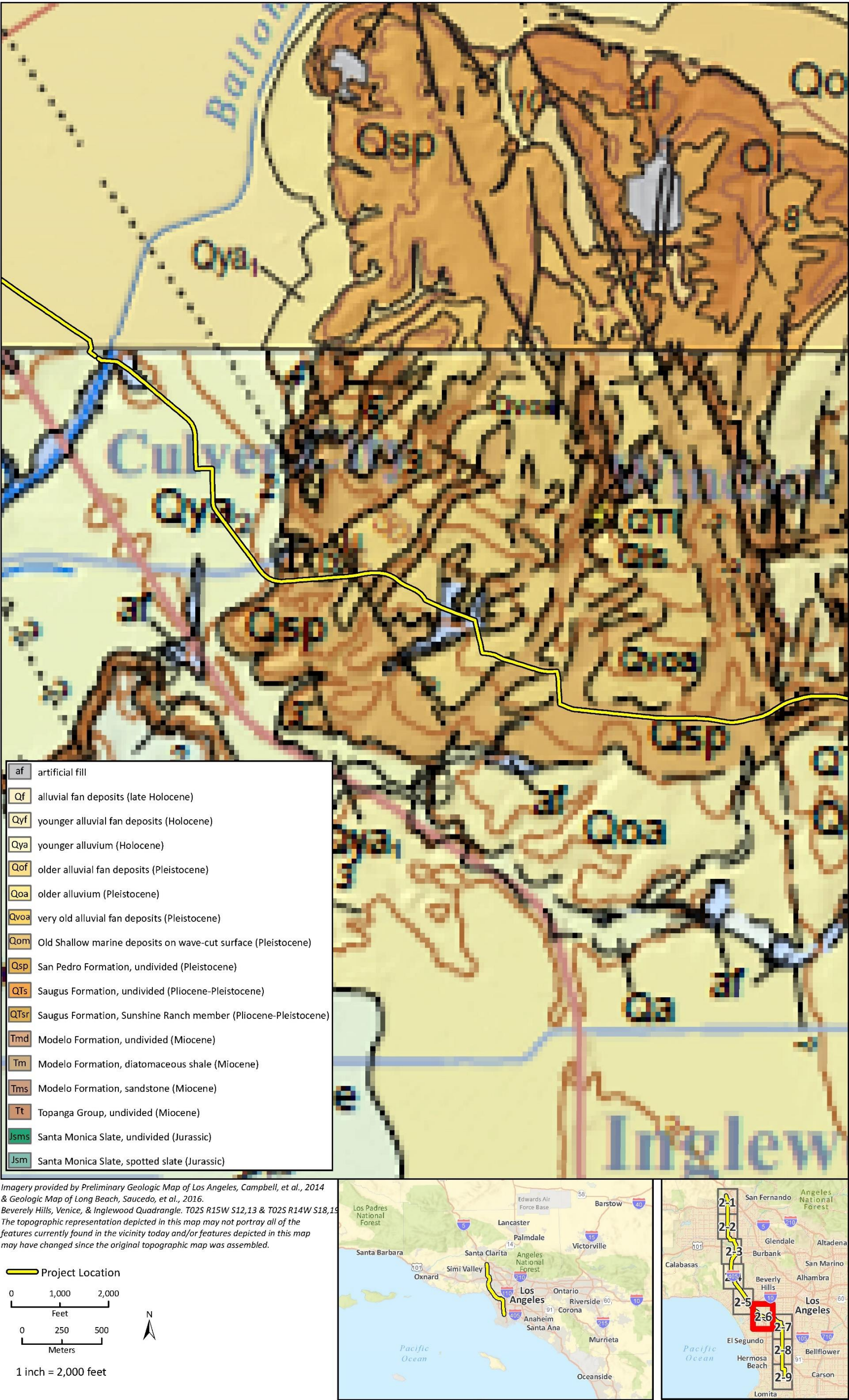


Figure 2 Geologic units in the project area, Page 5



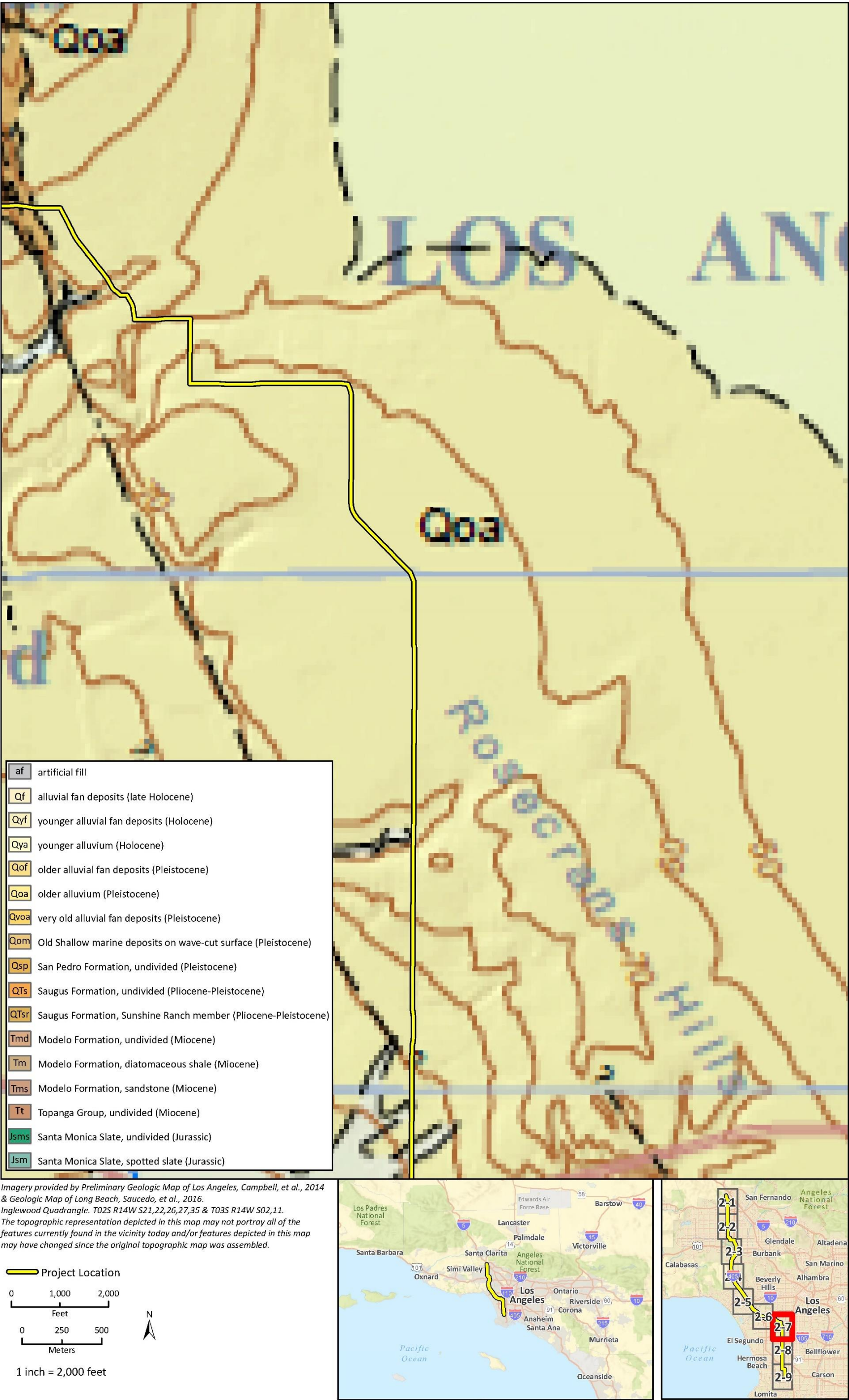


Figure 2 Geologic units in the project area, Page 7

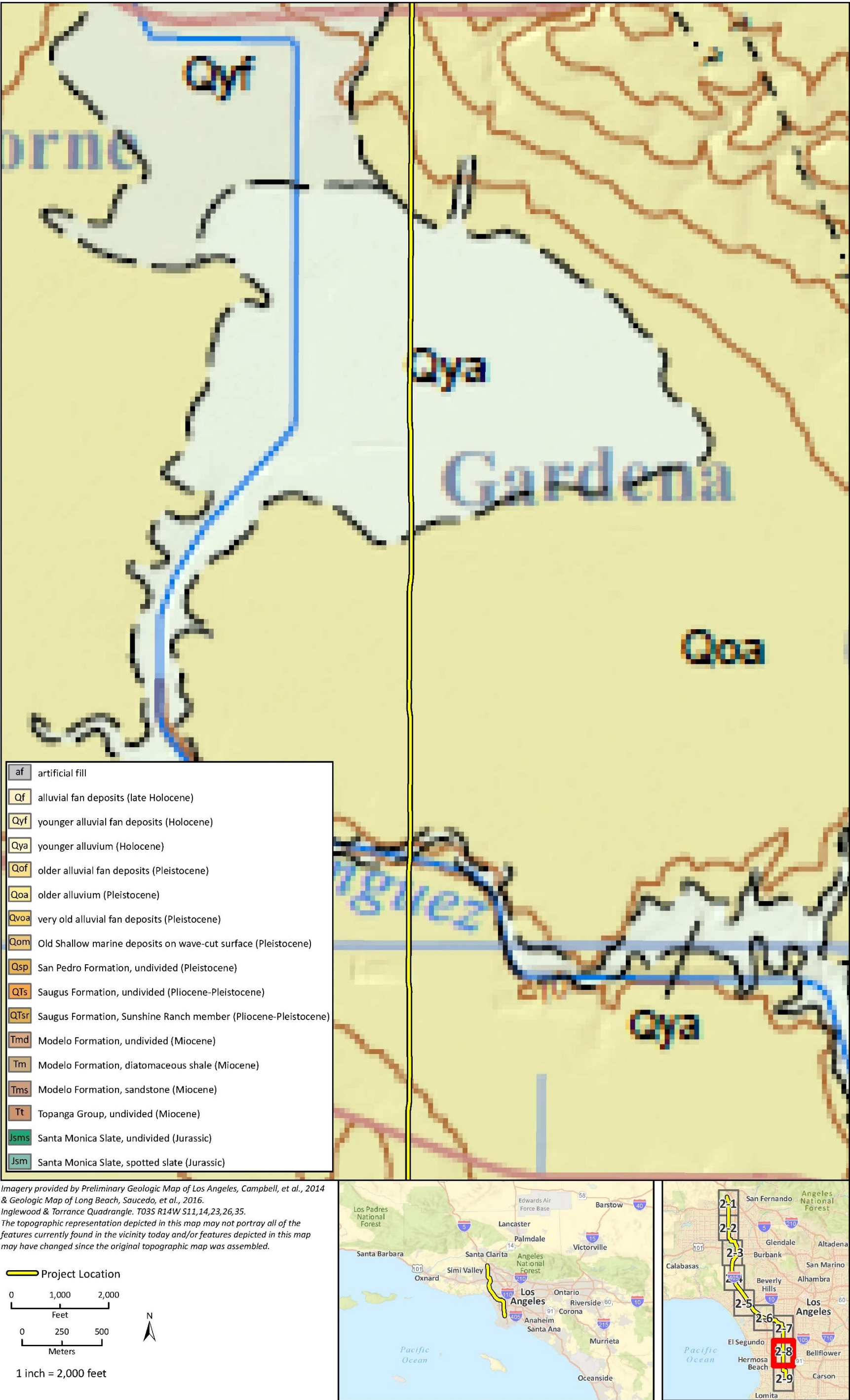


Figure 2 Geologic units in the project area, Page 8

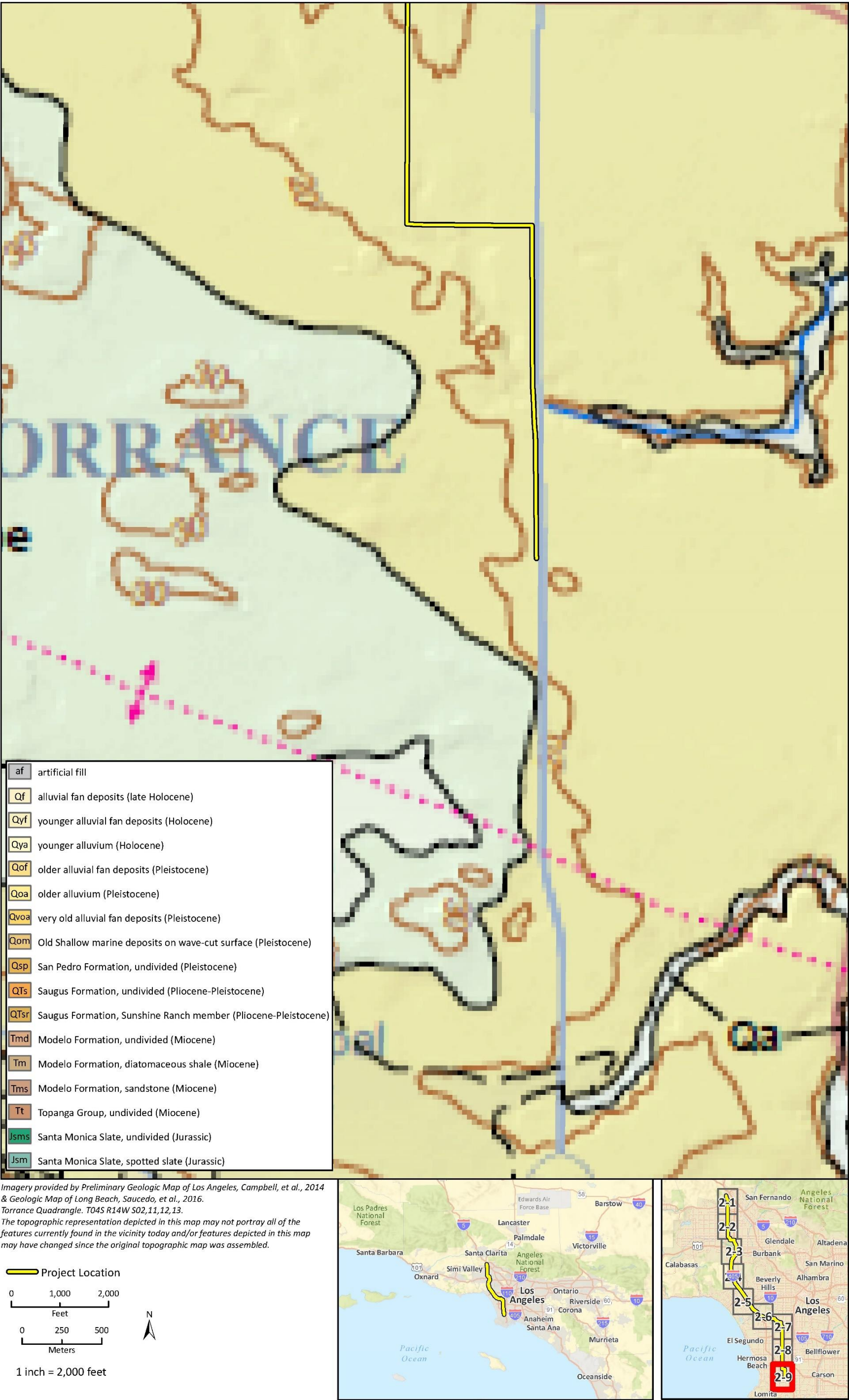


Figure 2 Geologic units in the project area, Page 9

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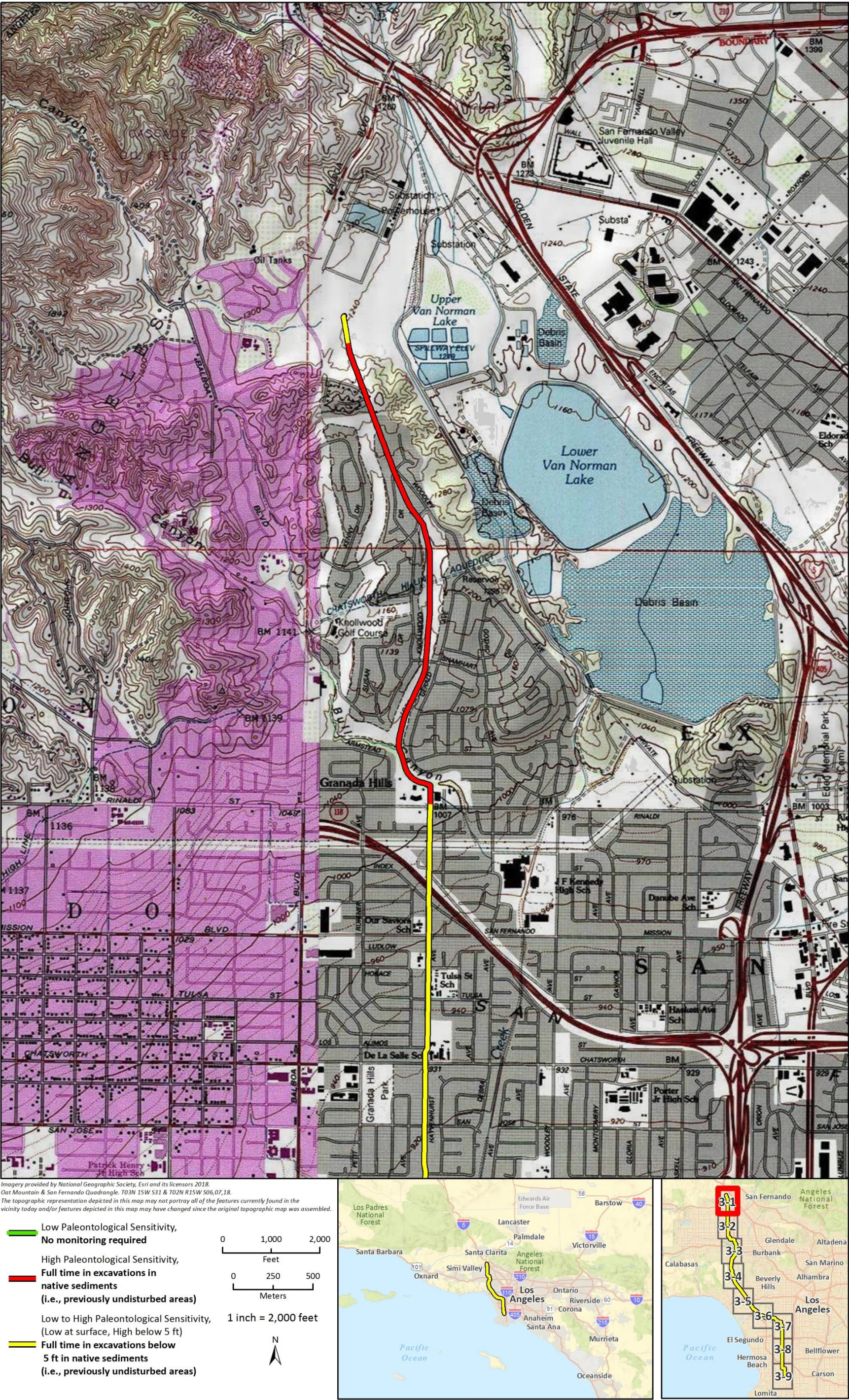


Figure 3 Paleontological Sensitivity in the project area, Page 1

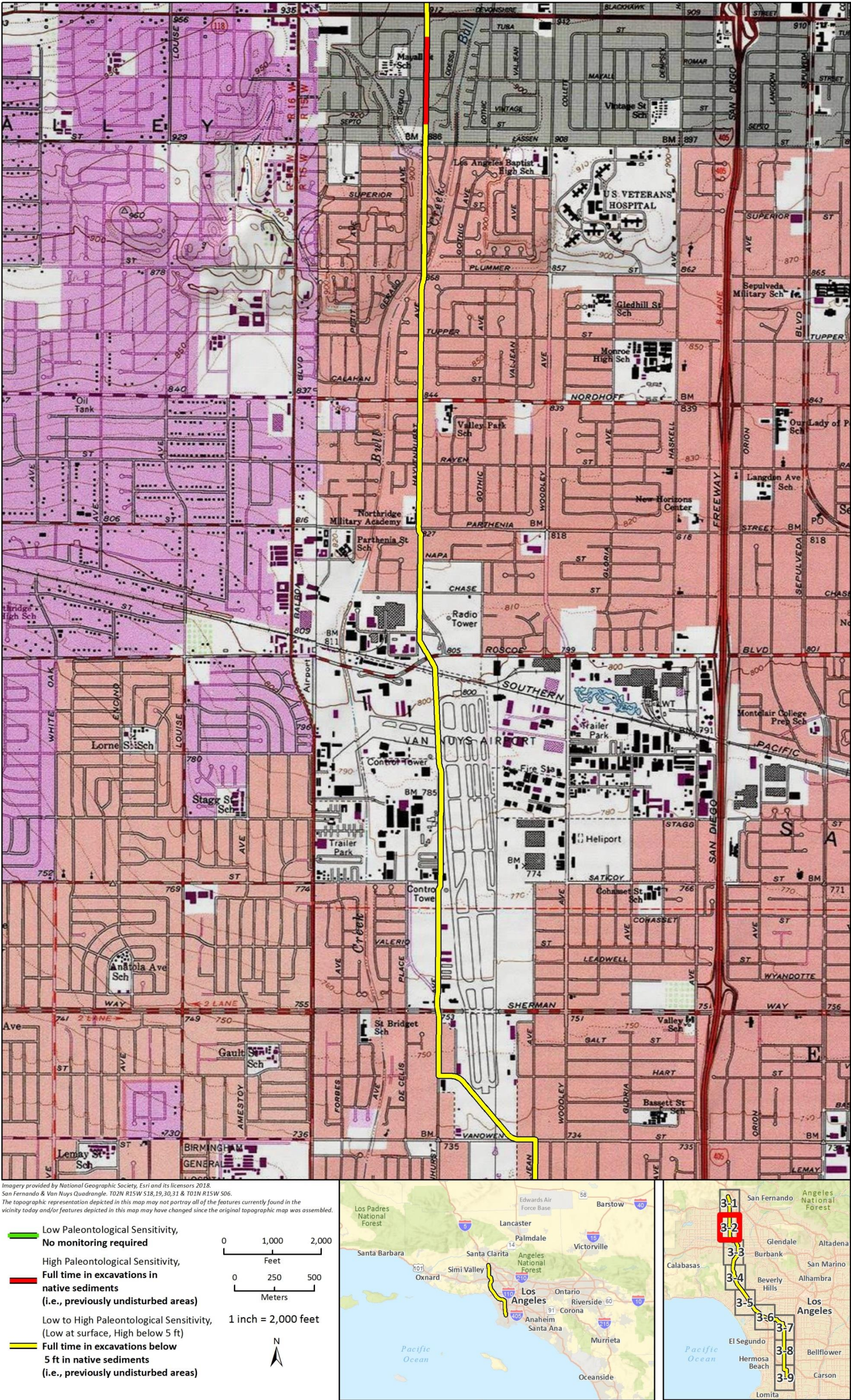


Figure 3 Paleontological Sensitivity in the project area, Page 2

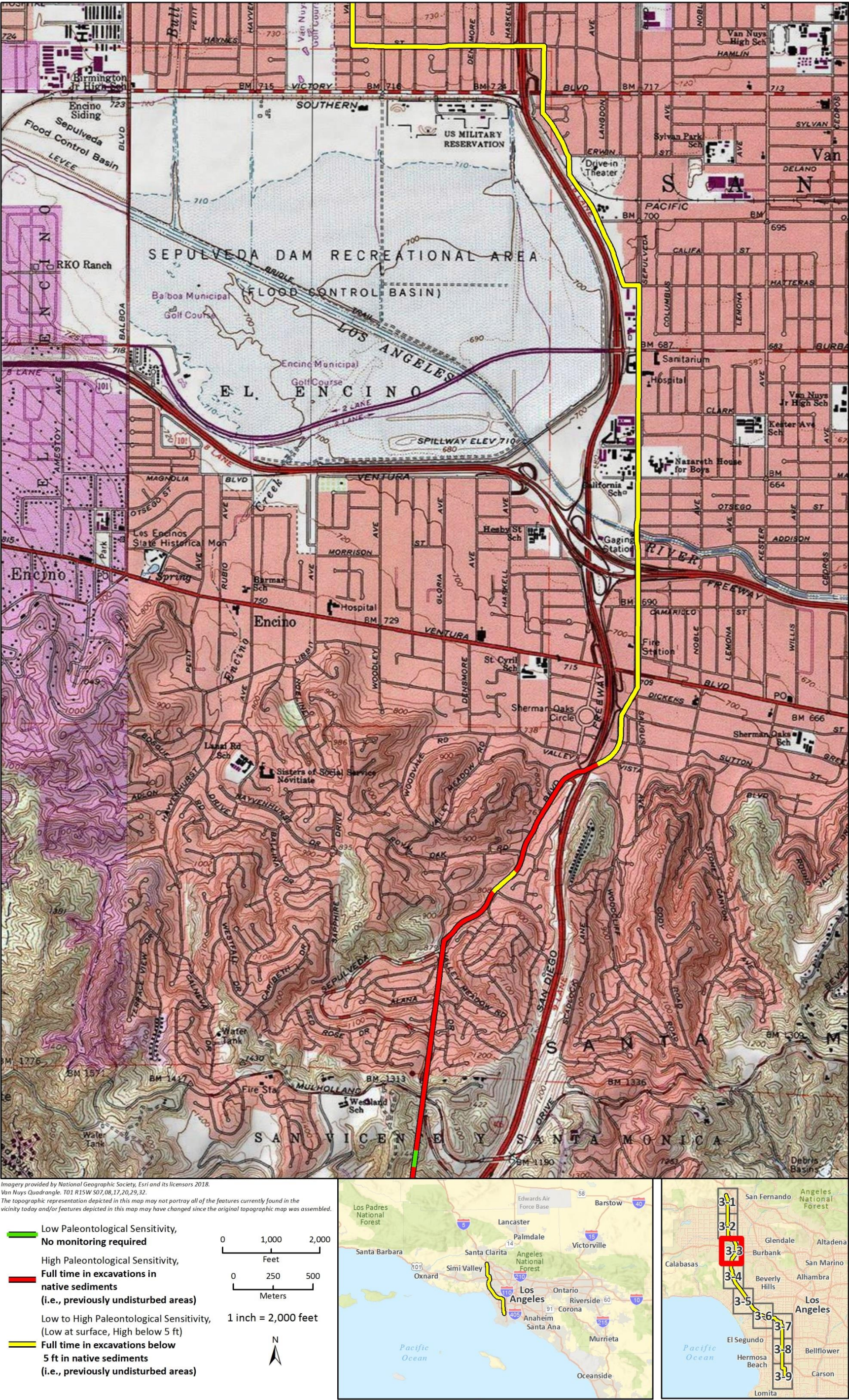


Figure 3 Paleontological Sensitivity in the project area, Page 3

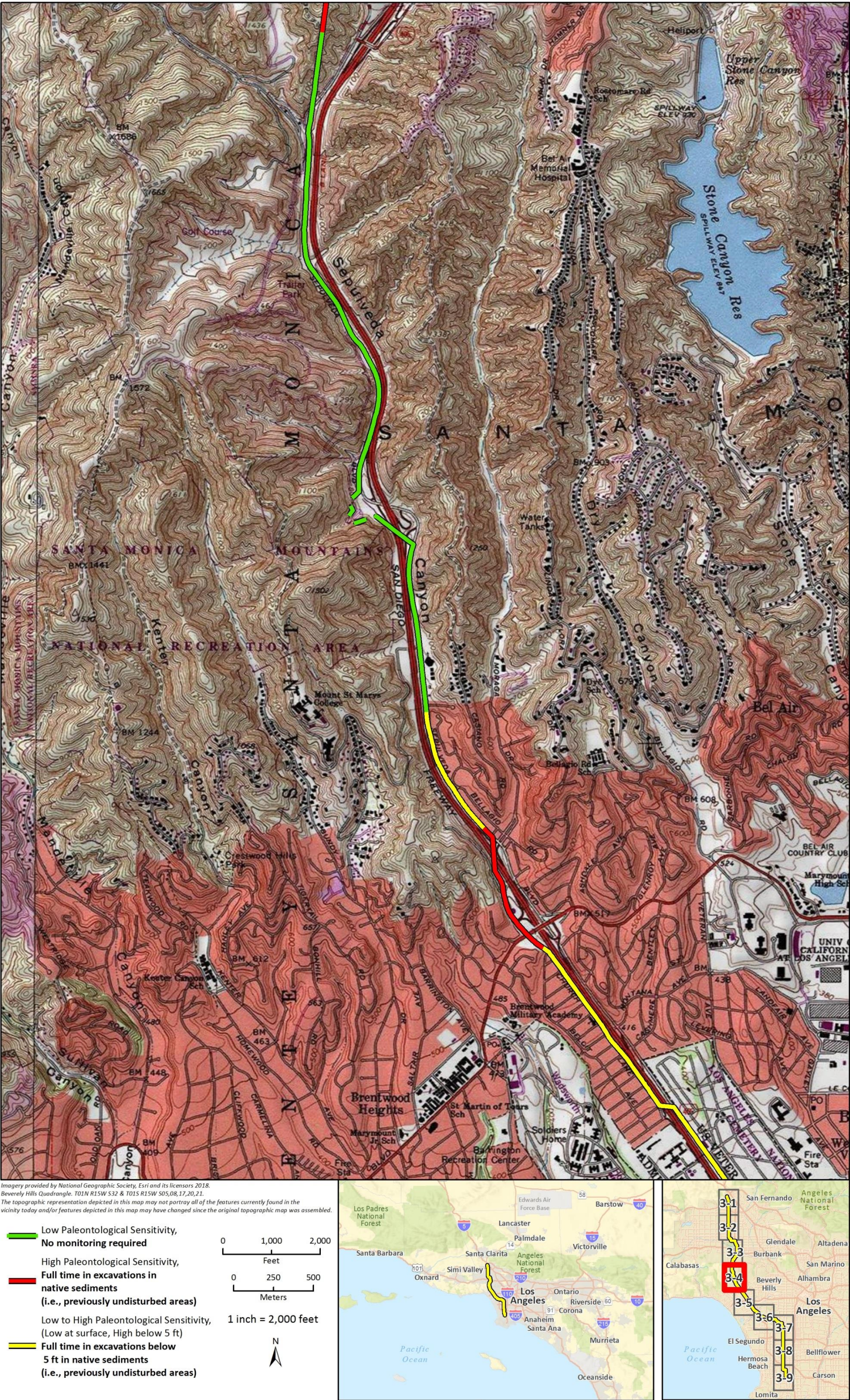


Figure 3 Paleontological Sensitivity in the project area, Page 4

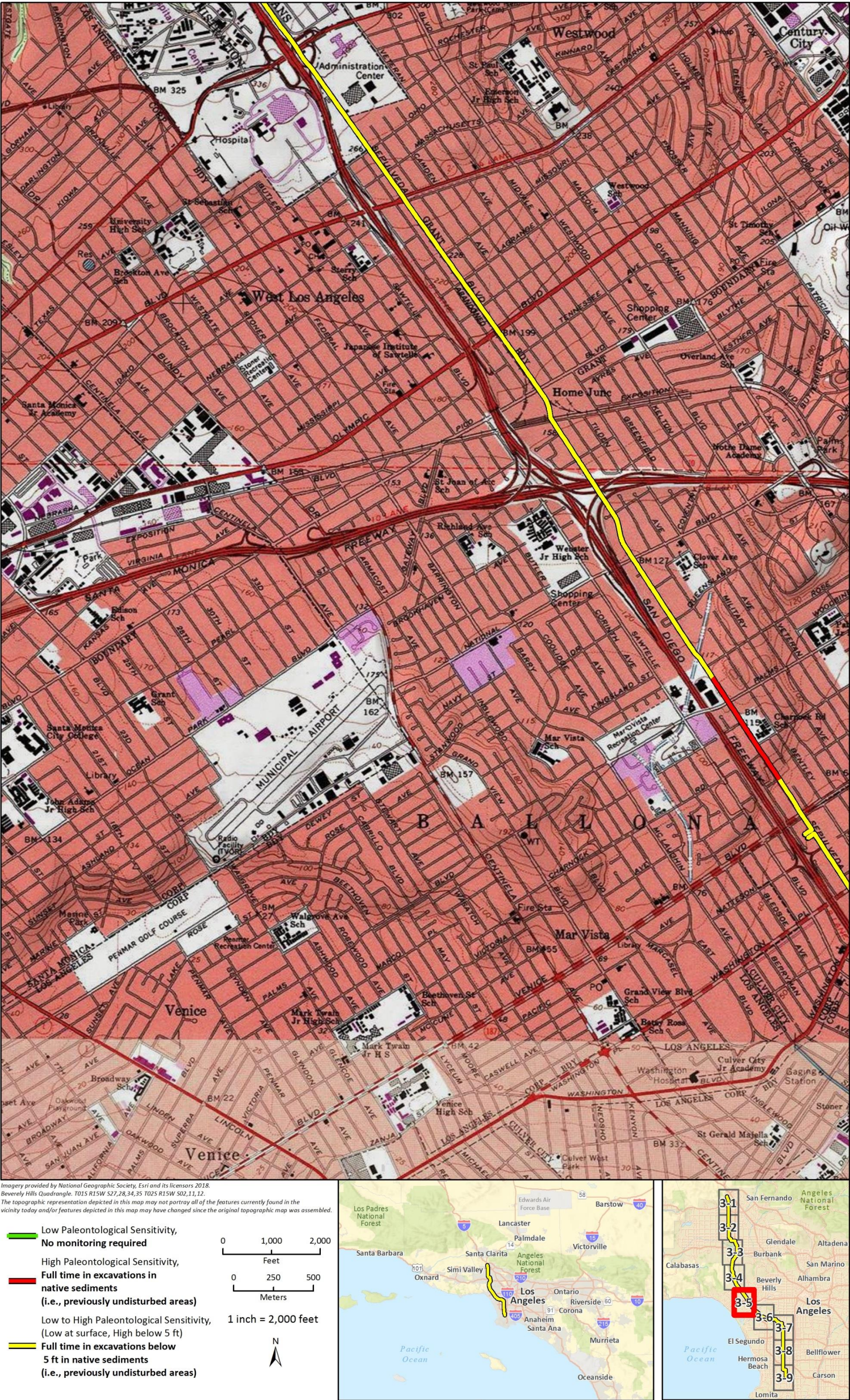


Figure 3 Paleontological Sensitivity in the project area, Page 5

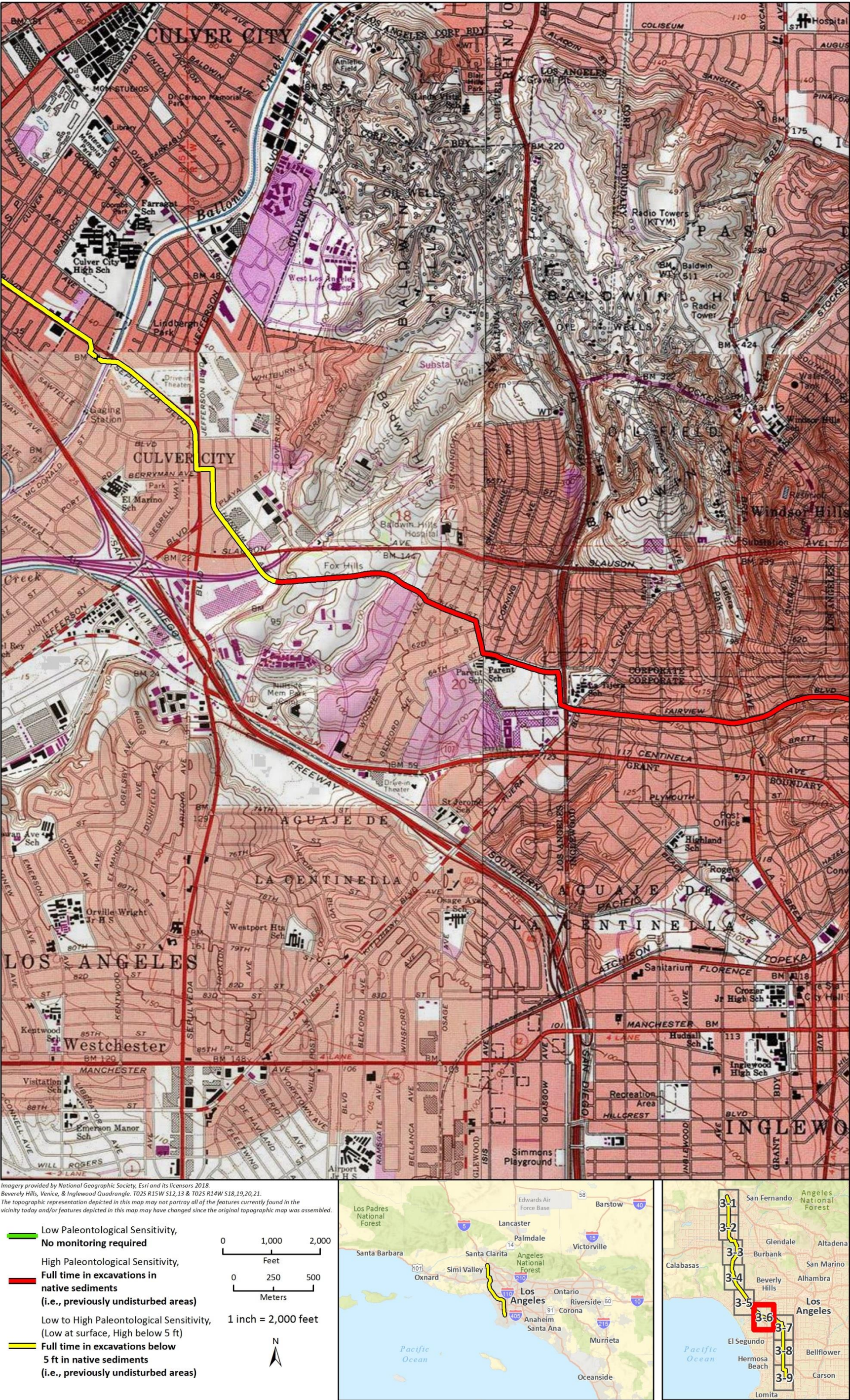


Figure 3 Paleontological Sensitivity in the project area, Page 6

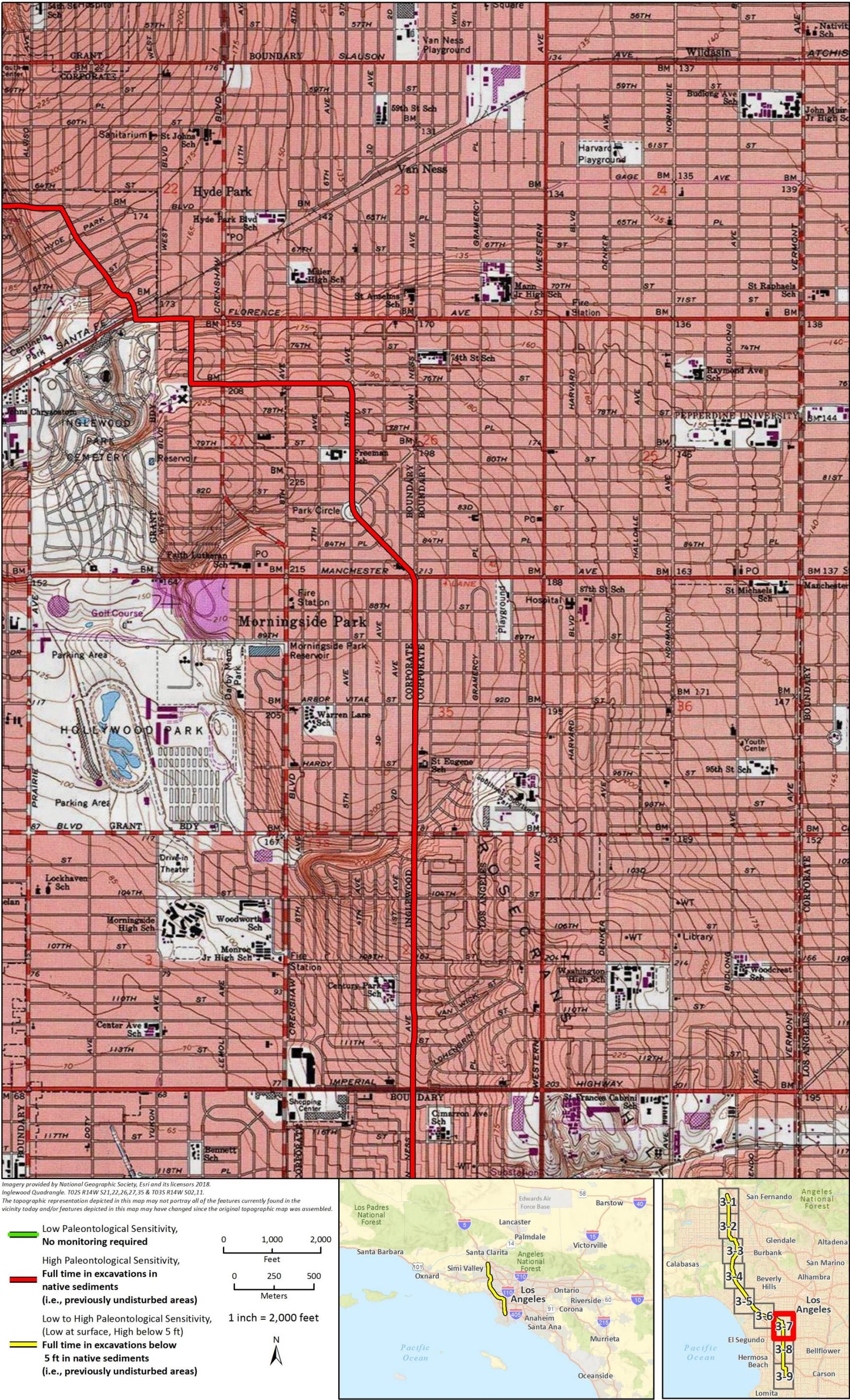


Figure 3 Paleontological Sensitivity in the project area, Page 7

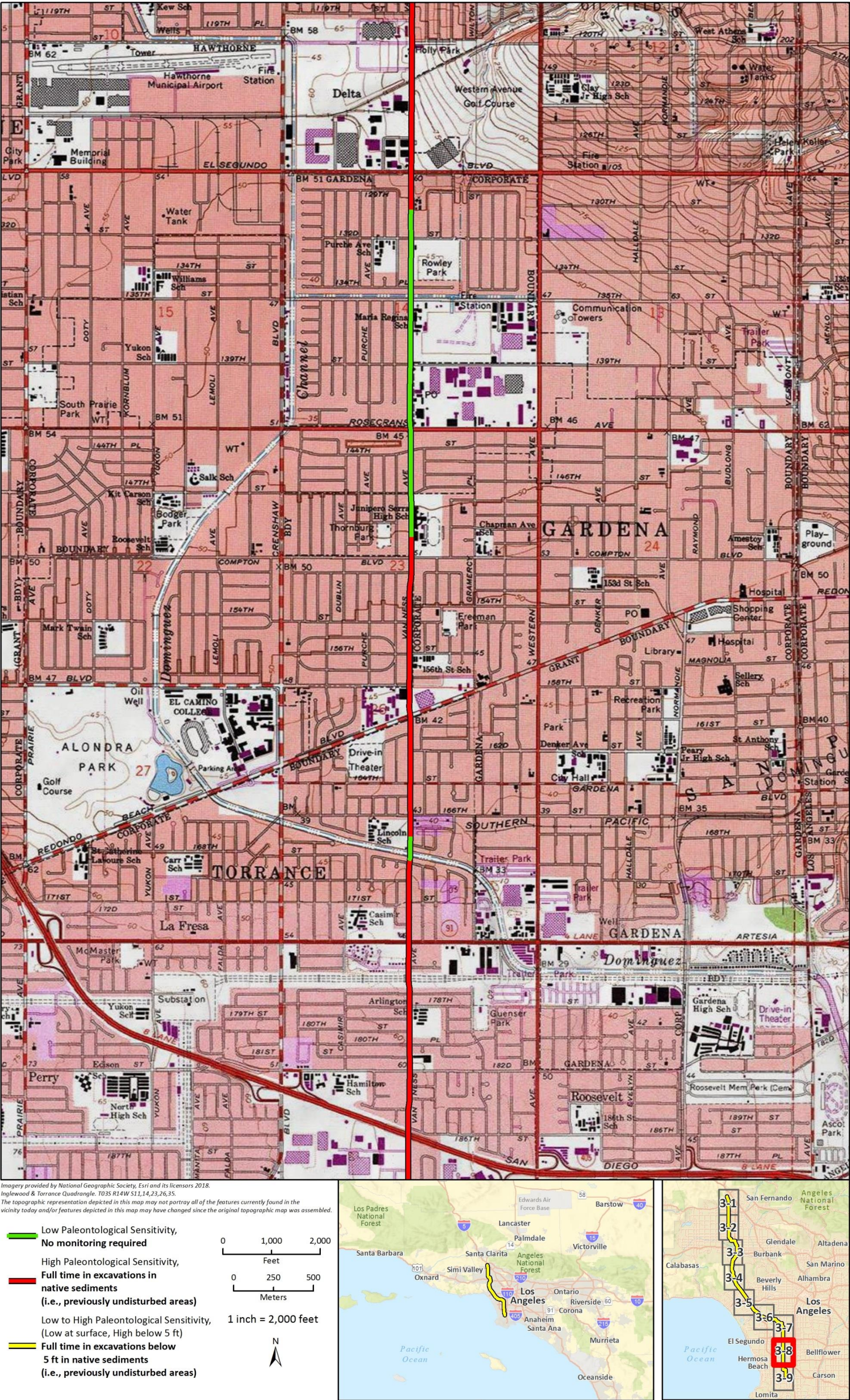


Figure 3 Paleontological Sensitivity in the project area, Page 8

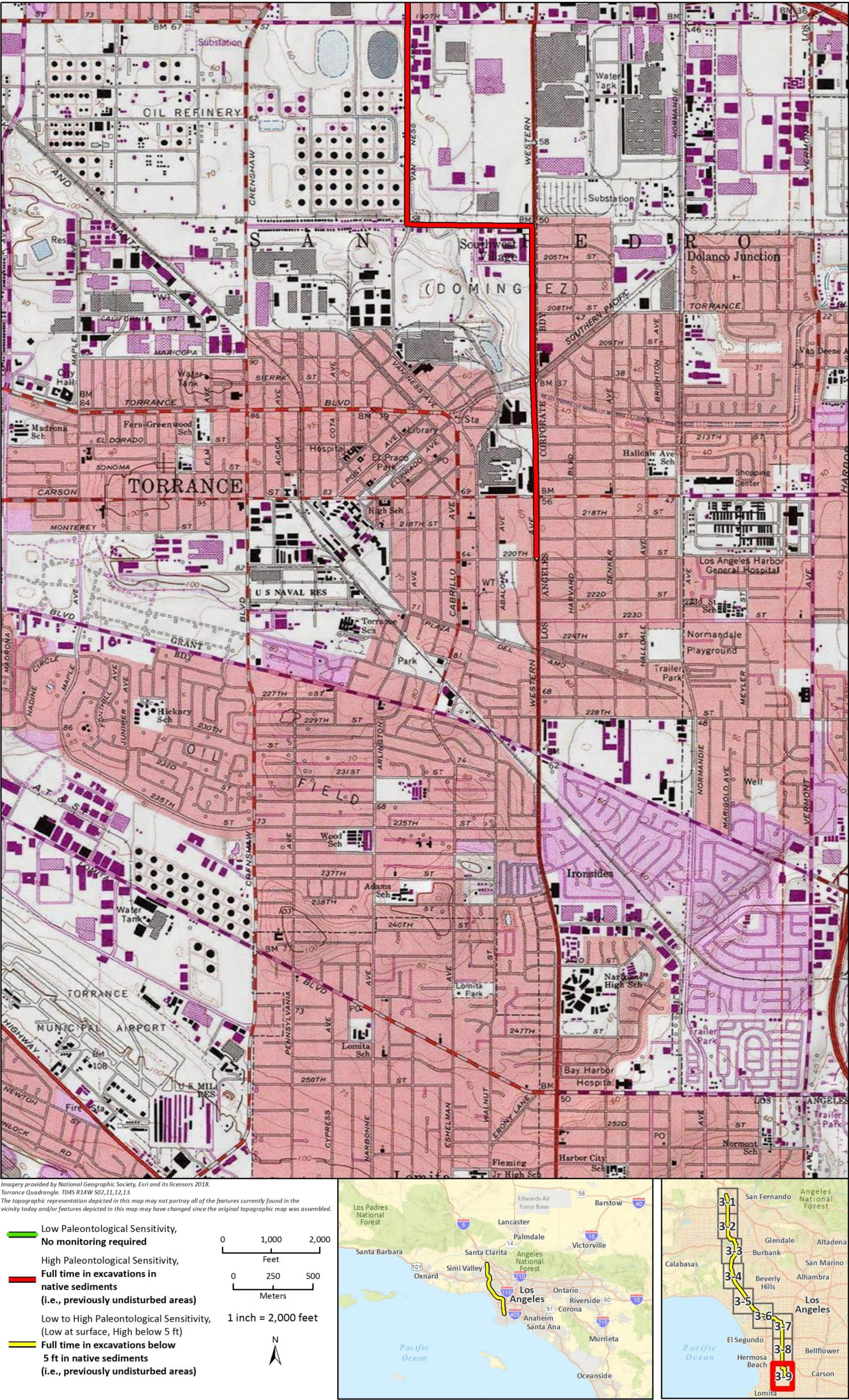


Figure 3 Paleontological Sensitivity in the project area, Page 9

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Appendix C
Construction Noise Assessment



Sepulveda Feeder South Reach 2 Project

Construction Noise Assessment

August 2024 | 00501.00024.023

Prepared for:

**The Metropolitan Water District
of Southern California**

Environmental Planning Team
700 North Alameda Street
Los Angeles, CA 90012

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ACRONYMS AND ABBREVIATIONS

ADT	average daily traffic
ANSI	American National Standards Institute
ARVV	air release/vacuum valve
AWWA	American Water Works Association
CadnaA	Computer Aided Noise Abatement
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dB	decibel
dBA	A-weighted decibel
Defra	Department of Environment, Food and Rural Affairs (United Kingdom)
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
Hz	Hertz
I-	Interstate
kHz	kilohertz
LABOE	Los Angeles Bureau of Engineering
LADOT	Los Angeles Department of Transportation
L _{DN}	Day-Night level
L _{EQ}	equivalent sound level
mPa	micro-Pascals
NSLU	noise-sensitive land use
PCCP	Prestressed Concrete Cylinder Pipeline
PEIR	Programmatic Environmental Impact Report
RCNM	Roadway Construction Noise Model
ROW	right-of-way
SPL	sound pressure level
STA	Station
S _{WL}	sound power level

EXECUTIVE SUMMARY

This noise impact report assesses the potential acoustical impacts from construction of The Metropolitan Water District of Southern California's (Metropolitan's) Sepulveda Feeder South Reach 2 of the Prestressed Concrete Cylinder Pipeline (PCCP) Rehabilitation Program (project). A Programmatic Environmental Impact Report (PEIR) was prepared for the PCCP Rehabilitation Program and it concluded that noise impacts from project construction would be significant and unavoidable at some locations. The PEIR, therefore, requires subsequent project-specific noise analyses to be conducted for future construction activities located in close proximity to noise-sensitive land uses (NSLUs) such as residences and schools. This report identifies ambient noise levels, construction-related noise levels at specific noise-sensitive locations (receptors), and measures that can be used to reduce noise levels (as appropriate).

The project's pipeline alignment traverses the cities of Los Angeles and Torrance. The project would reline approximately 3.8 miles of PCCP in the Sepulveda Feeder with prefabricated coiled steel liner, and upgrade additional components associated with the pipeline.

Vibration from construction is not anticipated to cause significant impacts to nearby receptors.

Construction activity would generate elevated noise levels at each pipe access site and at multiple locations along the alignment for additional infrastructure improvements, such as maintenance holes and valves. Elevated noise levels would result in significant impacts at multiple locations during both daytime and nighttime hours. The PEIR requires the implementation of mitigation measures (MM) NOI-1 to reduce vibration levels, and MM NOI-2 through MM NOI-4 to reduce noise levels.

To comply with PEIR MM NOI-3, additional project-specific measures are required to attenuate noise levels (see Section 4.4.4 for MM NOI-3.1 through MM NOI-3.4). Mitigation measure NOI-3.1 would require construction activity to comply with the thresholds of each jurisdiction, as feasible. Mitigation measure NOI-3.2 would require noise-reduction measures for excavation at pipe access sites and for pipeline relining activities, including noise attenuation devices/modifications to construction equipment, limiting hours of operation, or erecting construction noise barriers. To reduce noise levels, MM NOI-3.3 would require setback distances for mobile operations along the pipeline alignment. Mitigation measure NOI-3.4 would require implementation of a Nighttime Construction Management Plan for proposed nighttime construction activity.

Even with implementation of project-specific measures (MM NOI-3.1 through MM NOI-3.4), construction-related noise levels may not be reduced to local standards during daytime and nighttime hours, and impacts would remain potentially significant and unavoidable. The severity of impacts, however, would be the same as that identified in the PEIR.

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1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

In December 2016, a Programmatic Environmental Impact Report (PEIR) was prepared for The Metropolitan Water District of Southern California's (Metropolitan's) Prestressed Concrete Cylinder Pipeline (PCCP) Rehabilitation Program (SCH #2014121055). The PEIR concluded that noise impacts from construction would be significant and unavoidable at some locations. PEIR MM NOI-3 requires project-level noise studies to be conducted for construction activities located near noise-sensitive land uses (NSLUs) such as residences or schools.

This report satisfies the requirements of PEIR MM NOI-3 by providing project-level analysis of potential construction-related noise impacts associated with construction of Sepulveda Feeder South Reach 2 of the PCCP Rehabilitation Program (project). The analysis identifies ambient noise levels, construction-related noise levels at specific NSLUs, and measures that can be used to reduce noise levels (as appropriate).

1.2 PROJECT DESCRIPTION

The Sepulveda Feeder begins at Metropolitan's Jensen Water Treatment Plant in Granada Hills, located in Los Angeles County, and travels south to the Second Lower Feeder Interconnection in the City of Torrance. The proposed project is the implementation of Metropolitan's PCCP Rehabilitation Program for Sepulveda Feeder South Reach 2 between the Second Lower Feeder Interconnection in the City of Torrance and the Dominguez Channel in the City of Gardena.

The project covers rehabilitation of approximately a 3.8-mile section of 84-inch diameter PCCP, extending from the Second Lower Feeder at Station (STA) 2270+05 (located on Western Avenue 300 feet north of 220th Street) to STA 2066+51 at the blow-off south of the Dominguez Channel (located on Van Ness Avenue; see Figure 1, *Regional Location*, and Figure 2, *Project Components*). In the vicinity of Sepulveda Feeder South Reach 2, Western Avenue is the division between City of Torrance and City of Los Angeles. However, the California Department of Transportation (Caltrans) has jurisdiction of Western Avenue. Based on discussion with the City of Torrance, City of Los Angeles, and Caltrans, work on Western Avenue will be restored per Caltrans requirements and traffic control plans will require approval by City of Torrance and Caltrans. Review or approval of traffic control plans by Los Angeles Bureau of Engineering (LABOE) or Los Angeles Department of Transportation (LADOT) is not required. Proposed locations for project elements have been identified, including: the contractor's work and storage areas; pipe access sites from which the feeder would be relined; maintenance hole enlargements; installation of new maintenance holes; replacement of service connection valves; below ground structures improvements; and replacement and relocation of air release/vacuum valves (ARVVs); installation of drain line; replacement of service connection valves; and other ancillary work.

The project will take approximately one year to complete. The shutdown of the feeder to complete the project is primarily scheduled during low water use months (the optimum time for pipeline shutdowns is winter months when water demand is less than during the summer months). The following is the proposed construction schedule:

- Mobilization of equipment and traffic control setup would begin as early as March 2025.

- Shutdowns of water service on the Sepulveda Feeder would begin in October 2025.
- The proposed project pipeline segment would be returned to service in May 2026.
- Traffic controls and equipment would be removed by the end of July of 2026.

Shutdown for rehabilitation of Sepulveda Feeder South Reach 2 would occur in October 2025 from STA 2270+35, located on Western Avenue near the intersection of West 220th Street in the City of Torrance, to STA 1927+65, located in Van Ness Avenue near the intersection of West El Segundo Boulevard in the City of Gardena, for a duration of 6 to 8 months. To perform the rehabilitation, the Sepulveda Feeder would be shutdown from the West Coast Feeder to the Second Lower Feeder. Pipeline dewatering will be conducted at various locations along South Reach 2 as permitted discharges to stormwater conveyances.

This shutdown would affect West Basin 39 (WB-39), interrupting water service. However, shutdown of WB-39 is limited to 90 days. To return WB-39 to service within the limited shutdown window, rehabilitation of Sepulveda Feeder South Reach 2 will be phased. The initial phase of the work would include lining from Second Lower Feeder to STA 2199+29, upstream of WB-39, within the 90-day shutdown limit. During the initial phase of work, a temporary bulkhead would be installed upstream of WB-39 at STA 2199+29, so this segment of the Sepulveda Feeder can be rewatered from the south (via Second Lower Feeder), providing service to WB-39. As part of the second phase of work, the remainder of South Reach 2 will be lined while the temporary bulkhead is in place. To remove the temporary bulkhead, a second shutdown will interrupt service to WB-39 for approximately 1 month during phase 2 of the work. During both South Reach 2 service interruptions, full service capacity to the WB-39 service area could be fed from member agency piping via WB-21 on the Palos Verdes Feeder, from WB-35 on the Victoria Street Lateral, and from local wells. Other areas along the Sepulveda Feeder affected by the shutdowns can also be fed by the Palos Verdes Feeder and the Central Pool.

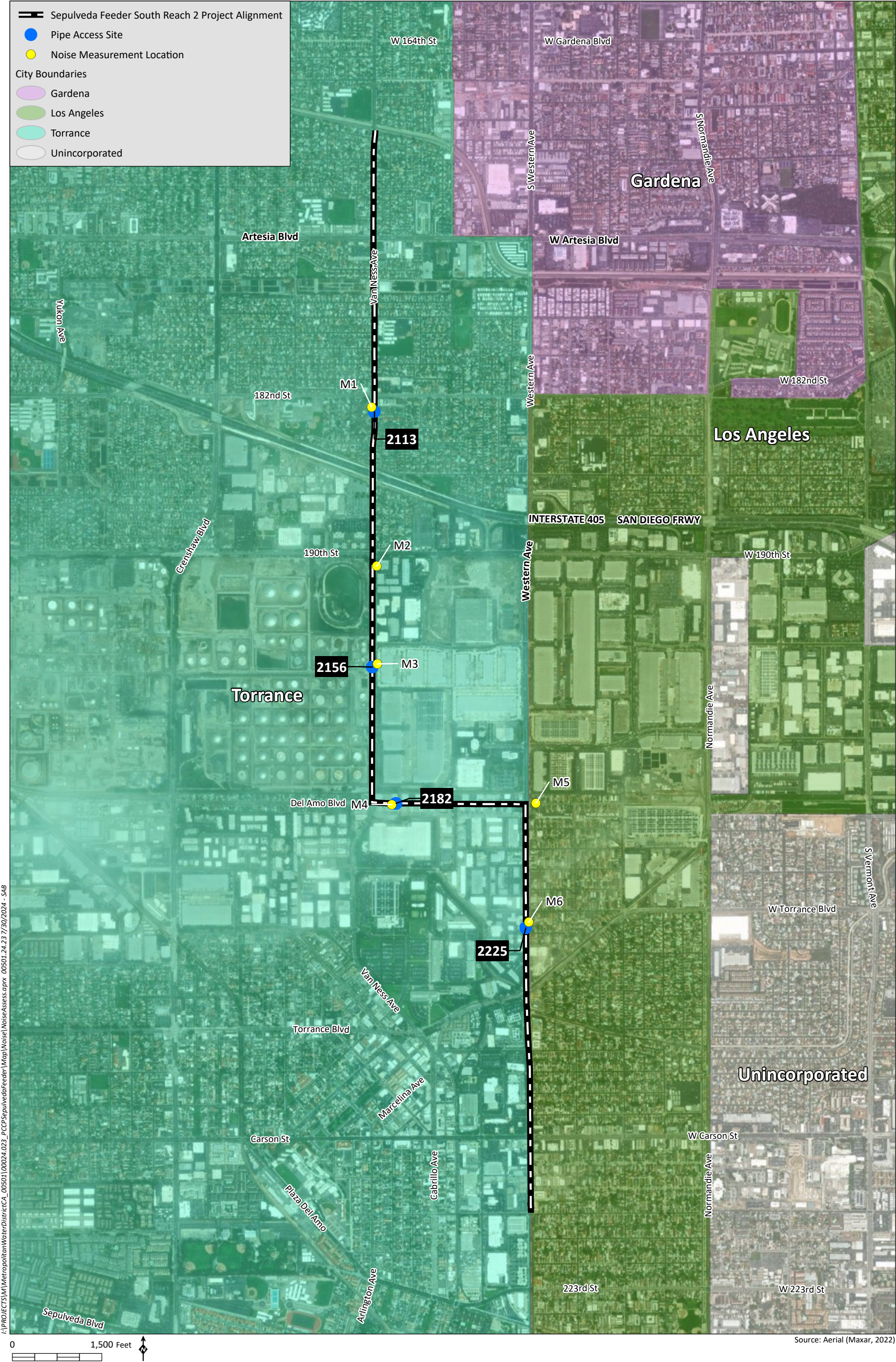
The shutdown duration of approximately 6 to 8 months would include pipeline shutdown and startup activities, coiled-cylinder liners insertions, annulus grouting, mortar lining, mortar curing, pumping well enlargements, valve replacements, and other work. Once the work is completed, the Sepulveda Feeder would be re-watered, disinfected, tested, and placed back into service. Disinfection would be in accordance with American Water Works Association (AWWA) and American National Standards Institute (ANSI) standards before being returned to service.

Work would generally occur five days a week, for 12 hours each day under normal circumstances. The contractor could request approval for extended hours, in accordance with local cities and municipalities, if necessary. Dewatering the pipe following reach isolation and returning the proposed project segment to service following the installation of the temporary bulkhead and completion of rehabilitation work would occur 24 hours per day for approximately four to seven days for each event. Specific pipeline relining activities, such as welding, and ventilation may also be required to occur 24 hours per day during the work. For the shutdowns affecting WB-39, welding inside the pipe would occur 24 hours per day to complete the work in the required timeframe. Where construction would be required 24 hours per day, noise attenuation measures as appropriate would be implemented, consistent with the PEIR, and any required jurisdictional permits would be obtained.

The boundaries of reaches may change, depending on the results of PCCP inspections and Metropolitan's system operational requirements.



Figure 1



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The following sections describe the general components of the PCCP Program and how those particular components would be implemented as part of the proposed project.

1.2.1 Project Components

As discussed in the PEIR, rehabilitation of PCCP can be categorized as primary, secondary, and associated temporary construction components. These components and the various methods needed to construct, install, and operate the pipeline are summarized below and would be used as appropriate for rehabilitation efforts under the proposed project.

- Primary components include the different methods of rehabilitation considered for segments of the pipelines under the PCCP Program. The rehabilitation method that would be used for this proposed project would be steel cylinder relining with coiled pipe.
- Secondary components include permanent appurtenant structures. These appurtenant structures include buried (underground) structures and aboveground enclosures. Buried structures include vaults that house piping such as those at interconnections and equipment such as valves, meters, service connections, and blow-offs. Above ground enclosures, typically located on sidewalks or median strips, house ARVVs and air vents.
- Temporary construction components include pipe access sites, structure excavation sites, contractor work areas, and equipment staging areas.

1.2.1.1 Primary Project Components

Steel cylinder relining rehabilitation of PCCP would involve the following:

- Inserting coiled steel cylinders into the existing PCCP line;
- Expanding the coiled steel cylinder to fit properly within the PCCP interior;
- Welding the steel cylinder within the PCCP;
- Filling the annular space between the steel cylinder and existing PCCP with concrete grout; and
- Applying a cement mortar lining to the interior surface of the steel cylinder.

Most of the rehabilitation activities would occur within the existing pipeline, and site impacts would occur primarily at the pipe access sites. All the work described above would be done inside the existing pipeline and at pipe access sites along the existing pipeline alignment.

1.2.1.2 Secondary Project Components

Pipeline systems typically include equipment vaults that house water meters, isolation valves, check valves, bypass valves, back-flow preventer valves, pressure-reducing valves, pump wells, service connections, and blow-offs. Equipment vaults are buried concrete structures that can be accessed from street level to perform maintenance and repairs. The top of the structures are typically several feet below ground surface and the structures are accessed via ladders from street-level hatches or maintenance holes. At some locations, existing underground utilities (power, sanitary sewer, water, or gas) may need to be temporarily or permanently relocated, which would occur within the same construction area and use the same access points to construct the other project components. Above-

ground enclosures housing electrical panels are typically located along the sidewalk within the public right-of-way.

Buried Equipment Vaults

As described in the PEIR, identified existing buried equipment would be replaced as part of the rehabilitation work. This would include removing the existing equipment and installing the new appurtenances in the existing vault structure. Some modification to portions of the existing vaults may be needed to accommodate the new equipment.

Maintenance Holes and Aboveground Enclosures

Maintenance holes typically provide access for maintenance and repairs and are spaced at regular intervals along pipelines. Existing maintenance holes would be used for ventilation and for access to the interior of the pipeline for personnel, small equipment, and materials during rehabilitation of other project components (e.g., pipeline relining).

The proposed project would include the following activities related to maintenance holes: maintenance hole refurbishment, maintenance hole enlargement at select pump wells, and relocation of ARRVs that have not previously been relocated. Each activity is further described below.

Maintenance hole enlargement would occur at the two existing pumping wells shown in Table 1, *Maintenance Hole Enlargement at Pumping Well Sites*.

Table 1
MAINTENANCE HOLE ENLARGEMENT AT PUMPING WELL SITES

Site	Location	Approximate Excavation Dimensions (Length x Width, in feet)	Approximate Contractor's Work Area Dimensions (Length x Width, in feet)
STA 2139+08	On the west side of Van Ness Avenue, south of 190 th Street	20 x 20	80 x 45
STA 2205+31	On the west side of Western Avenue, south of Del Amo Boulevard	20 x 20	80 x 45

Note: For irregularly-shaped work areas, the maximum width and length are presented in the table.
STA = Station Number

California State Water Resources Control Board regulations require that all treated water supply systems be protected from potential contamination. ARRVs currently located in vaults along the project pipeline have a potential to introduce contaminants into the Sepulveda Feeder. The purpose of these valves is to control air pressure in the mainline by automatically opening to the atmosphere to allow air into or out of the pipeline during dewatering or filling operations. Being located in underground vaults that are susceptible to flooding with rain runoff or seepage water, there is a possibility that as these valves open, they will allow water that has flooded the vault into the pipeline, thereby contaminating it with rain-runoff or seepage water pollutants. Therefore, per the aforementioned regulations, existing ARRVs in underground vaults along the project will be relocated above ground.

The relocation of ARRVs from below ground to above ground would involve the installation of new piping from the existing valve connection point in the vault to a nearby above-ground location and

installation a new valve above ground. This would require shallow trenching from the existing belowground vault to the aboveground location.

For the proposed project, the trench would vary with the size of the street to be crossed, as valves would be moved from their current underground locations within the roadway to a nearby area outside the roadway. Table 2, *Air Release/Vacuum Valve Relocation Sites*, identifies which of the ARVVs valves would be relocated. In addition, the access structures would be retrofitted with locking manhole covers, and the access structure ring would be removed.

Table 2
AIR RELEASE/VACUUM VALVE RELOCATION SITES

Site	Location	Approximate Contractor's Work Area Dimensions (Length x Width, in feet)	Approximate Area of Disturbance (Length x Width x Depth, in feet)
STA 2134+76	Within the landscaped area of the sidewalk on the east side of Van Ness Avenue	40 x 40	42 x 4 x 9
STA 2213+76	Within the landscaped area west of the sidewalk on the west side of South Western Avenue	40 x 40	35 x 7 x 9
STA 2268+62	Within the sidewalk on the east side of South Western Avenue	40 x 40	47 x 4 x 9

Note: For irregularly shaped work areas, the maximum width and length are presented in the table.

STA = Station Number

Pumpwells and Blow-off Structures

As discussed in the PEIR, pumpwells and blow-off structures along pipelines are used to dewater the pipeline into natural creeks, channels, waterways, and storm drains when a shutdown of the pipeline is necessary. Pumpwells allow temporary pumps to be used to dewater a pipeline. Blow-offs allow gravity to dewater the pipelines. Pumpwells and blow-offs also provide access points for routine maintenance or pipeline inspection. These structures are typically located within a buried equipment vault. No excavation is anticipated at existing blow-offs since access would be via existing manholes.

Isolation Valves

Table 3, *Isolation Valve Replacement Locations*, identifies the location and improvements that would occur at the isolation valve structures within the project limits. No excavation is anticipated to replace isolation valves since access would be via existing maintenance holes.

Table 3
ISOLATION VALVE REPLACEMENT LOCATIONS

Site	Location	Improvement
STA 2201+66	Within the eastbound lane of Del Amo Boulevard west of the intersection of Western Avenue	Replace isolation valve for WB-39

STA = Station Number

Side Drains

The proposed project would include the installation of new, permanent, below-grade side drains to convey water discharged from pumping wells located in the middle of the road to the curb and gutter without the need for temporary hoses across the travel lane that would impede traffic. Construction of new side drains associated with the pumpwells would entail trench excavation. Table 4, *Side Drain Discharge Locations*, describes the locations of the proposed side drain facilities and the approximate disturbance areas associated with their construction.

Table 4
SIDE DRAIN DISCHARGE LOCATIONS

Site	Structure	Facility	Approximate Excavation Dimensions (Length x Width, in feet)	Approximate Contractor's Work Area Dimensions (Length x Width, in feet)
STA 2182+77	Maintenance Hole	Pumping Well	50 x 4 x 20	50 x 40
STA 2268+62	Maintenance Hole	Air Release/ Vacuum Valve/ Pumping Well	NA ¹	40 x 40

¹ New side drains will be installed in air release/ vacuum valve relocation trench; no new excavation is required.

STA = Station Number

Potential Utility Conflicts

At some locations, existing underground and/or above ground utilities would be relocated where conflicts cannot be avoided. Table 5, *Potential Utility Conflicts*, describes potential locations of utility conflicts by stations and the type and responsible utility agency. The contractor will be responsible for verifying the utility locations and determining if the utilities can be supported in place during construction or will need to be relocated. The underground relocations would occur utilizing many of the same access points and/or other construction locations described in Tables 2, 4, and 6. Additional relocation needs may be discovered during construction. If additional relocation needs are discovered, the contractor would work with the responsible utility and Metropolitan to coordinate relocation efforts.

Table 5
POTENTIAL UTILITY CONFLICTS

Site Type	Site	Utility Type	Responsible Utility Agency
Air Vent	STA 2166+97	Communications Duct	AT&T
Pipe Access Site/Vent Piping	STA 2182+77	Communications Duct	Centurylink Communications
Pipe Access Site/Vent Piping	STA 2182+77	Communications Duct	Frontier Communications
ARVV Relocation	STA 2213+76	3x Unknown	Unknown
Pipe Access Site	STA 2225+60	Electrical Duct	Unknown
ARVV Relocation	STA 2268+62	Gas	Southern California Gas Company
ARVV Relocation/ Side Drain	STA 2268+62	Wastewater - Abandoned	Mobil Oil
ARVV Relocation/ Side Drain	STA 2268+62	Gasoline	Mobile Oil
ARVV Relocation/ Side Drain	STA 2268+62	Water	City of Torrance

STA = Station Number

ARVV = air release/vacuum valve

Other Improvements

The lining of new tees or outlets for existing ARVVs, blow-offs, and manholes, would be connected directly to the new pipe liner. Existing maintenance holes will be used to access the pipe for restoration of the outlets.

In many cases the tees and outlets were incorporated into a segment of steel pipe “special”, which allows the new liner to be welded directly to the steel pipe special. The new liner would not need to extend through the steel special and therefore no tee or outlet modification is needed in this case.

1.2.1.3 Temporary Construction Components

As discussed in the PEIR, the temporary construction components include pipe access sites, bulkheads, vault excavation sites, contractor work areas with traffic control, and equipment staging areas. The temporary construction components would be present during rehabilitation activities only. After construction, these components would be removed, and the sites would be returned to pre-construction conditions.

Pipe Access Sites

A pipe access site is defined as the entry or exit portal that exposes the underground PCCP section of the pipe or equipment vault to be rehabilitated (i.e., it is the trench from which new coiled steel cylinders, valves, and/or temporary bulkheads would be installed). Each contractor’s work area would include an excavation for pipe access. Multiple pipe access sites would be needed to rehabilitate the pipelines and buried equipment vaults included in the PCCP Program.

Spacing of pipe access sites would vary based on a number of factors, including the horizontal and vertical bends of the pipe; the locations of valves, vaults, and other equipment; and other factors. Pipe access site locations for the proposed project are shown on Figure 2. These pipe access site locations

and approximate size of the excavation and work areas are identified in Table 6, *Proposed Project Pipe Access Sites for PCCP Relining*, and shown on Figures 3a-d.

Table 6
PROPOSED PROJECT PIPE ACCESS SITES FOR PCCP RELINING

Pipe Access Site	Location	Alignment	Approximate Excavation Dimensions (Length x Width x Depth, in feet)	Approximate Contractor's Work Area Dimensions (Length x Width, in feet)	Location Type
2113	On the east side of Van Ness Avenue	North/South	40 x 20 x 18	250 x 27	Public ROW Roadway Utility
2156	On the west side of Van Ness Avenue	North/South	40 x 15 x 16	300 x 35	Public ROW Roadway Utility
2182	On the south side of Del Amo Boulevard	East/West	40 x 20 x 21	140 x 40	Public ROW Roadway Utility
2225	On the west side of South Western Avenue	North/South	40 x 18 x 16	200 x 52	Public ROW Roadway Utility

Note: For irregularly shaped work areas, the maximum width and length are presented in the table.

ROW = right-of-way

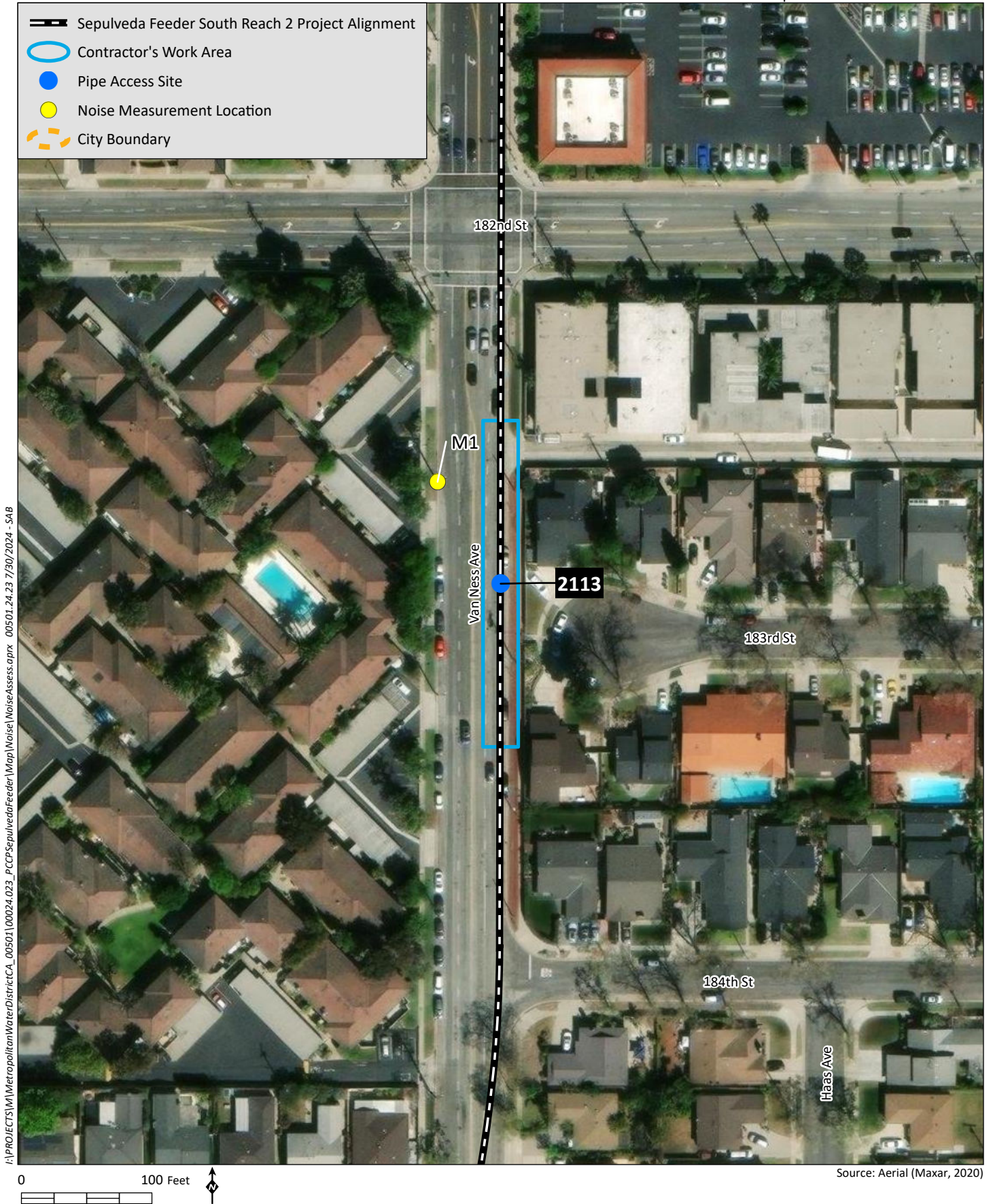
Existing surface improvements, such as road pavements, sidewalks, and landscaping, would be removed and below and above ground utilities temporarily relocated at each pipe access site, and soils would be excavated and temporarily removed from the site to expose the existing pipeline. Tree removal and/or trimming would be required at multiple pipe access sites. Once rehabilitation is complete, each pipe access site would either be backfilled with soils originally excavated or backfilled with slurry, and the surface of each access site and surrounding work zone would be restored to existing conditions. Excess soil would be disposed of offsite at an approved location. Work would include re-paving existing roads, repairing or replacing existing sidewalks, and replanting landscaping and/or trees disturbed during rehabilitation of the pipe.

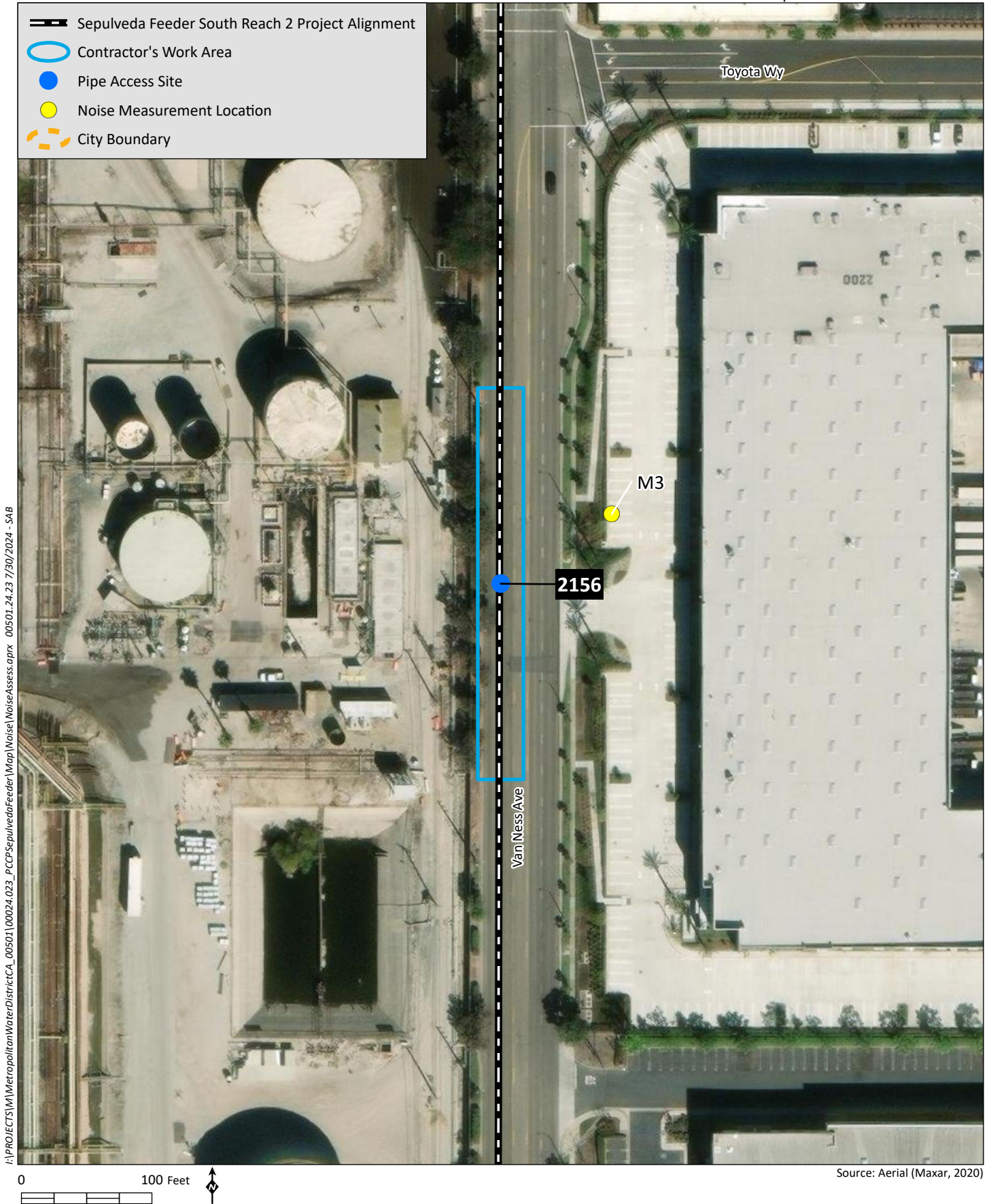
Pipe Access Sites Ingress/Egress

Pipe access sites within roadways would generally be accessed via the public ROW or within existing Metropolitan easements on public or private property.

Bulkhead Installation

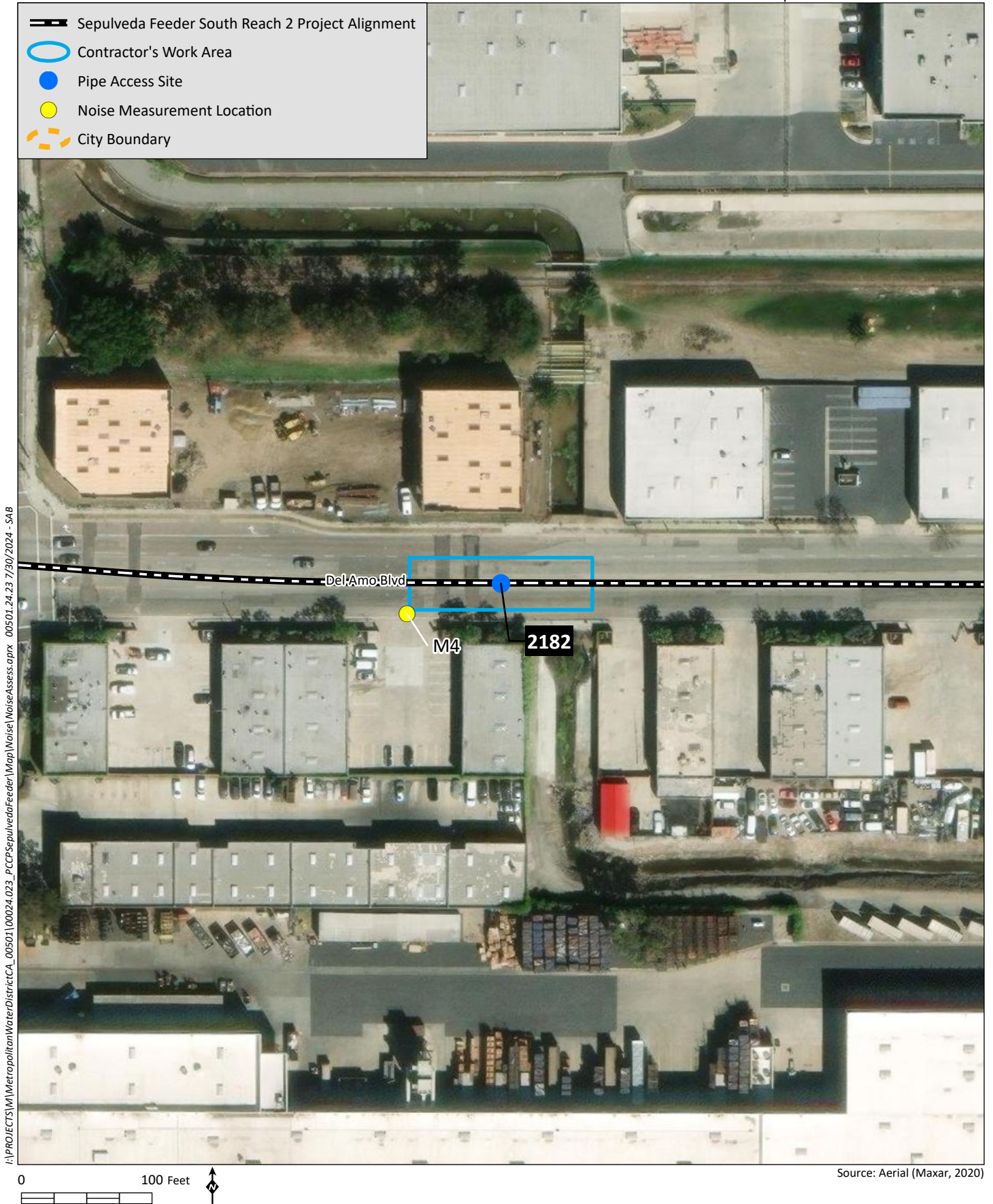
As discussed in the PEIR, bulkheads may be required along various sections of the pipelines to isolate one section of the pipeline from another and to ensure continued and reliable water supply delivery to member agencies while rehabilitation is being performed on another section of pipe. For the proposed project, a temporary bulkhead would be installed west of WB-39 at STA 2199+29.

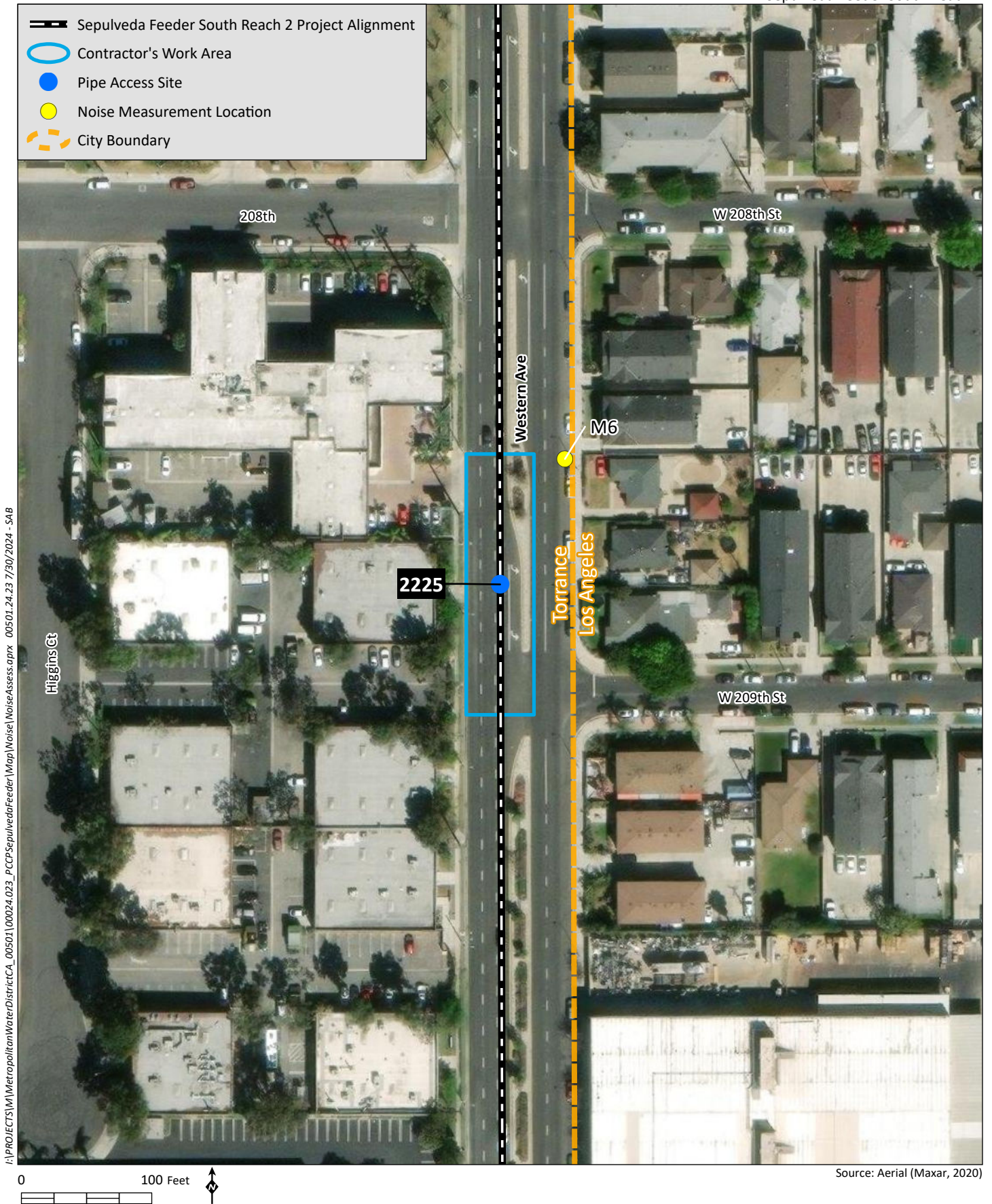




Pipe Access Site 2156

Figure 3b





Contractor's Work Areas

As discussed in the PEIR, contractor's work areas allow for construction activities to occur safely and efficiently within a construction site. Construction activities would include excavation, shoring, pipe removal, pipeline rehabilitation, electrical panel installation, temporary aboveground and underground utility relocations, and construction support activities such as ventilation, dewatering, pipe disinfection, and refilling.

Contractor's work areas would be secured and protected by installing temporary fencing barricades, k-rails and implementing other traffic control measures defined in the traffic management and control plan to be prepared as described in the PEIR. The traffic management and control plan shall address project specific traffic control and parking mitigation measures defined in the PEIR. Metropolitan will prepare a grading and drainage plan that would identify and implement temporary best management practices for erosion and sediment control to minimize the potential for stormwater impacts to water quality during construction as described within the PEIR.

Most of the contractor's work areas are within public right-of-way (ROW) including roads, sidewalks and landscaped areas along roadways. Some of the work areas are within Metropolitan easements on private and public property. Tree and grass removal would be required within a few landscaped areas to allow for the storage of equipment; however, disturbed areas would be restored to preconstruction conditions or with native vegetation following the completion of the project. Utilities temporarily relocated would be restored to their original or revised location in accordance with the plans and specifications. Contractor's work area locations and dimensions for the project components are described in Tables 1 through 4 and Table 6.

Traffic Management and Control

Traffic management and control plans would be prepared and implemented in accordance with the standards of the jurisdictional agencies and submitted for review and approval prior to construction start. Encroachment and other permits will be obtained for work in the public right of way. Temporary lane closures in the areas of construction would be required, however, detours around the site would allow traffic to continue to flow or one-way traffic control would be implemented as needed. Access to commercial businesses and residential properties would be maintained where feasible. However, there could be temporary disruptions to access in some locations in which case a temporary access point would be identified and temporary wayfinding signage during construction would be installed. The traffic management and control plans shall require that public access to hospitals, schools, and other important public institutions remain accessible during hours of operation. If this is not possible, Metropolitan or their contractor shall work with the institution to determine acceptable detour measures prior to the disruption. Emergency vehicles would be allowed through all traffic control areas as needed.

Staging Areas

Staging areas provide space to store pipes or liners, construction materials such as shoring boxes and pipe bedding materials, and equipment such as excavators and dump trucks. Space within the contractor's work areas may be used as a temporary staging area, however, space limitations require that the majority of materials and equipment be stored at a larger staging area. The main staging area would be located at an approximately 12-acre lot at Los Angeles Harbor College, one mile east of the

project alignment. Metropolitan would lease the site from Los Angeles Harbor College for the duration of construction. In addition to storing equipment, materials, and vehicles at the site, Metropolitan and the contractor would use this site as a mobile office area. Minor efforts would be made to make the lot appropriate for the work. These activities could include, but are not limited to: removal of debris, installation of temporary office trailers, and installation of security gates.

Upon completion of construction work on the Sepulveda Feeder, the staging areas would be returned to their pre-construction condition, as appropriate and pursuant to any agreements. For example, if pavement were to be damaged during staging, Metropolitan would re-pave the area.

Sepulveda Feeder Shutdown Discharge

The Sepulveda Feeder will require draining within the shutdown spans and periods. The flow generated from the existing pumpwells, blow-offs and other appurtenances will drain to the surface or be discharged into existing stormwater infrastructure (curb and gutter along roadways, catch basins, and open drainage channels). The dewatering will be performed by Metropolitan staff, following established procedures and in accordance with appropriate discharge permits. The water will be dechlorinated prior to discharge.

1.3 PROGRAMMATIC ENVIRONMENTAL IMPACT REPORT

The PEIR identified that noise levels during rehabilitation activities would likely reach very high levels, generally exceeding any set noise-level restrictions. Impacts relating to the exposure of persons to or generation of noise levels in excess of standards would be significant at some locations. The PEIR concluded that implementation of PEIR MM NOI-2 through PEIR MM NOI-4 would reduce impacts, but not to a less-than-significant level.

The PEIR also concluded that vibration from construction activities would not be great enough to result in impacts on vibration-sensitive receptors at most locations. However, at some locations, excavation, concrete-sawing, and other construction activities could generate vibration levels that could affect adjacent activities, such as near performing arts centers or hospitals, or where residences are close to the excavation site. The PEIR concluded that implementation of PEIR MM NOI-1 would reduce vibration impacts to less-than-significant levels.

PEIR MM NOI-1 Locate Excavation Sites Away from Vibration-Sensitive Uses. A noise and vibration consultant will be retained during excavation site planning to determine if there are vibration-sensitive land uses that could be affected by construction. Whenever possible, excavation sites will then be located so that vibration impacts would not affect vibration-sensitive land uses or mitigation would be included to reduce vibration levels at vibration-sensitive land uses to less-than-significant levels.

PEIR MM NOI-2 Locate Excavation Sites Away from Noise-Sensitive Receptors Where Feasible. A noise consultant will be retained during excavation site planning to determine if there are sensitive receptors that could be affected by construction. Whenever possible, the excavation sites will be located in areas that would not affect sensitive receptors or where receptors can be shielded from construction noise.

PEIR MM NOI-3 Conduct Project-Level Noise Studies at Each Excavation Site Where Noise-Sensitive Receptors Are Present. Project-level noise studies will be required at all excavation sites where sensitive receptors are present, as required in the planning stage by PEIR MM NOI-2. Such noise studies will identify the ambient noise levels, the receptors that would be affected, the noise levels the receptors will experience during construction, and any measures that can be used to reduce noise levels. All feasible mitigation measures identified in this noise study will be implemented.

PEIR MM NOI-4 Locate Staging Areas Away from Noise-Sensitive Receptors or Provide Noise Attenuation. Whenever feasible, staging areas will be located in areas that would not affect sensitive receptors or where receptors can be shielded from staging-area noise. Where possible, noise screening will include temporary noise barriers with openings in the barriers kept to the minimum necessary for access.

1.4 NOISE AND SOUND LEVEL DESCRIPTORS AND TERMINOLOGY

1.4.1 Descriptors

All noise level or sound level values presented herein are expressed in terms of decibels (dB), with A-weighting (dBA) to approximate the hearing sensitivity of humans. Time-averaged noise levels are expressed by the symbol L_{EQ} , with a specified duration. The Community Noise Equivalent Level (CNEL) is a 24-hour average, where noise levels during the evening hours of 7:00 p.m. to 10:00 p.m. have an added 5 dBA weighting, and noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. have an added 10 dBA weighting. This is similar to the Day Night sound level (L_{DN}), which is a 24-hour average with an added 10 dBA weighting on the same nighttime hours but no added weighting on the evening hours. Sound levels expressed in CNEL are always based on dBA. These metrics are used to express noise levels for both measurement and municipal regulations, as well as for land use guidelines and enforcement of noise ordinances.

1.4.2 Terminology

1.4.2.1 Sound, Noise, and Acoustics

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is defined as loud, unexpected, or annoying sound.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

1.4.2.2 Frequency

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes

more conveniently expressed in kilohertz (kHz), or thousands of Hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

1.4.2.3 Sound Pressure Levels and Decibels

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (mPa). One mPa is approximately one hundred billionth (0.0000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 mPa. Because of this wide range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level (SPL) in terms of dBA. The threshold of hearing for the human ear is about 0 dBA, which corresponds to 20 mPa.

Because decibels are logarithmic units, SPL cannot be added or subtracted through standard arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3 dBA increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dBA higher than from one source under the same conditions. For example, if one automobile produces an SPL of 70 dBA when it passes an observer, two cars passing simultaneously would not produce 140 dBA—rather, they would combine to produce 73 dBA. Under the decibel scale, three sources of equal loudness together produce a sound level 5 dBA louder than one source.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear can discern 1 dBA changes in sound levels, when exposed to steady, single-frequency (“pure-tone”) signals in the mid-frequency (1,000 Hz–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dBA are generally not perceptible. It is widely accepted, however, that people begin to detect sound level increases of 3 dBA in typical noisy environments. Further, a 5 dBA increase is generally perceived as a distinctly noticeable increase, and a 10 dBA increase is generally perceived as a doubling of loudness.

No known studies have directly correlated the ability of a healthy human ear to discern specific levels of change in traffic noise over a 24-hour period. Many ordinances, however, specify a change of 3 CNEL as the significant impact threshold. This is based on the concept of a doubling in noise energy resulting in a 3 dBA change in noise, which is the amount of change in noise necessary for the increase to be perceptible to the average healthy human ear.

1.5 REGULATORY FRAMEWORK

1.5.1 California Noise Control Act

The California Noise Control Act is a section within the California Health and Safety Code that describes excessive noise as a serious hazard to the public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also finds that there is a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the State to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

1.5.2 City of Los Angeles CEQA Thresholds Guide

The City of Los Angeles developed a California Environmental Quality Act (CEQA) Thresholds Guide (City of Los Angeles 2006) to establish significance thresholds for construction activities. These thresholds would be applicable to construction activities within 500 feet of a noise-sensitive use. A project would normally have a significant impact on noise levels from construction if:

- Construction activities lasting more than one day would exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use;
- Construction activities lasting more than 10 days in a three-month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use; or
- Construction activities would exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

1.5.3 City of Torrance Municipal Code

1.5.3.1 Chapter 46.3.1, Construction of Buildings and Projects

It shall be unlawful for any person within the City of Torrance to operate power construction tools, equipment, or engage in the performance of any outside construction or repair work on buildings, structures, or projects in or adjacent to a residential area involving the creation of noise beyond 50 dBA as measured at property lines, except between the hours of 7:30 a.m. and 6:00 p.m. Monday through Friday and 9:00 a.m. to 5:00 p.m. on Saturdays. Construction shall be prohibited on Sundays and holidays observed by City Hall.

2.0 ENVIRONMENTAL SETTING

2.1 PROJECT ALIGNMENT

The project relining alignment begins at STA 2270+05, located on Western Avenue 300 feet north of 220th Street on the boundary between the cities of Torrance and Los Angeles. The alignment travels 1.24 miles north along Western Avenue to Del Amo Boulevard, where it then routes west along Del Amo Boulevard (within the City of Torrance) for 0.49 mile to Van Ness Avenue. The alignment then routes north along Van Ness Avenue (in the City of Torrance) for 2.13 miles to STA 2066+51 at the blow-off south of the Dominguez Channel.

Land uses surrounding the southern portion of the pipeline alignment along Western Avenue generally consist of single-family and multi-family residences on the east side of Western Avenue and commercial/business park uses on the west side of Western Avenue, as well as two hotels. Light industrial uses are located along the north and south sides of the portion of the alignment along Del Amo Boulevard. Land uses along the southern half of the portion of the alignment within Van Ness Avenue (generally south of Interstate [I-] 405) include heavy industrial uses to the west and business park uses on the east. Land uses along the northern half of the portion of the alignment along Van Ness Avenue (generally north of I-405) primarily includes single-family and multi-family residences as well as schools and interspersed commercial uses.

2.2 NOISE-SENSITIVE LAND USES

NSLUs are land uses that may be subject to stress and/or interference from excessive noise, including residences, hospitals, schools, hotels, resorts, libraries, sensitive wildlife habitat, or similar facilities where quiet is an important attribute of the environment. Noise receptors are individual locations that may be affected by noise. In general, the pipeline alignment is located within roadways in urbanized residential, business park, and industrial areas. NSLUs in the project vicinity include residences, hotels, and schools.

Most construction work would occur at the pipe access sites. NSLUs surrounding these sites are identified in Table 7, *Pipe Access Site Noise-sensitive Land Uses*. Refer to Figures 3a-d, for the pipe access site locations and surrounding NSLUs.

Table 7
PIPE ACCESS SITE NOISE-SENSITIVE LAND USES

Pipe Access Site	Approximate Location	Nearby Noise-sensitive Land Uses (NSLUs)	Approximate Distance to Closest NSLU
2113	East side of Van Ness Avenue, south of 182 nd Street	Single-family and multi-family residences	30 feet
2156	West side of Van Ness Avenue, south of 195 th Street	N/A	N/A
2182	Within the median of Del Amo Boulevard, east of Van Ness Avenue	N/A	N/A
2225	East side of Western Avenue, north of 209 th Street	Single-family residences, hotel	80 feet

2.3 VIBRATION-SENSITIVE LAND USES

Land uses in which ground-borne vibration could potentially interfere with operations or equipment, such as research, manufacturing, hospitals, and university research operations are considered vibration-sensitive (Federal Transit Administration [FTA] 2006). The degree of sensitivity depends on the specific equipment that would be affected by the ground-borne vibration. Excessive levels of ground-borne vibration of either a regular or intermittent nature can result in annoyance to land uses such as residences and buildings where people sleep such as hotels, hospitals, and dormitories. Vibration-sensitive land uses in the vicinity of the pipe access sites are the single-family residences, multi-family residences, and hotels identified in Table 7.

2.4 EXISTING NOISE CONDITIONS

A site visit along the alignment route was conducted on Thursday, July 11, 2024. Short-term (10-minute) ambient noise measurements were conducted at or near four proposed pipe access site locations and two proposed maintenance hole enlargement locations. These sites were chosen based on the noise generation anticipated to occur at these locations. Ambient noise measurements ranged from 60.9 to 72.9 dBA L_{EQ}. Roadway traffic was the primary noise source at the six measurement locations. The measured noise levels and nearby land uses are shown in Table 8, *Site Survey Noise Measurement Results*, and on Figures 3a-d.

Table 8
SITE SURVEY NOISE MEASUREMENT RESULTS

Site	Location	Time	Nearby Land Uses	Measurement (dBA L_{EQ})
M1	Sepulveda Feeder STA 2113	12:33 p.m.	Single-family and multi-family residential	70.7
M2	Sepulveda Feeder STA 2139	12:49 p.m.	Commercial; single-family residential	65.6
M3	Sepulveda Feeder STA 2156	1:03 p.m.	Commercial/Industrial	66.9
M4	Sepulveda Feeder STA 2182	1:17 p.m.	Commercial/Industrial	72.2
M5	Sepulveda Feeder STA 2205	1:35 p.m.	Commercial; single-family residential	60.9
M6	Sepulveda Feeder STA 2225	1:50 p.m.	Commercial; single-family and multi-family residential	72.9

dBA = A-weighted decibels; L_{EQ} = equivalent sound level; STA = Station

3.0 METHODOLOGY AND ASSUMPTIONS

3.1 METHODOLOGY

3.1.1 Ambient Noise Survey

The following equipment was used to measure existing noise levels along the project alignment:

- Larson Davis LxT Noise Meter
- Larson Davis Model CA250 Calibrator
- Windscreen and tripod for the sound level meter

The sound level meter was field-calibrated immediately prior to the noise measurements to ensure accuracy. All sound level measurements conducted and presented in this report were made with a sound level meter that conforms to the ANSI specifications for sound level meters (ANSI S1.4-1983 R2006). All instruments were maintained with National Institute of Standards and Technology traceable calibration per the manufacturers' standards.

3.1.2 Noise Modeling Software

Modeling of the exterior noise environment for this report was accomplished using a computer noise model: Computer Aided Noise Abatement (CadnaA) version 2023. CadnaA is a model-based computer program developed by *DataKustik* for predicting noise impacts in a wide variety of conditions. CadnaA assists in the calculation, presentation, assessment, and mitigation of noise exposure. It allows for the input of project-related information, such as noise source data, barriers, structures, and topography to create a detailed model, and uses the most up-to-date calculation standards to predict outdoor noise impacts.

Project construction noise was also analyzed using the Roadway Construction Noise Model (RCNM; U.S. Department of Transportation 2008), which utilizes estimates of sound levels from standard construction equipment.

3.2 ASSUMPTIONS

3.2.1 Pipeline Relining Construction Phases and Noise Sources

Construction would require the use of equipment throughout the site for the full term of construction. Table 9, *Construction Assumptions*, summarizes the key noise-generating construction equipment and activities analyzed in this report. Exact planning information cannot be known at this stage in project design. Therefore, equipment types and completion times are estimates and may vary due to differing site conditions.

Table 9
CONSTRUCTION ASSUMPTIONS

Construction Activity	Equipment Types
Pipe Access Site Excavation	Excavator, Dump Truck
Pipeline Relining	Generator, grouting mixer, welder, crane
Ventilation	Generator, Blower, Welder
Maintenance Hole Enlargement/Refurbishment	Jackhammer, Welder
Valve Relocation and Side Drain Construction	Backhoe, Concrete Saw, Handheld Tools
Dewatering	Generator

Construction equipment may not be used for the entirety of a given hour. Table 10, *Construction Equipment Use Per Hour*, identifies percentages used as a basis for construction equipment noise modeling.

Table 10
CONSTRUCTION EQUIPMENT USE PER HOUR

Typical Equipment	Percentage Used per Hour
Backhoe	50
Excavator	40
Generator	100
Crane or Excavator used as crane	75
Dump Truck	20
Blower/Fan	100
Jackhammer	50
Concrete Saw	100
Grouting Plant and Pump	100
Welding Rig	100

3.2.2 Equipment Noise Levels

Table 11, *Construction Equipment Noise Data*, presents the calculated Sound Power Levels (S_{WL}) for typical equipment used for pipeline relining. This table includes data from the site measurements, the

Federal Highway Administration (FHWA) table of construction equipment noise levels (FHWA 2007), and the United Kingdom's Department for Environment, Food and Rural Affairs (Defra) construction noise database (Defra 2005). The calculated S_{WL} are a measure of the total acoustic power radiated from a given sound source; they do not incorporate a distance component.

Table 11
CONSTRUCTION EQUIPMENT NOISE DATA¹

Source	One-octave Center Band Frequency (Hertz)									Overall A-weighted Value (dBA)
	31.5	63	125	250	500	1,000	2,000	4,000	8,000	
Excavator with Steel Plates	-	63.0	78.3	77.9	77.0	75.3	72.9	69.5	64.7	80.3
Crane	116.7	111.8	103.7	102.9	98.7	96.6	93.5	88.7	80.7	102.0
Annular Grouting Mixer	98.7	113.6	97.8	103.5	104.1	106.5	103.8	98.1	90.3	110.1
Dump Truck	110.3	113.2	115.4	105	103.6	104	101.9	97.4	90	108.9
Concrete Saw	109.7	106.7	123.7	115.7	114.7	114.7	116.7	120.7	119.7	125.3
Jackhammer	124.5	117.7	117.8	115.7	108.3	107.8	110.7	112.9	111.7	118.3
Welder	100.3	95.2	92.7	87.8	88.9	90.9	86.7	82.6	80.7	94.3
Blower/Fan	105.3	106.7	102.5	99.4	95.8	95.5	91.1	85.6	81.4	99.8

Source: FHWA 2007, Defra 2005, and on-site measurements.

¹ All source data for equipment noise presented as Sound Power levels (S_{WL}).

3.2.3 Site-Specific Information

The distances to nearby NSLUs and noise barriers, if needed, were used in the CadnaA noise model or RCNM to determine expected noise levels. These distances are based on the approximate center of the pipeline, station, or typical utilization location for construction equipment. Four pipe access sites are to be used during construction.

3.2.4 Vehicular Traffic

Construction would require the use of additional trips for worker vehicles and hauling of materials. The total number of vehicles in use for each site will vary, depending on the nature of the work, time of day, and exact needs of the contractor as construction progresses. A conservative estimate for average daily project traffic (ADT) for each pipe access site work area would be 64 passenger vehicle trips and 40 truck trips, for a total 104 ADT.

3.3 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, as utilized in the PEIR, and noise regulations of local jurisdictions, implementation of the project would result in a significant adverse impact if it would:

Threshold 1: *Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies.*

Impacts would be significant if operation of the project would generate noise levels above the standards set forth by the City of Los Angeles and City of Torrance. Impacts would be significant if construction would expose nearby receptors to noise levels above the levels set in Threshold 4 below.

Threshold 2: *Expose persons to or generation of excessive ground-borne vibration or ground-borne noise levels.*

Excessive ground-borne vibration is defined as equal to or more than 0.2 inch per second peak particle velocity (PPV). Construction activities within 200 feet and pile driving within 600 feet of a vibration-sensitive use would be potentially disruptive to vibration-sensitive operations (Caltrans 2013).

Threshold 3: *Cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.*

Impacts would be significant if operation of the project would permanently increase ambient noise levels above the standards specified in the City of Los Angeles and City of Torrance general plans or noise ordinances.

Threshold 4: *Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.*

A temporary or periodic increase in ambient noise levels due to construction would be considered significant if:

- a. Within the City of Los Angeles, noise generated from construction activity exceeds 5 dBA above ambient noise levels for construction lasting more than 10 days in a three-month period (City of Los Angeles 2006). Ambient noise conditions can be determined by the Presumed Ambient Noise Levels set forth in the City of Los Angeles Municipal Code. Exhibit I.1-3 in the City of Los Angeles CEQA Guidelines states that the Municipal Code's presumed ambient noise levels for residential zones is 50 dBA during the day and 40 dBA at night. Therefore, impacts would be significant if noise from construction exceeds noise levels of 55 dBA L_{EQ} during the day or 45 dBA L_{EQ} during the night at a noise-sensitive use;
- b. Within the City of Torrance, noise from construction activity exceeds 50 dBA between the hours of 6:00 p.m. and 7:30 a.m. on weekdays, Saturdays before 9:00 a.m. and after 5:00 p.m., and all day on Sundays;

Threshold 5: *For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public use airport or private airstrip, expose people residing or working in the project area to excessive noise.*

Impacts would be significant if the project would expose people (including temporary construction workers) to excessive noise from aircrafts using nearby public airports or private airstrips.

4.0 IMPACTS

4.1 ISSUE 1: EXCESSIVE NOISE LEVELS

Would operation of the project expose persons to or generate noise levels in excess of standards established by local jurisdictions?

Excessive noise levels due to construction of the project are described under Section 4.4, below. The project involves the relining of an existing underground pipeline, and no new permanent operational noise-generating components would be introduced. Operation of the project would therefore not generate or expose persons to excessive noise levels, and no impacts would occur.

4.2 ISSUE 2: EXCESSIVE VIBRATION

Would the project expose persons to or generate excessive ground-borne vibration or noise levels?

Numerous pipe access sites would be within 200 feet of single-family and multi-family residences, with the nearest sensitive use living area approximately 30 feet from Pipe Access Site 2113. PEIR MM NOI-1 has been implemented to locate pipe access sites away from vibration-sensitive uses to the extent feasible. The greatest source of vibration would be from compaction of the soil following relining activities and prior to final paving of each site. Due to the size of the pipe access sites, a small vibratory plate compactor or tamping rammer would likely be used. These are handheld units and would have no measurable vibration beyond 10 to 15 feet. Impacts from excessive vibration would therefore be less than significant.

4.3 ISSUE 3: PERMANENT INCREASE IN AMBIENT NOISE LEVELS

Would the project cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

As noted in Section 4.1 above, operation of the project would not result in noise-generating components that would cause a substantial permanent increase in ambient noise levels. No impact would occur.

4.4 ISSUE 4: TEMPORARY INCREASE IN AMBIENT NOISE

Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

4.4.1 Daytime Construction Operations

4.4.1.1 Pipe Access Site Excavation

Initial construction work to access the PCCP would require excavation at the pipe access sites within the cities of Los Angeles and Torrance. Initial excavation at pipe access sites would require the use of a single excavator and dump truck to deposit soil. These would be used simultaneously and represent the loudest equipment used for construction at the pipe access sites. Noise impacts would vary by jurisdiction. Significance criteria for construction were assessed at each pipe access site and are

provided in Table 12, *Pipe Access Site Construction Noise*. Noise levels from the combined use of an excavator and dump truck would be elevated at nearby NSLUs at Pipe Access Sites 2113 and 2225. The City of Torrance does not set daytime construction noise level limits in its municipal code; therefore, provided that construction excavation activities are conducted between the hours of 7:30 a.m. and 6:00 p.m. on weekdays and between 9:00 a.m. and 5:00 p.m. on Saturdays, impacts associated with Pipe Access Sites 2113, 2156, and 2182 would be less than significant. Table 12 also provides noise levels with the incorporation of temporary 12-foot noise barriers, and the resulting noise levels with the inclusions of the barriers. As shown, noise levels at Pipe Access Site 2225 would remain above applicable City of Los Angeles thresholds even with use of a 12-foot barrier. A 12-foot barrier would be the maximum feasible barrier height, given the spatial restrictions of the pipe access sites.

Table 12
PIPE ACCESS SITE CONSTRUCTION NOISE

Site	NSLU Jurisdiction	NSLU Type	NSLU Distance	Threshold at NSLU (dBA L _{EQ} [1 hour])	No Barrier		12-foot Barrier	
					Modeled Noise Levels (dBA L _{EQ} [1 hour])	Exceed Standard at NSLU?	Modeled Noise Levels (dBA L _{EQ} [1 hour])	Exceed Standard at NSLU?
Pipe Access Sites								
2113	City of Torrance	Single-family residences	30 feet	NA	77.0	NA	59.7	NA
2156	City of Torrance	Single-family residences	2,000 feet	NA	43.2	NA	34.5	NA
2182	City of Torrance	Single-family residences	960 feet	NA	50.5	NA	40.6	NA
2225	City of Los Angeles	Single-family residences	80 feet	55	74.3	Yes	57.9	Yes

NSLU = Noise Sensitive Land Use; dBA = A-weighted decibels; L_{EQ} = equivalent sound level

NA = not applicable (The City of Torrance does not have daytime noise level limits for construction activities)

4.4.1.2 Pipeline Relining Activity

Following the initial excavation of each pipe access site, relining work would be conducted within the excavated area within the cities of Los Angeles and Torrance. Noise generating equipment used for this stage of construction includes a generator, grouting mixer, welder, and crane, and would be located at street level. The loudest equipment types would be a grouting mixer and a generator in use simultaneously.

Noise impacts would vary by jurisdiction. Significance criteria for long-term construction were assessed at each excavation location and are provided in Table 13, *Relining Activity Site Construction Noise*. Noise levels from the combined use of a generator and grouting mixer would be elevated at nearby NSLUs at Pipe Access Sites 2113 and 2225. The City of Torrance does not set daytime construction noise level limits in its municipal code; therefore, provided that pipeline relining activities associated with Pipe Access Sites 2113, 2156, and 218 are conducted between the hours of 7:30 a.m. and 6:00 p.m. on weekdays and between 9:00 a.m. and 5:00 p.m. on Saturdays, impacts would be less than significant. Table 15 also provides noise levels with the incorporation of temporary 8-foot and 12-foot noise barriers, and the resulting noise levels with the inclusions of the barriers. As shown, the incorporation of temporary 8-foot and 12-foot noise barriers would reduce the noise levels, but would still exceed the City of Los Angeles construction noise thresholds at Pipe Access Site 2225.

Table 13
RELINING ACTIVITY SITE CONSTRUCTION NOISE

Site	NSLU Jurisdiction	NSLU Type	NSLU Distance	Threshold at NSLU (dBA L _{EQ} [1 hour]) ¹	No Barrier		8-foot Barrier ²		12-foot Barrier ²	
					Noise Levels (dBA L _{EQ} [one hour])	Exceed Standard at NSLU?	Noise Levels (dBA L _{EQ} [one hour])	Exceed Standard at NSLU?	Noise Levels (dBA L _{EQ} [one hour])	Exceed Standard at NSLU?
Pipe Access Sites										
2113	City of Torrance	Single-family residences	30 feet	NA	82.8	NA	70.1	NA	63.7	NA
2156	City of Torrance	Single-family residences	2,000 feet	NA	45.5	NA	36.9	NA	35.1	NA
2182	City of Torrance	Single-family residences	960 feet	NA	52.8	NA	44.4	NA	43.1	NA
2225	City of Los Angeles	Single-family residences	80 feet	55	78.9	Yes	70.4	Yes	63.2	Yes

¹ Relining activity would fall under the City of Los Angeles standard for construction activity lasting more than 10 days in a three-month period, which is 5 dBA above the 50 dBA ambient noise levels presumed for a residential neighborhood.

² Barrier is assumed to be 8 feet from the noise source.

NSLU = Noise Sensitive Land Use; dBA = A-weighted decibels; L_{EQ} = equivalent sound level

NA = not applicable (The City of Torrance does not have daytime noise level limits for construction activities)

4.4.1.3 Ventilation

Ventilation and access to support relining work would be conducted along the project alignment within the cities of Los Angeles and Torrance at maintenance hole locations, to provide adequate air supply and access for workers and equipment. Expected noise sources at these locations include the use of a fan/blower for ventilation, a generator for power, and a welder for relining activities.

Noise calculations for ventilation activities include the use of a generator, blower, and welder. Together, this equipment generates 80 dBA at approximately 15 feet. Because ventilation equipment would potentially move to different locations along the pipeline alignment as construction proceeds, calculation of noise levels at specific receptor locations are not provided. Instead, the setback distances needed to meet the City of Los Angeles noise thresholds are provided in Table 14, *Ventilation Location Setback Distances*. Distances are provided without barriers and with the incorporation of 6-foot and 8-foot barriers located 8 feet from the noise-generating equipment.

Table 14
VENTILATION LOCATION SETBACK DISTANCES

Jurisdiction	Threshold at NSLU (dBA L_{EQ} [1 hour]) ¹	Land Use Type	Distance Within Which Noise Levels Would Exceed Threshold		
			No Barrier	With 6-foot Barrier ²	With 8-foot Barrier ²
City of Los Angeles	55	Residential	265 feet	110 feet	70 feet
City of Torrance	No Limit	Residential	NA	NA	NA

Note: Ventilation activity assumes the use of a generator, blower, and welder.

¹ Ventilation activity would fall under the City of Los Angeles limit for construction activity lasting more than 10 days in a three-month period is 5 dBA above the 50 dBA ambient noise levels presumed for a residential neighborhood.

² Barrier is assumed to be approximately 8 feet from the noise source.

NSLU = Noise Sensitive Land Use; dBA = A-weighted decibels; L_{EQ} = equivalent sound level

NA = not applicable (The City of Torrance does not have daytime noise level limits for construction activities)

Ventilation activities conducted within the setback distances from NSLUs in the City of Los Angeles would result in a potentially significant impact. The City of Torrance does not set daytime construction noise level standards in its municipal code, and impacts would therefore be less than significant when conducted between the hours of 7:30 a.m. and 6:00 p.m. on weekdays and between 9:00 a.m. and 5:00 p.m. on Saturdays.

4.4.1.4 Maintenance Hole Enlargement and Refurbishment

The project would involve maintenance hole enlargement at two existing pumping wells and maintenance hole refurbishment at numerous locations within the cities of Los Angeles and Torrance. A jackhammer would be the loudest equipment type and would be required for access to the maintenance holes/pumping wells.

A jackhammer in use intermittently for 50 percent of an hour would generate 80 dBA at approximately 100 feet. Because equipment would potentially move to different locations along the pipeline alignment as construction proceeds, noise levels at specific receptor locations are not provided. Instead, the setback distances needed to meet the City of Los Angeles noise thresholds are provided in Table 15, *Jackhammer Setback Distances*. Distances are provided without barriers, and with the incorporation of a 6-foot barrier located 8 feet from the noise-generating equipment.

Table 15
JACKHAMMER SETBACK DISTANCES

Jurisdiction	Threshold at NSLU (dBA L _{EQ} [1 hour]) ¹	Land Use Type	Distance Within Which Noise Levels Would Exceed Threshold	
			No Barrier	With 6-foot Barrier ²
City of Los Angeles	60	Residential	1,000 feet	180 feet
City of Torrance	No Limit	Residential	NA	NA

¹ Jackhammer use would fall under the City of Los Angeles standard for construction activity lasting more than one day, but less than 10 days in a three-month period is 10 dBA above the 50 dBA ambient noise levels presumed for a residential neighborhood.

² Barrier is assumed to be approximately 8 feet from noise source.

NSLU = Noise Sensitive Land Use; dBA = A-weighted decibels; L_{EQ} = equivalent sound level

NA = not applicable (The City of Torrance does not have daytime noise level limits for construction activities)

Jackhammer use within the setback distances from NSLUs in the City of Los Angeles would result in a potentially significant impact. The City of Torrance does not set daytime construction noise level standards in its municipal code, and impacts would therefore be less than significant when conducted between the hours of 7:30 a.m. and 6:00 p.m. on weekdays and between 9:00 a.m. and 5:00 p.m. on Saturdays.

4.4.1.5 Valve Relocation and Side Drain Construction

Relocation of the underground ARVVs from below ground to above ground would involve running new piping from the existing valve connection point in the vault to a nearby above-ground location and installing a new vault above ground. This would require shallow trenching from the existing below-ground vault to a parkway location. Shallow trenching would require the short-term use of a concrete saw and backhoe. Similarly, construction of side drains would also require shallow trenching, which would require a backhoe and concrete saw. Valve relocation and side drain construction work is anticipated to be required within the cities of Los Angeles and Torrance.

A backhoe in intermittent use for 50 percent of an hour would generate 65 dBA within approximately 150 feet and a concrete saw in continuous use for one hour would generate 100 dBA within approximately 20 feet. Because these pieces of equipment would be used at numerous and variable locations along the pipeline alignment, noise levels at specific receptors are not provided. Instead, the setback distances needed to meet the City of Los Angeles exterior noise thresholds at land uses located in proximity to anticipated work sites are provided in Table 16, *Backhoe Setback Distances*, and Table 17, *Concrete Saw Setback Distances*. Due to the short-term use of a backhoe and the mobile nature of its use, a temporary sound barrier would not likely be used. Distances for the concrete saw, however, are provided without barriers and with the incorporation of a 6-foot barrier located 8 feet from the noise-generating equipment.

Table 16
BACKHOE SETBACK DISTANCES

Jurisdiction	Threshold at NSLU (dBA L _{EQ} [1 hour])	Land Use Type	Distance Within Which Noise Levels Would Exceed Threshold
City of Los Angeles	60 ¹	Residential	270 feet

City of Torrance	No Limit	Residential	NA
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¹ Backhoe use would fall under the City of Los Angeles standard for construction activity lasting more than one day, but less than 10 days in a three-month period is 10 dBA above the 50 dBA ambient noise levels presumed for a residential neighborhood.

NSLU = Noise Sensitive Land Use; dBA = A-weighted decibels; L_{EQ} = equivalent sound level

NA = not applicable (The City of Torrance does not have daytime noise level limits for construction activities)

Table 17
CONCRETE SAW SETBACK DISTANCES

Jurisdiction	Threshold at NSLU (dBA L _{EQ} [1 hour])	Land Use Type	Distance Within Which Noise Levels Would Exceed Threshold	
			No Barrier	With 6-foot Barrier ¹
City of Los Angeles	60 ²	Residential	2,000 feet	300 feet
City of Torrance	No Limit	Residential	NA	NA

¹ Barrier is assumed to be approximately 8 feet from noise source.

² Concrete saw use would fall under the City of Los Angeles standard for construction activity lasting more than one day, but less than 10 days in a three-month period is 10 dBA above the 50 dBA ambient noise levels presumed for a residential neighborhood.

NSLU = Noise Sensitive Land Use; dBA = A-weighted decibels; L_{EQ} = equivalent sound level

NA = not applicable (The City of Torrance does not have daytime noise level limits for construction activities)

Backhoe or concrete saw use within the setback distances from NSLUs in the City of Los Angeles would result in a potentially significant impact. The City of Torrance does not set daytime construction noise level standards in its municipal code, and impacts would therefore be less than significant when conducted between the hours of 7:30 a.m. and 6:00 p.m. on weekdays and between 9:00 a.m. and 5:00 p.m. on Saturdays.

4.4.1.6 Dewatering

Dewatering would be required prior to excavation and relining activity. The exact dewatering locations are not known at this time, but may occur within the cities of Los Angeles and Torrance. Dewatering would require the use of a submersible pump and generator to power the pump. The only audible equipment would be the generator. Dewatering would occur 24 hours per day for up to seven days.

A generator in continuous use for one hour would generate 75 dBA within approximately 12 feet. Because equipment would potentially move to different locations along the pipeline alignment as dewatering proceeds, calculation of noise levels at specific receptor locations is not possible at this time. Instead, the setback distances needed to meet City of Los Angeles noise thresholds are provided in Table 18, *Generator Setback Distances*. Distances are provided without barriers, and with the incorporation of a 6-foot barrier located 8 feet from the noise-generating equipment.

A generator used within the setback distances from NSLUs in the City of Los Angeles would result in a potentially significant impact. The City of Torrance does not set daytime construction noise level limits in its municipal code, and impacts would therefore be less than significant provided that it is conducted between the hours of 7:30 a.m. and 6:00 p.m. on weekdays and between 9:00 a.m. and 5:00 p.m. on Saturdays.

Table 18
GENERATOR SETBACK DISTANCES

Jurisdiction	Threshold at NSLU (dBA L_{EQ} [1 hour])	Land Use Type	Distance Within Which Noise Levels Would Exceed Threshold	
			No Barrier	With 6-Foot Barrier ¹
City of Los Angeles	60 ²	Residential	75 feet	25 feet
City of Torrance	No Limit	Residential	NA	NA

¹ Barrier is assumed to be approximately 8 feet from noise source.

² Generator use would fall under the City of Los Angeles standard for construction activity lasting more than one day, but less than 10 days in a three-month period is 10 dBA above the 50 dBA ambient noise levels presumed for a residential neighborhood.

NSLU = Noise Sensitive Land Use; dBA = A-weighted decibels; L_{EQ} = equivalent sound level

NA = not applicable (The City of Torrance does not have daytime noise level limits for construction activities)

4.4.2 Nighttime Construction Operations

The noise-producing construction activities that may require nighttime work would be dewatering, pipeline relining, and ventilation to support relining work. Pipeline relining and ventilation would occur within the cities of Los Angeles and Torrance. In the City of Los Angeles CEQA Thresholds Guide, nighttime hours are defined as between 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, and at any time on Sunday. Nighttime construction noise is limited to 45 dBA for residential zones in the City of Los Angeles, which is 5 dBA above the 40 dBA nighttime ambient noise level presumed for residential zones. In the City of Torrance Municipal Code, nighttime hours are defined as between 6:00 p.m. and 7:30 a.m. Monday through Friday, before 9:00 a.m. and after 5:00 p.m. on Saturday, and at any time on Sunday. Nighttime construction noise is limited to 50 dBA for residential zones in the City of Torrance.

Dewatering would involve the use of a submersible pump that would not be audible and a generator. Dewatering would take place for approximately four to seven days at each dewatering location. Exceedances of nighttime limits for dewatering activities are shown with and without barriers in Table 19, *Generator Setback Distances – Nighttime Hours*. For relining activities, exceedances of nighttime noise limits with and without barriers are shown in Table 20, *Relining Activity Site Construction Noise – Nighttime Hours*. For the use of ventilation equipment to support nighttime relining activities, exceedances of nighttime thresholds are shown with and without barriers in Table 21, *Ventilation Location Setback Distances – Nighttime Hours*.

Table 19
GENERATOR SETBACK DISTANCES – NIGHTTIME HOURS

Jurisdiction	Threshold at NSLU (dBA L_{EQ} [1 hour])	Land Use Type	Distance Within Which Noise Levels Would Exceed Threshold	
			No Barrier	6-foot Barrier ¹
City of Los Angeles	45	Residential	380 feet	135 feet
City of Torrance	50	Residential	215 feet	80 feet

¹ Barrier is assumed to be approximately 8 feet from the noise source.

NA = not applicable.

NSLU = Noise Sensitive Land Use; dBA = A-weighted decibels; L_{EQ} = equivalent sound level

Table 20
RELINING ACTIVITY SITE CONSTRUCTION NOISE – NIGHTTIME HOURS

Site	NSLU Jurisdiction	NSLU Type	NSLU Distance	Threshold at NSLU (dBA L _{EQ} [1 hour]) ¹	No Barrier		8-foot Barrier ¹		12-foot Barrier ¹	
					Noise Levels (dBA L _{EQ} [one hour])	Exceed Standard at NSLU?	Noise Levels (dBA L _{EQ} [one hour])	Exceed Standard at NSLU?	Noise Levels (dBA L _{EQ} [one hour])	Exceed Standard at NSLU?
Pipe Access Sites										
2113	City of Torrance	Single-family residences	30 feet	50	82.8	Yes	70.1	Yes	63.7	Yes
2156	City of Torrance	Single-family residences	2,000 feet	50	45.5	No	36.9	No	35.1	No
2182	City of Torrance	Single-family residences	960 feet	50	52.8	Yes	44.4	No	43.1	No
2225	City of Los Angeles	Single-family residences	80 feet	45	78.9	Yes	70.4	Yes	63.0	Yes

¹ Barrier is assumed to be 8 feet from the noise source.

NSLU = Noise Sensitive Land Use; dBA = A-weighted decibels; L_{EQ} = equivalent sound level; NA = not applicable

Table 21
VENTILATION LOCATION SETBACK DISTANCES – NIGHTTIME HOURS

Jurisdiction	Threshold at NSLU (dBA L _{EQ} [1 hour])	Land Use Type	Distance Within Which Noise Levels Would Exceed Threshold	
			No Barrier	With 8-foot Barrier ¹
City of Los Angeles	45	Residential	850 feet	170 feet
City of Torrance	50	Residential	500 feet	95 feet

Note: Ventilation activity assumes the use of a generator, blower, and welder.

¹ Barrier is assumed to be approximately 8 feet from the noise source.

NSLU = Noise Sensitive Land Use; dBA = A-weighted decibels; L_{EQ} = equivalent sound level; NA = not applicable

4.4.3 Construction Traffic

As described in Section 3.2.4, construction is estimated to add approximately 104 daily trips per pipe access site to nearby roadways. This would consist of 64 passenger vehicles and 40 trucks per day, or approximately 8 vehicles and 4 trucks during a peak hour. A general rule of thumb is that a doubling of traffic would cause a doubling in sound energy (a 3-dBA increase), which would be perceptible and, therefore, a significant increase.

Because of the location of the pipe access sites, construction traffic would be required on local streets. An additional 104 vehicle trips over the course of a day would represent less than a doubling in trips and therefore would not be expected to cause a doubling in noise. Furthermore, it is unlikely that 104 trips would be needed for extended periods of time, and overall construction noise impacts would be temporary. The addition of construction traffic would be less than significant, and no mitigation is required.

4.4.4 Mitigation Measures

The project would be required to comply with PEIR MM NOI-2, PEIR MM NOI-3, and PEIR MM NOI-4 to reduce noise levels, as feasible. To comply with PEIR MM NOI-3, the following additional project measures shall be implemented:

MM NOI-3.1 Construction Exterior Noise Level Standards. Construction noise from project construction activities shall comply with the daytime and nighttime thresholds and hours specified by the cities of Los Angeles and Torrance for sensitive receptors to the maximum extent feasible.

Within the City of Los Angeles, daytime construction activities lasting more than one day and less than 10 days in a three-month period shall comply with the 60 dBA L_{EQ} standard for residential zones. Daytime construction activities lasting more than 10 days in a three-month period shall comply with the 55 dBA L_{EQ} standard for residential zones. Nighttime (9:00 p.m. to 7:00 a.m. on weekdays, before 8:00 a.m. and after 6:00 p.m. on Saturday, and any time on Sunday) shall comply with the 45 dBA L_{EQ} standard for residential zones.

Within the City of Torrance, construction activities shall occur only between 7:30 a.m. and 6:00 p.m. Monday through Friday and between 9:00 a.m. and 5:00 p.m. on

Saturdays. If construction occurs outside these hours, noise levels shall not exceed 50 dBA as measured at property lines.

MM NOI-3.2 Noise Reduction Measures for Pipe Access Site Excavation and Relining Activities.

Measures to reduce noise levels to below a level of significance may include the use of noise barriers, noise attenuation devices/modifications to construction equipment, limiting hours of operation, or a combination of these measures.

For excavation activities at all proposed pipe access sites, a 12-foot barrier shall be required to reduce noise levels.

For pipeline relining activities at all proposed pipe access sites, a 12-foot barrier shall be required to reduce noise levels.

If a temporary barrier is used, all barriers shall be solid and constructed of masonry, wood, plastic, fiberglass, steel, or a combination of those materials, with no cracks or gaps through or below the wall. Any seams or cracks must be filled or caulked. If wood is used, it can be tongue and groove or close butted seams and must be at least ¾-inch thick or have a surface density of at least 3.5 pounds per square foot. Sheet metal of 18 gauge (minimum) may be used if it meets the other criteria and is properly supported and stiffened so that it does not rattle or create noise itself from vibration or wind. Noise blankets, hoods, or covers also may be used, provided they are appropriately implemented to provide the required sound attenuation. The noise control barrier enclosures should be of an elongated “U” shape, with the elongated sides parallel to the pipeline.

MM NOI-3.3 Setback Distances for Mobile Operations (Ventilators, Manholes, Valves). For construction operations that would occur at movable locations along the pipeline alignment, the following setback distances and/or barriers shall be necessary to maintain noise levels to within local standards for residential land uses in the cities of Los Angeles and Torrance. Setback distances and/or barriers shall be used to the extent feasible.

Daytime

For ventilation activities, equipment shall be set back outside of the distances within which noise levels would exceed thresholds, as presented in Table 14 of this noise report, for the City of Los Angeles.

For the continuous use of a jackhammer during a single hour, equipment shall be setback outside of the distances within which noise levels would exceed thresholds, as presented in Table 15 of this noise report, for the City of Los Angeles.

For use of a backhoe, equipment shall be setback outside of the distances within which noise levels would exceed thresholds, as presented in Table 16 of this noise report, for the City of Los Angeles.

For the continuous use of a concrete saw during a single hour, equipment shall be setback outside of the distances within which noise levels would exceed thresholds, as presented in Table 17 of this noise report, for the City of Los Angeles.

For the continuous use of a generator during a single hour, equipment shall be setback outside of the distances within which noise levels would exceed thresholds, as presented in Table 18 of this noise report, for the City of Los Angeles.

Nighttime

For the continuous use of a generator during a single hour at night, equipment shall be setback outside of the distances within which noise levels would exceed thresholds, as presented in Table 19 of this noise report, for the cities of Los Angeles and Torrance.

For nighttime ventilation activities, equipment shall be setback outside of the distances within which noise levels would exceed thresholds, as presented in Table 20 of this noise report, for the cities of Los Angeles and Torrance.

MM NOI-3.4 Nighttime Construction Management Plan. The project specifications shall require preparation of a Nighttime Construction Management Plan prior to the onset of construction. The plan shall describe measures to reduce noise levels for any nighttime work that may occur. Specific measures to reduce construction noise may include:

- Placement of noise-generating equipment as far as feasible from noise-sensitive land uses.
- Utilization of enclosures or other barriers for equipment to reduce noise levels.
- Construction equipment properly outfitted and maintained with manufacturer-recommended noise-reduction devices.
- Diesel equipment operated with closed engine doors and equipped with factory-recommended mufflers.
- Written notification to residents within 100 feet of the project's property line, provided a minimum of one week prior to nighttime construction activity. Notification to include a description of activities anticipated, expected dates and hours for construction, and contact information with details of a complaint and response procedure.

4.4.5 Significance After Mitigation

4.4.5.1 Daytime Construction Operations

Impacts from pipe access site excavation would remain significant at Pipe Access Site 2225 in the City of Los Angeles with the use of a 12-foot barrier. Impacts from relining activities would remain significant at Pipe Access Site 2225 with the use of a 12-foot barrier. Impacts associated with pipe access site excavation and relining are therefore considered significant and unavoidable. As noted in Section 1.3, however, impacts would be consistent with those identified in the PEIR. For activities that would occur

at various, movable locations along the pipeline alignment, provided the setback distances with or without inclusion of barriers as described in MM NOI-3.3 and listed in Tables 14 through 19 are maintained, impacts would be reduced to less-than-significant levels.

4.4.5.2 Nighttime Construction Operations

Noise levels from nighttime relining activities at Pipe Access Site 2113 in the City of Torrance and Pipe Access Site 2225 in the City of Los Angeles would exceed respective nighttime standards at nearby NSLUs, and impacts would be significant and unavoidable; however, impacts would be consistent with those identified in the PEIR. Impacts associated with dewatering and ventilation activities within the cities of Los Angeles and Torrance would be less than significant after mitigation, which involves maintaining the setback distances depicted in Tables 19 and 21. If dewatering or ventilation activities occur within these setback distances, impacts would be significant.

4.5 ISSUE 5: AIRPORT NOISE EXPOSURE

Would the project expose people residing or working in the project area to excessive noise from a nearby public use airport or private airstrip?

The project proposes the relining of an underground pipeline, and no housing or permanent workers would result from the project. Additionally, construction workers would wear noise safety gear as required by the federal Occupational Safety and Health Administration that would also serve as protection from any airport noise exposure. No impacts from airport noise exposure would occur.

5.0 LIST OF PREPARERS

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6.0 REFERENCES

California Department of Transportation (Caltrans). 2013. Technical Noise Supplement (TeNS) to the Traffic Noise Protocol. September.

City of Los Angeles. 2006. L.A. CEQA Thresholds Guide. Available at:
<http://planning.lacity.org/Documents/MajorProjects/CEQAThresholdsGuide.pdf>.

City of Torrance. 2019. City of Torrance Municipal Code. Chapter 46.3.1, Construction of Buildings and Projects. Available at: <https://www.codepublishing.com/CA/Torrance/#!/Torrance04/Torrance0406.html#46.3.1>.

Department for Environment, Food and Rural Affairs (Defra). 2005. Update of Noise Database for Prediction of Noise on Construction and Open Sites. Prepared by Hepworth Acoustics, Ltd. July 22.

The Metropolitan Water District of Southern California. 2016. Programmatic Environmental Impact Report for the Prestressed Concrete Cylinder Pipe Rehabilitation Program (SCH No. 2014121055). December.

U.S. Department of Transportation, Federal Highway Administration (FHWA). 2007. Construction Equipment Noise levels and Ranges – Highway Construction Noise. August 29.

U.S. Department of Transportation, Federal Transit Administration (FTA). 2006. Transit Noise and Vibration Impact Assessment. May.

U.S. Department of Transportation. 2008. Roadway Construction Noise Model.