APPENDIX 3.11-A **KNE HAZARDS AND HAZARDOUS MATERIALS TECHNICAL REPORT**

Los Angeles County
Metropolitan Transportation Authority

HAZARDS AND HAZARDOUS MATERIALS TECHNICAL REPORT

K LINE NORTHERN EXTENSION

Metro

JULY 2024

K LINE NORTHERN EXTENSION TRANSIT CORRIDOR PROJECT

Hazards and Hazardous Materials Technical Report

Prepared for:

Metro

Los Angeles County
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ABBREVIATIONS / ACRONYMS

ACRONYM	DEFINITION
ACM	Asbestos-Containing Material
ADL	Aerially Deposited Lead
Advanced AA	Advanced Alternatives Analysis
ALUC	Airport Land Use Commission
AST	Aboveground Storage Tank
ASTM	American Society of Testing Materials
bgs	Below Ground Surface
BMPs	best management practices
BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
CA FID UST	State Facility Inventory Database
CalARP	California Accidental Release Prevention
CalGem	California Geologic Energy Management Division
CalOSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CERS	California Environmental Reporting System
CFR	Code of Federal Regulations
cis-1,2-DCE	cis-1,2-Dichloroethylene
CORTESE	Hazardous Waste and Substance Sites list
CPS	Cleanup Program Site
CPS-SLIC	Cleanup Program Sites-Spills, Leaks, Investigations, and Cleanups

ACRONYM	DEFINITION
CUPA	Certified Unified Program Agencies
DCE	Dichloroethylene
Division 16	Division 16 Southwestern Maintenance Yard
DOSH	Division of Occupational Safety and Health
DPE	Dual Phase Extraction
DTSC	Department of Toxic Substances Control
EDR	Environmental Data Resources
EIR	Environmental Impact Report
EMI	Emissions Inventory Data
ESA	Environmental Site Assessment
FAA	Federal Aviation Administration
FUDS	Formerly Used Defense Sites
HASP	Health and Safety Plan
HAZNET	Facility and Manifest Data Database
HHMD	Health Hazardous Materials Division
HIST UST	Historical Underground Storage Tank
HMIS	Hazardous Material Identification System
HMMP	Hazardous Material Management Program
HMS	Hazardous Materials Sites
HWCP	Hazardous Waste Control Program
HWTS	Hazardous Waste Transport System Database
IIPP	Injury and Illness Prevention Program
LAFD	Los Angeles Fire Department
LAX	Los Angeles International Airport
LBP	Lead Based Paint
LEL	Lower Explosive Limit
LRT	Light Rail Transit

ACRONYM	DEFINITION
LTCP	Low Threat Closure Policy
LUST	Leaking Underground Storage Tank
Metro	Los Angeles County Metropolitan Transportation Authority
MM	Mitigation Measure
MRDC	Metro Rail Design Criteria
MSF	Maintenance and Storage Facility
msl	Mean Sea Level
MTBE	Methyl Tertiary Butyl Ether
NAICS	North American Industry Classification System
OCS	Overhead Contact System
OSHA	Occupational Safety and Health Act
PA	Participating Agency
PCBs	Polychlorinated Biphenyls
PCE	Perchloroethylene or “Perc”; Tetrachloroethylene
PFAS	Per- and Polyfluoroalkyl Substances
ppm	Parts Per Million
Project	K Line Northern Extension Project
PRP	Potentially Responsible Party
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
ROW	Right-Of-Way
RSA	Resource Study Area
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SCAG	Southern California Association of Governments
SEM	Sequential Excavation Method

ACRONYM	DEFINITION
SPCC	Spill Prevention, Control, and Countermeasures
SQG	Small Quantity Generator
SVE	Soil Vapor Extraction
SWEEPS	Statewide Environmental Evaluation and Planning System
SWRCB	State Water Resources Control Board
TBA	Tertiary Butyl Alcohol
TBM	Tunnel Boring Machine
TCE	Trichloroethylene
TPH	Total Petroleum Hydrocarbons
TPH-g	Total Petroleum Hydrocarbons as Gasoline
UFC	Uniform Fire Code
USC	United State Code
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds

CHAPTER 1 INTRODUCTION

1.1 PROJECT OVERVIEW

The Los Angeles County Metropolitan Transportation Authority (Metro) is preparing a Draft Environmental Impact Report (EIR) for the K Line Northern Extension Transit Corridor Project (the Project) (Figure 2-1). The Project would provide a northern extension of the Metro light rail transit (LRT) K Line from the Metro E Line (Expo) to the Metro D Line (Purple) and B Line (Red) heavy rail transit lines. The Project would serve as a critical regional connection, linking the South Bay, the Los Angeles International Airport (LAX) area, South Los Angeles, Inglewood, and Crenshaw corridor to Mid-City, Central Los Angeles, West Hollywood, and Hollywood, allowing for further connections to points north in the San Fernando Valley via the Metro B Line. The Project would also connect major activity centers and areas of high population and employment density.

1.2 TECHNICAL REPORT SUMMARY

This technical report evaluates the Project's environmental impacts as they relate to hazards and hazardous materials. It describes existing conditions, the current applicable regulatory setting, potential impacts from construction and operation of the alignment alternatives, stations, design option, and maintenance and storage facility (MSF), as well as mitigation measures where applicable. This technical report was conducted in compliance with the California Environmental Quality Act (CEQA) (Sections 21000 et seq.) and the CEQA Guidelines (Section 15000 et seq.), which require state and local agencies to identify the significant environmental impacts of their actions, including significant impacts associated with hazards and hazardous materials, and to avoid or mitigate those impacts, when feasible.

The technical report is organized into eight chapters:

- Chapter 1 – Introduction, provides an overview of the Project and a summary of the technical report's contents.
- Chapter 2 – Project Description, provides a description of the Project's alignment alternatives, stations, design option, and MSF. This section also describes the construction approach for the Project.
- Chapter 3 – Regulatory Framework, discusses applicable federal, state, and local regulatory requirements, including plans and policies relevant to Project jurisdictions.
- Chapter 4 – Methodology and Significance Thresholds, describes the analysis methodologies applied for this Project and provides a summary of CEQA significance thresholds adopted by state and local jurisdictions.
- Chapter 5 – Existing Setting, describes the existing conditions as relevant to the Project's alignment alternatives, stations, design option, and MSF.
- Chapter 6 – Impacts and Mitigation Measures, discusses the impact analyses conducted for the Project's alignment alternatives, stations, design option, and MSF, and discusses

applicable mitigation measures. It also discusses any project measures that would be implemented as part of design and construction of the Project.

- Chapter 7 – Cumulative Impacts, discusses the cumulative impacts for the Project's alignment alternatives, stations, design option, and MSF.
- Chapter 8 – References, lists the references used to prepare this technical report.

CHAPTER 2 PROJECT DESCRIPTION

This section provides information pertinent to the components of the Project as evaluated in the technical report. The Project components for evaluation in this technical report include three light rail alignment alternatives with stations, one design option, and one MSF.

2.1 ALIGNMENT ALTERNATIVES

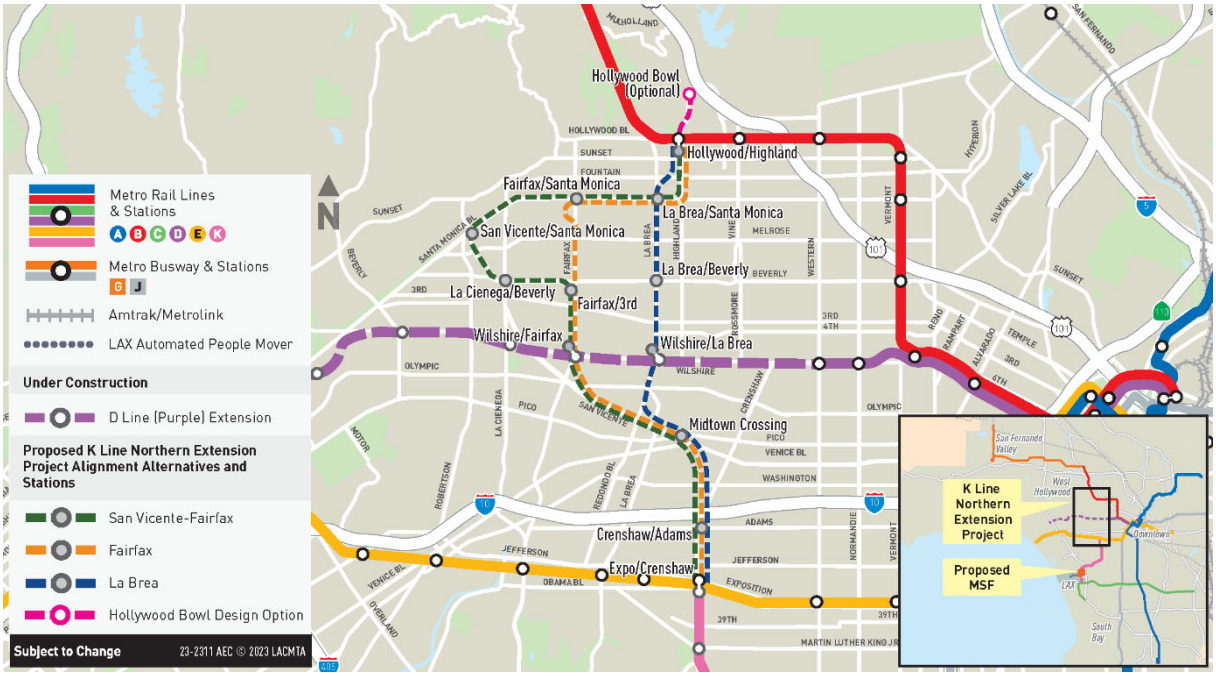
As shown in Figure 2-1, each of the three alignment alternatives would provide a northern extension of the Metro K Line from its current terminus at the Expo/Crenshaw Station to the Metro B Line Hollywood/Highland Station. All three alignment alternatives would operate entirely underground in parallel twin-bore tunnels with some station elements at the surface, including the station entrance and ventilation structures. Due to the project length and pending funding availability, the alignment alternatives would be constructed sequentially in sections.

The alignment alternatives are as follows:

- Alignment Alternative 1: San Vicente–Fairfax. This alignment alternative would travel north from the existing Metro K Line Expo/Crenshaw Station before heading northwest under San Vicente Boulevard, with a connection to the future Metro D Line Wilshire/Fairfax Station. It would continue north under Fairfax Avenue before turning west under Beverly Boulevard to rejoin San Vicente Boulevard. The alignment would then turn east under Santa Monica Boulevard, and then turn north just east of La Brea Avenue to follow Highland Avenue north to connect to the Metro B Line at the Hollywood/Highland Station.
- Alignment Alternative 2: Fairfax. This alignment alternative would travel north from the existing Metro K Line Expo/Crenshaw Station before heading northwest under San Vicente Boulevard and north under Fairfax Avenue, where it would connect with the future Metro D Line Wilshire/Fairfax Station. It would continue north under Fairfax Avenue and turn east under Santa Monica Boulevard. The alignment would then turn north just east of La Brea Avenue to follow Highland Avenue north to connect to the Metro B Line at the Hollywood/Highland Station.
- Alignment Alternative 3: La Brea. This alignment alternative would travel north from the existing Metro K Line Expo/Crenshaw Station before heading northwest under San Vicente Boulevard and north under La Brea Avenue, where it would connect with the future Metro D Line Wilshire/La Brea Station. From there, it would continue north under La Brea Avenue and turn northeast north of Fountain Avenue to follow Highland Avenue to connect with the Metro B Line at the Hollywood/Highland Station.

Table 2-1 provides a summary of the characteristics of each of the alignment alternatives and Table 2-2 identifies which stations would be constructed under each alignment alternative. In total, 12 station areas are identified, including the option to extend to the Hollywood Bowl.

FIGURE 2-1. K LINE NORTHERN EXTENSION ALIGNMENT ALTERNATIVES



Source: Connect Los Angeles Partners 2023

TABLE 2-1. CHARACTERISTICS OF THE ALIGNMENT ALTERNATIVES AND DESIGN OPTION

PROJECT COMPONENTS	ALIGNMENT ALTERNATIVES			DESIGN OPTION
	1. SAN VICENTE–FAIRFAX	2. FAIRFAX	3. LA BREA	HOLLYWOOD BOWL EXTENSION
Alignment Length	9.7 miles underground	7.9 miles underground	6.2 miles underground	+ 0.8 mile underground
Stations	9 underground	7 underground	6 underground	+1 underground
Travel time from Expo/Crenshaw to Hollywood/Highland Stations	19 minutes	15 minutes	12 minutes	+2 minutes (from Hollywood/Highland)

Source: Connect Los Angeles Partners 2023

TABLE 2-2. STATIONS BY ALIGNMENT ALTERNATIVE

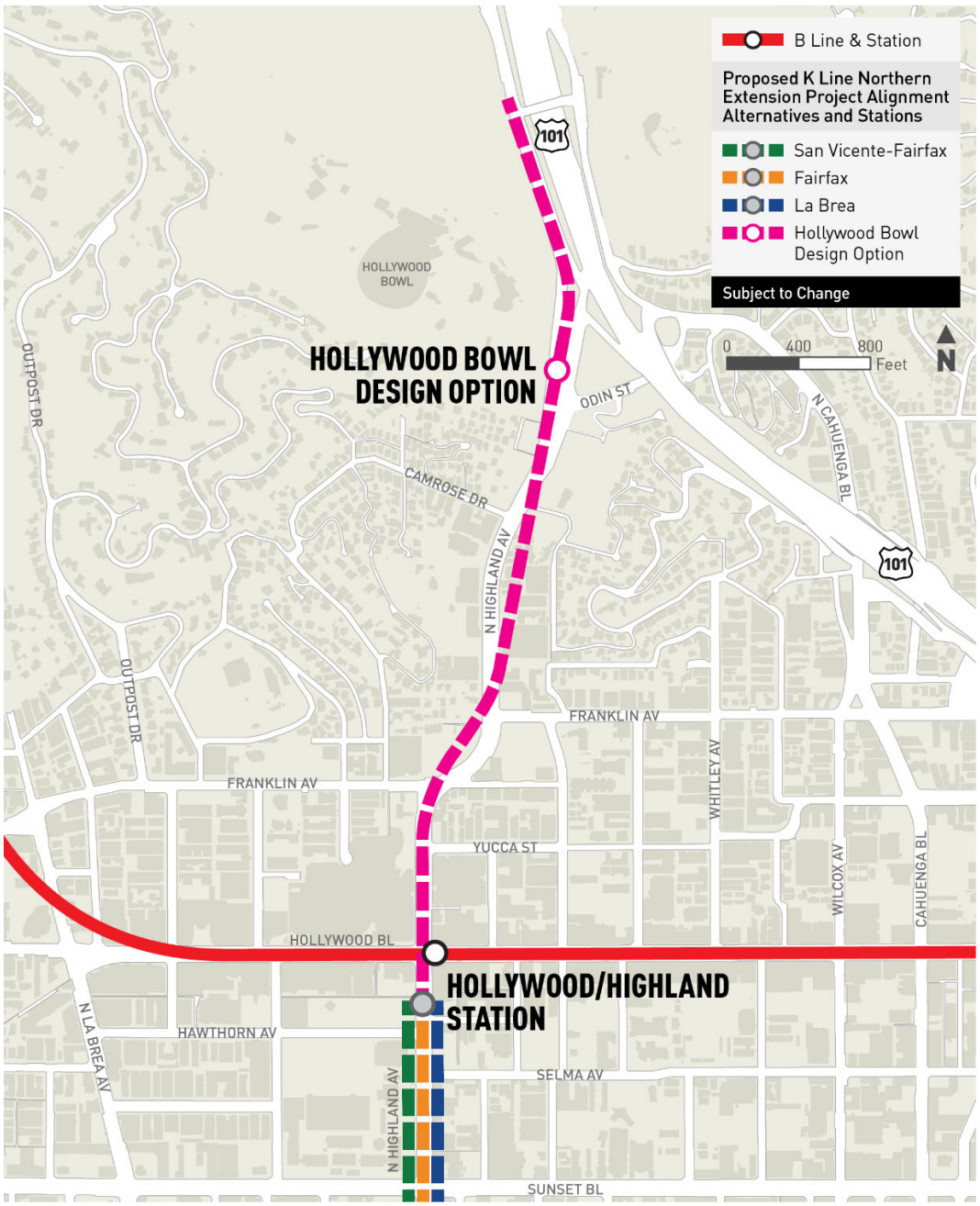
STATION	SAN VICENTE–FAIRFAX	FAIRFAX	LA BREA
Crenshaw/Adams (City of Los Angeles)	●	●	●
Midtown Crossing (City of Los Angeles)	●	●	●
Wilshire/Fairfax (City of Los Angeles)	●	●	
Fairfax/3rd (City of Los Angeles)	●	●	
La Cienega/Beverly (City of Los Angeles)	●		
San Vicente/Santa Monica (City of West Hollywood)	●		
Fairfax/Santa Monica (City of West Hollywood)	●	●	
La Brea/Santa Monica (City of West Hollywood)	●	●	●
Hollywood/Highland (City of Los Angeles)	●	●	●
Wilshire/La Brea (City of Los Angeles)			●
La Brea/Beverly (City of Los Angeles)			●
Hollywood Bowl (City of Los Angeles)	●	●	●

Source: Connect Los Angeles Partners 2023

2.2 HOLLYWOOD BOWL DESIGN OPTION

For every alignment alternative, there is one design option under consideration. The Hollywood Bowl Design Option includes an alternate terminus station at the Hollywood Bowl, north of the proposed Hollywood/Highland Station, as shown in Figure 2-2.

FIGURE 2-2. HOLLYWOOD BOWL DESIGN OPTION



Source: Connect Los Angeles Partners 2023

2.3 MAINTENANCE AND STORAGE FACILITY

An MSF would be constructed that would expand the Division 16 Maintenance Yard (Division 16), the existing MSF for the Metro K Line near LAX, as shown in Figure 2-3. The MSF would provide equipment and facilities to accommodate daily servicing and cleaning, inspection and repairs, and storage of light rail vehicles that are not in service. The MSF would be the primary physical employment center for rail operation employees, including train operators, maintenance workers, supervisors, administrators, security personnel, and other roles. If the Project is opened in sections, operation of the extended K Line from the Expo/Crenshaw Station to the Metro D Line could be accommodated within the existing Division 16 site with four new storage tracks.

FIGURE 2-3. MAINTENANCE AND STORAGE FACILITY

Source: Connect Los Angeles Partners 2023

2.4 CONSTRUCTION APPROACH

The Project would be constructed in sections that would be built sequentially, depending on available funding. The development of the Project would employ conventional construction methods, techniques, and equipment similar to other Metro projects that require underground tunneling. Detailed information on construction techniques can be found in the KNE Construction Approach Report.. Major construction activities for the Project include surveys and preconstruction, which consist of local business surveys, building and utility assessments, and site preparations; right-of-way acquisition; tunnel construction, including tunnel boring machine (TBM) excavation and segmental lining and installation; utility relocation and installation work; station, crossover, and connection box construction; MSF construction, including site grading, maintenance building construction, and storage and access track construction; street restorations, including paving and sidewalks; ventilation and emergency egress construction; systems installation and facilities, including trackbed, rail, overhead contact system, conduit, electrical substation, and communications and signaling construction; and construction of other ancillary facilities.

The tunnels would be bored with TBMs, and the stations and track crossover boxes would be constructed via cut-and-cover methods, which entail excavating down from the ground surface and stabilizing the ground with an excavation support, then placing temporary decking surfaces above the excavation and conducting all excavation inside the supported area. The tunnel and station associated with the Hollywood Bowl Design Option would be constructed by sequential excavation method (SEM), which entails conventional mining techniques and equipment for hard rock excavation, which would reduce surface impacts.

Construction staging areas have been identified at each of the station locations, which are described and illustrated in Appendix A of the KNE Construction Approach Report. In order to construct a station, a minimum of one to two acres of construction staging sites would be needed for the duration of the station construction period. A larger construction staging site of three to four acres would be required if the site is also used to launch the TBMs and support tunneling activities. The TBM launch sites have been identified at the Midtown Crossing, San Vicente/Santa Monica, and La Brea/Santa Monica Stations. Temporary street, lane, sidewalk and bike lane closures as well as street reconfigurations will be part of construction activities. Construction and operational impacts of hazards and hazardous materials are identified and discussed in this technical report.

CHAPTER 3 REGULATORY FRAMEWORK

3.1 FEDERAL REGULATIONS

In California, hazardous materials and wastes are subject to federal and state requirements by statute and regulation. Below is summary of the federal and state hazardous waste regulations, which are variously overseen by the United States Environmental Protection Agency (USEPA), the Department of Labor (Federal Occupational Safety and Health Administration [OSHA]), and the United States Department of Transportation (USDOT).

3.1.1 RESOURCE CONSERVATION AND RECOVERY ACT (42 USC SECTION 6901 ET SEQ.)

The Resource Conservation and Recovery Act (RCRA) regulates the identification, generation, transportation, storage, treatment, and disposal of solid and hazardous materials and hazardous wastes. It requires a system that uses hazardous waste manifests to track the movement of waste from its site of generation to its ultimate disposition. Under RCRA regulations, generators of hazardous waste must register and obtain a hazardous waste activity identification number. Hazardous wastes are likely to be generated as part of this Project.

3.1.2 COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (42 USC SECTION 9601 ET SEQ.)

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) regulates former and newly discovered uncontrolled waste disposal and spill sites. CERCLA established the National Priorities List of contaminated sites, and the "Superfund" cleanup program to identify and clean up chemically contaminated sites that pose a significant environmental health threat. Under CERCLA, the USEPA maintains a list, known as the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), of contaminated sites in the nation that have undergone to some extent or are currently undergoing cleanup activities. CERCLIS contains information on current hazardous waste sites, potential hazardous waste sites, and remedial activities. This includes sites that are on the National Priorities List or that are being considered for the list. The Hazard Ranking System within the CERCLIS database is used to determine whether a site should be placed on the list for cleanup activities. The investigation and potential remediation of contaminated properties are likely to occur as part of the construction phase of this project.

3.1.3 CLEAN AIR ACT (42 USC SECTION 7401 ET SEQ.)

The Clean Air Act protects the public from exposure to airborne contaminants that are known to be hazardous to human health. Under the Clean Air Act, the USEPA established National Emissions Standards for Hazardous Air Pollutants, including asbestos. The construction phase of this project is likely to require demolition of structures that may contain asbestos and other hazardous materials.

3.1.4 CLEAN WATER ACT – NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (SECTION 402[P])

The Clean Water Act regulates discharges and spills of pollutants, including hazardous materials, to surface waters and groundwater. This project would require the use, handling, and/or disposal of hazardous materials, particularly during the construction phase, potentially impacting regulated surface waters or groundwater.

3.1.5 SAFE DRINKING WATER ACT (42 USC SECTION 300[F] ET SEQ.)

The Safe Drinking Water Act regulates discharges of pollutants to underground aquifers and establishes standards for drinking water quality. The Safe Drinking Water Act is the principal federal law in the United States intended to ensure safe drinking water for the public. Pursuant to the act, the USEPA is required to set standards for drinking water quality and oversee all states, localities, and water suppliers that implement the standards. Although this project would not extract groundwater for a source of drinking water, the subsurface aquifers in the area may be a source of drinking water for others and therefore must not be impacted by Project activities.

3.1.6 TOXIC SUBSTANCES CONTROL ACT (15 USC SECTION 2601 ET SEQ.)

The Toxic Substances Control Act provides the USEPA with the authority to mandate reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. The act regulates the manufacture, inventory, and disposition of industrial chemicals, including hazardous materials. This project would include the use, storage, and handling of a variety of chemical substances, particularly as part of the construction phase.

3.1.7 FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT (7 USC SECTION 136 AND 40 CFR PARTS 152 TO 171)

The Federal Insecticide, Fungicide and Rodenticide Act regulates the manufacturing, distribution, sale, and use of pesticides. Pesticides and herbicides were likely historically used in agricultural areas. They would also likely be used during the operations phase of the Project to control pests.

3.1.8 HAZARDOUS AND SOLID WASTE AMENDMENTS TO THE RCRA (42 USC SECTION 6901 ET SEQ.)

The Hazardous and Solid Waste Amendments are the 1984 amendments to RCRA that focused on waste minimization and phasing out land disposal of hazardous waste as well as corrective action for releases. The amendments established national minimum requirements for solid waste disposal sites and practices, requires states to develop plans to manage wastes within their jurisdictions, requires monitoring and containment systems for underground storage tanks (USTs) that hold hazardous materials, and requires owners of USTs to demonstrate financial assurance for the cleanup of a potential leaking tank. Although this project is not anticipated to use or install a UST, a UST may be present on property that would be acquired as part of the Project.

3.1.9 SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (42 USC SECTION 9601 ET SEQ.)

The Superfund Amendments and Reauthorization Act (SARA) pertains primarily to emergency management of accidental releases of hazardous waste. SARA requires the formation of state and local emergency planning committees that are responsible for collecting material-handling and transportation data as a basis of planning. Chemical inventory data are made available to the community under the "right-to-know" provision of the law. In addition, SARA requires annual reporting of continuous emissions and accidental releases of specified hazardous compounds. These annual submissions are compiled into a nationwide Toxics Release Inventory. The Project would use a variety of chemical substances that require workers to use appropriate protective equipment to prevent exposure to them.

3.1.10 HAZARDOUS MATERIALS TRANSPORTATION ACT (49 USC SECTION 1801-1819 AND 49 CFR PARTS 101, 106, 107, AND 171-180)

The Hazardous Materials Transportation Act is the statutory basis of the extensive body of regulations aimed at ensuring the safe transport of hazardous materials by marine vessels, rail, highways, aircraft, and in pipelines. The act's objective is to provide adequate protection against the risks to life and property inherent in the transportation of hazardous materials, and includes provisions for material classification, packaging, marking, labeling, placarding, and shipping documentation.

3.1.11 OCCUPATIONAL SAFETY AND HEALTH ACT (29 USC SECTION 651 ET SEQ.)

The main goal of OSHA of 1970 is "to ensure that employers provide employees with an environment free from recognized hazards, such as exposure to toxic chemicals, excessive noise levels, mechanical dangers, heat or cold stress, or unsanitary conditions." The Act authorizes the "enforcement of the standards developed under the Act; by assisting and encouraging the States in their efforts to assure safe and healthful working conditions; by providing for research, information, education, and training in the field of occupational safety and health; and for other purposes."

3.1.12 EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW ACT (40 CFR PARTS 350-372)

The Emergency Planning and Community Right to Know Act was enacted by Congress as the national legislation on community safety under Title III of SARA. This law is designed to help local communities minimize the effects of chemical hazards on public health and safety, as well as on the environment. To put the act into action, Congress requires each state to appoint a State Emergency Response Commission. These commissions are required to divide their states into Emergency Planning Districts and to name a Local Emergency Planning Committee for each district. Firefighters, health officials, government and communications media representatives, community groups, industrial facilities, and emergency managers ensure that all necessary elements of the planning process are represented.

3.2 STATE REGULATIONS

There are numerous state regulations relating to the identification, generation, transport, storage, handling, treatment, and disposal of hazardous materials and wastes. The laws summarized in this section are likely to be applicable to the Project and are provided for initial reference.

Primary state agencies with jurisdiction over public health hazards and hazardous chemical materials management are the Department of Toxic Substances Control (DTSC) and the Regional Water Quality Control Boards (RWQCB). The USEPA authorizes the DTSC to administer RCRA in the State of California. Other state agencies involved in hazardous materials management are the Department of Industrial Relations (California OSHA [CalOSHA] implementation), Office of Emergency Services (Office of Emergency Services–California Accidental Release Prevention Implementation), California Department of Fish and Wildlife, California Air Resources Board (CARB), California Highway Patrol, California Department of Transportation (Caltrans), State Office of Environmental Health Hazard Assessment (Proposition 65 implementation), and the California Integrated Waste Management Board.

3.2.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT (SECTION 21000 ET SEQ.) AND CEQA GUIDELINES (SECTION 15000 ET SEQ.)

The California Environmental Quality Act (CEQA) requires state, local, and other agencies to evaluate the environmental implications of their decisions and to avoid or reduce, when feasible, the significant environmental impacts of their decisions (PRC §Section 21002; CEQA Guidelines §Section 15021(a)).

3.2.2 CALIFORNIA PUBLIC RESOURCES CODE SECTION 21151.4

This code requires the lead agency to consult with any school district with jurisdiction over a school within 0.25 mile of the Project about potential effects on the school if the Project might reasonably be anticipated to emit hazardous air emissions or handle an extremely hazardous substance or a mixture containing an extremely hazardous substance.

3.2.3 PORTER-COLOGNE WATER QUALITY CONTROL ACT (CALIFORNIA WATER CODE SECTION 13000 ET SEQ.)

The Porter-Cologne Water Quality Control Act regulates water quality through the State Water Resources Control Board (SWRCB) and RWQCB, including oversight of water monitoring and contamination cleanup and abatement. The RWQCB regulates wastewater discharges to surface water (rivers, ocean, etc.) and to groundwater (via land). The RWQCB regulates stormwater discharges from construction, industrial, and municipal activities; discharges from irrigated agriculture; dredge and fill activities; the alteration of federal water bodies under certification program of Section 401 of the Clean Water Act of (1972); and several other activities with practices that could degrade water quality. This project would generate stormwater.

3.2.4 HAZARDOUS WASTE CONTROL LAW (CALIFORNIA HEALTH AND SAFETY CODE SECTION 25100 ET SEQ.)

This section of the California Health and Safety Code implements RCRA's "cradle-to-grave" waste management system in California. The Hazardous Waste Control Program (HWCP) is similar to RCRA on the federal level in regulating the identification, generation, transportation, storage and disposal of materials deemed hazardous by the State of California. The Hazardous Waste Control Law specifies that waste generators have the primary duty to determine whether their wastes are hazardous and to ensure their proper management.

Under the State Hazardous Waste Control Law, asbestos is considered a California-hazardous waste. Asbestos Containing Materials (ACM) are classified as hazardous waste if they are friable and contain 1 percent or more asbestos. Non-friable ACM waste is considered nonhazardous regardless of its asbestos content. The DTSC regulates the packaging, on-site accumulation, transportation (through standards applicable to transporters of hazardous waste), and disposal of asbestos when it is a hazardous waste. This project would likely generate these types of waste.

The HWCP establishes criteria for the reuse and recycling of hazardous wastes used or reused as raw materials. The HWCP exceeds federal requirements by mandating source-reduction planning and has a much broader requirement for permits for facilities that treat hazardous waste. It regulates several types of wastes and waste management activities that are not covered by federal law (RCRA). Cal/EPA has delegated some of its authority under the Hazardous Waste Control Law to county health departments and other Certified Unified Program Agencies (CUPA).

3.2.5 HAZARDOUS MATERIALS RELEASE RESPONSE PLANS AND INVENTORY LAW (CALIFORNIA HEALTH AND SAFETY CODE SECTION 25500 ET SEQ.)

This section of the California Health and Safety Code requires facilities using hazardous materials to prepare Hazardous Materials Business Plans. The Hazardous Materials Business Plan aims to prevent or minimize harm to public health and safety and the environment from a release or threatened release of a hazardous material. This is accomplished by providing emergency responders with the necessary information to effectively protect the public.

DTSC is a department of CalEPA and oversees the implementation of the Hazardous Materials Business Plan program at the state level. CUPAs, and Participating Agencies (Pas), implement the program at the local level and are responsible for enforcement and administration in their respective jurisdictions.

A Hazardous Materials Business Plan contains detailed information that includes the following:

- An inventory of hazardous materials at a facility.
- Emergency response plans and procedures to be followed in the event of a reportable release or threatened release of a hazardous material.
- Requirements to train employees in safety procedures in the event of a release or threatened release of a hazardous material, including onboarding for new employees and annual refresher courses for existing employees.

- A site map that depicts north orientation, loading areas, internal roads, adjacent streets, storm and sewer drains, access and exit points, emergency shutoffs, evacuation staging areas, hazardous material handling and storage areas, and emergency response equipment.

3.2.6 CALIFORNIA CODE OF REGULATIONS TITLE 22, DIVISION 4.5

This regulation contains the Environmental Health Standards for the Management of Hazardous Waste, which includes California waste identification and classification regulations. CCR Title 22, Chapter 11, Article 3, "Soluble Threshold Limits Concentrations/Total Threshold Limits Concentration Regulatory Limits," identifies the concentrations at which soil is determined to be a California hazardous waste. Title 22 contains the compliance requirements for hazardous waste generators, transporters, and treatment, storage, and disposal facilities. Because California is a fully authorized state according to the federal RCRA, most RCRA regulations have been duplicated and integrated into Title 22. RWQCB regulations are contained in Title 27 of the California Code of Regulations (CCR). CCR Title 26 is a compilation of those sections or titles of CCR that are applicable to hazardous materials. This project would generate wastes.

3.2.7 SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65)

The state's Safe Drinking Water and Toxic Enforcement Act is similar to the Safe Drinking Water Act and Clean Water Act on the federal level in regulating the discharge of contaminants to groundwater, including release and exposure to carcinogenic chemicals.

3.2.8 CALIFORNIA GOVERNMENT CODE SECTION 65962.5 (CORTESE LIST)

The Hazardous Waste and Substance Sites (Cortese) List is a planning document used by the state, local agencies, and developers to help comply with CEQA requirements in providing information about the location of hazardous materials release sites. It requires the DTSC to compile and update lists that include hazardous waste facilities, underground storage tanks for which an unauthorized release report is filed, and solid waste disposal facilities from which there is a migration of hazardous waste, etc. These lists are submitted annually to the Secretary for Environmental Protection, who consolidates the information and distributes it to each city and county in which sites on the lists are located. CEQA requires that a proposed project determine if it is located on a site included on this list and, as a result, could create a significant hazard to the public or environment. Some of the nearby properties that pose a potential environmental risk to the Project are on the Cortese list.

3.2.9 CALIFORNIA CODE OF REGULATIONS TITLE 8

The California Occupational Safety and Health Act of 1973 is implemented by California OSHA (Cal/OSHA) program, which has primary responsibility for developing and enforcing standards for safe workplaces and work practices in California. The U.S. Department of Labor has delegated the authority to administer OSHA regulations to the State of California. Cal/OSHA is administered and enforced by the Division of Occupational Safety and Health (DOSH). Cal/OSHA is very similar to the Federal OSHA program. Among other provisions, Cal/OSHA requires employers to implement a comprehensive,

written Injury and Illness Prevention Program (IIPP) for potential workplace hazards, including those associated with hazardous materials.

3.2.10 CALIFORNIA ACCIDENTAL RELEASE PREVENTION PROGRAM (CALARP) PROGRAM

The California Accidental Release Prevention (CalARP) Program regulations are contained in CCR Title 19, Division 2, Chapter 4.5. The purpose of the program is to help prevent accidental releases of substances that can cause serious harm to the public and the environment and to minimize the damage if releases do occur. CalARP requires certain facilities (referred to as "stationary sources") which handle, manufacture, use, or store any regulated substances above threshold quantities to take actions to proactively prevent and prepare for accidental releases. Facilities subject to CalARP requirements must submit a Risk Management Plan (RMP).

3.2.11 STATE AERONAUTICS ACT

The State Aeronautics Act is contained in the California Public Resources Code Sections 21001 et seq. and is established for several purposes, including encouraging development of private flying and general use of air transportation, fostering and promoting safety in aeronautics, protecting residents in the vicinity of an airport from unreasonable intrusions from airport noise, and establishing regulations for allowing the conduct of aviation activities in a manner not inconsistent with the rights of others. The Project has an MSF site within two miles of an airport.

3.2.12 UNIFIED HAZARDOUS WASTE AND HAZARDOUS MATERIALS MANAGEMENT REGULATORY PROGRAM

Senate Bill 1082, passed in 1993, created the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program). The Unified Program (California Environmental Protection Agency 2012) consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of six environmental and emergency response programs. The California Environmental Protection Agency and other state agencies set the standards for their programs, while local governments implement the standards. These local implementing agencies are called CUPAs. For each county, the CUPA regulates/oversees the following:

- Hazardous materials business plans
- California accidental release prevention plans or federal risk management plans
- The operation of underground storage tanks and aboveground storage tanks
- Universal waste and hazardous waste generators/handlers
- On-site hazardous waste treatment
- Inspections, permitting, and enforcement
- Proposition 65 reporting
- Emergency response

Beyond the statewide regulations, CUPAs administer policies and regulations found in a number of local and regional plans (including general plans and municipal codes) that address hazardous materials and wastes. Policies and regulations are intended as guides for the appropriate use of potentially hazardous materials, the cleanup of contaminated sites, and the preparation of emergency response plans, all of which will be required for this project.

3.3 LOCAL REGULATIONS

3.3.1 COUNTY OF LOS ANGELES

3.3.1.1 COUNTY CERTIFIED UNIFIED PROGRAM AGENCY

A CUPA is a local agency that has been certified by Cal-EPA to implement the six state environmental programs within the local agency's jurisdiction. This program was established under the amendments to the California Health and Safety Code in 1994. The local CUPA responsible for implementing federal and State laws and regulations pertaining to hazardous materials management is the Los Angeles County Health Department, Environmental Health Division. The six consolidated programs are:

- Hazardous Materials Release Response Plan and Inventory (Business Plans)
- California Accidental Release Prevention (CalARP)
- Hazardous Waste (including Tiered Permitting)
- Underground Storage Tanks (USTs)
- Aboveground Storage Tanks (Spill Prevention Control and Countermeasures [SPCC] requirements)
- Uniform Fire Code (UFC) Article 80 Hazardous Material Management Program (HMMP) and Hazardous Material Identification System (HMIS)

As the CUPA for the County of Los Angeles, the Los Angeles County Health Department, Environmental Health Division maintains the records regarding location and status of hazardous materials sites in the county and administers programs that regulate and enforce the transport, use, storage, manufacturing, and remediation of hazardous materials. By designating a CUPA, Los Angeles County has accurate and adequate information to plan for emergencies and/or disasters and to plan for public and firefighter safety.

A PA is a local agency that has been designated by the local CUPA to administer one or more Unified Programs within their jurisdiction on behalf of the CUPA. The City of Los Angeles Fire Department (LAFD) is a PA with the Los Angeles County Health Department, Environmental Health Division as the CUPA. The LAFD monitors the storage of hazardous materials in the city for compliance with local requirements. Specifically, businesses and facilities which store more than threshold quantities of hazardous materials as defined in Chapter 6.95 of the California Health and Safety Code are required to file an Accidental Risk Prevention Program with the LAFD. This program includes information such as emergency contacts, phone numbers, facility information, chemical inventory, and hazardous materials handling and storage locations. The LAFD also has delegated authority to administer and

enforce federal and State laws and local ordinances for USTs. Plans for the construction/installation, modification, upgrade, and removal of USTs are reviewed by LAFD Inspectors.

3.3.1.2 COUNTY DIVISION OF ENVIRONMENTAL HEALTH SERVICES

Los Angeles County Public Health Investigations is an enforcement agency operating as part of the County of Los Angeles, Department of Public Health. The goal of the agency is to provide a healthy and sustainable environment for county residents. The agency assesses environmental conditions to reduce health risk exposures and educates the public on environmental risk sources. The Public Health Investigations agency serves the following:

- Los Angeles County residents and visitors
- Food industry
- Housing and institutions operators
- Water, sewage, and solid waste industries
- Other public and private industries

3.3.1.3 COUNTY OF LOS ANGELES GENERAL PLAN

The Los Angeles County General Plan (County of Los Angeles 2023) provides the policy framework and establishes the long-range vision for how and where the unincorporated areas will grow, and establishes goals, policies, and programs to foster healthy, livable, and sustainable communities. The purpose of the Safety Element is to reduce the potential risk of death, injuries, property damage, economic loss, and social dislocation resulting from natural and human-made hazards. The California Government Code requires the General Plan to address "the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence, liquefaction, and other seismic hazards ...; flooding; and wildland and urban fires." The Safety Element addresses only limited aspects of human-made disasters, such as hazardous waste and materials management.

The General Plan also includes airport influence areas within the Special Management Area chapter of the plan. Airport Influence Areas are comprised of airport property, runway protection zones, and noise contours. With certain exceptions, all developments located in an Airport Influence Area are subject to review by the Los Angeles County Airport Land Use Commission (ALUC) for compliance with noise and safety regulations, per CCR Title 21. The proposed MSF is located within the Airport Influence Area for LAX.

3.3.1.4 LOS ANGELES COUNTY AIRPORT LAND USE COMMISSION COMPREHENSIVE LAND USE PLAN

In Los Angeles County, the Regional Planning Commission has the responsibility for acting as ALUC and for coordinating the airport planning of public agencies within the county. ALUC coordinates planning for the areas surrounding public use airports. The Los Angeles County Airport Land Use Plan (dually titled Comprehensive Land Use Plan) provides for the orderly expansion of Los Angeles County's public

use airports and the area surrounding them. It is intended to provide for the adoption of land use measures that will minimize the public's exposure to excessive noise and safety hazards. In formulating this plan, the Los Angeles County ALUC has established provisions for safety, noise insulation, and the regulation of building height within areas adjacent to each of the public airports in the County. The proposed MSF is located within two miles of LAX.

3.3.1.5 COUNTY OF LOS ANGELES LOCAL HAZARD MITIGATION PLAN

The County of Los Angeles (2020) All-Hazards Mitigation Plan identifies and profiles hazards, analyzes the people and facilities at risk, and develops mitigation actions to reduce or eliminate hazard risk. The implementation of the mitigation actions, which include short- and long-term strategies involve planning, policy changes, programs, projects, and other activities. The Los Angeles County Chief Executive Office—Office of Emergency Management prepared the All-Hazards Mitigation Plan to assess risks posed by natural hazards and to develop a mitigation action plan for reducing the risks in Los Angeles County.

3.3.2 CITY OF LOS ANGELES

3.3.2.1 CITY OF LOS ANGELES GENERAL PLAN

The Safety Element of the City of Los Angeles General Plan (City of Los Angeles 2021) provides a framework for understanding the relationship between hazard mitigation, response to a natural disaster, and initial recovery from a natural disaster. The policies of the Safety Element address the storage, accidental release, and containment of hazardous materials. Policies of the Conservation Element (City of Los Angeles 2001) also include hazardous materials and concludes that the city has a primary regulatory, informational, and catalytic role in hazardous materials management, cleanup and brownfields site revitalization. The Conservation Element also addresses petroleum resources (i.e., oil and gas) and appropriate, environmentally sensitive extraction of petroleum deposits to protect the petroleum resources for the use of future generations and to reduce the city's dependency on imported petroleum and petroleum products.

3.3.2.2 CITY OF LOS ANGELES LOCAL HAZARD MITIGATION PLAN

The City of Los Angeles prepared its current, comprehensive Local Hazard Mitigation Plan (2018) operating under the mission statement "To reduce risk and increase resilience, the mission of the City of Los Angeles Local Hazard Mitigation Plan is to establish and promote a comprehensive mitigation policy and program to protect City residents, their property, public facilities, infrastructure, and the environment from natural and man-made hazards." The City's overall goal is to lessen its vulnerability to disasters and to demonstrate its commitment to reducing risks from natural and man-made hazards. The Plan now serves as a guide for decision makers as they commit City resources to minimize the effects of such hazards. It is intended to integrate with existing planning mechanisms such as building and zoning regulations, long-range planning mechanisms, and environmental planning. The planning process involved conducting a thorough hazard vulnerability analysis, creating

community disaster mitigation priorities, and developing subsequent mitigation strategies and projects.

3.3.2.3 CITY OF LOS ANGELES METHANE ORDINANCE

The City of Los Angeles has adopted the City of Los Angeles Methane Ordinance (2004), which requires compliance with the Methane Mitigation Standards in Los Angeles Municipal Code Section 91.7102, and as directed and approved by the Los Angeles Department of Building and Safety and LAFD.

3.3.3 CITY OF WEST HOLLYWOOD

3.3.3.1 CITY OF WEST HOLLYWOOD GENERAL PLAN

The West Hollywood General Plan 2035 informs and is implemented by the City's various ordinances, specific plans, programs, and ongoing activities. It sets overall City policy and priorities for how to use and manage its physical, social, and economic resources. Protecting the public health, safety and welfare is one of the City's most basic responsibilities. The City's tools for protecting public safety include regulating land use planning and other activities, providing police and emergency services, research and monitoring, preparing for potential natural disasters and threats to residents' well-being, community engagement, and enacting other policies that promote public safety and welfare. The Safety Element chapter discusses policies and background information for environmental hazards, noise, police, fire, and emergency services.

3.3.3.2 CITY OF WEST HOLLYWOOD HAZARD MITIGATION PLAN

The City of West Hollywood Hazard Mitigation Plan was updated in 2018 and is adopted as an appendix to the City's General Plan (City of West Hollywood 2018 and 2020). Emergencies and disasters cause death or leave people injured or displaced, cause significant damage to our communities, businesses, public infrastructure and our environment, and cost tremendous amounts in terms of response and recovery dollars and economic loss. Hazard mitigation reduces or eliminates losses of life and property. The plan acknowledges that disasters cannot be prevented from happening; however, their effects can be reduced or eliminated through a well-organized public education and awareness effort, preparedness and mitigation. For those hazards which cannot be fully mitigated, the community must be prepared to provide efficient and effective response and recovery.

CHAPTER 4 METHODOLOGY AND SIGNIFICANCE THRESHOLDS

4.1 METHODOLOGY

The purpose of this assessment is to evaluate the Project against thresholds of significance as the basis for determining the level of impacts related to hazards and hazardous materials. The assessment includes the short- and long-term impacts of hazards and hazardous materials on the construction and operational aspects of the Project. Potential hazards include wildland fires and proximity of hazards to airports and schools. The hazardous materials assessment includes transport, use, storage, and disposal of potentially contaminating materials as well as sites that have known or suspected contamination of soil, soil gas, and/or groundwater. Contaminants include both anthropogenic and natural sources (e.g., oil and gas fields).

Many sources of information were used to establish baseline conditions within the vicinity of the Project where hazardous materials and wastes have or may have been released or that could be disturbed during planned construction, operation, or maintenance activities.

4.1.1 PHASE 1 ENVIRONMENTAL SITE ASSESSMENTS

A Limited Phase I Environmental Site Assessment (ESA) was conducted on the three alignment alternatives and the design option; a second Limited Phase I ESA was conducted at the MSF site (Connect Los Angeles Partners 2023a and 2023b). The purpose of these ESAs was to provide information about potential hazardous materials and properties that are identified on the Cortese list, and how these sites may affect the Project. The specific methodology is discussed in the following sections.

4.1.1.1 REGULATORY DATABASE REVIEW

The environmental database search reports used in this analysis were prepared by Environmental Data Resources, Inc. (EDR). A separate search report was conducted for each of the Project alignment alternatives and the design option, and another for the MSF, in November 2021 and October 2022 (EDR 2021a, 2021b, 2021c, 2021d). The search reports were conducted within the Resource Study Areas (RSAs) (defined further in Section 5.2). Each of these reports consisted of a 0.25-mile buffer from the three Project alignment alternatives. The 0.25-mile search distance reduces the number of identified facilities located farther from the Project alignment alternatives while focusing on those facilities most likely to affect the Project. Properties where hazardous materials and wastes were used, transported, stored, disposed of, or released within or adjoining the areas of potential disturbance would have the greatest likelihood to affect the Project.

4.1.1.2 AGENCY RECORDS REVIEW

Several different agency records are available online and were used to establish existing conditions and/or supplement the EDR information; these records are detailed below.

U.S. DEPARTMENT OF TRANSPORTATION NATIONAL PIPELINE MAPPING SYSTEM

The USDOT National Pipeline Mapping System public map viewer was reviewed to determine if hazardous liquid [petroleum] or natural gas transmission pipelines were located along the Project alignment alternatives and stations, design option, and MSF.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

The RWQCB GeoTracker (2016) online records were reviewed to supplement the information in the EDR reports.

CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

The EnviroStor online records were reviewed to supplement the information in the EDR reports.

CALIFORNIA DEPARTMENT OF CONSERVATION, GEOLOGIC ENERGY MANAGEMENT DIVISION

The California Geologic Energy Management Division (CalGEM) Well Finder (WellSTAR) database (formerly Division of Oil, Gas, and Geothermal Resources [DOGGR]) was reviewed for information regarding the presence of oil and gas fields within the RSAs (DOGGR 2014).

COUNTY OF LOS ANGELES DATABASES

Information was reviewed on the Office of the Assessor Property Assessment Information System, and the County of Los Angeles Department of Public Works, Environmental Programs Division online database of digitized files related to industrial waste, USTs, and stormwater certificates in their jurisdiction to supplement information obtained for potential Recognized Environmental Conditions (REC) sites identified during the EDR database records review.

CITY OF LOS ANGELES DATABASES

Information was reviewed on the City of Los Angeles Bureau of Engineering, Department of Public Works, NavigateLA database, and the Department of City Planning, Zoning Information and Map Access System database to supplement information obtained for potential REC sites identified during the EDR database records review.

4.1.1.3 SITE HISTORIC USE INFORMATION

Reasonably ascertainable, standard historical sources (i.e., Sanborn Fire Insurance maps, aerial photographs, and topographic maps) were reviewed to develop a history of the previous uses of the alignment alternatives, stations, design option, and MSF and surrounding areas to help identify the likelihood of past uses that could have adversely affected the Project from an environmental perspective.

HISTORICAL AERIAL PHOTOGRAPHS

Complete or partial aerial photographic coverage along the alignment alternatives, stations, design option, and MSF site was available for several years between 1923 and 2016 as detailed in the Limited Phase I ESA reports. These photographs were viewed to identify features that may indicate past use or storage of hazardous materials and wastes within the RSAs. Such features included agricultural lands where pesticides and herbicides may have been applied; aboveground storage tanks (ASTs) where petroleum products may have been used and stored; airports; drilling derricks and retention ponds where petroleum products could have been released; and industrial properties where solvents, petroleum products, and hazardous wastes may have been used, stored, or released.

SANBORN INSURANCE COMPANY MAPS

Complete or partial Sanborn map coverage along the alignment alternatives, stations, design option, and MSF site was available for several years between 1907 and 1970 as detailed in the Limited Phase I ESA reports. During the late 1800s and throughout much of the 1900s, the Sanborn Map Company periodically prepared detailed maps showing the locations and types of buildings, and uses of properties in areas of many towns and cities throughout the United States. Included on these maps are the locations of aboveground and underground storage tanks, and other features now recognized as RECs.

HISTORIC TOPOGRAPHIC MAPS

A review of the United States Geological Survey topographic quadrangle maps was performed to identify evidence of built structures, fill areas, ASTs, and oil drilling sites that may represent areas of hazardous materials and waste use or storage within the alignment alternatives, stations, design option, and MSF site. Complete or partial United States Geological Survey quadrangle map coverage in the vicinity of the Project, including the Hollywood and Beverly Hills quadrangles, was available for several years between 1894 and 2012 as detailed in the Limited Phase I ESA reports.

4.1.1.4 SITE RECONNAISSANCE

A site visit of the Project alignment alternatives and stations, design option, and adjoining properties was performed on November 19 and 22, 2021, and an additional site visit of these areas was conducted on April 20, 2022. A site visit of the MSF site and adjoining properties was performed on November 16 and 17, 2022. The purpose of the site visits was to identify RECs within the RSAs and on the adjoining properties. The site visit methodology consisted of walking over publicly accessible areas in the vicinity of the Project focusing primarily on the approximate locations of the proposed stations and double crossover track locations and the properties where the proposed surface-level station entrances are located, as well as portions of the surrounding area. Access onto private properties was not included; therefore, all observations were made from existing rights-of-way (ROW) and/or other publicly accessible areas.

4.1.2 ADDITIONAL CONSIDERATIONS

The Limited Phase I ESA reports are intended to identify specific properties that are RECs to the Project. Other issues that are beyond the scope of a Limited Phase I ESA report are a concern to the Project from a hazardous materials and wastes standpoint; these issues may contribute contaminants into the subsurface, and include: unanticipated contamination, aerially deposited lead (ADL), lead-based paint (LBP), ACM, polychlorinated biphenyls (PCBs), pesticides, oil and gas fields, petroleum pipelines, railroad lines, fill, and educational facilities. These issues are discussed further in Section 5.1.

4.2 CEQA Significance Thresholds

In accordance with Appendix G of the 2022 CEQA Guidelines, the Project would have a significant impact related to hazards and hazardous materials if it would:

- Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Impact HAZ-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Impact HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Impact HAZ-4: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment.
- Impact HAZ-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 airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area.
- Impact HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Impact HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

CHAPTER 5 EXISTING SETTING

5.1 REGIONAL SETTING

The Project alignment alternatives, stations, and design option are located in a highly urban setting, which includes single family neighborhoods, multifamily housing, and commercial districts as shown on Figure 5-1 through Figure 5-4. The San Vicente-Fairfax Alignment Alternative has commercial development on both sides of the Alignment from the south end until it crosses the I-10 highway. The alignment alternative then cuts through single family neighborhoods until it reaches Venice Boulevard. Commercial development is present on both sides of San Vicente Boulevard from Venice Boulevard until it crosses La Brea Avenue. Single family housing is present from La Brea Avenue until the alignment alternative crosses Cochran Avenue, then multifamily housing with scattered commercial businesses is present until the alignment alternative is near Wilshire Boulevard where museums and commercial businesses are present. Commercial businesses are present on the west side of the alignment alternative with multifamily housing on the east side until Colgate Avenue, after which commercial businesses are present along both sides of the alignment alternative until La Cienega Boulevard is crossed. A shopping center is present on both sides of the alignment alternative until San Vicente Boulevard is reached, then single family housing is on both sides with some commercial businesses until Melrose Avenue is reached. The remainder of the alignment alternative has commercial businesses on both sides.

The Fairfax Alignment Alternative has commercial businesses on both sides from the point where the San Vicente-Fairfax Alignment Alternative splits off near First Street until it rejoins the Fairfax Alignment Alternative at Santa Monica Boulevard.

The La Brea Alignment Alternative cuts through single-family neighborhoods after it separates from the San Vicente-Fairfax and Fairfax Alignment Alternatives until it reaches La Brea Avenue. Commercial businesses are present on both sides of the alignment alternative until it crosses Santa Monica Boulevard, after which there is mixed-use commercial and multifamily housing until it rejoins the other alignment alternatives.

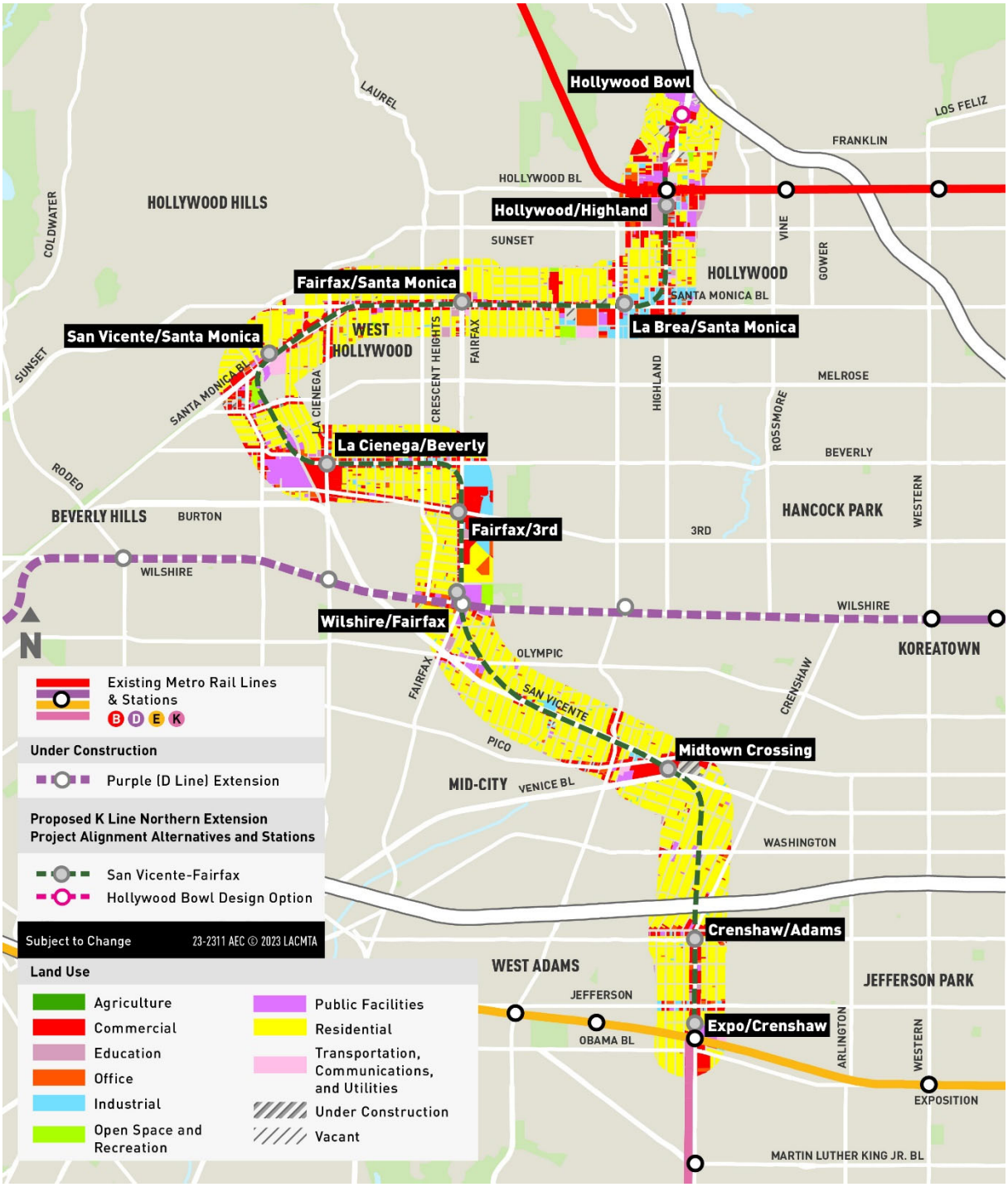
The Hollywood Bowl Design Option cuts through an area of mixed-use commercial and multifamily housing with scattered single-family housing. It ends in an area of entertainment (Hollywood Bowl) and parking.

The MSF would be located in a light industrial area near the LAX airport.

The elevation of the land surface in the vicinity of the Project ranges from approximately 100 feet above mean sea level (msl) in the southern part of the alignment and at the MSF site to about 470 feet msl in the northern part of the alignment. The topographic gradient is generally to the south, southwest, and west in the vicinity of the Project.

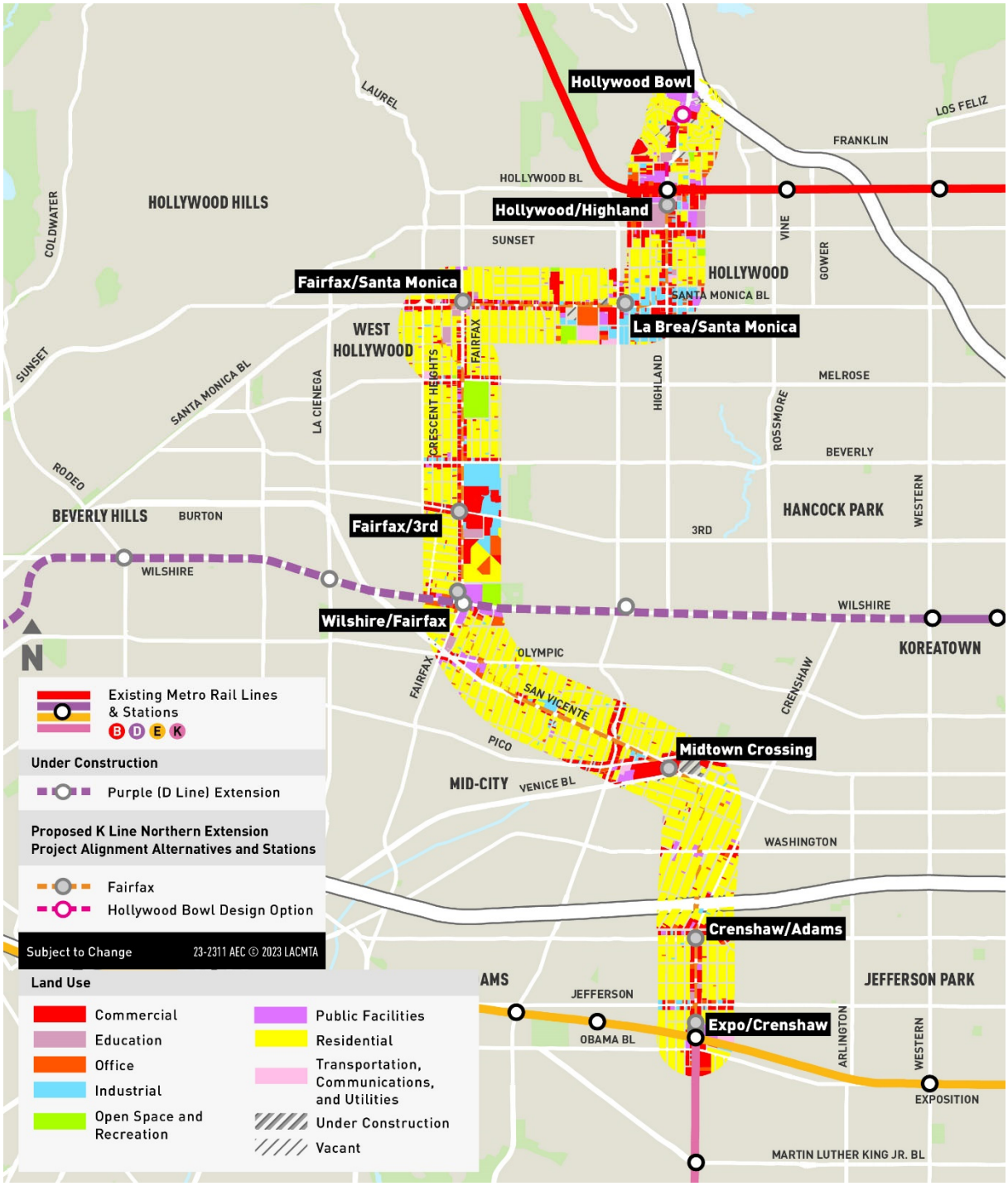
The following sections describe the hazards that could potentially affect the Project and require analysis of their potential impact.

FIGURE 5-1. LAND USE ALONG SAN VICENTE-FAIRFAX ALIGNMENT ALTERNATIVE



Source: Connect Los Angeles Partners 2023

FIGURE 5-2. LAND USE ALONG FAIRFAX ALIGNMENT ALTERNATIVE

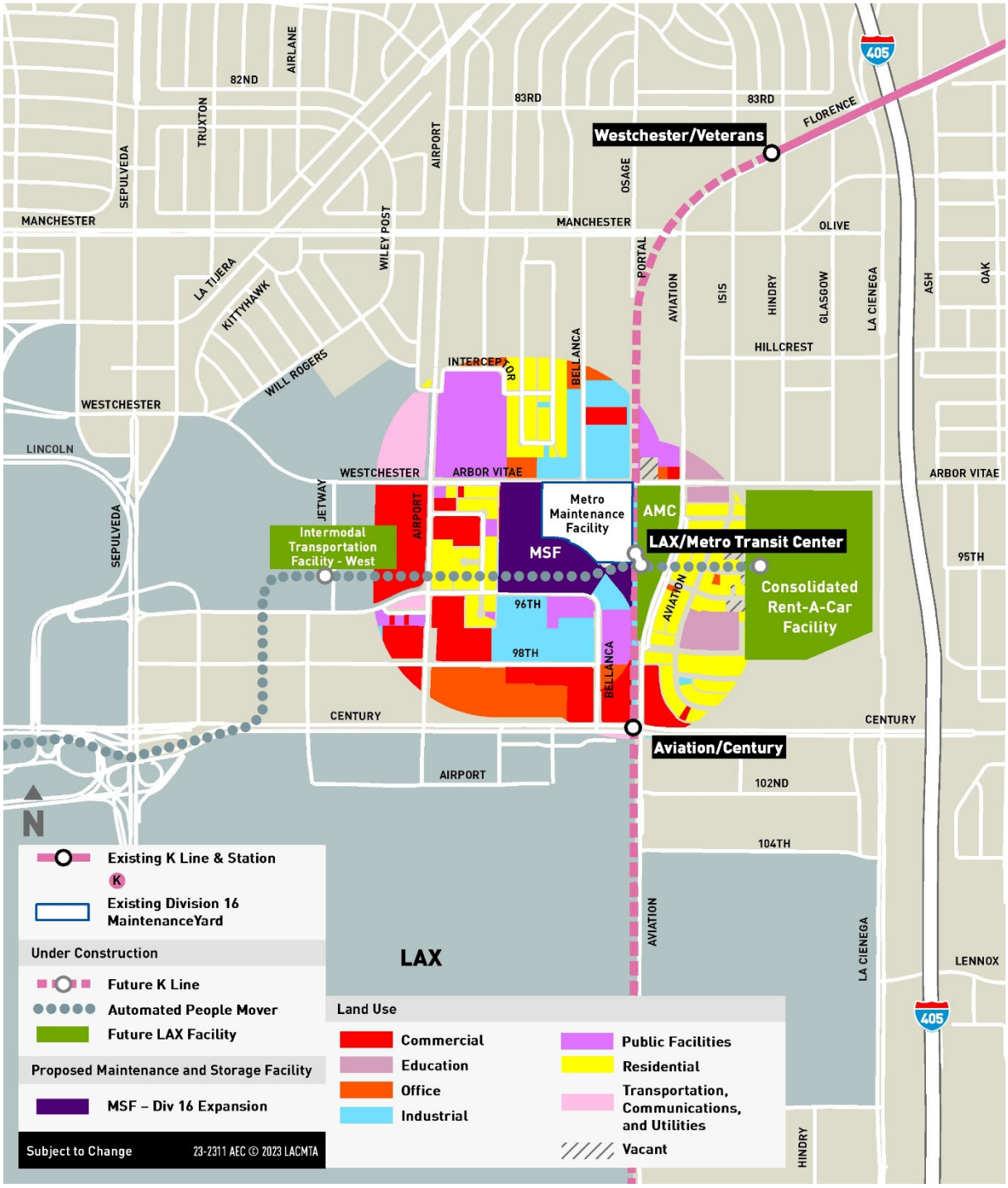


Source: Connect Los Angeles Partners 2023

FIGURE 5-3. LAND USE ALONG LA BREA ALIGNMENT ALTERNATIVE

Source: Connect Los Angeles Partners 2023

FIGURE 5-4. LAND USE AROUND MSF



Source: Connect Los Angeles Partners 2023

5.1.1 HAZARDOUS SUBSTANCE AND WASTE SITES (REC SITES)

The Limited Phase I ESAs conducted for the Project alignment alternatives and stations, the design option, and the MSF identified numerous properties within or near the RSA with storage, disposal, transportation, or a documented release of hazardous substances or petroleum products into the subsurface and had regulatory records regarding the release. These facilities were identified, and investigation and/or cleanup activities were conducted to evaluate and address the resulting contamination. These activities may or may not have resulted in a regulatory closure, and subsurface contamination may or may not remain on the properties.

Subsurface soil, soil gas, and/or groundwater contamination may also exist in unanticipated locations because of current or historical activities. Certain businesses, including gas stations, dry cleaners, auto repair facilities, and industrial manufacturing facilities may use, store, manage, and dispose of a variety of hazardous substances and/or petroleum products as part of their business activities. Some areas may also contain fill, which is common in urban settings, and was often placed many decades ago and often contains demolition materials, industrial process waste or other materials (e.g., slag, clinkers (a stony residue from burned coal), pavement or building materials, etc.) that are or may be contaminated with substances such as petroleum products, heavy metals, or other chemicals. In some cases, soil used as fill originated from a contaminated property. Although these properties may not have a documented reported release and may not be listed in one or more regulatory databases, particularly if these businesses were present and operated prior to the 1980s, contamination may still be present.

Other sources of contamination may include ongoing leaks, drips, or similar small releases over time, illicit dumping of wastes, or movement of contaminants in the subsurface via groundwater flow or soil gas migration. In these cases, contamination may be encountered in a location that otherwise was not associated with a REC site identified in the Limited Phase I ESAs.

The contamination encountered may pose a risk to human health and the environment. Depending on the contaminant encountered in the subsurface and its concentration, a variety of health risks may exist in connection with an exposure to them.

5.1.2 AERIALLY DEPOSITED LEAD

Areas around freeways, highways, and major thoroughfares have the potential to be affected by ADL from vehicular emissions. Exposed soils around roadways in the urbanized areas of California have been found to be contaminated with lead, primarily as a result of historical emissions from automobile exhaust. Results of in-situ sampling and laboratory testing from other unrelated projects have shown that some of the soil contains concentrations of lead in excess of state regulatory thresholds; thus, any waste generated from the disturbance of soil in these locations may require regulation as a hazardous waste.

Lead poses a health risk because of the known toxic effects of lead exposure to the central nervous system, kidneys, and blood stream. It is of particular concern to children due to increased risk on developing organs.

5.1.3 LEAD-BASED PAINT

Lead-based paint (LBP) is defined by the U.S. Department of Housing and Urban Development as paint containing more than 0.5 percent lead by weight. LBP was generally applied to structures before 1977, and particularly those older than 1950. Structures that are planned to be acquired as part of the Project may contain LBP.

LBP poses a health risk because of the known toxic effects of lead exposure to the central nervous system, kidneys, and blood stream. It is of particular concern to children due to increased risk on developing organs.

5.1.4 ASBESTOS-CONTAINING MATERIALS

Asbestos is a class of naturally occurring mineral that was widely used in building materials due to its insulating and non-flammable properties. Some ACM may become friable, allowing fibers of asbestos to become airborne, where they may be inhaled and trapped in the lungs. Long-term inhalation exposure to ACM has been linked to asbestosis and mesothelioma.

Although the use of ACM in the manufacture of most building materials has not been fully prohibited by federal law, its use in building materials has largely been discontinued since the late 1970s. Structures that are planned to be acquired as part of the Project may contain ACM. Examples of interior building materials that could contain ACM include floor tiles and mastic; wallboard and joint compound; wall, ceiling, and pipe insulation; and acoustic ceiling panels. Examples of exterior building materials that could contain ACM include transite siding, roofing materials, window sealants, patching material, concrete bridge construction materials, and transite pipe.

5.1.5 POLYCHLORINATED BIPHENYLS

Electrical transformers, hydraulic equipment, capacitors, and similar equipment may contain PCBs in hydraulic or dielectric insulating fluids within the units. The federal Toxic Substances Control Act has generally prohibited the domestic manufacture of PCBs since 1976; therefore, equipment manufactured after 1976 has a lower potential to contain PCBs. PCBs are man-made chlorinated hydrocarbons, and are carcinogens, posing a risk to many different organs.

If electrical or hydraulic equipment containing PCBs is damaged, PCB-containing fluids may leak, affecting human health and/or the environment.

5.1.6 PESTICIDES

Agricultural activities commonly include the storage, handling, and application of pesticides (and herbicides) on row crops or orchards. The routine application of such compounds may not accumulate to soil concentrations requiring regulatory oversight. The main areas of concern are handling and storage areas. Pesticides, which also include herbicides, prevent, destroy, repel, or mitigate a pest, or are a plant regulator, defoliant, desiccant, or nitrogen stabilizer. Pesticides typically are of two main types: organochlorine pesticides and arsenical herbicides. In general, pesticides and herbicides are not very mobile in soils and are commonly found within approximately three feet of the ground surface.

Portions of the RSA were historically undeveloped or may have been used for agricultural purposes; therefore, the presence of pesticides in the shallow soils is possible.

Pesticides pose differing levels of risk to humans depending on the variety of pesticide and the concentration. Cancer, reproductive harm, and neurological toxicity are a few of the risks posed by this class of chemical.

5.1.7 OIL AND GAS FIELDS

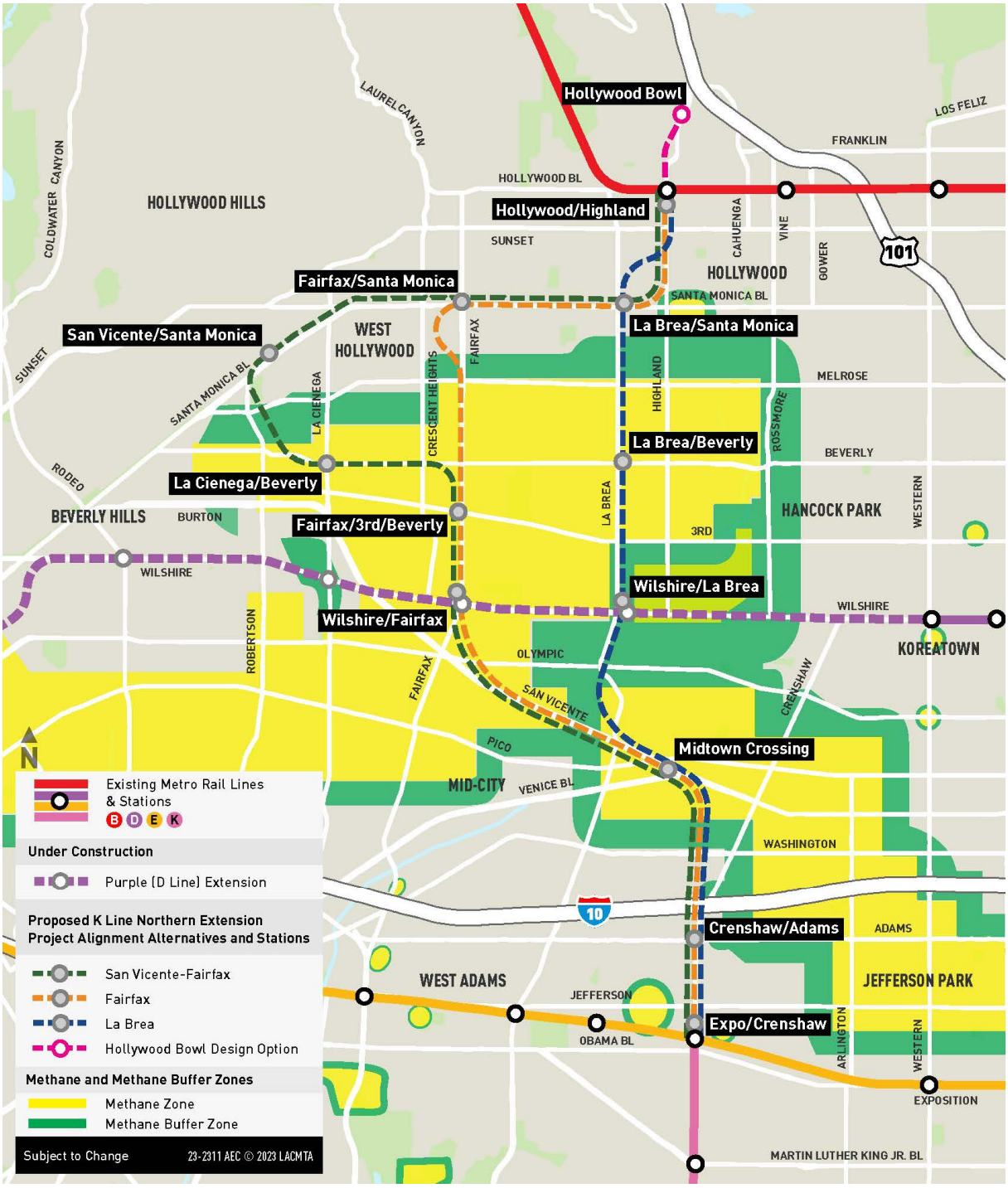
This section provides an overview of existing oil and gas fields; see Appendix A, Subsurface Gas and Oil Well hazards, for more detailed information. Oil and gas fields are regions with current and/or historical production of oil and gas from multiple wells. Locations of oil wells (active, idle, and abandoned) were plotted from the CalGEM online Well Finder (WellSTAR) database. Contaminants from naturally occurring petroleum substances are also often present around the wells. In addition, the well fields are a source of naturally occurring subsurface methane and hydrogen sulfide gases. Existing old wells, if not properly cased and sealed, could allow upward migration of petroleum and gases into the near subsurface, affecting an area beyond the well casing. The presence of the gases is an existing condition. Current and historical oil wells typically used a mud pit during the drilling process, the remains of which may still be present in the vicinity of the oil well. In addition, contamination from these former mud pits and the associated pipelines and storage tanks supporting drilling of the oil well may be present near each former oil well and may be encountered during grading and construction.

The primary hazards associated with oil and gas fields stem from contaminated soil and groundwater, and the presence of subsurface gases—primarily methane and hydrogen sulfide. Methane and hydrogen sulfide are considered hazardous because of their explosive properties. Also, hydrogen sulfide, that can be smelled at low, non-toxic levels, is highly toxic if inhaled at higher concentrations. These gases can seep from the surrounding soil and through fractures or faults in the ground into buildings and into open excavations, such as tunnels. In certain concentrations, the presence of methane requires mitigation measures. Methane may accumulate in subsurface or enclosed spaces; if ignited, it can result is substantial property damage and destruction and/or injury/death. Hydrogen sulfide is a toxic gas that can result in poisoning and, at a range of higher concentrations, death.

The City of Los Angeles recognizes the hazards of methane. After a methane explosion due to gas accumulation under a store in the Third Street and Ogden Avenue area in 1985 ("The Ross Dress for Less Fire"), the City of Los Angeles created a task force to provide recommendations for construction in areas where subsurface methane gas could be a hazard. Following the recommendations of the task force, the City of Los Angeles Department of Public Works Bureau of Engineering has mapped potential Methane Zones and Methane Buffer Zones, and most recently updated its map in 2004 (see Figure 5-5). The City of Los Angeles Municipal Code, Chapter IX, Building Regulations, Article 1, Division 71, Methane Seepage Regulations, requires construction projects located within a Methane Zone or Methane Buffer Zone to comply with the City's Methane Mitigation Standards to control methane intrusion emanating from geologic formations. Mitigation requirements are determined according to the actual methane levels and pressures detected in the subsurface at a site. Mitigation measures can include both active and passive ventilation systems to ensure exchange of air to dilute gas seeping into the structure, gas barriers (membranes around basements and foundations), and sensors in interior spaces to monitor the presence of gas.

In parallel with these City of Los Angeles policies for management of the hazard of methane, Metro was developing criteria for safe design, construction, and operation of underground rail transit stations and tunnels with the pervasive and unavoidable hazards associated with oil and gas fields. The presence of gases was characterized in substantial detail as part of subsurface investigations for the Metro Purple Line (D Line) Extension projects that constructed tunnels and underground stations along Wilshire Boulevard. All alternative alignments would intersect the D Line Extension on Wilshire Boulevard. See Appendix A, Subsurface Gas and Oil Well Hazards, for further information on oil and gas fields, and subsurface methane and hydrogen sulfide gases.

FIGURE 5-5. CITY OF LOS ANGELES METHANE RISK MAP



Source: Connect Los Angeles Partners 2023; City of Los Angeles Bureau of Engineering, n.d.

5.1.8 PETROLEUM PIPELINES

Petroleum pipelines can carry a of products, including crude and refined oil, kerosene, gasoline, or natural gas at different times. The pipelines can degrade over time and begin leaking, contaminating the surrounding soil and/or groundwater before the leak is noticed.

5.1.9 RAILROADS

Railroad properties (including current and former rail lines and spur lines) are often contaminated due to a variety of factors. The corridors are sprayed for vegetation suppression and are used to transport a variety of freight. Spills or leaks of solid and liquid substances accumulate over time along the tracks and contaminants leach into the subsurface soils. Ballast rock, which is used to create a solid base for railroad tracks to rest on, sometimes also includes slag and clinkers from industrial processes; ultramafic rock fragments that contain naturally occurring asbestos; or other contaminants. Contaminants found along railroad lines may include a variety of petroleum products, solvents, heavy metals, pesticides, and asbestos, each of which are toxic in different ways.

5.1.10 EDUCATIONAL FACILITIES

Educational facilities are defined as colleges, high schools, elementary schools, preschools, or nursery schools, either public or private. Children are particularly susceptible to impacts from hazardous materials and/or wastes.

5.1.11 AIRPORTS

The Los Angeles International Airport (LAX) is the only airport (public or private) within two miles of the Project. This airport is approximately one-half mile southwest of the MSF site.

5.1.12 WILDLAND FIRES

Wildland fire zones have been identified in Los Angeles County in the Santa Monica Mountains and the Baldwin Hills. Wildland fires pose a risk to people and infrastructure within these zones. A wildland fire map showing hazard zones in the vicinity of the alignment alternatives and the design option is included as Figure 5-6. The proposed MSF site is not included on the figure because it is more than 1.75 miles southeast of the nearest wildland fire zone.

FIGURE 5-6. WILDLAND FIRE HAZARD ZONES IN PROJECT VICINITY

Source: Connect Los Angeles Partners 2023; LAFD 2023

5.2 RESOURCE STUDY AREA

The RSA for the hazardous materials assessment is defined as a radius of 0.25 mile from the Project alignment alternatives, stations, design option, and MSF. This RSA pertains to the assessment of direct impacts related to the use, storage, and transport of hazardous material and wastes, and it includes potential impacts to schools.

As discussed above, a variety of businesses, including restaurants, hotels, shopping centers or stores, and gas stations are present along the proposed alignment alternatives and stations, and many of them use, store, handle, and dispose various hazardous substances and/or petroleum products, including cleaning solvents, gasoline, diesel, and oil. Contamination or potential contamination exists on some of the properties within the RSA.

Subsurface materials in the RSA include fill and alluvial sediments eroded from the south flank of the Santa Monica Mountains. Groundwater may be present within these materials as shallow as 10 feet below the ground surface across the RSA. Contaminants in the subsurface may migrate with groundwater flow, sometimes affecting properties adjacent to or beyond the property from which they originated.

All three proposed alignment alternatives would be entirely underground with the exception of the surface-level station entrance(s) at each station location. The station entrances may require the acquisition of privately owned property and/or the demolition of surface-level structures. The proposed station locations and adjacent double crossover tracks would be underground, but to accommodate construction of these elements the ground surface would be removed and replaced (e.g., cut-and-cover construction method) during construction at each station. Each of the twin-bore tunnels would be approximately 22 feet in diameter, and the crown of the tunnel would generally be 40 feet below ground surface (bgs) or deeper along most of the alignments, with depths increasing in the northern portion of the Project.

5.2.1 ALIGNMENTS AND STATIONS

The following sections provide information about the REC sites and other hazards (as summarized in Section 5.15.1) that have been identified in the RSAs of each alignment alternative, design option, and MSF.

5.2.1.1 ALIGNMENT ALTERNATIVE 1: SAN VICENTE-FAIRFAX

REC SITES

The Limited Phase I ESA (Connect Los Angeles Partners 2023a) identified 39 REC sites within the RSA for the San Vicente-Fairfax Alignment Alternative; 18 of these sites are on the Cortese list. These facilities are identified on Table 5-1 and the location of each is depicted on Figure 5-7 through Figure 5-14. In cases where the map ID numbers in the table are not consecutive, it is because those sites are identified on another alignment alternative, or because the sites were identified after the position of a portion of the alignment location changed. Detailed information regarding each of the REC sites is presented below the table and figures.

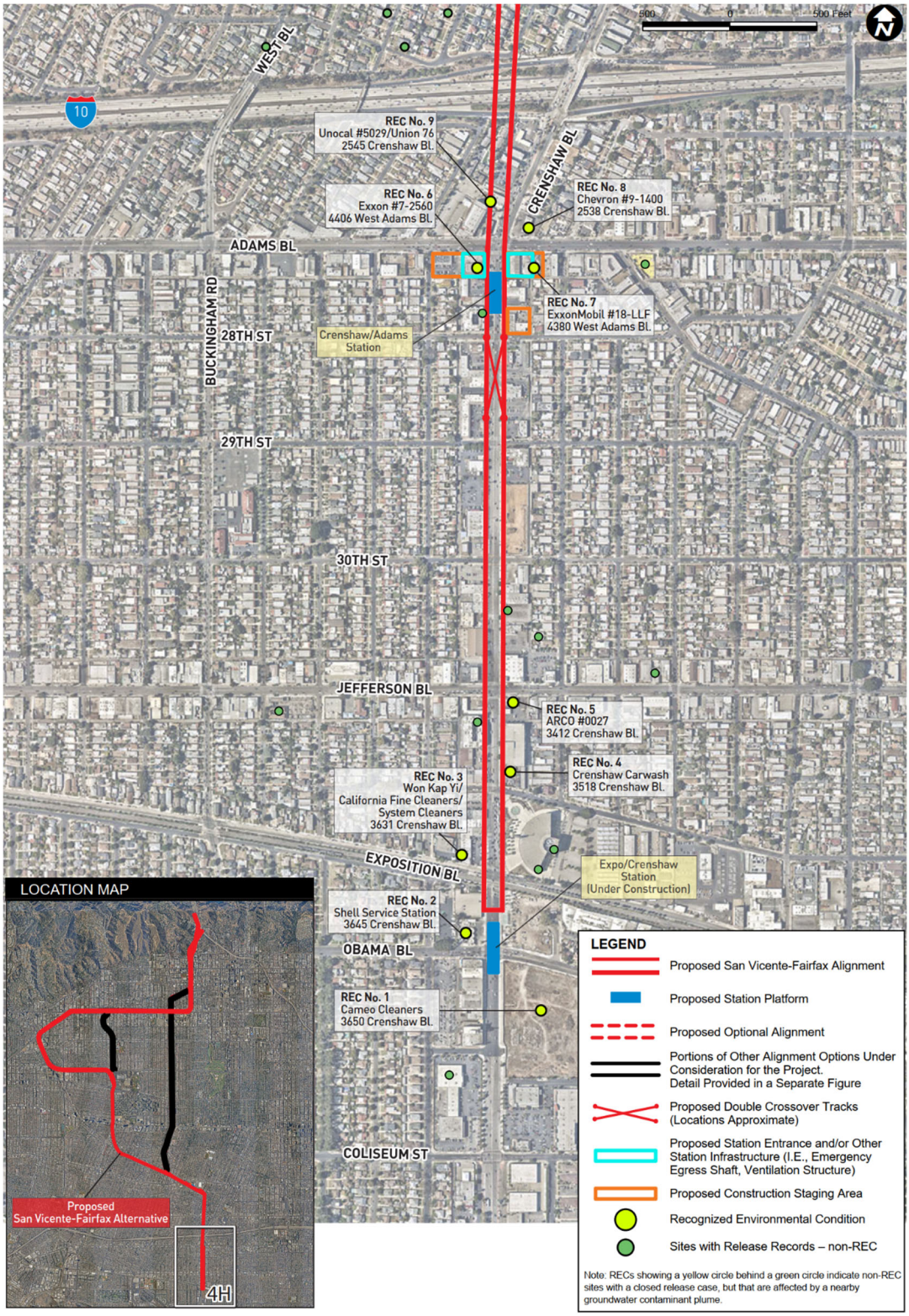
TABLE 5-1. REC SITES ALONG SAN VICENTE-FAIRFAX ALIGNMENT ALTERNATIVE

MAP ID	PARCEL #	CASE STATUS	NAME	ADDRESS
1	APN 5033-001-035	Open	Cameo Cleaners, LLC/ Siskin Investment/ Rocket Cleaners	3650 Crenshaw Boulevard, Los Angeles
2	**APN 5046-022-016**	**Closed**	**Shell Service Station**	**3645 Crenshaw Boulevard, Los Angeles**
3	APN 5046-001-048	Open	Won Kap Yi/ California Fine Cleaners/ System Cleaners	3631 Crenshaw Boulevard, Los Angeles
4	APN 5044-004-009	Closed	Crenshaw Car Wash	3518 Crenshaw Boulevard, Los Angeles
5	**APN 5044-004-025**	**Closed**	**ARCO #0027**	**3412 Crenshaw Boulevard, Los Angeles**
6	**APN 5050-001-030**	**Closed**	**Exxon #7-2560**	**4406 West Adams Boulevard, Los Angeles**
7	**APN 5051-007-001**	**Closed**	**ExxonMobil #18-LLF**	**4380 West Adams Boulevard, Los Angeles**
8	**APN 5059-003-020**	**Closed**	**Chevron #9-1400**	**2538 Crenshaw Boulevard, Los Angeles**
9	**APN 5059-003-020**	**Closed**	**Unocal #5029/Union 76**	**2545 Crenshaw Boulevard, Los Angeles**
55	APN 5070-013-003	No Case Exists	Midtown Cleaners	4764 Pico Boulevard, Los Angeles
11	APN 5070-013-003	No Case Exists	Plains Exploration and Production Co./Union Oil Co. of CA	4848 West Pico Boulevard, Los Angeles
28	APN 5084-032-030	Open	Splendid Cleaners	1226 South Cochran Avenue, Los Angeles
29	APN 5085-012-036	Open	Former Danny's Dry Cleaning	5511-5519 San Vicente Boulevard, Los Angeles
58	APN 5510-027-038	No Case Exists	1X Griffin Related Properties	6135 Wilshire Boulevard, Los Angeles
31	**APN 5511-038-029**	**Open**	**Mas Auto Service**	**371 South Fairfax Avenue, Los Angeles**
32	APN 4004-034-019	Open	The Grove at Farmers Market	6301 West 3rd Street, Los Angeles
33	**APN 5511-001-022**	**Closed**	**Former World Oil #64**	**7900 Beverly Boulevard W, Los Angeles**
60	APN 5511-013-002	No Case Exists	Cleansville USA	8430 Beverly Boulevard, Los Angeles
38	APN 5514-012-027	Closed	Mobil #18-LN8 (Former 11-LN8)	8489 Beverly Boulevard, Los Angeles
39	**APN 4337-017-900**	**Closed**	**West Hollywood Sheriff Station**	**720 San Vicente Boulevard N, West Hollywood**
40	APN 4337-017-903	Open	Southern CA Rtd.	8800 Santa Monica Boulevard, West Hollywood
41	APN 4339-010-032	Closed	Santa Palm Car Wash	8787 Santa Monica Boulevard, West Hollywood
42	APN 4339-007-014	Open	Former Canyon Cleaner Facility	8725 Santa Monica Boulevard, West Hollywood
43	APN 5529-001-028	Closed	West Hollywood Mobil Service	8380 Santa Monica Boulevard, West Hollywood

MAP ID	PARCEL #	CASE STATUS	NAME	ADDRESS
44	**APN 5554-025-900**	**Closed**	**Chevron #9-0769T**	**8383 Santa Monica Boulevard, West Hollywood**
45	APN 5554-015-031	Open	Peter's Magnolia Cleaners	8301-8307 Santa Monica Boulevard, West Hollywood
46	APN 5529-019-902	Open	Crescent Shopping Center	8100-8136 Santa Monica Boulevard, West Hollywood
47	APN 5529-024-001	Open	Four Seasons Dry-Cleaning & Laundry	8040-8042 Santa Monica Boulevard, West Hollywood
48	**APN 5529-024-026**	**Closed**	**World Oil #65**	**8020 Santa Monica Boulevard, West Hollywood**
34	**APN 5529-014-035**	**Closed**	**76 Products Station #7261**	**7960 Santa Monica Boulevard, West Hollywood**
59	APN 5530-001-018	No Case Exists	Sanfair Cleaners	7877 Santa Monica Boulevard, West Hollywood
25	**APN 5531-017-020**	**Open**	**West Hollywood Gateway Redevelopment Project**	**1005, 1023, 1033, 1037, 1043 and 1045 North La Brea Avenue; 7144 and 7118 Santa Monica Boulevard, West Hollywood**
35A	**APN 5532-017-046**	**Open**	**Avon Car & Truck Rental/ Onni Santa Monica, LP**	**6901 West Santa Monica Boulevard, West Hollywood**
35B	**APN 5532-017-046**	**Closed**	**Professional Tire & Auto**	**6921 West Santa Monica Boulevard, West Hollywood**
36	**APN 5532-006-039**	**Closed**	**Massachi-Chevron**	**1255 North Highland Avenue, Los Angeles**
37	APN 5547-033-400	Closed	Asset Management (Retail Strip Mall)	1300-1314 North Highland Avenue, Los Angeles
26	**APN 5548-015-036**	**Closed**	**Chevron #9-9377**	**1459 Highland Avenue, Los Angeles**
57	APN 5548-004-069	No Case Exists	Chevron	1787 North Highland Avenue, Los Angeles
27	APN 5575-024-017	Closed	Hollywood Hills Cleaners	1900 North Highland Avenue, Los Angeles

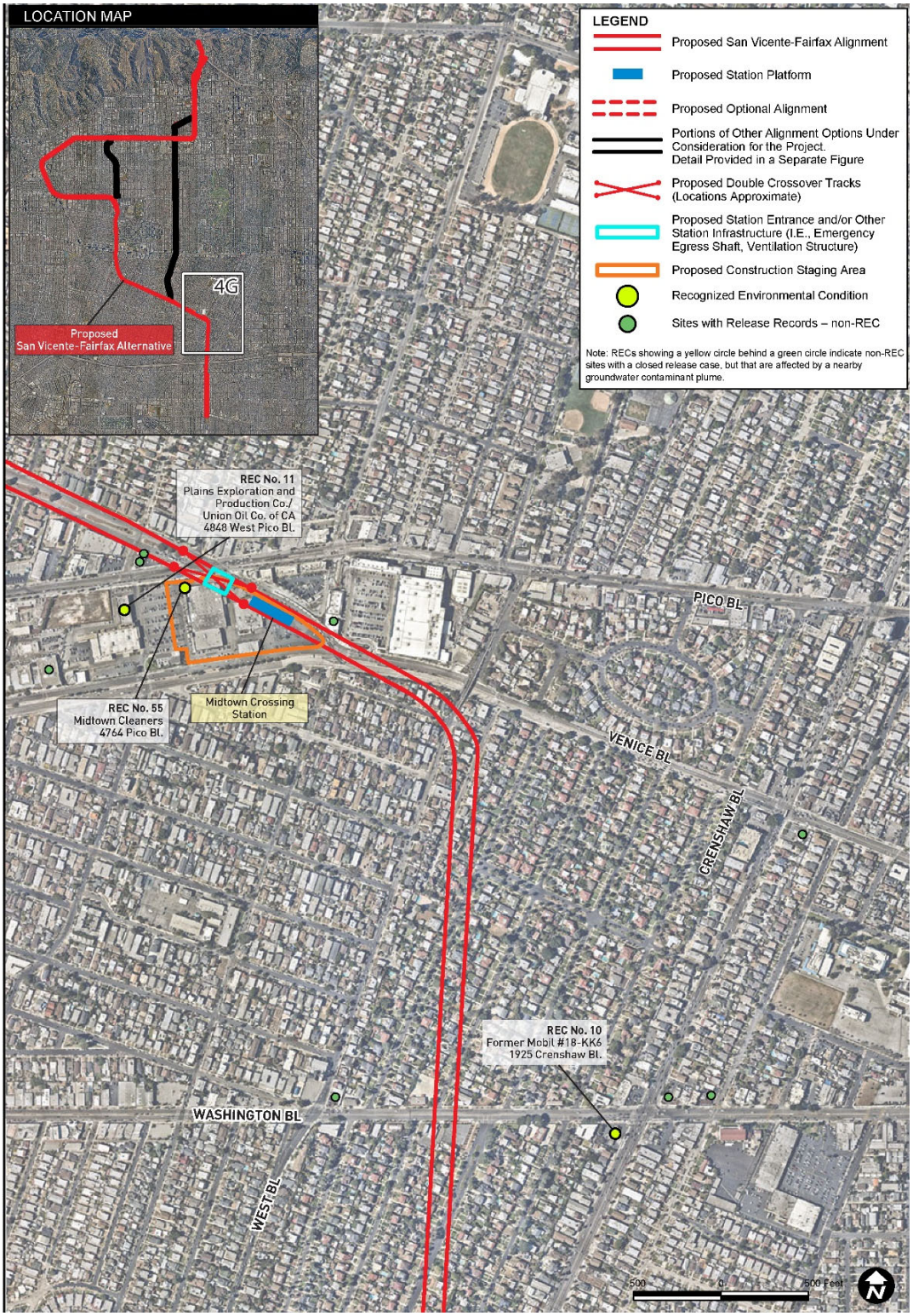
Sites shown in **bold** text are on the Cortese list.
Source: Connect Los Angeles Partners 2023a

FIGURE 5-7. REC SITES ALONG SAN VICENTE-FAIRFAX ALIGNMENT ALTERNATIVE (PAGE 1 OF 8)



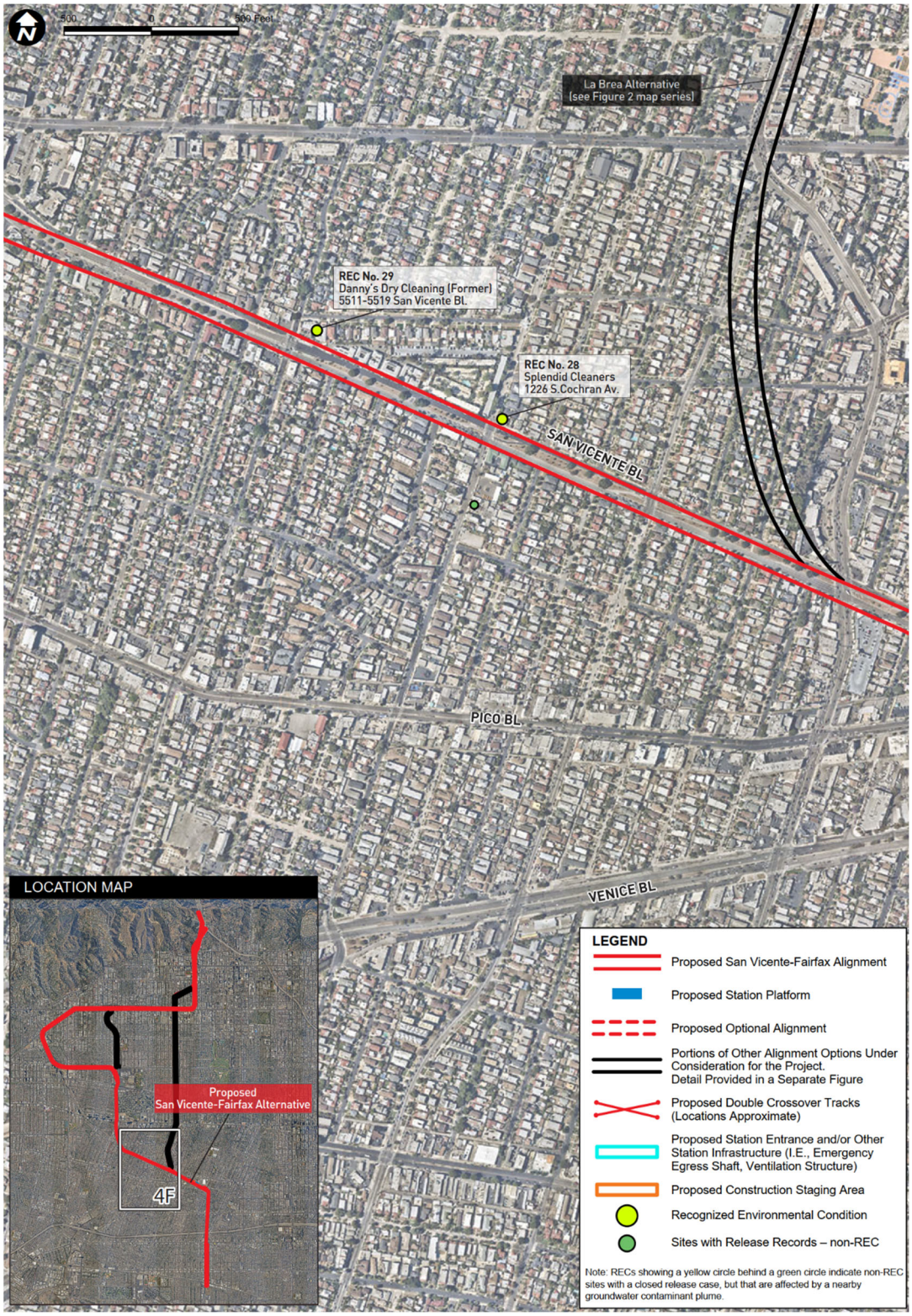
Source: Connect Los Angeles Partners 2023a

FIGURE 5-8. REC SITES ALONG SAN VICENTE-FAIRFAX ALIGNMENT ALTERNATIVE (PAGE 2 OF 8)



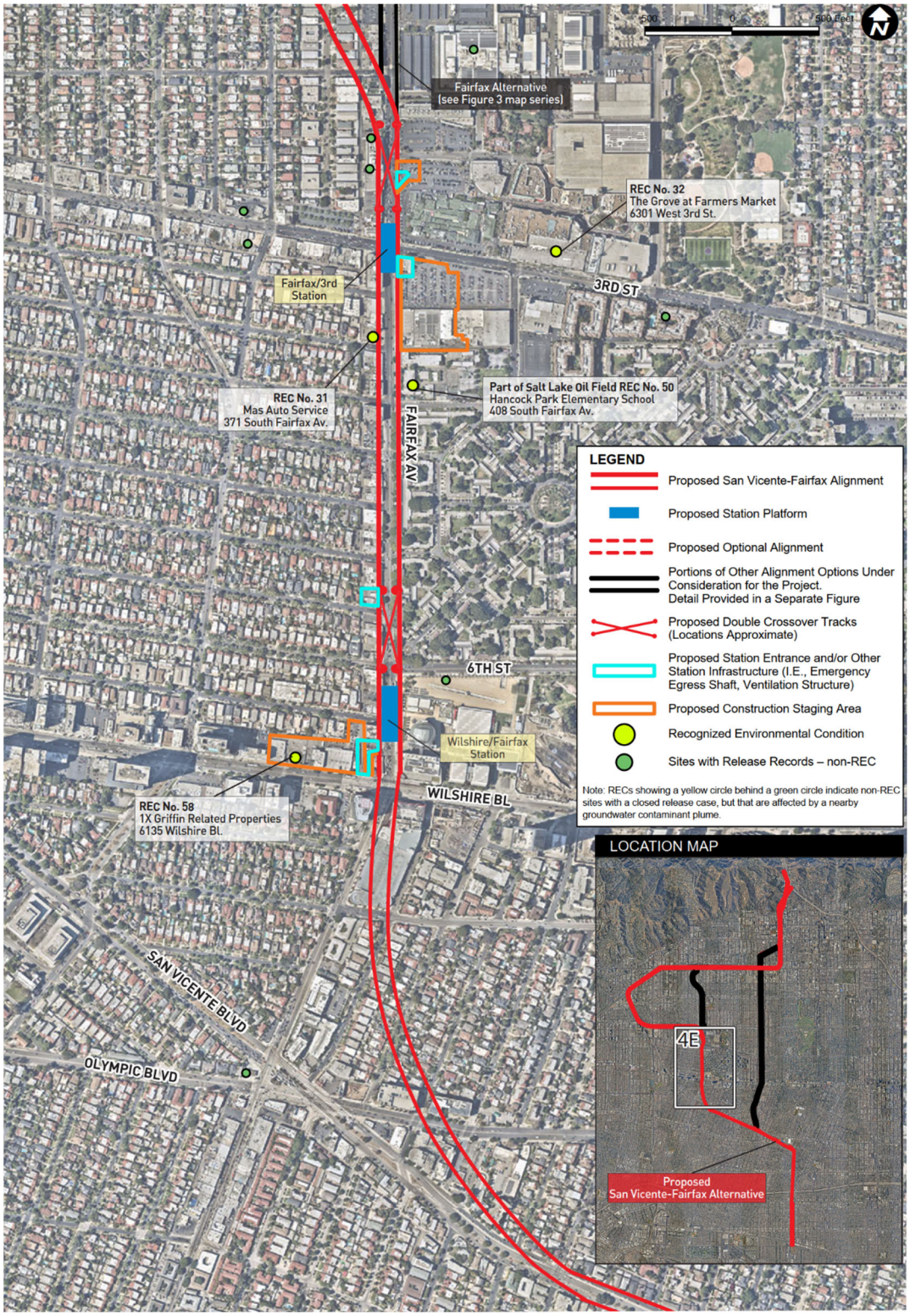
Source: Connect Los Angeles Partners 2023a

FIGURE 5-9. REC SITES ALONG SAN VICENTE-FAIRFAX ALIGNMENT ALTERNATIVE (PAGE 3 OF 8)



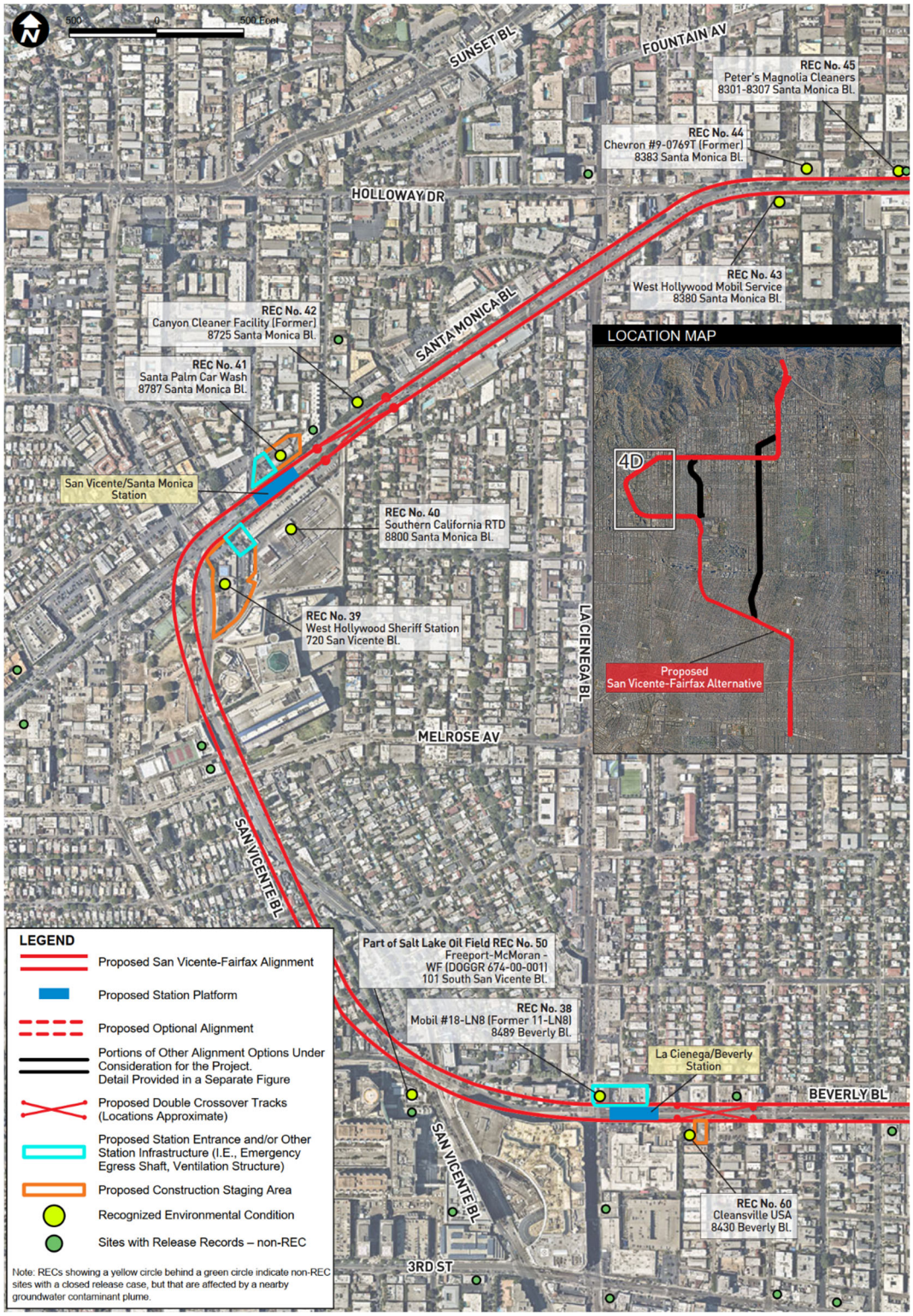
Source: Connect Los Angeles Partners 2023a

FIGURE 5-10. REC SITES ALONG SAN VICENTE-FAIRFAX ALIGNMENT ALTERNATIVE (PAGE 4 OF 8)



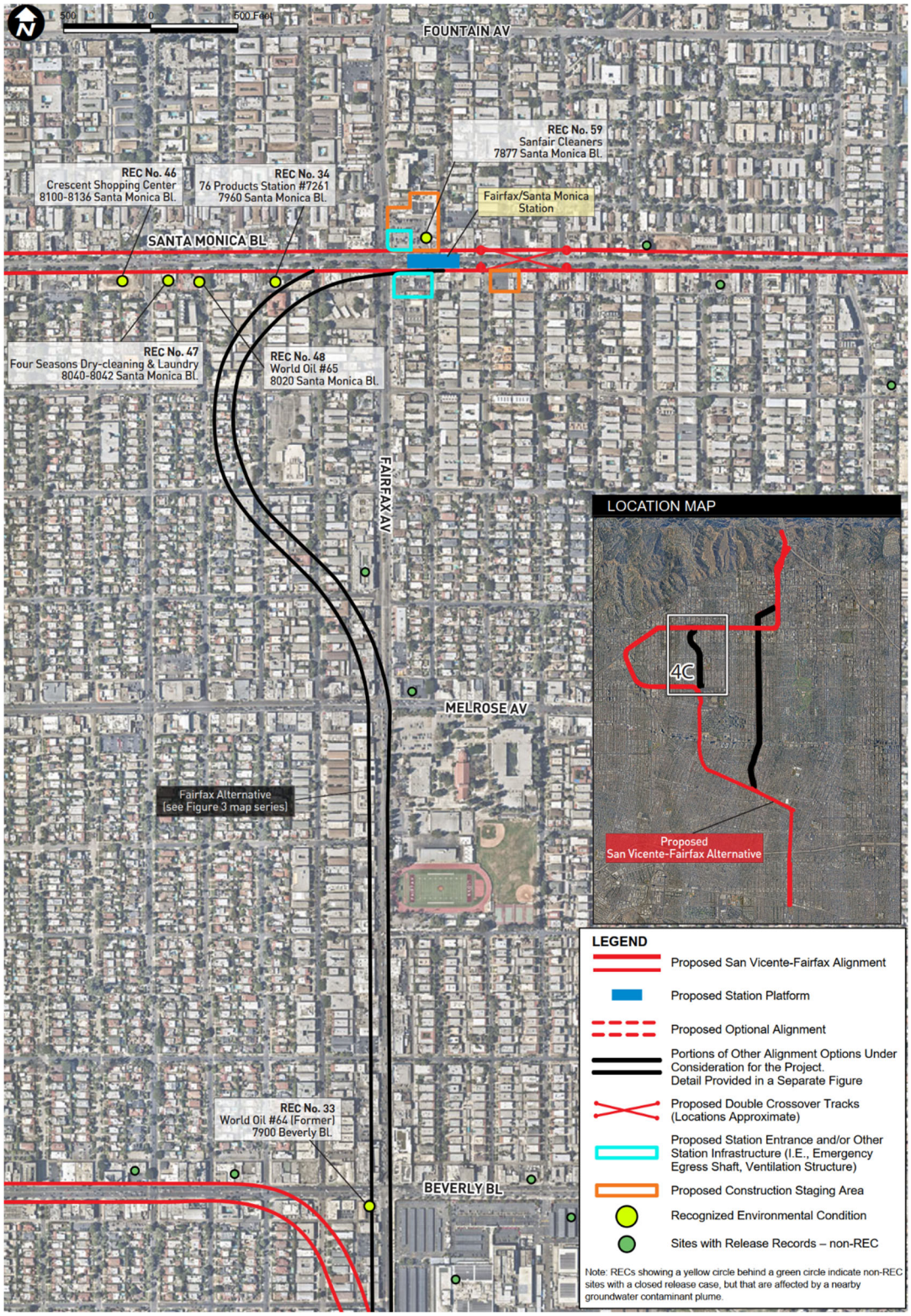
Source: Connect Los Angeles Partners 2023a

FIGURE 5-11. REC SITES ALONG SAN VICENTE-FAIRFAX ALIGNMENT ALTERNATIVE (PAGE 5 OF 8)



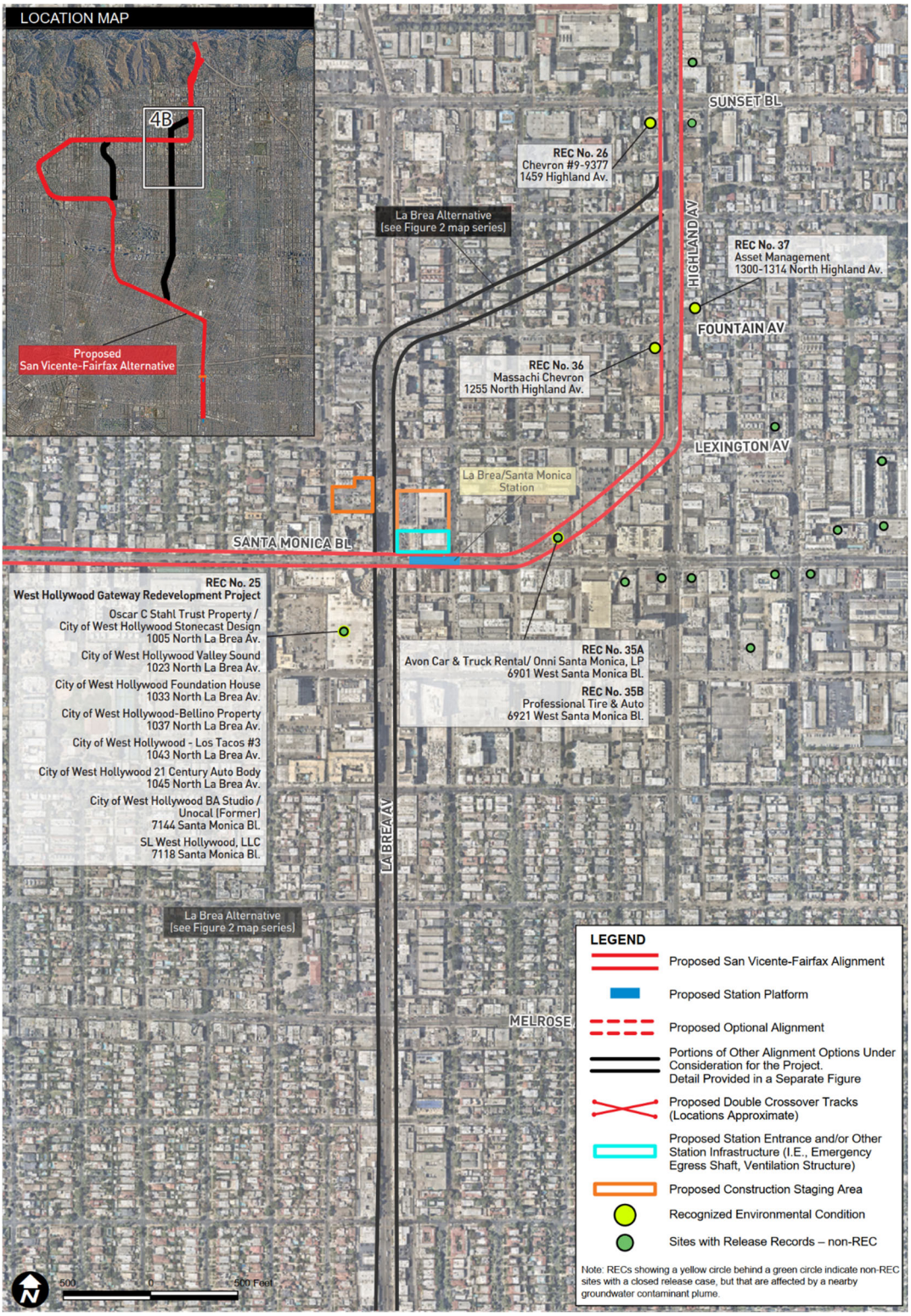
Source: Connect Los Angeles Partners 2023a

FIGURE 5-12. REC SITES ALONG SAN VICENTE-FAIRFAX ALIGNMENT ALTERNATIVE (PAGE 6 OF 8)



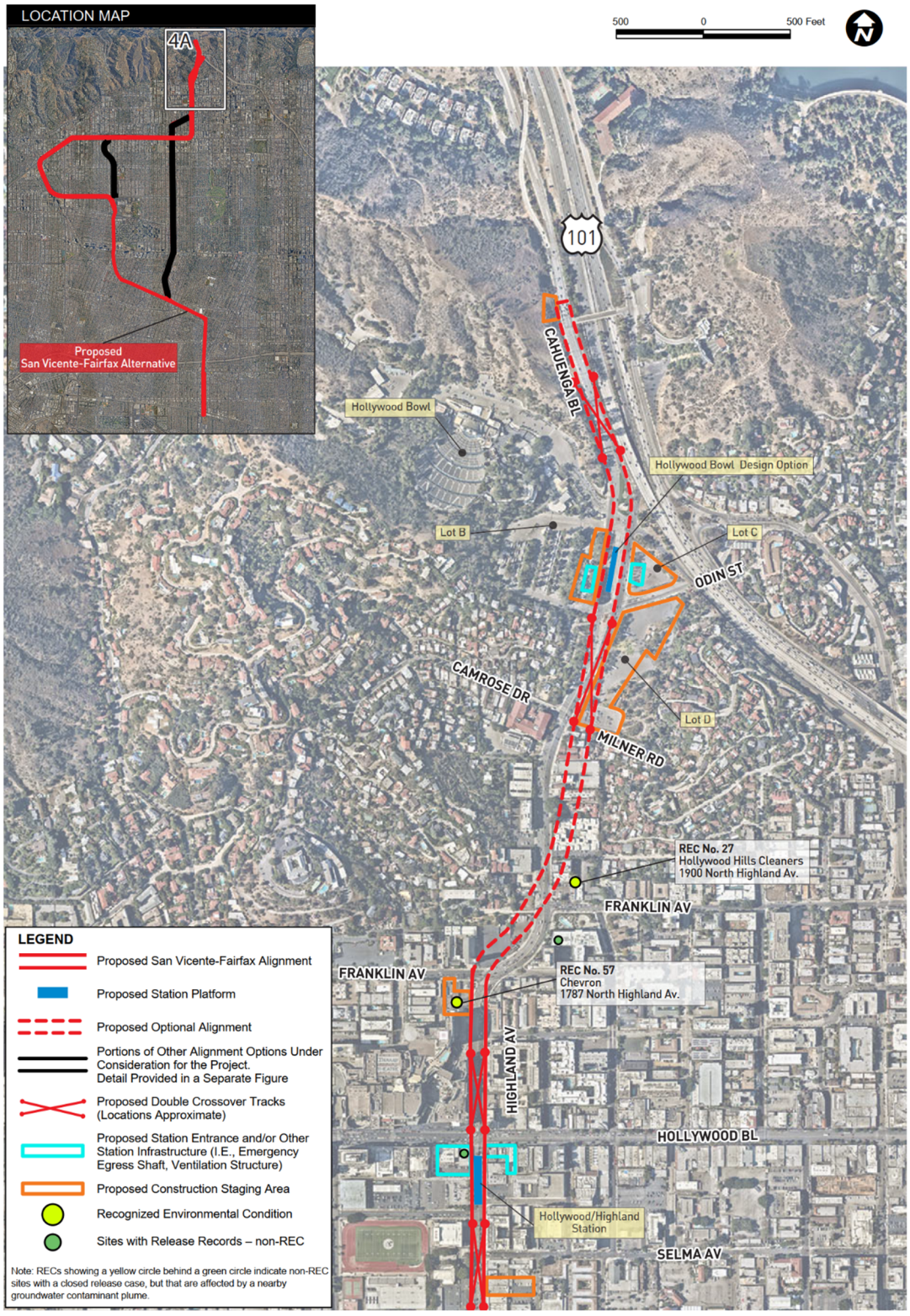
Source: Connect Los Angeles Partners 2023a

FIGURE 5-13. REC SITES ALONG SAN VICENTE-FAIRFAX ALIGNMENT ALTERNATIVE (PAGE 7 OF 8)



Source: Connect Los Angeles Partners 2023a

FIGURE 5-14. REC SITES ALONG SAN VICENTE-FAIRFAX ALIGNMENT ALTERNATIVE (PAGE 8 OF 8)



Source: Connect Los Angeles Partners 2023a

REC #1: CAMEO CLEANERS

This site is in the Cleanup Program Sites-Spills, Leaks, Investigations, and Cleanups (CPS-SLIC) database as an open Cleanup Program Site (CPS) with a "Remediation" status as of 2010. Based on information reviewed in the online GeoTracker database, this site was historically occupied by a dry-cleaning facility from approximately 1954 until 2012 at which time all structures were demolished. Soil, soil vapor, and groundwater have been affected by perchloroethylene (PCE), trichloroethene (TCE), and other VOCs. Remedial activities completed at the site included dual phase extraction (DPE), soil vapor extraction (SVE), groundwater treatment, and soil excavation. At the time of the most recent groundwater monitoring event (1st Quarter 2022), PCE, TCE, and cis-1,2-dichloroethylene were detected in groundwater at concentrations above regulatory thresholds. Based on the open case status, the presence of VOCs in soil vapor and groundwater at concentrations above regulatory thresholds, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #2: SHELL SERVICE STATION

This site is a closed Leaking UST (LUST) Cleanup site as of 2013. This site appears to currently be developed with an active Shell gas station with a drive-through car wash and a convenience store. The EDR Historical Auto database indicates that this site has been occupied by a gas station since at least 1980. The LUST database reports that a release of "other solvent or non-petroleum hydrocarbon" to soil and groundwater was discovered in 2005. Groundwater monitoring was conducted between 2007 and 2012 in on-site and off-site wells (including wells in Crenshaw Boulevard within the boundaries of the RSA), which revealed total petroleum hydrocarbons (TPH); benzene, toluene, ethylbenzene, and xylenes (BTEX) compounds; methyl tert-butyl ether (MTBE); and other fuel by-products in groundwater, some of which were above regulatory thresholds. Remediation was not conducted or required at the site by the RWQCB. Benzene and tertiary butyl alcohol (TBA) were the only constituents detected in groundwater above regulatory thresholds at the time of closure in 2013. The site was granted closure in 2013 under the Low Threat UST Closure Policy (LTCP). Although closure has been granted to this site, it appears that residual groundwater contamination, which was not remediated and was left in place, migrated off-site beneath Crenshaw Boulevard. Although regulatory closure has been issued for the site-related historical release case, based on the long-term use of the site as a gas station (over 40 years), residual contamination left in place at concentrations above regulatory thresholds, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #3: WON KAP YI/CALIFORNIA FINE CLEANERS/SYSTEM CLEANERS

This site is an open CPS with an "Inactive" status as of 2015. This site appears to currently be part of a retail strip mall. The EDR Historical Cleaner database indicates that this site was historically occupied by a dry-cleaning facility from at least 1986 to 1994. The CPS-SLIC database reports that a release of VOCs occurred at this site. No additional information was available in the EDR database report or the online GeoTracker database. Based on the open/inactive case status, lack of readily available information regarding site investigations and/or cleanup, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #4: CRENSHAW CARWASH

This site is a closed CPS. This site appears to currently be developed with a vacant former auto repair facility. The EDR Historical Auto database indicates that this site was historically occupied by an auto repair facility from at least 1933 to 2014. The CPS-SLIC database reports that a release of TPH (potential media affected not specified) occurred at this site and no further action was required. No additional information was available in the EDR database report or the online GeoTracker database. Although regulatory closure has been issued for the site-related historical related case, based on the lack of information regarding subsurface investigations and/or remedial action completed, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #5: ARCO #0027

This site is a closed LUST Cleanup site. This site appears to currently be developed with an active ARCO gas station. The EDR Historical Auto database indicates that this site has been occupied by a gas station since at least 1975. The LUST database reports that a release of gasoline to soil and groundwater was initially discovered in 1988, site assessment activities began in 1992, and the case was closed in 1996. Based on review of online GeoTracker records, excavation of contaminated soils was conducted in 1988 and petroleum hydrocarbon impacts to groundwater were detected at that time. A subsequent release of "other solvent or non-petroleum hydrocarbon" to soil was discovered in 1998, site assessment activities began in 1999, and the case was closed in 2000. No additional information was available in the EDR database report or the online GeoTracker database regarding the 1998 release and subsequent 2000 closure. Although regulatory closure has been issued to this site for the site-related historical release cases, based the long-term use of the site as a gas station (over 45 years), lack of information regarding additional subsurface investigations and/or remedial action completed, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #6: EXXON #7-2560

This site is a closed LUST Cleanup site as of 1997. This site appears to currently be developed with an active Thrifty gas station with a convenience store, which has a current address of 2617 Crenshaw Boulevard. The EDR Historical Auto database indicates that this site has been occupied by a gas station since at least 1986. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 1992 during UST closure activities, at which time pollution characterization began, then "significant interim remedial action" was taken, and the case was closed in 1997. Based on information reviewed in the online GeoTracker database, subsurface investigations were conducted between 1988 and 1996 and petroleum hydrocarbons were detected in soil, soil vapor, and groundwater. The last groundwater monitoring event was conducted in January 1997, and at that time benzene was detected above the regulatory threshold. In 1997, a risk assessment was completed, which indicated that residual hydrocarbon impacts present in soil and groundwater were limited to the areas of the former USTs and that no significant risk to human health existed at the site. Although regulatory closure has been issued for the site-related historical release case, based on the long-term use of the site as a gas station (over 35 years), residual groundwater contamination left in place above

regulatory thresholds, and the proposed use of the site (potential acquisition for a station entrance location for the Crenshaw/Adams Station), this site is considered a REC.

REC #7: EXXONMOBIL #18-LLF

This site is a closed LUST Cleanup site as of 2007. This site appears to currently be developed with an active Mobil gas station and a convenience store. The EDR Historical Auto database indicates that this site has been occupied by a gas station since at least 1982. The LUST database reports that an initial release of gasoline to soil was discovered in 1993 and the case was closed in 1997. A second release of gasoline to soil and groundwater was discovered in 2003, site assessment activities began in 2007, remediation began in 2010, and then the case was closed in 2015. Based on information reviewed in the online GeoTracker database, in 2003 the USTs and associated piping were replaced at the site and petroleum hydrocarbons were detected in soil. Based on the soil analytical results, the LAFD requested additional site assessment activities be performed to investigate the vertical and lateral extents of subsurface hydrocarbons. In 2007, three groundwater monitoring wells were installed, and dissolved phase petroleum hydrocarbons were detected in groundwater at concentrations above regulatory thresholds. Although regulatory closure has been issued for the site, based on the long-term use of this site as a gas station (at least 40 years), lack of recent soil or groundwater analytical data, detected petroleum hydrocarbon concentrations in groundwater at concentrations above regulatory thresholds, and the proposed use of the site (potential acquisition for a station entrance location for the Crenshaw/Adams Station), this site is considered a REC.

REC #8: CHEVRON #9-1400

This site is a closed LUST Cleanup site. This site appears to currently be developed with an active Chevron gas station and a convenience store. The EDR Historical Auto database indicates that this site has been occupied by a gas station since at least 1986. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 1983, remedial action (SVE) was undertaken in 1995, and then the case was closed in 1996. No additional information was available in the EDR database report or the online GeoTracker database. Although regulatory closure has been issued for the site, based on the long-term use of this site as gas station (over 35 years), lack of recent soil or groundwater analytical data, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #9: UNOCAL #5029/UNION 76

This site is a closed LUST Cleanup site. This site appears to currently be developed with an active gas station with a convenience store. The EDR Historical Auto and HIST UST databases indicate that this site has been occupied by a gas station since at least 1969. The LUST database reports that a release of an unspecified contaminant was discovered in 1989 during UST removal/replacement activities and then the case was closed in 1994. Based on information reviewed in the online GeoTracker database, during UST removal/replacement activities conducted in 1989, soil sampling was completed, and low levels of petroleum hydrocarbons were encountered in shallow soils, which did not require remediation, and closure was issued in 1990. The former gas station was demolished in 1993 (after

damage from the 1992 Los Angeles Riots), limited areas of affected soils were encountered, and remedial soil excavation was completed. No impacts to groundwater were detected. The site was granted closure in 1994. No additional information was available in the EDR database report or the online GeoTracker database. Although regulatory closure has been issued for the site-related release case, based on the long-term use of this site as gas station (over 50 years), lack of recent soil or groundwater analytical data, and proximity to the Crenshaw/Adams Station Cross-Country Option – Entrance Option 2 at the southern end of the alignment alternative, this site is considered a REC.

REC #55: MIDTOWN CLEANERS

This site is associated with the portion of the Midtown Crossing shopping center property that is proposed for the location of the Midtown Crossing Station and associated infrastructure. The database listings indicate that Midtown Cleaners operated in this area between at least 1975 and 1995, and formerly maintained permits for dry-cleaning equipment that utilized PCE. The HAZMAT database lists the status as inactive. The RCRA database indicates that this former site was classified as a SQG in 1988 with no violations reported. Although no release case is identified associated with for the former dry cleaner, dry-cleaning operations typically use chlorinated solvents, particularly PCE, during the dry-cleaning process, and these solvents, even when properly stored and handled, are highly mobile chemicals and can readily migrate into the subsurface as a result of small releases associated with on-site operations. Based on the proposed use of the site (potential acquisition for a proposed station location and TBM launch site), the former dry-cleaning facility is considered a REC.

REC #11: PLAINS EXPLORATION AND PRODUCTION CO./UNION OIL CO. OF CA

This listing is in the Los Angeles County Site Mitigation database, and the abated status is reported as "no." No additional information was available in the Los Angeles County Public Works, Environmental Programs Division's Online File Review database. This site encompasses over 14.5 acres and is currently developed as the Midtown Crossing retail shopping center, with multiple buildings occupied by various retail tenants. Based on a review of the CalGEM online WellSTAR database, this area was historically used for oil exploration/production and is located within the boundaries of the Las Cienegas Oil Field (REC No. 49). The CalGEM Well Finder online database identifies multiple plugged and abandoned oil wells on the western portion of this site. No additional information was available in the EDR database report. Based on available information and the proposed location of the Midtown Crossing Station and TBM launch site, double crossover tracks, and surface-level access portal on this parcel, the former oil exploration/production activities at this site is considered a REC.

REC #28: SPLENDID CLEANERS

This site is an open CPS with an "Assessment & Interim Remedial Action" status. This site contains a dry-cleaning facility (Splendid Cleaners). The EDR Historical Cleaner database reports that this site has been occupied by a dry-cleaning facility since at least 1952. The CPS-SLIC database reports that a release of "DCE, PCE, TCE, and vinyl chloride" to soil and groundwater historically occurred at this site. Subsurface investigations beginning in 1993 revealed VOC impacts to soil, soil vapor, and groundwater at concentrations above regulatory thresholds as a result of "past releases due to poor disposal

practices and accidental discharges during solvent recovery." Heavy-end petroleum hydrocarbons have also been detected in soil and groundwater, which were reported to be related to regional natural petroleum sources (Salt Lake South Oil Field). The most recent information available in the online GeoTracker database was an Investigative Order (enforcement action) from the RWQCB dated 2021 requiring Splendid Cleaners to submit a work plan to assess impacts at the site. Based on the regulatory status (i.e., open case), detected concentrations in soil vapor and groundwater at concentrations above regulatory thresholds, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #29: DANNY'S DRY CLEANING

This site is an open CPS with a "Site Assessment" status. This site appears to currently be occupied by a dry-cleaning facility. The EDR Historical Cleaner database reports that this site has been occupied by a dry-cleaning facility since at least 2002. Based on information reviewed in the online GeoTracker database, this site was historically occupied by a gas station and auto repair facility from the late 1940s to the mid-1980s. The present-day building was constructed in 1984, and other dry-cleaning businesses have historically occupied other tenant spaces within the current building. Multiple USTs were removed from the site in 1984 prior to redevelopment with the current structure. Site assessments conducted at the site since 2017 have indicated that soil, soil vapor, and groundwater beneath the site are contaminated with TPH and VOCs such as PCE and TCE, as well as naturally occurring concentrations of contaminants associated with crude oil at depths between approximately 25 and 60 feet bgs. No remedial activities have occurred at the site. In 2020, off-site soil vapor sampling was conducted, and elevated concentrations of VOCs were detected in soil vapor samples collected from the adjacent property to the east (5562 Edgewood Place). In 2021, the RWQCB issued an Investigative Order to the site requiring further investigation to assess impacts at the site. The most recent information in the GeoTracker database was an "Approval of Work Plan and Addendum to Supplemental Site Assessment to Work Plan III" issued by the RWQCB, dated March 10, 2022, which indicated that additional site assessment activities required at the site had been approved, including indoor air sampling, installation and sampling of groundwater monitoring wells, and collection of soil and soil vapor samples. Based on the regulatory status (i.e., open case), detected concentrations in soil vapor and groundwater above regulatory thresholds, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #58: 1X GRIFFIN RELATED PROPERTIES

This site is the proposed construction staging area for the Wilshire/Fairfax Station. This property contains a commercial office building. The Facility and Manifest Data (HAZNET) and Hazardous Waste Transport System (HWTS) databases indicate that this site generated state-regulated hazardous wastes in the form of "contaminated soil from site clean-up" in 1990 that was disposed of via a transfer station. No additional information was available in the EDR report or the online GeoTracker database. Although no release case is identified associated with this site, based on the limited information available and the indication of a release at the site resulting in cleanup, this site is considered a REC.

REC #31: MAS AUTO SERVICE

This site is an open LUST Cleanup site with a "Remediation" status as of 2005. This site contains a vacant gas station and former auto repair shop. The LUST database reports that a release of gasoline to soil was discovered in 1991, preliminary site assessment began in 1998, pollution characterization in 1999, groundwater monitoring began in 2000, and a remediation plan was submitted in 2004. The abatement method used at the site is reported as "excavate and dispose." Based on information reviewed in the online GeoTracker database, a workplan for MPE to remove free product from groundwater and to reduce benzene concentrations in groundwater was approved by the RWQCB in April 2022. At the time of the most recent groundwater monitoring event available on GeoTracker (First and Second Half 2021), free product was detected in a down-gradient monitoring well and benzene was detected at concentrations above regulatory thresholds. Based on the open case status, ongoing remediation, free product in groundwater, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #32: THE GROVE AT FARMERS MARKET

The Grove at Farmers Market is identified as an open CPS with a "Verification Monitoring" status as of 2000. The CPS-SLIC database reports that a release of "petroleum/fuels/oils and volatile organic compounds" to soil and groundwater occurred at this site. Based on information reviewed in the online GeoTracker database, the area of this site "has been historically related to oil production operations" and "soil, soil gas, and groundwater beneath the property are affected by petroleum hydrocarbons." In addition, fill at the site is known to contain elevated levels of petroleum hydrocarbons. Several phases of environmental assessments, including risk assessments, have been conducted at the site and remediation was conducted through 2000. In 1999, VOCs were detected in groundwater at concentrations above regulatory thresholds. A site soil mitigation system (vapor barrier and passive venting system) is currently in place for the protection of human health. The most recent documentation available in the GeoTracker database is a letter dated 2015 from the RWQCB outlining requirements needed to complete their review of the environmental investigation at the site including acceptance of a deed restriction on the property, technical reports that demonstrate the soil vapor mitigation system/barrier is effective, and a supplemental subsurface assessment workplan. No additional information was available in the online GeoTracker database. Based on the regulatory status (i.e., open case), lack of recent analytical data, the presence of VOCs and petroleum hydrocarbons in soil and groundwater at concentrations above regulatory thresholds, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #33: WORLD OIL #64

This site is a closed LUST Cleanup site. This site contains an active Shell gasoline station and a convenience store. The LUST database reports that a release of gasoline to soil was discovered in 1991, at which time site assessment activities began, groundwater monitoring and SVE was conducted, and then the case was closed in 1996. An additional release was discovered in 2001 during UST closure activities. Soil excavation was completed, and soil and groundwater investigation followed in 2003. Groundwater monitoring began in 2008, a groundwater remediation system (pump and treat)

was in operation in 2011, and then the case was closed in 2013. Based on information reviewed in the online GeoTracker database, two gasoline USTs were removed in 1989 and three gasoline USTs were removed in 2001, at which time affected soils were excavated. Subsurface investigations were conducted between 2002 and 2008. An SVE system was in operation between 2007 and 2009. Groundwater monitoring began in 2008, and groundwater remediation (over-purge) was conducted in 2011. In 2012, an off-site investigation was conducted to delineate the extent of groundwater impacts. The case was granted closure under the LTCP in 2013. At the time of closure, TBA was present in groundwater at concentrations above regulatory thresholds. Although regulatory closure has been issued for the site-related historical release cases, based on the long-term use of this site as a gasoline station (over 30 years), the presence of TBA in groundwater at concentrations above regulatory thresholds at the time of closure, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #60: CLEANSVILLE, USA

This site is one of the proposed locations for a construction staging area for the La Cienega/Beverly Station and contains a vacant commercial building. The site was formerly occupied by a dry-cleaning facility from at least 1976 to 1995. The DRYCLEANER database reports that the former dry-cleaning facility maintained a permit to operate equipment that utilized PCE. The facility status is listed as inactive in the HAZMAT database. The HAZNET and HWTS databases indicate that this site generated state-regulated hazardous wastes in the form of “halogenated solvents (chloroforms, methyl chloride, perchloroethylene, etc.)” between 1983 and 1987 that were disposed of off-site. Although no release case was identified associated with the former dry-cleaning facility, dry-cleaning operations typically use chlorinated solvents, particularly PCE, during the dry-cleaning process, and these solvents, even when properly stored and handled, are highly mobile chemicals and can readily migrate into the subsurface as a result of small releases associated with operations. Based on this information, the long-term use as a dry-cleaning facility (over 20 years), and the proposed use of the site (potential acquisition for construction staging area), the former dry-cleaning facility is considered a REC.

REC #38: MOBIL #18-LN8

This site is a closed LUST Cleanup site as of 2015. This site is an active gas station. The EDR Historical Auto database indicates that this site has been occupied by a gas station since at least 1942. The LUST database reports that a release of “waste oil/motor/ hydraulic/lubricating” to soil and groundwater was discovered in 1986, pollution characterization began in 1990, a remediation plan was submitted in 1999, a preliminary assessment began in 2004, and the case was closed in 2015. The LUST database reports that “significant remedial action” was taken and groundwater monitoring began in 2000. Based on information reviewed in the online GeoTracker database, between 1986 and 1989, eight USTs (six gasoline and two waste oil) were removed from the site. Remedial action at the site has included soil excavation, DPE, free product recovery, over-purging groundwater, and oxygen emitters. Closure documents also indicate that the site is within a former oil production field and within a methane zone defined by the City of Los Angeles. The site was granted closure under the LTCP in 2015. At the time of closure in 2015, benzene, MTBE, and TBA were present in groundwater at concentrations above regulatory thresholds; however, the concentrations were reported to be stable.

Although regulatory closure has been issued for this site, based on the long-term use as a gas station (approximately 80 years), contaminant concentrations in groundwater above regulatory thresholds at the time of closure, and the proposed use of the site (potential acquisition as a station entrance location for the La Cienega/Beverly Station), this site is considered a REC.

REC #39: LOS ANGELES COUNTY SHERIFF – WEST HOLLYWOOD STATION

This property is the proposed western access portal for Entrance 1-South for the San Vicente/Santa Monica Station. The West Hollywood Sheriff Station is a closed LUST Cleanup site as of 1996. This site is an active sheriff's station. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 1985, pollution characterization began in 1988, and the case was closed in 1996. A note in the LUST database indicates a "small, isolated area contaminated with hydrocarbons" was present. No additional information was available in the EDR database report or the online GeoTracker database. Although regulatory closure has been issued for the site, based on the lack of soil and/or groundwater analytical data and the proposed use of the site (station entrance location for the San Vicente/Santa Monica Station), this site is considered a REC.

REC #40: SOUTHERN CALIFORNIA RTD

This property is an open LUST Cleanup site with a "Remediation" status as of 2021. This site is the Metro Transportation Authority Division 7 bus maintenance yard, and Metro has indicated that remediation of this site will be completed by the end of 2023. The LUST database reports that a release of diesel to soil and groundwater was discovered in 1985, at which time pollution characterization began, a remediation plan was submitted in 1993, and remedial action was underway by 1994. Based on information reviewed in the online GeoTracker database, from 1927 until 1956, the site was used as a maintenance and dispatch yard for street cars of the Pacific Electric System. According to historical Sanborn Maps, this property was subsequently used by the Southern California Rapid Transit District Coach Storage Yard, West Hollywood Division in at least 1969. In 1975, five USTs were removed from the southwest side of the maintenance building including two diesel, one lube oil, one gasoline, and one waste oil tanks. Currently, there are seven USTs at the site (two diesel, one gas, two oil, one antifreeze, and one waste oil). In 1985, the RWQCB requested a site assessment be conducted at the site due to the discovery of gasoline-based product entering the sanitary sewer system to the east of the site. At the time of the site assessment, the following USTs were present at the site: four 20,000-gallon diesel tanks, one 280-gallon diesel tank, two 10,000-gallon gasoline tank, one 10,000-gallon motor oil tank, one 8,000-gallon waste oil tank, and one 8,000-gallon out-of-service solvent tank. The gasoline USTs were tested for tightness and were found to be product tight. Six shallow groundwater monitoring wells were installed on the site and low levels of petroleum hydrocarbons were detected in soil and groundwater. The 1985 assessment concluded that the on-site gasoline tanks were not the likely source, but that the petroleum hydrocarbons came from an adjacent property (REC No. 41 discussed below). Additional site assessment activities conducted between 1986 and 1991 revealed the presence of free product in on-site groundwater monitoring wells. The source was determined to be a leaking diesel fuel dispenser, which was removed from service. Between 1992 and 1993, additional investigations were conducted to delineate the lateral extent of the diesel plume. In 1995, free product recovery began at the site using extraction wells,

which continued periodically until 2004, and groundwater monitoring continued until 2016. In 2021, the RWQCB denied closure for the site under the LTCP stating that "free product in groundwater has not been removed to the maximum extent practicable," groundwater monitoring had not been conducted since 2016, and the site did not meet the vapor intrusion to indoor air media-specific criteria, as Metro had informed the RWQCB that the land use of the site may change in the future from commercial use to residential use or other similar potentially sensitive uses. An additional groundwater monitoring event was conducted in 2021 (Second Semi-Annual 2021) and based on review of the report, free product remained present in two of the on-site wells located in the central and southeastern portions of the site. Three groundwater monitoring wells (RTD-1, RTD-3A, and GT-21) are located within the northeastern portion of this site, which is the area of the proposed eastern surface-level station entrance for the San Vicente/Santa Monica Station, and low levels of TPH were detected in this area. In 2022, soil vapor sampling was conducted at the site including one sample location (SVP-5) in the northeastern portion of the site and low levels of TBA were detected at this location. Based on the open case status, presence of free product in groundwater, low levels of TPH detected in the northeastern portion of the site, low levels of TBA in shallow soil vapor, and the proposed use of the site (station entrance location for the San Vicente/Santa Monica Station), this site is considered a REC.

REC #41: SANTA PALM CAR WASH

The Santa Palm Car Wash site is the location of the northern surface-level access portal property for Entrance 2-North for the San Vicente/Santa Monica station. Santa Palm Car Wash is a closed LUST Cleanup site as of 1997 and 2020. This site is currently occupied by an active car wash. The EDR Historical Auto database reports that this site has been occupied by a car wash since at least 1971, although Sanborn Maps indicate this property was being utilized as a car wash in 1969. Sanborn Maps also indicate that this property was occupied by an auto wrecking business in 1950. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 1985, pollution characterization began in 1988, a remediation plan was submitted in 1989, remedial action was underway by 1990, and then the case was closed in 1997. Closure documentation reviewed in the online GeoTracker database indicates that remedial actions included SVE between 1990 and 1993, and free product removal and groundwater pump and treat between 1990 and 1996. An additional release was reported in 2007, at which time site assessment activities began. Remediation was completed in 2010 to 2011, and the case was closed in 2020. Based on information reviewed in the online GeoTracker database, two gasoline USTs and associated dispensers and piping were removed in 2003 and soil samples collected revealed low levels of petroleum hydrocarbons. Additional subsurface investigations were conducted between 2007 and 2014, which revealed impacts to soil and groundwater. Remedial actions at the site have included DPE in 2010 to 2011 for soil and groundwater, and sodium persulfate groundwater injections in 2014. Groundwater monitoring was conducted between 2008 and 2019. At the time of closure in 2019, benzene, ethylbenzene, xylenes, and naphthalene were present in groundwater at concentrations above regulatory thresholds. The site was granted closure under the LTCP. Although regulatory closure has been issued for the site, based on the long-term use of this site as a car wash (over 50 years), prior historical use as an auto wrecking yard (duration unknown), petroleum hydrocarbons detected in groundwater at concentrations above

regulatory thresholds at the time of closure, and the proposed use of the site (potential acquisition for station entrance location for the San Vicente/Santa Monica Station), this site is considered a REC.

REC #42: CANYON CLEANER

This property is an open CPS with a "Verification Monitoring" status as of 2011. This site is occupied by a two-story commercial building with a dry-cleaning tenant. The EDR Historical Cleaner database indicates that this site has been occupied by a dry-cleaning facility since at least 1972. The CPS-SLIC database reports that a release of "other solvent or non-petroleum hydrocarbon, PCE" to soil and groundwater was discovered at this site in 1999. Impacts to soil were successfully remediated via an SVE treatment system that was in operation in 2002, and in 2003 the RWQCB granted a no further action status for soil only. Groundwater remedial actions completed at the site have included over-purging in 2004 and 2007, and in-situ chemical injection in 2018. Groundwater monitoring has been ongoing at the site since 2001. Based on a review of the most recent monitoring report available on GeoTracker (Second Half of 2021), PCE and cis-1,2-DCE were detected in groundwater at concentrations above regulatory thresholds. Based on the open case status, detections of VOCs in groundwater at concentrations above regulatory thresholds, and the proximity to the alignment alternative (adjacent and upgradient), this site is considered a REC.

REC #43: WEST HOLLYWOOD MOBIL SERVICE

This property is a closed LUST Cleanup site as of 2011 and as a Non-Case Information site with an "Informational Item/Review Complete" status as of 2020. This site is an active gas station. The EDR Historical Auto database indicates that this site has been occupied by a gas station since at least 1969. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 1985, at which time site assessment activities began, remedial action was underway by 2003, and then the case was closed in 2011. Based on information reviewed in the online GeoTracker database, six USTs (five gasoline and one waste oil) were removed from the site in 1993 and remedial soil excavation was conducted. Soil samples collected at that time indicated low levels of TPH. Between 1997 and 2010, additional site assessment activities were completed. Beginning in 2002, free product was measured in several wells and between 2002 and 2009, free product removal was conducted. Free product had not been detected at the site since 2009. Other remedial actions completed at the site included SVE in 2010 and DPE between 2007 and 2011. Groundwater monitoring was conducted between 1999 and 2011. At the time of closure in 2011, benzene and MTBE were present in groundwater at concentrations above regulatory thresholds. The NON-CASE INFO database listing indicates that in 2017 during fuel dispenser upgrade activities at the site, soil samples were collected, and low levels of petroleum hydrocarbons were detected. No groundwater was encountered during the fuel dispenser upgrade activities. The case was referred by the County to the Los Angeles RWQCB. Based on their review of a Report on Environmental Soil Sampling Upon Fuel UST System Upgrades dated 2017, the RWQCB concluded that residual concentrations of fuel constituents posed a low threat to human health and the environment, and therefore no further action was required and the RWQCB UST Program did not open another case for the site. Although regulatory closure has been issued for the site, based on the long-term use of this site as a gas station (over 50 years), petroleum hydrocarbons

detected in groundwater at concentrations above regulatory thresholds at the time of closure, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #44: CHEVRON #9-0769T

This property is a closed LUST Cleanup site as of 1999. The EDR Historical Auto database indicates that this site has been occupied by a gas station since at least 1937. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 1985, pollution characterization began in 1997, and then the case was closed in 1999. A note in the LUST database indicates that groundwater monitoring was conducted in 1998 and 1999. No additional information was available in the EDR database report or the online GeoTracker database. Although regulatory closure has been issued for the historical site-related release case, based on the long-term use of this site as a gas station (over 80 years), the lack of recent analytical data, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #45: PETER'S MAGNOLIA CLEANERS

This property is a "Voluntary Agreement" site in the DTSC's EnviroStor database with an "Active" status as of 2021. This site contains a retail building, and the former dry-cleaning tenant space is vacant. The EnviroStor database reports that this site entered into a standard voluntary agreement with the DTSC in 2021. Based on information reviewed in the online EnviroStor database, groundwater beneath the site may contain PCE. In 2003, post-remediation groundwater monitoring detected PCE in groundwater at concentrations above regulatory thresholds, which was deemed likely to naturally biodegrade; however, in 2019, PCE was detected down-gradient of the site at concentrations less than regulatory thresholds. In addition, in 2018, soil vapor sampling conducted revealed elevated concentrations of VOCs (PCE and TCE). In a letter dated 2021, the DTSC required additional investigation at the site to evaluate current groundwater conditions and to evaluate potential vapor intrusion from the site. The most recent information available in the online EnviroStor database was a workplan for soil vapor sampling dated April 2022 and email correspondence indicating the sampling had been conducted; however, no soil vapor analytical results were available, and no documentation was found indicating that additional groundwater sampling had been conducted. Based on the open case status, reported impacts to groundwater at concentrations above regulatory thresholds, DTSC required investigations, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #46: CRESCENT SHOPPING CENTER

This property is an open CPS with a "Remediation" status as of 2000. This site is a vacant lot. The CPS-SLIC database reports that a release of VOCs including "DCE, other chlorinated hydrocarbons, PCE, and TCE" to soil vapor and groundwater was discovered in 1999. This site was reportedly occupied by a gas station and auto repair shop from the mid-1920s to the early 1960s when this site was redeveloped. Since that time, a dry cleaner was in operation between 1962 and 2013. As a result, soil, soil vapor, and groundwater have been affected by VOCs, primarily PCE. Soil, soil vapor, and groundwater investigations have been conducted at the site since 1999, and remedial actions have included soil excavation. In 2013, all structures on the site were demolished and four groundwater monitoring wells

permanently destroyed prior to planned redevelopment; however, the proposed redevelopment is no longer under consideration and the RWQCB is requiring that the four wells be reinstalled at the site. Based on the open case status and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #47: FOUR SEASONS DRY CLEANING & LAUNDRY

This property is an open CPS with an "Assessment & Interim Remedial Action" status as of 2019. This site contains a dry-cleaning business. The CPS-SLIC database reports that dry-cleaning operations have been conducted since 1954 and PCE was used as a dry-cleaning solvent until at least 2008. Soil and soil vapor have been affected by chlorinated VOCs, primarily PCE. Soil vapor surveys conducted in 2002 showed PCE is present at concentrations above regulatory thresholds to depths of up to approximately 52 feet bgs. The highest concentrations were detected near the former dry-cleaning machine. Limited SVE remediation was conducted from 2003 to 2005, which was deemed insufficient by the RWQCB. Off-site investigation at 8020 Santa Monica Boulevard and 8100-8136 Santa Monica Boulevard identified PCE and other VOCs in on-site soil vapor and off-site groundwater. As a result of these findings, the RWQCB issued an order in 2008 requiring an assessment of affected media including soil, soil vapor, and groundwater. Subsurface investigations were conducted between 2011 and 2018 to define impacts to soil, soil vapor, and groundwater, which identified PCE in soil vapor and groundwater at concentrations above regulatory thresholds. In 2019 and 2020, remedial action plans for the site were approved by the RWQCB to address impacts to soil vapor and groundwater using additional SVE and in-situ chemical reduction. Based on the open case status and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #48: WORLD OIL #65

This property is a closed LUST Cleanup site as of 2005. This site is an active Shell gas station. The EDR Historical Auto database indicates that this site has been occupied by a gas station since at least 1969. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 1986, preliminary assessment and pollution characterization began in 1997, groundwater monitoring began in 2002, remedial action was underway by 2003, and then the case was closed in 2005. Remedial actions at the site included SVE in 2000 and a groundwater pump and treat system in 2004. Based on information reviewed in the online GeoTracker database, at the time of closure, COCs (benzene and MTBE) were not detected in groundwater at concentrations above regulatory thresholds. Although regulatory closure has been issued for this site, based on the long-term use of the site as a gas station (over 50 years), lack of recent analytical data, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #34: 76 PRODUCTS STATION #7261

This site is a closed LUST Cleanup site as of 1997. This site contains an active gas station and a mini mart. The EDR Historical Auto database reports that this site has been occupied by a gas station since at least 1942. The LUST database indicates that a release of gasoline to soil was discovered in 1996 during UST closure activities, at which time preliminary assessment began, and then the case was

closed in 1997. The California Hazardous Material Incident Reporting System database reports that contaminated soil was encountered during tank removal activities conducted in 1996. No additional information was available in the EDR database report or the online GeoTracker database. Although regulatory closure has been issued for the historical site-related release case, based on the long-term use of this site as a gas station (approximately 80 years), lack of recent analytical data, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #59: SANFAIR CLEANERS

This site is the proposed location for Entrance Option 1-NE for the Fairfax/ Santa Monica Station and is developed with a multi-tenant commercial plaza (Sanfair Center). The RCRA database indicates that this site was verified as a non-generator of hazardous waste in 2002 and a SQG in 1987 to 2002. The DRYCLEANERS database indicates that San Fair Cleaners maintained permits for dry-cleaning equipment that utilized PCE, which are reported to be inactive. The facility currently maintains an active permit to operate dry-cleaning equipment that utilizes petroleum solvent. No violations were noted in the CERS database. Although no release case is identified associated with the dry-cleaning facility, dry-cleaning operations typically use chlorinated solvents, particularly PCE, during the dry-cleaning process, and these solvents, even when properly stored and handled, are highly mobile chemicals and can readily migrate into the subsurface as a result of small releases associated with operations. Based on this information, the long-term use as a dry-cleaning facility (since at least 1987), and the proposed use of the site, the dry-cleaning facility is considered a REC.

REC #25: WEST HOLLYWOOD GATEWAY SHOPPING CENTER REDEVELOPMENT PROJECT

Several former businesses are identified on this block located on the western side of La Brea Avenue, between Santa Monica Boulevard to the north and Romaine Street to the south, with open CPS cases. This block was redeveloped with the current West Hollywood Gateway Shopping Center project in 2003. The following businesses were identified with open CPS cases with an “Inactive” status as of 2015:

- The Oscar C Stahl Trust Property/City of West Hollywood-Stonecast Design at 1005 North La Brea Avenue, closed LUST site and open CPS; the City of West Hollywood-Valley Sound at 1023 North La Brea Avenue, open CPS; the City of West Hollywood-Foundation House at 1033 North La Brea Avenue, open CPS; the City of West Hollywood-Bellino Property at 1037 North La Brea Avenue, open CPS; the City of West Hollywood-Los Tacos #3 at 1043 North La Brea Avenue, open CPS; and the City of West Hollywood-21 Century Auto Body at 1045 North La Brea Avenue, open CPS.
- The City of West Hollywood-BA Studio/Unocal (Former) at 7144 Santa Monica Boulevard, open CPS. This property is located on the northwestern corner of the same block associated with the sites described in the preceding bullets and is part of the West Hollywood Gateway Shopping Center redevelopment project.
- SL West Hollywood LLC at 7118 Santa Monica Boulevard, closed LUST Cleanup site. This property is located on the northwestern corner of the same block associated with the sites described in the preceding bullets and is part of the West Hollywood Gateway Shopping Center redevelopment project. Although closure has been granted to this release case,

closure documents state that VOC concentrations in groundwater are from an unspecified regional source.

No additional information associated with the West Hollywood Gateway Shopping Center redevelopment project, the open/inactive cases associated with these former businesses, or the regional groundwater contamination was available in the EDR database report or the online GeoTracker database. Based on the open/inactive case status and lack of readily available information regarding site investigations and/or cleanup, this site is considered a REC.

REC #35A: AVON CAR & TRUCK RENTAL/ONNI SANTA MONICA

This site is identified as an open LUST Cleanup site with an "Eligible for Closure" status as of 2022. This site appears to be under redevelopment with a mixed-use commercial and residential building with subterranean parking. The EDR Historical Auto database indicates that this site was historically occupied by a gasoline station since at least 1942. The Los Angeles County Site Mitigation database reports the facility status as active. The LUST database reports that a release of gasoline (media affected not specified) was discovered in 2021, at which time site assessment activities began including a soil and groundwater investigation. The case was referred from the county to the RWQCB in 2021. Based on information reviewed in the online GeoTracker database, the site was excavated to a depth of 25 feet bgs during redevelopment, which resulted in complete or nearly complete source removal of petroleum hydrocarbon and VOC-affected soils; however, PCE remains present in groundwater at concentrations above regulatory thresholds. The RWQCB issued a pre-closure notification letter in February 2022 indicating their plan to close the case under the LTCP. Although the site has been issued a pre-closure notification by the RWQCB, based on the presence of PCE in groundwater at concentrations above regulatory thresholds and proximity to the alignment alternative (within the alignments), this site is considered a REC.

REC #35B: PROFESSIONAL TIRE & AUTO

This site is a closed LUST Cleanup site as of 1997. This site appears to be redeveloped with a mixed-use commercial and residential building with subterranean parking. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 1996, at which time site assessment activities began, and then the case was closed in 1997. Although the site has been issued a pre-closure notification by the RWQCB, based on the presence of PCE in groundwater at concentrations above regulatory thresholds and proximity to the alignment alternative (within the alignments), this site is considered a REC.

REC #36: MASSACHI CHEVRON

This site is a closed LUST Cleanup site as of 2002. This site is an active gas station. The EDR Historical Auto database indicates that this site has been occupied by a gas station since at least 1973. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 2000 during a UST repair. Site characterization began in 2000 and post-remedial action monitoring was conducted following investigation activities. The case was closed in 2002. Based on information reviewed in the online GeoTracker database, the case closure letter dated October 11, 2002, confirms completion of

the site investigation and remedial action for the UST(s) formerly located at this site and that no further action related to the UST release was required. Although regulatory closure has been issued for the historical release, based on the long-term use of this site as a gas station (almost 50 years), the lack of recent analytical data, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #37: ASSET MANAGEMENT (RETAIL STRIP MALL)

This site is a closed LUST Cleanup site as of 2003. This site contains a retail strip mall. The EDR Historical Auto database indicates that this site was historically occupied by a gas station from at least 1969 to 1972. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 1993, preliminary site assessment activities began in 1998, post-remedial action monitoring in 1999, pollution characterization and risk assessment in 2000, and then the case was closed in 2003. Based on information reviewed in the online GeoTracker database, a former gas station and dry cleaner historically operated at this site. Groundwater monitoring was conducted in 2001 and 2002; in 2002, benzene and PCE were detected in groundwater at concentrations above regulatory thresholds, but they were expected to naturally attenuate. No additional information was available in the EDR database report or the online GeoTracker database. Although regulatory closure has been issued for the historical release, based on the concentrations of benzene and PCE detected in groundwater at the time of closure above regulatory thresholds and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #26: CHEVRON #9-9377

This site is a closed LUST Cleanup site. This site appears to currently be vacant and/or abandoned and surrounded by wood fencing. It is unclear based on Google Street view if the former gas station features (e.g., station building, USTs, dispensers, etc.) have been removed from the property. The EDR Historical Auto and HIST UST databases indicate that this site has been occupied by a gas station since at least 1967. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 1989, at which time site assessment activities began, remedial action was underway by 1992, and then the case was closed in 1994. Although regulatory closure has been granted to this site for the site, based on the long-term use of the site as a gas station (approximately 55 years), lack of information regarding additional subsurface investigations and/or remedial action completed, unknown status of the former gas station, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #57: CHEVRON

This site is the proposed location of the TBM extraction site for terminus Hollywood/Highland Station and is currently developed with an active gasoline service station and auto repairing facility with a snack shop. The EDR Historical Auto database indicates that this site has been occupied by a gasoline station and/or auto repairing facility since at least 1929. The UST, CERS, RCRA, HAZNET, and HWTS databases indicates that this site generates hazardous wastes, is a chemical storage facility, and maintains USTs. Although this site is not listed on a contamination-related database, based on the

long-term use as a gasoline station and auto repairing facility (since 1929) and the proposed use (proposed TBM extraction site and egress shaft and ventilation structure for the terminus Hollywood/Highland Station), this site is considered a REC.

REC #27: HOLLYWOOD HILLS CLEANERS

This site is a closed CPS. This site is developed with a retail strip mall, which includes a dry-cleaning tenant. The EDR Historical Cleaner database indicates that a dry cleaner has been located at this property since at least 1993. The CPS-SLIC database reports that a release of VOCs occurred at this site and no further action is required. Based on information reviewed in the online GeoTracker database, subsurface investigations identified PCE in soil and groundwater and the detected concentration in groundwater was slightly above regulatory thresholds. Based on this information, the site was closed as a "Low Risk" case in 1998 and no further action was required. Although regulatory closure has been issued for the site, based on the proximity (adjacent), continued use of the site for dry-cleaning operations, and detections of PCE in groundwater at concentrations above regulatory thresholds at the time of closure, this site is considered a REC.

AERIALLY DEPOSITED LEAD

Each of the 10 stations that are planned to be associated with the San Vicente-Fairfax Alignment Alternative would be located along main roads (Crenshaw Boulevard, San Vicente Boulevard, Fairfax Avenue, Beverly Boulevard, Santa Monica Boulevard, and Highland Avenue) and/or near HB/US-101 and the I-10 freeway. ADL may be present in the shallow soils at each station location, at the location of the double crossover tracks, and on the properties slated for acquisition for station entrances or for construction staging. The remainder of the alignment alternative would be situated at greater depths, and soils at those depths will not have been exposed to ADL.

LEAD-BASED PAINT

For the 10 stations that are planned to be associated with the San Vicente-Fairfax Alignment Alternative, each station location has at least one property planned for acquisition to accommodate the station entrance(s) and/or the construction staging areas that has structures currently on the property. The potential exists for these structures to contain LBP.

ASBESTOS-CONTAINING MATERIALS

For the 10 stations that are planned to be associated with the San Vicente-Fairfax Alignment Alternative, each station location has at least one property planned for acquisition to accommodate the station entrance(s) and/or the construction staging areas that has structures currently on the property. The potential exists for these structures to contain ACM.

POLYCHLORINATED BIPHENYLS

Electrical transformers, hydraulic equipment, capacitors, and similar equipment located along the San Vicente-Fairfax Alignment Alternative may contain PCBs in hydraulic or dielectric insulating fluids within the units. The federal Toxic Substances Control Act has generally prohibited the domestic

manufacture of PCBs since 1976; therefore, equipment manufactured after 1976 has a lower potential to contain PCBs.

PESTICIDES

No agricultural activities are known to have occurred along the San Vicente-Fairfax Alignment Alternative; therefore, pesticides are not a concern.

OIL AND GAS FIELDS

The San Vicente-Fairfax Alignment Alternative passes through four separate oil and gas fields as shown on Figure 5-15: the La Cienegas, the Salt Lake South, the Salt Lake, and the Sherman. Two additional oil and gas fields (the Beverly Hills and the San Vicente) are within the RSA and shown on the figure, but the alignment alternative does not pass through the boundaries of these fields. The design and construction of subsurface components of the Project (tunnels, accessways, stations, etc.) within the boundaries of the oil and gas fields will require protection from VOCs, methane, and/or hydrogen sulfide gases. The following five proposed stations are situated within the boundaries of an oil and gas field: Midtown Crossing, Wilshire/Fairfax, Fairfax/3rd, La Cienega/Beverly, and San Vicente/Santa Monica Stations.

In addition, numerous plugged and idle oil and gas wells are located within the RSA for the San Vicente-Fairfax Alignment Alternative; some of these wells may be within the alignment alternative footprint. See Figure 5-15 for further information on oil and gas fields, subsurface methane and hydrogen sulfide gases, and abandoned and unforeseen oil wells.

PETROLEUM PIPELINES

The San Vicente-Fairfax Alignment Alternative crosses one hazardous liquid pipeline at West 29th Street, one block south of the Crenshaw/Adams Station as shown on Figure 5-16. Three additional hazardous liquid pipelines are within the RSA; however, the alignment alternative does not cross them. These pipelines are present southwest of the Midtown Crossing Station, south of the Wilshire/Fairfax Station, and south of the La Cienega/Beverly Station, as shown on Figure 5-16. No accidents or incidents were reported along the pipelines in the vicinity of the San Vicente-Fairfax Alignment Alternative as of February 23, 2023.

RAILROADS

The westernmost portion of the San Vicente-Fairfax Alignment Alternative crosses or is in proximity to the site of a railroad line that ran along San Vicente Boulevard and Santa Monica Boulevard from at least the early 1890s through the 1950s. Another railroad line, the existing at-grade Metro E Line, is present near the southern end of the alignment along W Exposition Boulevard.

FIGURE 5-15. OIL AND GAS FIELDS ALONG THE SAN VICENTE-FAIRFAX ALIGNMENT ALTERNATIVE

Source: Connect Los Angeles Partners 2023

FIGURE 5-16. PETROLEUM PIPELINES ALONG SAN VICENTE-FAIRFAX ALIGNMENT ALTERNATIVE

Source: Connect Los Angeles Partners 2023

EDUCATIONAL FACILITIES

The San Vicente-Fairfax Alignment Alternative has 26 educational facilities within its 0.25-mile RSA, as shown in Table 5-2 and Figure 5-17. In cases where the map ID numbers in the table are not consecutive, it is because those facilities are identified on another alignment alternative.

TABLE 5-2. EDUCATIONAL FACILITIES ALONG SAN VICENTE-FAIRFAX ALIGNMENT ALTERNATIVE

MAP ID	NAME	ADDRESS
1	Virginia Road Elementary School	2925 Virginia Road, Los Angeles
2	ISANA Nascent Academy	3417 W Jefferson Boulevard, Los Angeles
3	Montessori Academy of West Adams	4449 W Adams Boulevard, Los Angeles
4	Alta Loma Elementary School	1745 Vineyard Avenue, Los Angeles
5	Pico Preschool	4436 W Pico Boulevard, Los Angeles
6	ReJOYce in Jesus Christian School	1304 S Cochran Avenue, Los Angeles
7	Machon LA	5870 W Olympic Boulevard, Los Angeles
8	Shalhevet High School	910 S Fairfax Avenue, Los Angeles
9	Hancock Park Elementary School	408 S Fairfax Avenue, Los Angeles
11	Gindi Maimonides Academy	8511 Beverly Place, Los Angeles
12	West Hollywood Elementary School	970 N Hammond Street, West Hollywood
13	Saint Victor Preschool	8634 Holloway Drive, West Hollywood
14	TREE Academy	8628 Holloway Drive, West Hollywood
15	West Hollywood College Preparatory School	1317 N Crescent Heights Boulevard, West Hollywood
16	Larchmont Charter School	1265 N Fairfax Avenue, West Hollywood
17	Fountain Day School	1128 N Orange Grove Avenue, West Hollywood
18	Laurel Early Education Center	8023 Willoughby Avenue, Los Angeles
19	Laurel Cinematic Arts & Creative Technologies Magnet	925 N Hayworth Avenue, Los Angeles
20	ABC Little School	927 N Fairfax Avenue, West Hollywood
21	West Hollywood Preschool	7377 Santa Monica Boulevard, West Hollywood
31	Hollywood Schoolhouse	1233 North McCadden Place, Los Angeles
32	Hollywood High School	1521 N Highland Avenue, Los Angeles
33	Little Paws Montessori	1341 N Mansfield Avenue, Los Angeles
34	Sunset Montessori Preschool	1432 N Sycamore Avenue, Los Angeles
35	Selma Avenue Elementary School	6611 Selma Avenue, Los Angeles
36	The Oaks School	6817 Franklin Avenue, Los Angeles

Source: California Department of Education n.d.; Google Maps 2023

FIGURE 5-17. EDUCATIONAL FACILITIES ALONG SAN VICENTE-FAIRFAX ALIGNMENT ALTERNATIVE

Source: California Department of Education n.d.

AIRPORTS

The San Vicente-Fairfax Alignment Alternative would not be situated within two miles of an airport.

WILDLAND FIRES

The San Vicente-Fairfax Alignment Alternative would not be situated within a wildland fire zone.

5.2.1.2 ALIGNMENT ALTERNATIVE 2: FAIRFAX

REC SITES

The Limited Phase I ESA (Connect Los Angeles Partners 2023a) identified 27 REC sites within the RSA for the Fairfax Alignment Alternative; 15 of these sites are on the Cortese list. These facilities are identified on Table 5-3 and the location of each is depicted on Figure 5-18 through Figure 5-24. In cases where the map ID numbers in the table are not consecutive, it is because those sites are identified on another alignment alternative or because the sites were identified after the position of a portion of the alignment location changed. Detailed information regarding each of the REC sites is presented below the table and figures.

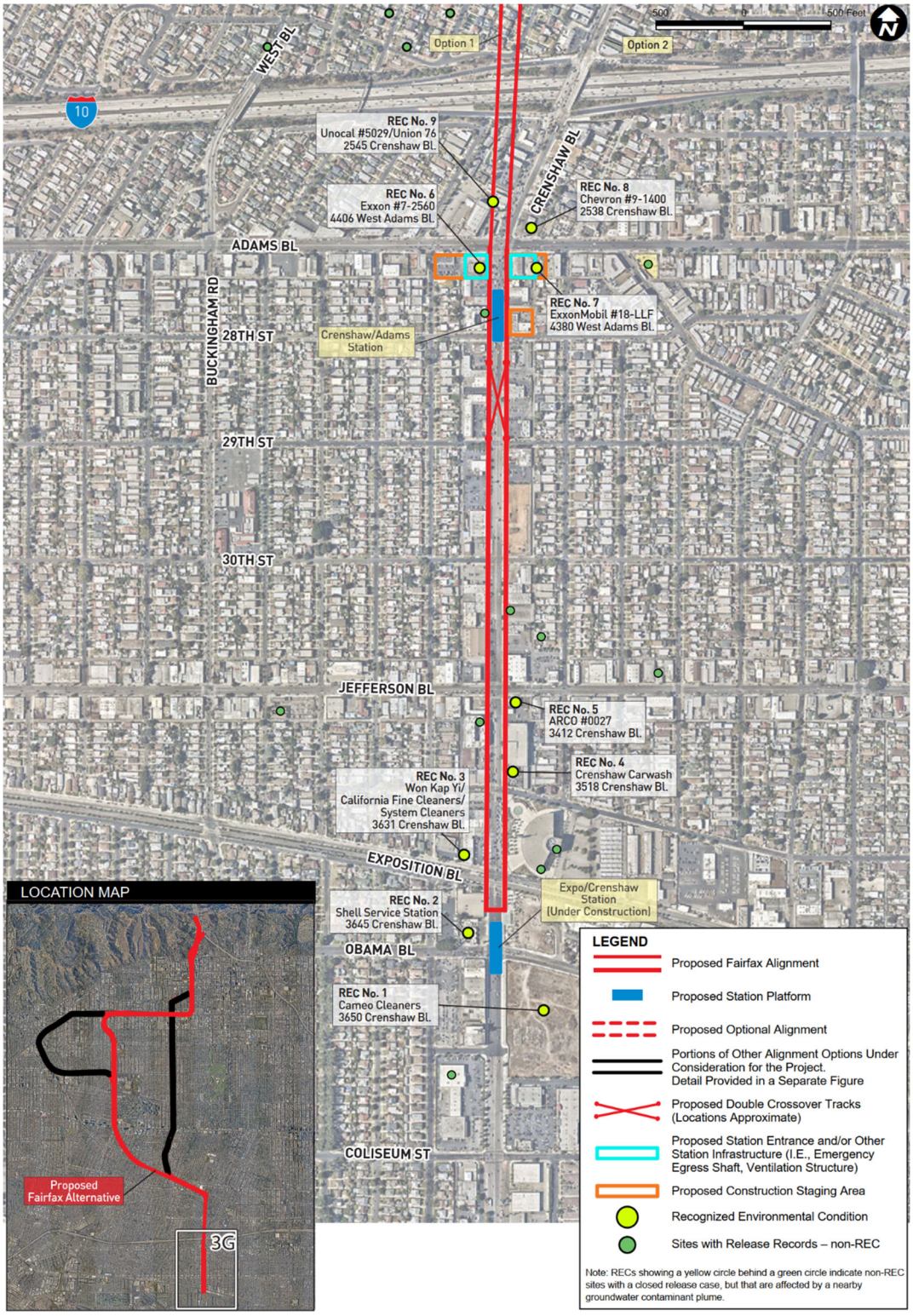
TABLE 5-3. REC SITES ALONG FAIRFAX ALIGNMENT ALTERNATIVE

MAP ID	PARCEL #	CASE STATUS	NAME	ADDRESS
1	APN 5046-022-016	Open	Cameo Cleaners, LLC/ Siskin Investment/ Rocket Cleaners	3650 Crenshaw Boulevard, Los Angeles
2	APN 5046-001-048	Closed	Shell Service Station	3645 Crenshaw Boulevard, Los Angeles
3	APN 5044-004-009	Open	Won Kap Yi/ California Fine Cleaners/ System Cleaners	3631 Crenshaw Boulevard, Los Angeles
4	APN 5044-004-025	Closed	Crenshaw Car Wash	3518 Crenshaw Boulevard, Los Angeles
5	APN 5050-001-030	Closed	ARCO #0027	3412 Crenshaw Boulevard, Los Angeles
6	APN 5051-007-001	Closed	Exxon #7-2560	4406 West Adams Boulevard, Los Angeles
7	APN 5059-003-020	Closed	ExxonMobil #18-LLF	4380 West Adams Boulevard, Los Angeles
8	APN 5059-003-020	Closed	Chevron #9-1400	2538 Crenshaw Boulevard, Los Angeles
9	APN 5070-013-003	Closed	Unocal #5029/Union 76	2545 Crenshaw Boulevard, Los Angeles
55	APN 5070-013-003	No Case Exists	Midtown Cleaners	4764 Pico Boulevard, Los Angeles
11	APN 5084-032-030	No Case Exists	Plains Exploration and Production Co./Union Oil Co. of CA	4848 West Pico Boulevard, Los Angeles
28	APN 5085-012-036	Open	Splendid Cleaners	1226 South Cochran Avenue, Los Angeles
29	APN 5510-027-038	Open	Former Danny's Dry Cleaning	5511-5519 San Vicente Boulevard, Los Angeles
58	APN 5511-038-029	No Case Exists	1X Griffin Related Properties	6135 Wilshire Boulevard, Los Angeles
31	APN 4004-034-019	Open	Mas Auto Service	371 South Fairfax Avenue, Los Angeles
32	APN 5511-001-022	Open	The Grove at Farmers Market	6301 West 3rd Street, Los Angeles
33	APN 5046-022-016	Closed	Former World Oil #64	7900 Beverly Boulevard W, Los Angeles
34	APN 5529-014-035	Closed	76 Products Station #7261	7960 Santa Monica Boulevard, West Hollywood
59	APN 5530-001-018	No Case Exists	Sanfair Cleaners	7877 Santa Monica Boulevard, West Hollywood
25	APN 5531-017-020	Open	West Hollywood Gateway Redevelopment Project	1005, 1023, 1033, 1037, 1043 and 1045 North La Brea Avenue; 7144 and 7118 Santa Monica Boulevard, West Hollywood
35A	APN 5532-017-046	Open	Avon Car & Truck Rental/ Onni Santa Monica, LP	6901 West Santa Monica Boulevard, West Hollywood
35B	APN 5532-017-046	Closed	Professional Tire & Auto	6921 West Santa Monica Boulevard, West Hollywood
36	APN 5532-006-039	Closed	Massachi-Chevron	1255 North Highland Avenue, Los Angeles

MAP ID	PARCEL #	CASE STATUS	NAME	ADDRESS
37	APN 5547-033-400	Closed	Asset Management (Retail Strip Mall)	1300-1314 North Highland Avenue, Los Angeles
26	APN 5548-015-036	Closed	Chevron #9-9377	1459 Highland Avenue, Los Angeles
57	APN 5548-004-069	No Case Exists	Chevron	1787 North Highland Avenue, Los Angeles
27	APN 5575-024-017	Closed	Hollywood Hills Cleaners	1900 North Highland Avenue, Los Angeles

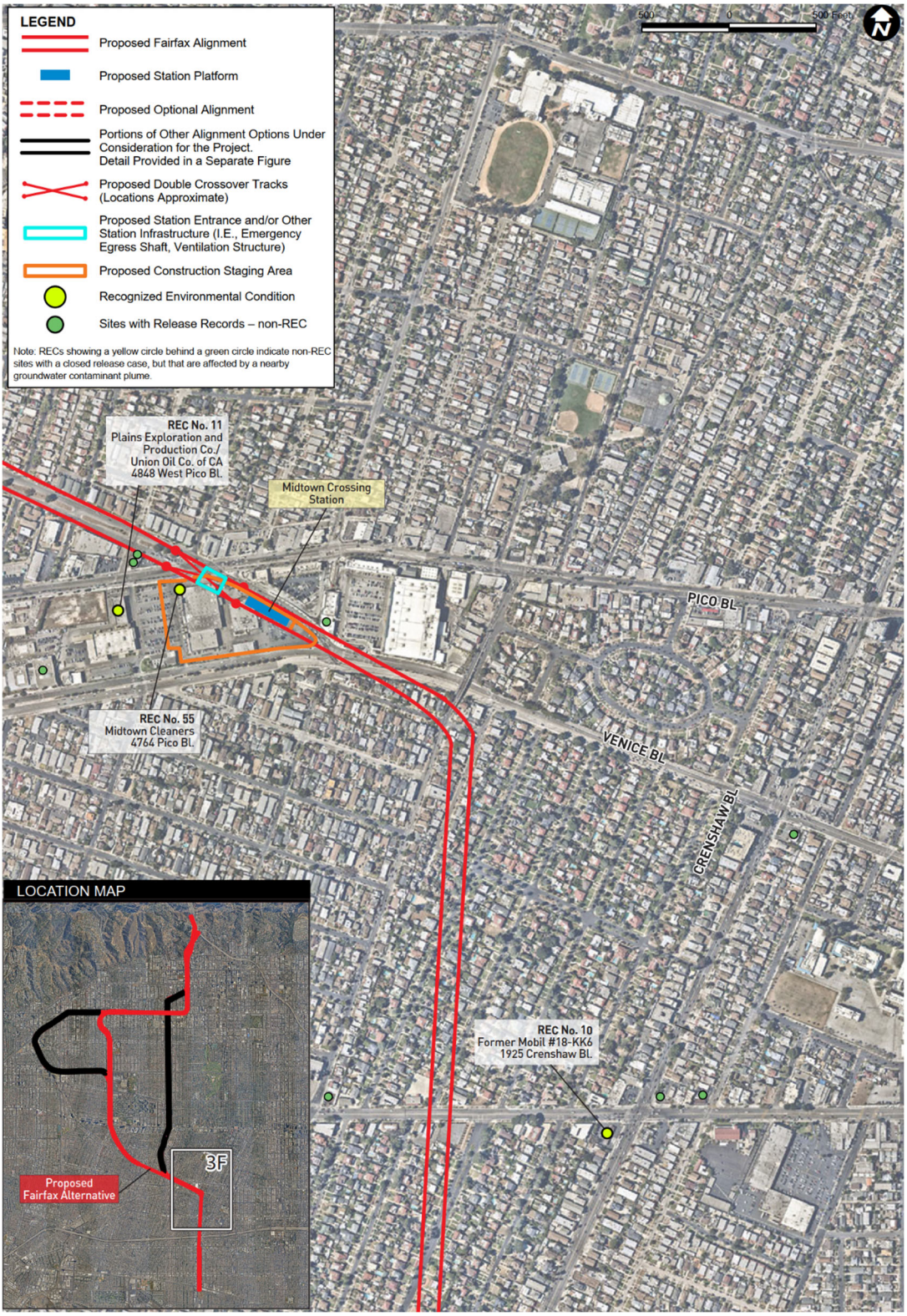
Sites shown in **bold** text are on the Cortese list.
Source: Connect Los Angeles Partners 2023a

FIGURE 5-18. REC SITES ALONG FAIRFAX ALIGNMENT ALTERNATIVE (PAGE 1 OF 7)



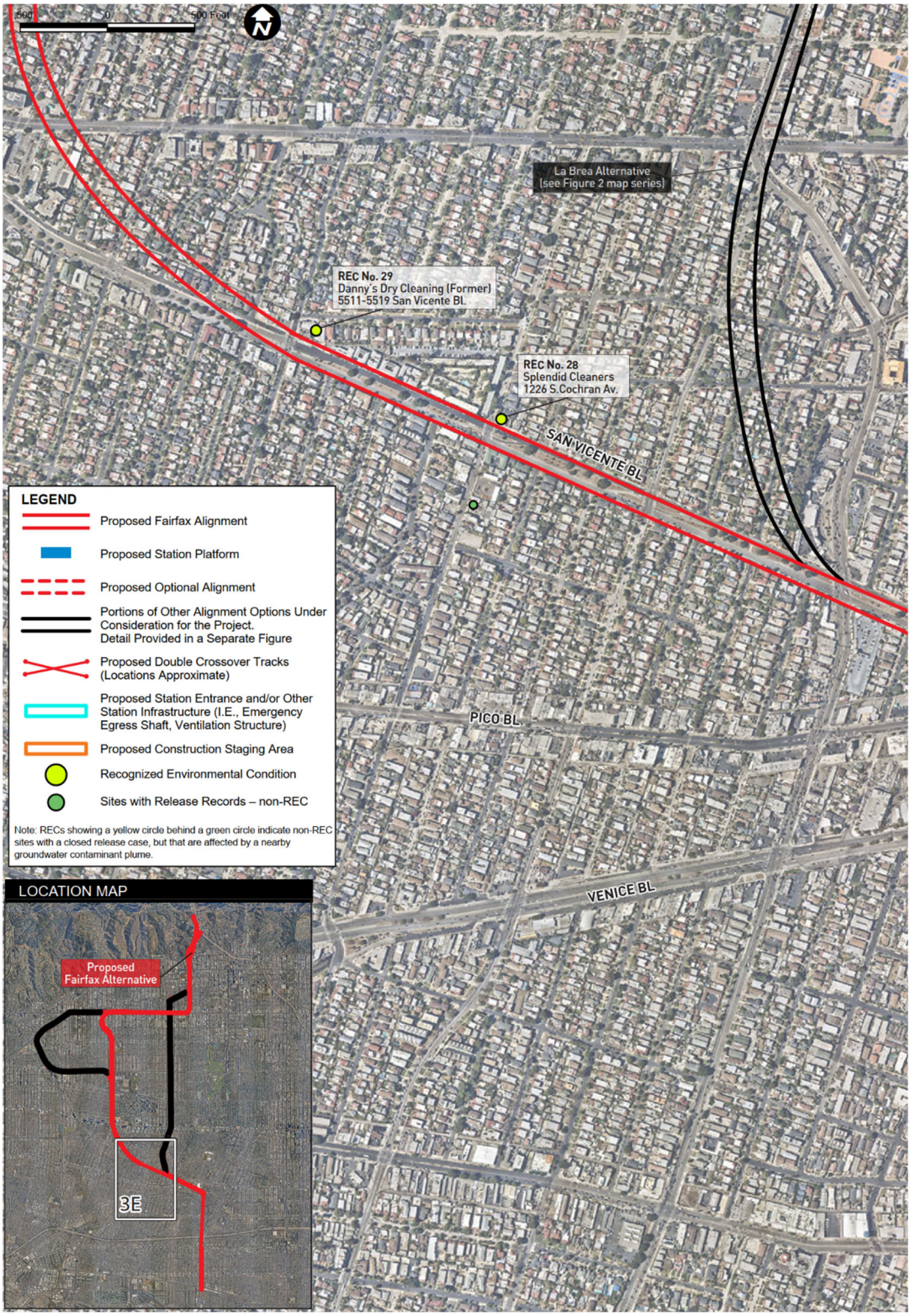
Source: Connect Los Angeles Partners 2023a

FIGURE 5-19. REC SITES ALONG FAIRFAX ALIGNMENT ALTERNATIVE (PAGE 2 OF 7)



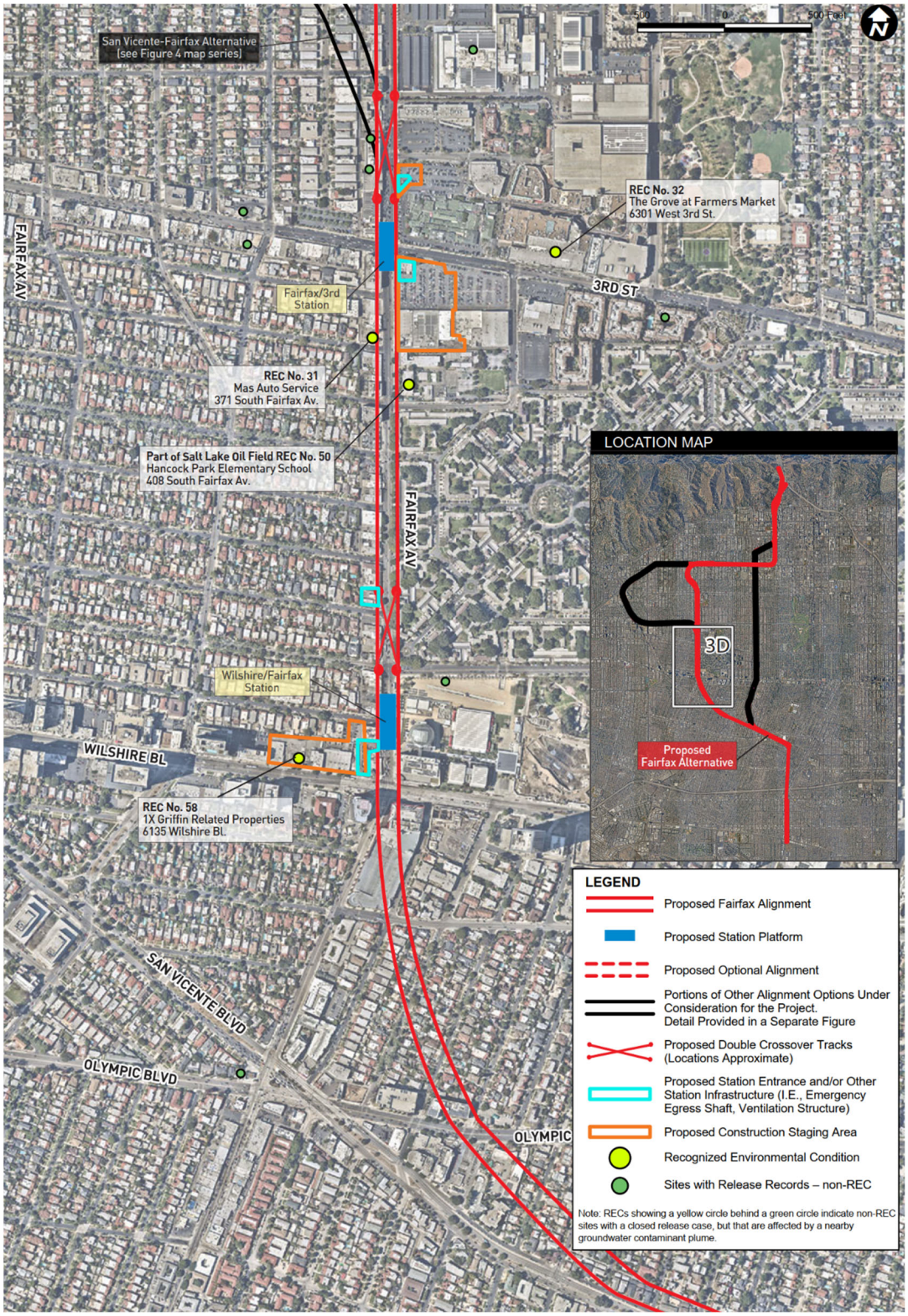
Source: Connect Los Angeles Partners 2023a

FIGURE 5-20. REC SITES ALONG FAIRFAX ALIGNMENT ALTERNATIVE (PAGE 3 OF 7)



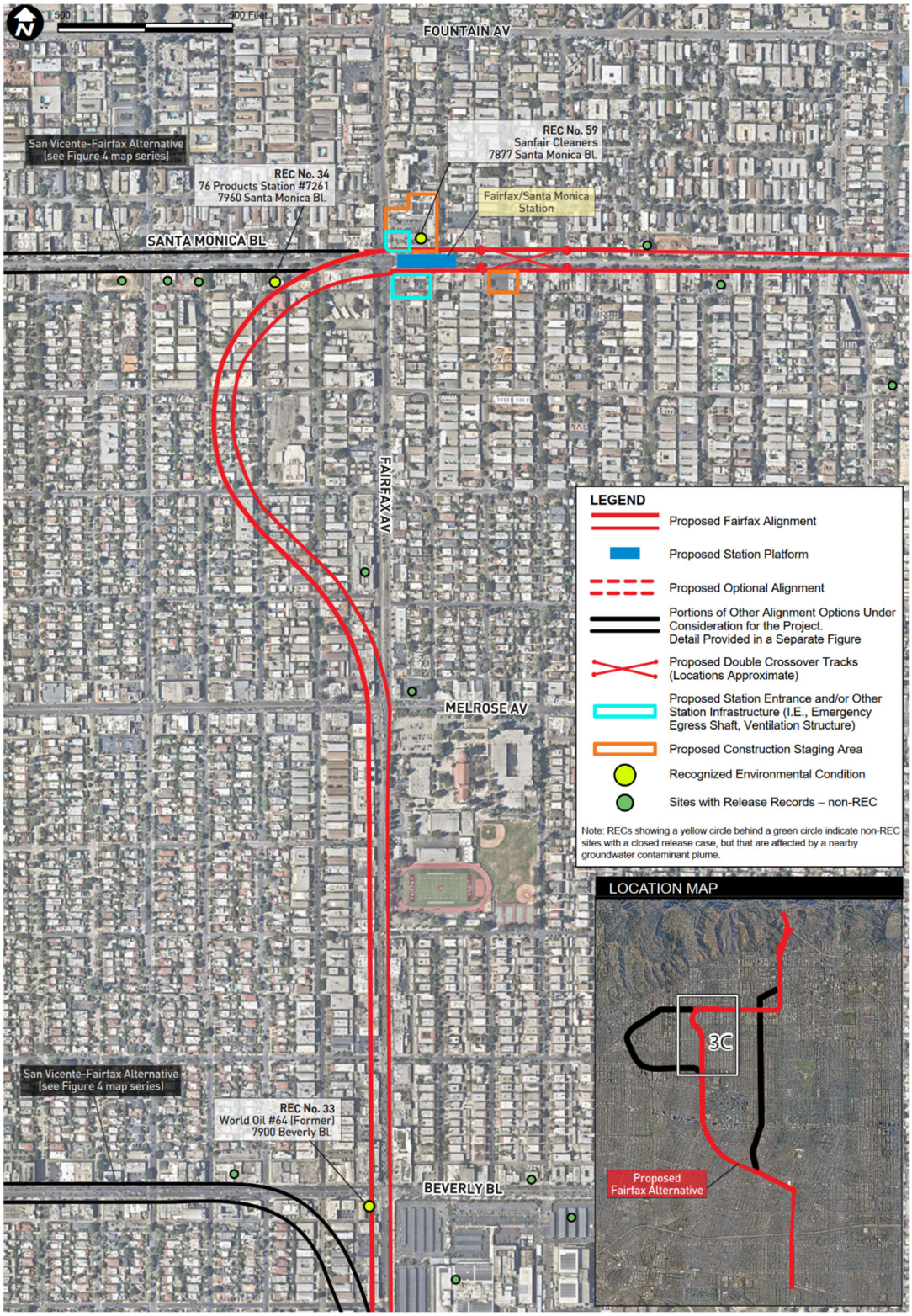
Source: Connect Los Angeles Partners 2023a

FIGURE 5-21. REC SITES ALONG FAIRFAX ALIGNMENT ALTERNATIVE (PAGE 4 OF 7)



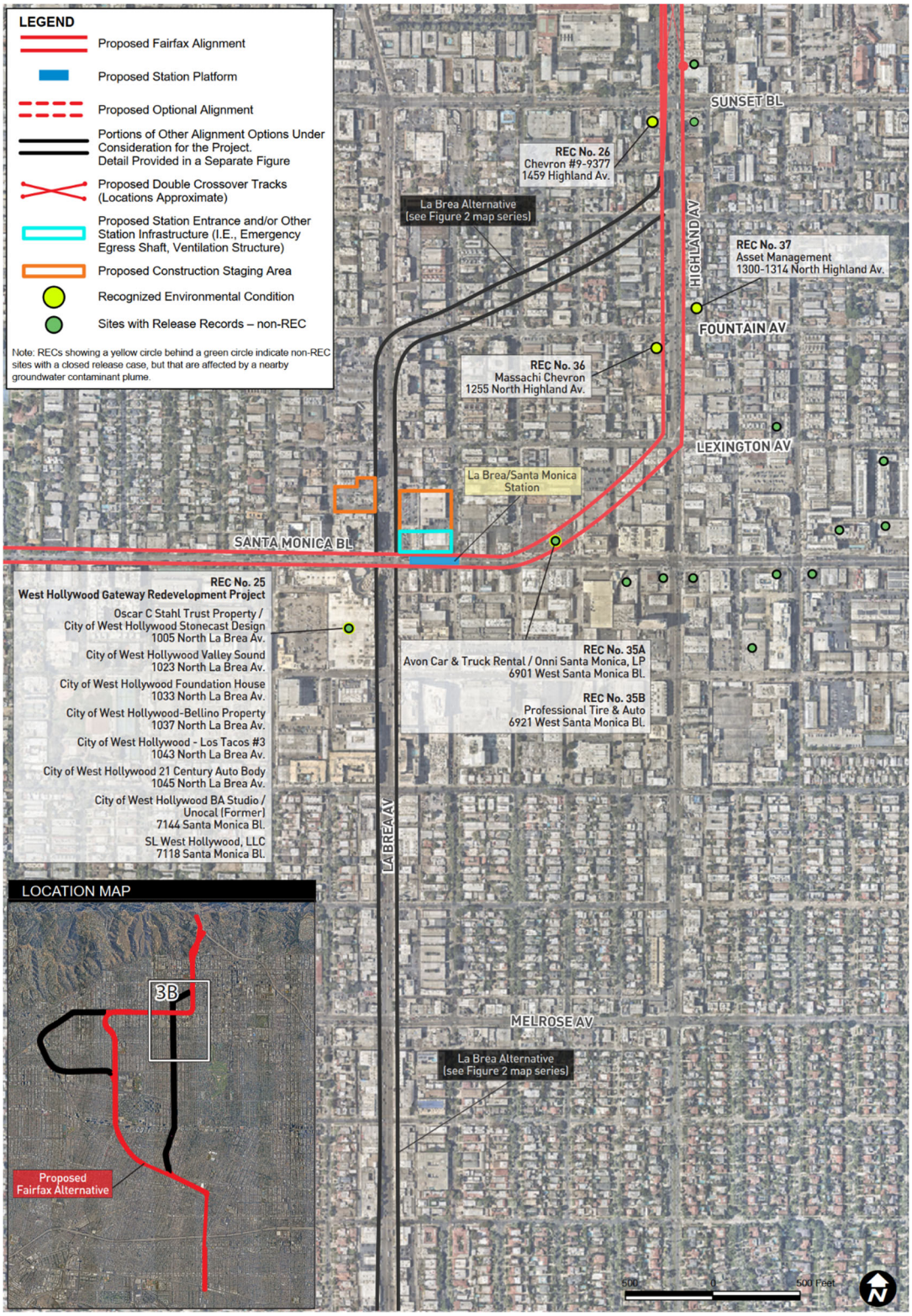
Source: Connect Los Angeles Partners 2023a

FIGURE 5-22. REC SITES ALONG FAIRFAX ALIGNMENT ALTERNATIVE (PAGE 5 OF 7)



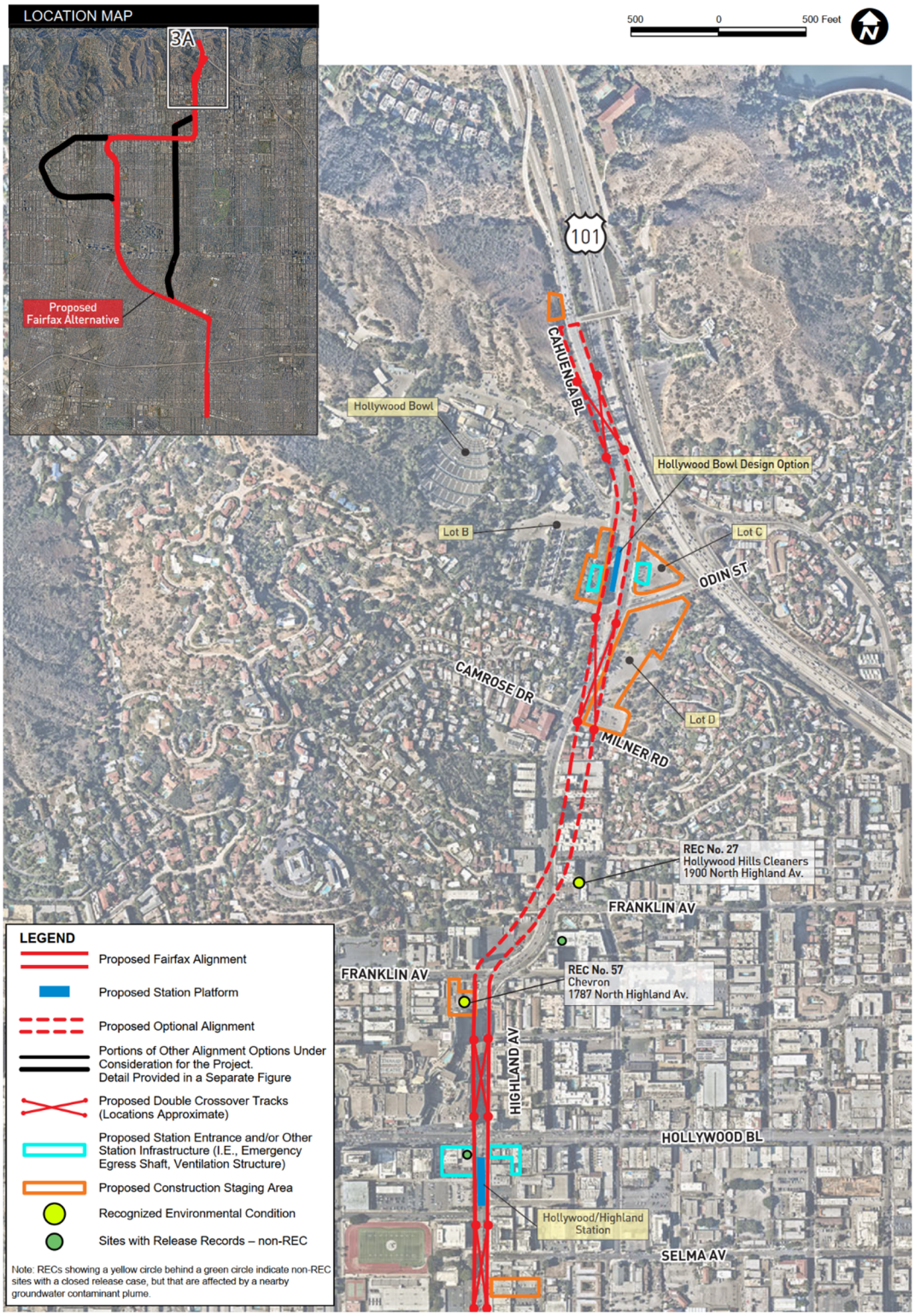
Source: Connect Los Angeles Partners 2023a

FIGURE 5-23. REC SITES ALONG FAIRFAX ALIGNMENT ALTERNATIVE (PAGE 6 OF 7)



Source: Connect Los Angeles Partners 2023a

FIGURE 5-24. REC SITES ALONG FAIRFAX ALIGNMENT ALTERNATIVE (PAGE 7 OF 7)



Source: Connect Los Angeles Partners 2023a

REC #1: CAMEO CLEANERS

This site is in the CPS-SLIC database as an open CPS with a "Remediation" status as of 2010. Based on information reviewed in the online GeoTracker database, this site was historically occupied by a dry-cleaning facility from approximately 1954 until 2012 at which time all structures were razed. Soil, soil vapor, and groundwater have been affected by PCE, TCE, and other VOCs. Remedial activities completed at the site included DPE, SVE, groundwater treatment, and soil excavation. At the time of the most recent groundwater monitoring event (1st Quarter 2022), PCE, TCE, and cis-1,2-dichloroethylene were detected in groundwater at concentrations above regulatory thresholds. Based on the open case status, the presence of VOCs in soil vapor and groundwater at concentrations above regulatory thresholds, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #2: SHELL SERVICE STATION

This site is a closed Leaking UST (LUST) Cleanup site as of 2013. This site appears to currently be developed with an active Shell gas station with a drive-through car wash and a convenience store. The EDR Historical Auto database indicates that this site has been occupied by a gas station since at least 1980. The LUST database reports that a release of "other solvent or non-petroleum hydrocarbon" to soil and groundwater was discovered in 2005. Groundwater monitoring was conducted between 2007 and 2012 in on-site and off-site wells (including wells in Crenshaw Boulevard within the boundaries of the RSA), which revealed TPH; BTEX compounds; MTBE; and other fuel by-products in groundwater, some of which were above regulatory thresholds. Remediation was not conducted or required at the site by the RWQCB. Benzene and TBA were the only constituents detected in groundwater above regulatory thresholds at the time of closure in 2013. The site was granted closure in 2013 under the LTCP. Although closure has been granted to this site, it appears that residual groundwater contamination, which was not remediated and was left in place, migrated off-site beneath Crenshaw Boulevard. Although regulatory closure has been issued for the site-related historical release case, based on the long-term use of the site as a gas station (over 40 years), residual contamination left in place at concentrations above regulatory thresholds, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #3: WON KAP YI/CALIFORNIA FINE CLEANERS/SYSTEM CLEANERS

This site is an open CPS with an "Inactive" status as of 2015. This site appears to currently be part of a retail strip mall. The EDR Historical Cleaner database indicates that this site was historically occupied by a dry-cleaning facility from at least 1986 to 1994. The CPS-SLIC database reports that a release of VOCs occurred at this site. No additional information was available in the EDR database report or the online GeoTracker database. Based on the open/inactive case status, lack of readily available information regarding site investigations and/or cleanup, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #4: CRENSHAW CARWASH

This site is a closed CPS. This site appears to currently be developed with a vacant former auto repair facility. The EDR Historical Auto database indicates that this site was historically occupied by an auto

repair facility from at least 1933 to 2014. The CPS-SLIC database reports that a release of TPH (potential media affected not specified) occurred at this site and no further action was required. No additional information was available in the EDR database report or the online GeoTracker database. Although regulatory closure has been issued for the site-related historical related case, based on the lack of information regarding subsurface investigations and/or remedial action completed, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #5: ARCO #0027

This site is a closed LUST Cleanup site. This site appears to currently be developed with an active ARCO gas station. The EDR Historical Auto database indicates that this site has been occupied by a gas station since at least 1975. The LUST database reports that a release of gasoline to soil and groundwater was initially discovered in 1988, site assessment activities began in 1992, and the case was closed in 1996. Based on review of online GeoTracker records, excavation of contaminated soils was conducted in 1988 and petroleum hydrocarbon impacts to groundwater were detected at that time. A subsequent release of "other solvent or non-petroleum hydrocarbon" to soil was discovered in 1998, site assessment activities began in 1999, and the case was closed in 2000. No additional information was available in the EDR database report or the online GeoTracker database regarding the 1998 release and subsequent 2000 closure. Although regulatory closure has been issued to this site for the site-related historical release cases, based the long-term use of the site as a gas station (over 45 years), lack of information regarding additional subsurface investigations and/or remedial action completed, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #6: EXXON #7-2560

This site is a closed LUST Cleanup site as of 1997. This site appears to currently be developed with an active Thrifty gas station with a convenience store, which has a current address of 2617 Crenshaw Boulevard. The EDR Historical Auto database indicates that this site has been occupied by a gas station since at least 1986. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 1992 during UST closure activities, at which time pollution characterization began, then "significant interim remedial action" was taken, and the case was closed in 1997. Based on information reviewed in the online GeoTracker database, subsurface investigations were conducted between 1988 and 1996 and petroleum hydrocarbons were detected in soil, soil vapor, and groundwater. The last groundwater monitoring event was conducted in January 1997 and at that time benzene was detected above the regulatory threshold. In 1997, a risk assessment was completed which indicated that residual hydrocarbon impacts present in soil and groundwater were limited to the areas of the former USTs and that no significant risk to human health existed at the site. Although regulatory closure has been issued for the site-related historical release case, based on the long-term use of the site as a gas station (over 35 years), residual groundwater contamination left in place above regulatory thresholds, and the proposed use of the site (potential acquisition for a station entrance location for the Crenshaw/Adams Station), this site is considered a REC.

REC #7: EXXONMOBIL #18-LLF

This site is a closed LUST Cleanup site as of 2007. This site appears to currently be developed with an active Mobil gas station and a convenience store. The EDR Historical Auto database indicates that this site has been occupied by a gas station since at least 1982. The LUST database reports that an initial release of gasoline to soil was discovered in 1993 and the case was closed in 1997. A second release of gasoline to soil and groundwater was discovered in 2003, site assessment activities began in 2007, remediation began in 2010, and then the case was closed in 2015. Based on information reviewed in the online GeoTracker database, in 2003 the USTs and associated piping were replaced at the site and petroleum hydrocarbons were detected in soil. Based on the soil analytical results, the LAFD requested additional site assessment activities be performed to investigate the vertical and lateral extents of subsurface hydrocarbons. In 2007, three groundwater monitoring wells were installed, and dissolved phase petroleum hydrocarbons were detected in groundwater at concentrations above regulatory thresholds. Although regulatory closure has been issued for the site, based on the long-term use of this site as a gas station (at least 40 years), lack of recent soil or groundwater analytical data, detected petroleum hydrocarbon concentrations in groundwater at concentrations above regulatory thresholds, and the proposed use of the site (potential acquisition for a station entrance location for the Crenshaw/Adams Station), this site is considered a REC.

REC #8: CHEVRON #9-1400

This site is a closed LUST Cleanup site. This site appears to currently be developed with an active Chevron gas station and a convenience store. The EDR Historical Auto database indicates that this site has been occupied by a gas station since at least 1986. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 1983, remedial action (SVE) was undertaken in 1995, and then the case was closed in 1996. No additional information was available in the EDR database report or the online GeoTracker database. Although regulatory closure has been issued for the site, based on the long-term use of this site as gas station (over 35 years), lack of recent soil or groundwater analytical data, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #9: UNOCAL #5029/UNION 76

This site is a closed LUST Cleanup site. This site appears to currently be developed with an active gas station with a convenience store. The EDR Historical Auto and HIST UST databases indicate that this site has been occupied by a gas station since at least 1969. The LUST database reports that a release of an unspecified contaminant was discovered in 1989 during UST removal/replacement activities and then the case was closed in 1994. Based on information reviewed in the online GeoTracker database, during UST removal/replacement activities conducted in 1989, soil sampling was completed, and low levels of petroleum hydrocarbons were encountered in shallow soils, which did not require remediation, and closure was issued in 1990. The former gas station was demolished in 1993 (after damage from the 1992 Los Angeles Riots), limited areas of affected soils were encountered, and remedial soil excavation was completed. No impacts to groundwater were detected. The site was granted closure in 1994. No additional information was available in the EDR database report or the

online GeoTracker database. Although regulatory closure has been issued for the site-related release case, based on the long-term use of this site as gas station (over 50 years), lack of recent soil or groundwater analytical data, and proximity to the Crenshaw/Adams Station Cross-Country Option – Entrance Option 2 at the southern end of the alignment alternative, this site is considered a REC.

REC #55: MIDTOWN CLEANERS

This site is associated with the portion of the Midtown Crossing shopping center property that is proposed for the location of the Midtown Crossing Station and associated infrastructure. The database listings indicate that Midtown Cleaners operated in this area between at least 1975 and 1995, and formerly maintained permits for dry-cleaning equipment that utilized PCE. The HAZMAT database lists the status as inactive. The RCRA database indicates that this former site was classified as a SQG in 1988 with no violations reported. Although no release case is identified associated with for the former dry cleaner, dry-cleaning operations typically use chlorinated solvents, particularly PCE, during the dry-cleaning process, and these solvents, even when properly stored and handled, are highly mobile chemicals and can readily migrate into the subsurface as a result of small releases associated with on-site operations. Based on the proposed use of the site (potential acquisition for a proposed station location and TBM launch site), the former dry-cleaning facility is considered a REC.

REC #11: PLAINS EXPLORATION AND PRODUCTION CO./UNION OIL CO. OF CA

This listing is in the Los Angeles County Site Mitigation database, and the abated status is reported as "no." No additional information was available in the Los Angeles County Public Works, Environmental Programs Division's Online File Review database. This site encompasses over 14.5 acres and is currently developed as the Midtown Crossing retail shopping center, with multiple buildings occupied by various retail tenants. Based on a review of the CalGEM online WellSTAR database, this area was historically used for oil exploration/production and is located within the boundaries of the Las Cienegas Oil Field (REC No. 49). The CalGEM Well Finder online database identifies multiple plugged and abandoned oil wells on the western portion of this site. No additional information was available in the EDR database report. Based on available information and the proposed location of the Midtown Crossing Station and TBM launch site, double crossover tracks, and surface-level access portal on this parcel, the former oil exploration/production activities at this site is considered a REC.

REC #28: SPLENDID CLEANERS

This site is an open CPS with an "Assessment & Interim Remedial Action" status. This site contains a dry-cleaning facility (Splendid Cleaners). The EDR Historical Cleaner database reports that this site has been occupied by a dry-cleaning facility since at least 1952. The CPS-SLIC database reports that a release of "DCE, PCE, TCE, and vinyl chloride" to soil and groundwater historically occurred at this site. Subsurface investigations beginning in 1993 revealed VOC impacts to soil, soil vapor, and groundwater at concentrations above regulatory thresholds as a result of "past releases due to poor disposal practices and accidental discharges during solvent recovery." Heavy-end petroleum hydrocarbons have also been detected in soil and groundwater, which were reported to be related to regional natural petroleum sources (Salt Lake South Oil Field). The most recent information available in the

online GeoTracker database was an Investigative Order (enforcement action) from the RWQCB dated 2021 requiring Splendid Cleaners to submit a work plan to assess impacts at the site. Based on the regulatory status (i.e., open case), detected concentrations in soil vapor and groundwater at concentrations above regulatory thresholds, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #29: DANNY'S DRY CLEANING

This site is an open CPS with a "Site Assessment" status. This site appears to currently be occupied by a dry-cleaning facility. The EDR Historical Cleaner database reports that this site has been occupied by a dry-cleaning facility since at least 2002. Based on information reviewed in the online GeoTracker database, this site was historically occupied by a gas station and auto repair facility from the late 1940s to the mid-1980s. The present-day building was constructed in 1984, and other dry-cleaning businesses have historically occupied other tenant spaces within the current building. Multiple USTs were removed from the site in 1984 prior to redevelopment with the current structure. Site assessments conducted at the site since 2017 have indicated that soil, soil vapor, and groundwater beneath the site are contaminated with TPH and VOCs such as PCE and TCE, as well as naturally occurring concentrations of contaminants associated with crude oil at depths between approximately 25 and 60 feet bgs. No remedial activities have occurred at the site. In 2020, off-site soil vapor sampling was conducted, and elevated concentrations of VOCs were detected in soil vapor samples collected from the adjacent property to the east (5562 Edgewood Place). In 2021, the RWQCB issued an Investigative Order to the site requiring further investigation to assess impacts at the site. The most recent information in the GeoTracker database was an "Approval of Work Plan and Addendum to Supplemental Site Assessment to Work Plan III" issued by the RWQCB, dated March 10, 2022, which indicated that additional site assessment activities required at the site had been approved, including indoor air sampling, installation and sampling of groundwater monitoring wells, and collection of soil and soil vapor samples. Based on the regulatory status (i.e., open case), detected concentrations in soil vapor and groundwater above regulatory thresholds, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #58: 1X GRIFFIN RELATED PROPERTIES

This site is the proposed construction staging area for the Wilshire/Fairfax Station. This property contains a commercial office building. The HAZNET and HWTS databases indicate that this site generated state-regulated hazardous wastes in the form of "contaminated soil from site clean-up" in 1990 that was disposed of via a transfer station. No additional information was available in the EDR report or the online GeoTracker database. Although no release case is identified associated with this site, based on the limited information available and the indication of a release at the site resulting in cleanup, this site is considered a REC.

REC #31: MAS AUTO SERVICE

This site is an open LUST Cleanup site with a "Remediation" status as of 2005. This site contains a vacant gas station and former auto repair shop. The LUST database reports that a release of gasoline to soil was discovered in 1991, preliminary site assessment began in 1998, pollution characterization in 1999, groundwater monitoring began in 2000, and a remediation plan was submitted in 2004. The abatement method used at the site is reported as "excavate and dispose." Based on information reviewed in the online GeoTracker database, a workplan for MPE to remove free product from groundwater and to reduce benzene concentrations in groundwater was approved by the RWQCB in April 2022. At the time of the most recent groundwater monitoring event available on GeoTracker (First and Second Half 2021), free product was detected in a down-gradient monitoring well and benzene was detected at concentrations above regulatory thresholds. Based on the open case status, ongoing remediation, free product in groundwater, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #32: THE GROVE AT FARMERS MARKET

The Grove at Farmers Market is identified as an open CPS with a "Verification Monitoring" status as of 2000. The CPS-SLIC database reports that a release of "petroleum/fuels/oils and volatile organic compounds" to soil and groundwater occurred at this site. Based on information reviewed in the online GeoTracker database, the area of this site "has been historically related to oil production operations" and "soil, soil gas, and groundwater beneath the property are affected by petroleum hydrocarbons." In addition, fill at the site is known to contain elevated levels of petroleum hydrocarbons. Several phases of environmental assessments, including risk assessments, have been conducted at the site and remediation was conducted through 2000. In 1999, VOCs were detected in groundwater at concentrations above regulatory thresholds. A site soil mitigation system (vapor barrier and passive venting system) is currently in place for the protection of human health. The most recent documentation available in the GeoTracker database is a letter dated 2015 from the RWQCB outlining requirements needed to complete their review of the environmental investigation at the site including acceptance of a deed restriction on the property, technical reports that demonstrate the soil vapor mitigation system/barrier is effective, and a supplemental subsurface assessment workplan. No additional information was available in the online GeoTracker database. Based on the regulatory status (i.e., open case), lack of recent analytical data, the presence of VOCs and petroleum hydrocarbons in soil and groundwater at concentrations above regulatory thresholds, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #33: WORLD OIL #64

This site is a closed LUST Cleanup site. This site contains an active Shell gasoline station and a convenience store. The LUST database reports that a release of gasoline to soil was discovered in 1991, at which time site assessment activities began, groundwater monitoring and SVE was conducted, and then the case was closed in 1996. An additional release was discovered in 2001 during UST closure activities. Soil excavation was completed, and soil and groundwater investigation followed in 2003. Groundwater monitoring began in 2008, a groundwater remediation system (pump and treat)

was in operation in 2011, and then the case was closed in 2013. Based on information reviewed in the online GeoTracker database, two gasoline USTs were removed in 1989 and three gasoline USTs were removed in 2001, at which time affected soils were excavated. Subsurface investigations were conducted between 2002 and 2008. An SVE system was in operation between 2007 and 2009. Groundwater monitoring began in 2008, and groundwater remediation (over-purge) was conducted in 2011. In 2012, an off-site investigation was conducted to delineate the extent of groundwater impacts. The case was granted closure under the LTCP in 2013. At the time of closure, TBA was present in groundwater at concentrations above regulatory thresholds. Although regulatory closure has been issued for the site-related historical release cases, based on the long-term use of this site as a gasoline station (over 30 years), the presence of TBA in groundwater at concentrations above regulatory thresholds at the time of closure, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #34: 76 PRODUCTS STATION #7261

This site is a closed LUST Cleanup site as of 1997. This site contains an active gas station and a mini mart. The EDR Historical Auto database reports that this site has been occupied by a gas station since at least 1942. The LUST database indicates that a release of gasoline to soil was discovered in 1996 during UST closure activities, at which time preliminary assessment began, and then the case was closed in 1997. The California Hazardous Material Incident Reporting System database reports that contaminated soil was encountered during tank removal activities conducted in 1996. No additional information was available in the EDR database report or the online GeoTracker database. Although regulatory closure has been issued for the historical site-related release case, based on the long-term use of this site as a gas station (approximately 80 years), lack of recent analytical data, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #59: SANFAIR CLEANERS

This site is the proposed location for Entrance Option 1-NE for the Fairfax/ Santa Monica Station and is developed with a multi-tenant commercial plaza (Sanfair Center). The RCRA database indicates that this site was verified as a non-generator of hazardous waste in 2002 and a SQG in 1987 to 2002. The DRYCLEANERS database indicates that San Fair Cleaners maintained permits for dry-cleaning equipment that utilized PCE, which are reported to be inactive. The facility currently maintains an active permit to operate dry-cleaning equipment that utilizes petroleum solvent. No violations were noted in the CERS database. Although no release case is identified associated with the dry- cleaning facility, dry-cleaning operations typically use chlorinated solvents, particularly PCE, during the dry-cleaning process, and these solvents, even when properly stored and handled, are highly mobile chemicals and can readily migrate into the subsurface as a result of small releases associated with operations. Based on this information, the long-term use as a dry-cleaning facility (since at least 1987), and the proposed use of the site, the dry-cleaning facility is considered a REC.

REC #25: WEST HOLLYWOOD GATEWAY SHOPPING CENTER REDEVELOPMENT PROJECT

Several former businesses are identified on this block located on the western side of La Brea Avenue, between Santa Monica Boulevard to the north and Romaine Street to the south, with open CPS cases. This block was redeveloped with the current West Hollywood Gateway Shopping Center project in 2003. The following businesses were identified with open CPS cases with an "Inactive" status as of 2015:

- The Oscar C Stahl Trust Property/City of West Hollywood-Stonecast Design at 1005 North La Brea Avenue, closed LUST site and open CPS; The City of West Hollywood-Valley Sound at 1023 North La Brea Avenue, open CPS; The City of West Hollywood-Foundation House at 1033 North La Brea Avenue, open CPS; The City of West Hollywood-Bellino Property at 1037 North La Brea Avenue, open CPS; The City of West Hollywood-Los Tacos #3 at 1043 North La Brea Avenue, open CPS; and The City of West Hollywood-21 Century Auto Body at 1045 North La Brea Avenue, open CPS.
- The City of West Hollywood-BA Studio/Unocal (Former) at 7144 Santa Monica Boulevard, open CPS. This property is located on the northwestern corner of the same block associated with the sites described in the preceding bullets and is part of the West Hollywood Gateway Shopping Center redevelopment project.
- SL West Hollywood LLC at 7118 Santa Monica Boulevard, closed LUST Cleanup site. This property is located on the northwestern corner of the same block associated with the sites described in the preceding bullets and is part of the West Hollywood Gateway Shopping Center redevelopment project. Although closure has been granted to this release case, closure documents state that VOC concentrations in groundwater are from an unspecified regional source.

No additional information associated with the West Hollywood Gateway Shopping Center redevelopment project, the open/inactive cases associated with these former businesses, or the regional groundwater contamination was available in the EDR database report or the online GeoTracker database. Based on the open/inactive case status and lack of readily available information regarding site investigations and/or cleanup, this site is considered a REC.

REC #35A: AVON CAR & TRUCK RENTAL/ONNI SANTA MONICA

This site is identified as an open LUST Cleanup site with an "Eligible for Closure" status as of 2022. This site appears to be under redevelopment with a mixed-use commercial and residential building with subterranean parking. The EDR Historical Auto database indicates that this site was historically occupied by a gasoline station since at least 1942. The Los Angeles County Site Mitigation database reports the facility status as active. The LUST database reports that a release of gasoline (media affected not specified) was discovered in 2021, at which time site assessment activities began including a soil and groundwater investigation. The case was referred from the County to the RWQCB in 2021. Based on information reviewed in the online GeoTracker database, the site was excavated to a depth of 25 feet bgs during redevelopment, which resulted in complete or nearly complete source removal of petroleum hydrocarbon and VOC-affected soils; however, PCE remains present in groundwater at concentrations above regulatory thresholds. The RWQCB issued a pre-closure

notification letter in February 2022 indicating their plan to close the case under the LTCP. Although the site has been issued a pre-closure notification by the RWQCB, based on the presence of PCE in groundwater at concentrations above regulatory thresholds and proximity to the alignment alternative (within the alignments), this site is considered a REC.

REC #35B: PROFESSIONAL TIRE & AUTO

This site is a closed LUST Cleanup site as of 1997. This site appears to be redeveloped with a mixed-use commercial and residential building with subterranean parking. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 1996, at which time site assessment activities began, and then the case was closed in 1997. Although the site has been issued a pre-closure notification by the RWQCB, based on the presence of PCE in groundwater at concentrations above regulatory thresholds and proximity to the alignment alternative (within the alignments), this site is considered a REC.

REC #36: MASSACHI CHEVRON

This site is a closed LUST Cleanup site as of 2002. This site is an active gas station. The EDR Historical Auto database indicates that this site has been occupied by a gas station since at least 1973. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 2000 during a UST repair. Site characterization began in 2000 and post-remedial action monitoring was conducted following investigation activities. The case was closed in 2002. Based on information reviewed in the online GeoTracker database, the case closure letter dated October 11, 2002, confirms completion of the site investigation and remedial action for the UST(s) formerly located at this site and that no further action related to the UST release was required. Although regulatory closure has been issued for the historical release, based on the long-term use of this site as a gas station (almost 50 years), the lack of recent analytical data, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #37: ASSET MANAGEMENT (RETAIL STRIP MALL)

This site is a closed LUST Cleanup site as of 2003. This site contains a retail strip mall. The EDR Historical Auto database indicates that this site was historically occupied by a gas station from at least 1969 to 1972. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 1993, preliminary site assessment activities began in 1998, post-remedial action monitoring in 1999, pollution characterization and risk assessment in 2000, and then the case was closed in 2003. Based on information reviewed in the online GeoTracker database, a former gas station and dry cleaner historically operated at this site. Groundwater monitoring was conducted in 2001 and 2002; in 2002, benzene and PCE were detected in groundwater at concentrations above regulatory thresholds, but they were expected to naturally attenuate. No additional information was available in the EDR database report or the online GeoTracker database. Although regulatory closure has been issued for the historical release, based on the concentrations of benzene and PCE detected in groundwater at the time of closure above regulatory thresholds and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #26: CHEVRON #9-9377

This site is a closed LUST Cleanup site. This site appears to currently be vacant and/or abandoned and surrounded by wood fencing. It is unclear based on Google Street view if the former gas station features (e.g., station building, USTs, dispensers, etc.) have been removed from the property. The EDR Historical Auto and HIST UST databases indicate that this site has been occupied by a gas station since at least 1967. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 1989, at which time site assessment activities began, remedial action was underway by 1992, and then the case was closed in 1994. Although regulatory closure has been granted to this site for the site, based on the long-term use of the site as a gas station (approximately 55 years), lack of information regarding additional subsurface investigations and/or remedial action completed, unknown status of the former gas station, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #57: CHEVRON

This site is the proposed location of the TBM extraction site for terminus Hollywood/Highland Station and is currently developed with an active gasoline service station and auto repairing facility with a snack shop. The EDR Historical Auto database indicates that this site has been occupied by a gasoline station and/or auto repairing facility since at least 1929. The UST, CERS, RCRA, HAZNET, and HWTS databases indicates that this site generates hazardous wastes, is a chemical storage facility, and maintains USTs. Although this site is not listed on a contamination-related database, based on the long-term use as a gasoline station and auto repairing facility (since 1929) and the proposed use (proposed TBM extraction site and egress shaft and ventilation structure for the terminus Hollywood/Highland Station), this site is considered a REC.

REC #27: HOLLYWOOD HILLS CLEANERS

This site is a closed CPS. This site is developed with a retail strip mall, which includes a dry-cleaning tenant. The EDR Historical Cleaner database indicates that a dry cleaner has been located at this property since at least 1993. The CPS-SLIC database reports that a release of VOCs occurred at this site and no further action is required. Based on information reviewed in the online GeoTracker database, subsurface investigations identified PCE in soil and groundwater and the detected concentration in groundwater was slightly above regulatory thresholds. Based on this information, the site was closed as a "Low Risk" case in 1998 and no further action was required. Although regulatory closure has been issued for the site, based on the proximity (adjacent), continued use of the site for dry-cleaning operations, and detections of PCE in groundwater at concentrations above regulatory thresholds at the time of closure, this site is considered a REC.

AERIALLY DEPOSITED LEAD

Each of the eight stations that are planned to be associated with the Fairfax Alignment Alternative are located along main roads (Crenshaw Boulevard, San Vicente Boulevard, Fairfax Avenue, Santa Monica Boulevard, and Highland Avenue). ADL may be present in the shallow soils at each station location, at the location of the double crossover tracks, and on the properties slated for acquisition for station

entrances or for construction staging. The remainder of the alignment alternative would be situated at greater depths, and soils at those depths will not have been exposed to ADL.

LEAD-BASED PAINT

For the eight stations that are planned to be associated with the Fairfax Alignment Alternative, each station location has at least one property planned for acquisition to accommodate the station entrance(s) and/or the construction staging areas that has structures currently on the property. The potential exists for these structures to contain LBP.

ASBESTOS-CONTAINING MATERIALS

For the eight stations that are planned to be associated with the Fairfax Alignment Alternative, each station location has at least one property planned for acquisition to accommodate the station entrance(s) and/or the construction staging areas that has structures currently on the property. The potential exists for these structures to contain ACM.

POLYCHLORINATED BIPHENYLS

Electrical transformers, hydraulic equipment, capacitors, and similar equipment located along the Fairfax Alignment Alternative may contain PCBs in hydraulic or dielectric insulating fluids within the units. The federal Toxic Substances Control Act has generally prohibited the domestic manufacture of PCBs since 1976; therefore, equipment manufactured after 1976 has a lower potential to contain PCBs.

PESTICIDES

No agricultural activities are known to have occurred along the Fairfax Alignment Alternative; therefore, pesticides are not a concern.

OIL/GAS FIELDS

The Fairfax Alignment Alternative passes through three separate oil and gas fields as shown on Figure 5-25: the Las Cienegas, the Salt Lake South, and the Salt Lake. One additional oil and gas field (the Beverly Hills) is within the RSA and shown on the figure, but the alignment alternative does not pass through the boundaries of this field. The construction of subsurface components of the Project (tunnels, accessways, stations, etc.) within the boundaries of the oil and gas fields may require protection from methane and/or hydrogen sulfide gases. The following three proposed stations are situated within the boundaries of an oil and gas field: Midtown Crossing, Wilshire/Fairfax, and Fairfax/3rd.

In addition, numerous plugged and idle oil and gas wells are located within the RSA for the Fairfax Alignment Alternative; some of these wells may be within the alignment alternative footprint. See Appendix A, Subsurface Gas and Oil Well Hazards, for further information on oil and gas fields, subsurface methane and hydrogen sulfide gases, and abandoned and unforeseen oil wells.

FIGURE 5-25. OIL AND GAS FIELDS ALONG THE FAIRFAX ALIGNMENT ALTERNATIVE

Source: Connect Los Angeles Partners 2023

PETROLEUM PIPELINES

The Fairfax Alignment Alternative crosses one hazardous liquid pipeline at West 29th Street, one block south of the Crenshaw/Adams Station as shown on Figure 5-26. Two additional hazardous liquid pipelines are within the RSA; however, the alignment alternative does not cross them. These pipelines are present southwest of the Midtown Crossing Station, and south of the Wilshire/Fairfax Station as shown on Figure 5-26. No accidents or incidents were reported along the pipelines in the vicinity of the San Vicente-Fairfax Alignment Alternative as of February 23, 2023.

RAILROADS

The Fairfax Alignment Alternative crosses a railroad line, the existing at-grade Metro E Line, at the southern end of the alignment along W Exposition Boulevard.

EDUCATIONAL FACILITIES

The Fairfax Alignment Alternative has 22 educational facilities within its 0.25-mile RSA, as shown in Table 5-4 and Figure 5-27. In cases where the map ID numbers in the table are not consecutive, it is because those facilities are identified on another alignment alternative.

AIRPORTS

The Fairfax Alignment Alternative would not be situated within two miles of an airport.

WILDLAND FIRES

The Fairfax Alignment Alternative would not be situated within a wildland fire zone.

FIGURE 5-26. PETROLEUM PIPELINES ALONG FAIRFAX ALIGNMENT ALTERNATIVE

Source: Connect Los Angeles Partners 2023

TABLE 5-4. EDUCATIONAL FACILITIES ALONG FAIRFAX ALIGNMENT ALTERNATIVE

MAP ID	NAME	ADDRESS
1	Virginia Road Elementary School	2925 Virginia Road, Los Angeles
2	ISANA Nascent Academy	3417 W Jefferson Boulevard, Los Angeles
3	Montessori Academy of West Adams	4449 W Adams Boulevard, Los Angeles
4	Alta Loma Elementary School	1745 Vineyard Avenue, Los Angeles
5	Pico Preschool	4436 W Pico Boulevard, Los Angeles
6	ReJOYce in Jesus Christian School	1304 S Cochran Avenue, Los Angeles
7	Machon LA	5870 W Olympic Boulevard, Los Angeles
8	Shalhevet High School	910 S Fairfax Avenue, Los Angeles
9	Hancock Park Elementary School	408 S Fairfax Avenue, Los Angeles
10	Fairfax High School	7850 Melrose Avenue, Los Angeles
16	Larchmont Charter School	1265 N Fairfax Avenue, West Hollywood
17	Fountain Day School	1128 N Orange Grove Avenue, West Hollywood
18	Laurel Early Education Center	8023 Willoughby Avenue, Los Angeles
19	Laurel Cinematic Arts & Creative Technologies Magnet	925 N Hayworth Avenue, Los Angeles
20	ABC Little School	927 N Fairfax Avenue, West Hollywood
21	West Hollywood Preschool	7377 Santa Monica Boulevard, West Hollywood
31	Hollywood Schoolhouse	1233 North McCadden Place, Los Angeles
32	Hollywood High School	1521 N Highland Avenue, Los Angeles
33	Little Paws Montessori	1341 N Mansfield Avenue, Los Angeles
34	Sunset Montessori Preschool	1432 N Sycamore Avenue, Los Angeles
35	Selma Avenue Elementary School	6611 Selma Avenue, Los Angeles
36	The Oaks School	6817 Franklin Avenue, Los Angeles

Source: California Department of Education n.d.; Google Maps 2023

FIGURE 5-27. EDUCATIONAL FACILITIES ALONG FAIRFAX ALIGNMENT ALTERNATIVE

Source: California Department of Education n.d.

5.2.1.3 ALIGNMENT ALTERNATIVE 3: LA BREA

REC SITES

The Limited Phase I ESA identified (Connect Los Angeles Partners 2023a) 30 REC sites within the RSA for the Le Brea Alignment Alternative; 17 of these sites are on the Cortese list. These facilities are identified on Table 5-5 and the location of each is depicted on Figure 5-28 through Figure 5-33. In cases where the map ID numbers in the table are not consecutive, it is because those sites are identified on another alignment alternative, or because the sites were identified after the position of a portion of the alignment location changed. Detailed information regarding each of the REC sites is presented below the table and figures.

REC #1: CAMEO CLEANERS

This site is in the CPS-SLIC database as an open CPS with a "Remediation" status as of 2010. Based on information reviewed in the online GeoTracker database, this site was historically occupied by a dry-cleaning facility from approximately 1954 until 2012 at which time all structures were razed. Soil, soil vapor, and groundwater have been affected by PCE, TCE, and other VOCs. Remedial activities completed at the site included DPE, SVE, groundwater treatment, and soil excavation. At the time of the most recent groundwater monitoring event (1st Quarter 2022), PCE, TCE, and cis-1,2-dichloroethylene were detected in groundwater at concentrations above regulatory thresholds. Based on the open case status, the presence of VOCs in soil vapor and groundwater at concentrations above regulatory thresholds, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #2: SHELL SERVICE STATION

This site is a closed Leaking UST (LUST) Cleanup site as of 2013. This site appears to currently be developed with an active Shell gas station with a drive-through car wash and a convenience store. The EDR Historical (Hist) Auto database indicates that this site has been occupied by a gas station since at least 1980. The LUST database reports that a release of "other solvent or non-petroleum hydrocarbon" to soil and groundwater was discovered in 2005. Groundwater monitoring was conducted between 2007 and 2012 in on-site and off-site wells (including wells in Crenshaw Boulevard within the boundaries of the RSA), which revealed TPH; BTEX compounds; MTBE; and other fuel by-products in groundwater, some of which were above regulatory thresholds. Remediation was not conducted or required at the site by the RWQCB. Benzene and TBA were the only constituents detected in groundwater above regulatory thresholds at the time of closure in 2013. The site was granted closure in 2013 under the LTCP. Although closure has been granted to this site, it appears that residual groundwater contamination, which was not remediated and was left in place, migrated off-site beneath Crenshaw Boulevard. Although regulatory closure has been issued for the site-related historical release case, based on the long-term use of the site as a gas station (over 40 years), residual contamination left in place at concentrations above regulatory thresholds, and proximity to the alignment alternative (adjacent), this site is considered a REC.

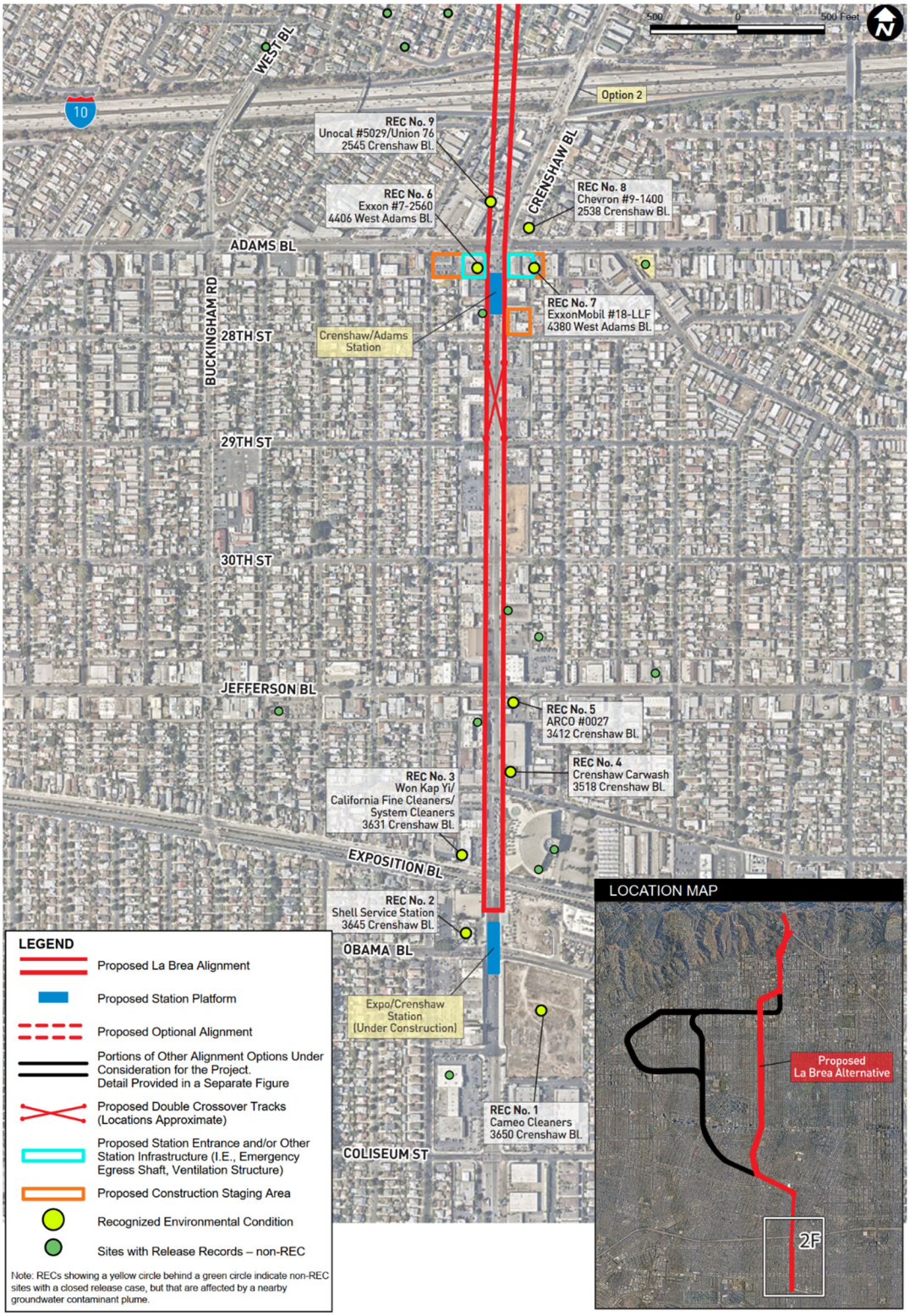
TABLE 5-5. REC SITES ALONG LA BREA ALIGNMENT ALTERNATIVE

MAP ID	PARCEL #	CASE STATUS	NAME	ADDRESS
1	APN 5033-001-035	Open	Cameo Cleaners, LLC/ Siskin Investment/ Rocket Cleaners	3650 Crenshaw Boulevard, Los Angeles
2	APN 5046-022-016	Closed	**Shell Service Station**	3645 Crenshaw Boulevard, Los Angeles
3	APN 5046-001-048	Open	Won Kap Yi/ California Fine Cleaners/ System Cleaners	3631 Crenshaw Boulevard, Los Angeles
4	APN 5044-004-009	Closed	Crenshaw Car Wash	3518 Crenshaw Boulevard, Los Angeles
5	APN 5044-004-025	Closed	**ARCO #0027**	3412 Crenshaw Boulevard, Los Angeles
6	APN 5050-001-030	Closed	**Exxon #7-2560**	4406 West Adams Boulevard, Los Angeles
7	APN 5051-007-001	Closed	**ExxonMobil #18-LLF**	4380 West Adams Boulevard, Los Angeles
8	APN 5059-003-020	Closed	**Chevron #9-1400**	2538 Crenshaw Boulevard, Los Angeles
9	APN 5059-003-020	Closed	**Unocal #5029/Union 76**	2545 Crenshaw Boulevard, Los Angeles
55	APN 5070-013-003	No Case Exists	Midtown Cleaners	4764 Pico Boulevard, Los Angeles
11	APN 5070-013-003	No Case Exists	Plains Exploration and Production Co./Union Oil Co. of CA	4848 West Pico Boulevard, Los Angeles
12	APN 5084-015-036	Closed	Harry's Auto Body, Inc. dba Harry's Auto Collision Center/ Subterranean Parking	1023-1027 South Redondo Boulevard, Los Angeles
13	APN 5089-023-022	Closed	**Unocal #1074**	5301 West Olympic Boulevard, Los Angeles
14	APN 5508-007-014	Closed	**Tosco S.S. #1116/76 Station #251116**	5436 West 6th Street, Los Angeles
15	N /A	Closed	**Regional Chlorinated VOC Groundwater Contaminant Plume**	South La Brea Avenue, Los Angeles
16	APN 5513-019-039	Open	Former Continental Graphics Facility Building G	171-181 South La Brea Avenue, Los Angeles
17	APN 5513-002-001 APN 5513-019-043	Open	Former Continental Graphics Facility Lot H, Buildings A and B	101 North and 101 South La Brea Avenue, Los Angeles
18	APN 5513-003-002	Open	**Chevron #9-0726**	7020 Beverly Boulevard, Los Angeles
19	APN 5525-032-028	Closed	**Former Texaco Station**	300 North La Brea Avenue, Los Angeles
20	APN 5525-033-033	Closed	**Former Exxon #7-7221**	307 North La Brea Avenue, Los Angeles
56	APN 5525-033-001	No Case Exists	Hertz Rent-A-Car	361 North La Brea Avenue, Los Angeles
21	APN 5525-016-007	Closed	**Chevron #9-0638**	7100 West Melrose Avenue, Los Angeles
22	APN 5525-005-037	Closed	**Former Liberty Car & Truck Rental**	800 North La Brea Avenue, Los Angeles

MAP ID	PARCEL #	CASE STATUS	NAME	ADDRESS
23A	APN 5531-016-023	Closed	La Brea Gateway Apartments/KCOP Production Studio (Former)	915 North La Brea Avenue, Los Angeles
23B	APN 5531-015-014	Open	Mole-Richardson Company	901-953 North Sycamore Avenue, Los Angeles
25	APN 5531-017-020	Open	**West Hollywood Gateway Redevelopment Project**	1005, 1023, 1033, 1037, 1043 and 1045 North La Brea Avenu 7144 and 7118 Santa Monica Boulevard, West Hollywood
24	APN 5531-013-001	Closed	**Gerster/Rolph Brake & Wheel**	1154 North La Brea Avenue, West Hollywood
26	APN 5548-015-036	Closed	**Chevron #9-9377**	1459 Highland Avenue, Los Angeles
57	APN 5548-004-069	No Case Exists	Chevron	1787 North Highland Avenue, Los Angeles
27	APN 5575-024-017	Closed	Hollywood Hills Cleaners	1900 North Highland Avenue, Los Angeles

Sites shown in **bold** text are on the Cortese list.
Source: Connect Los Angeles Partners 2023a

FIGURE 5-28. REC SITES ALONG LA BREA ALIGNMENT ALTERNATIVE (PAGE 1 OF 6)

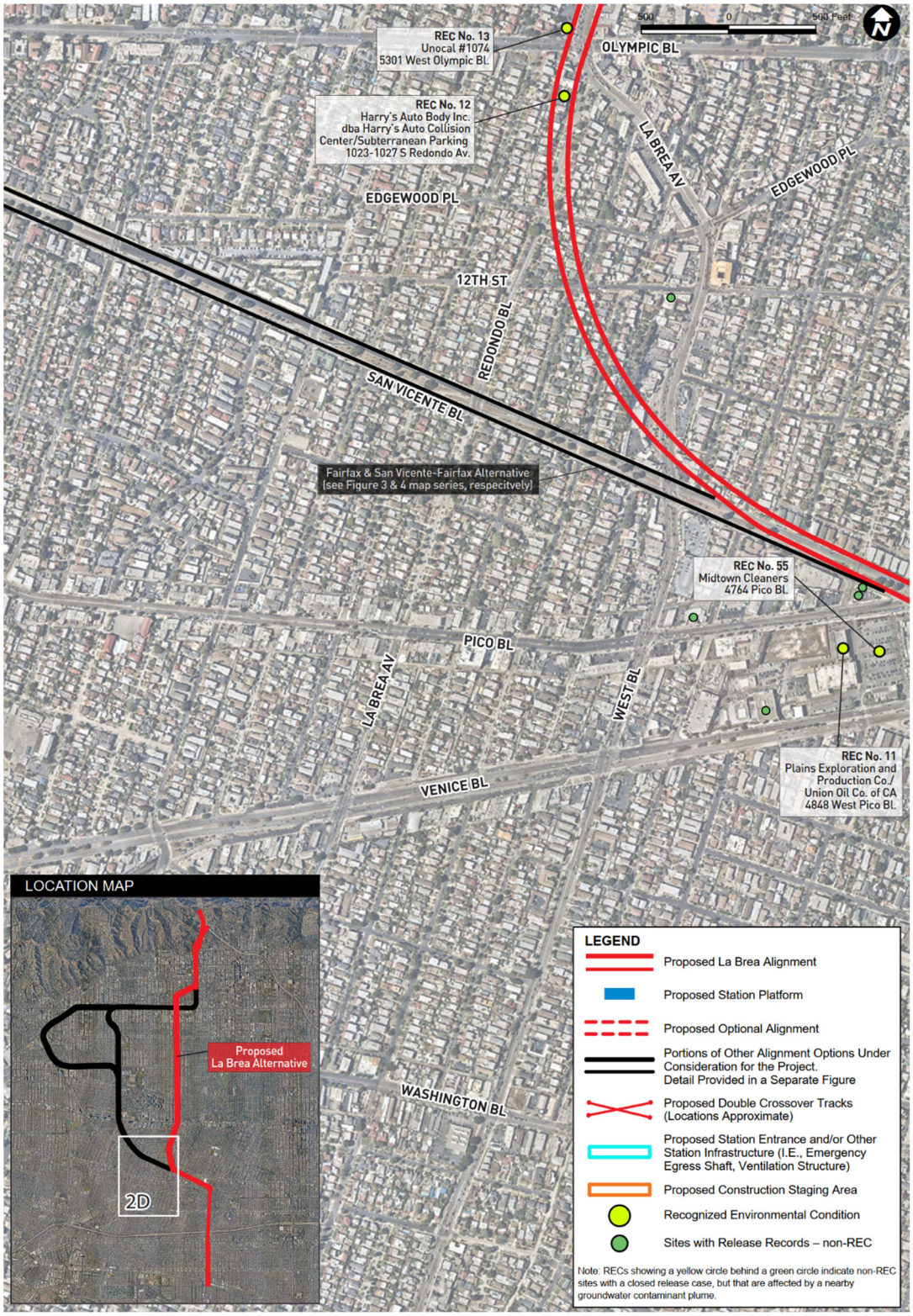


Source: Connect Los Angeles Partners 2023a

FIGURE 5-29. REC SITES ALONG LA BREA ALIGNMENT ALTERNATIVE (PAGE 2 OF 6)

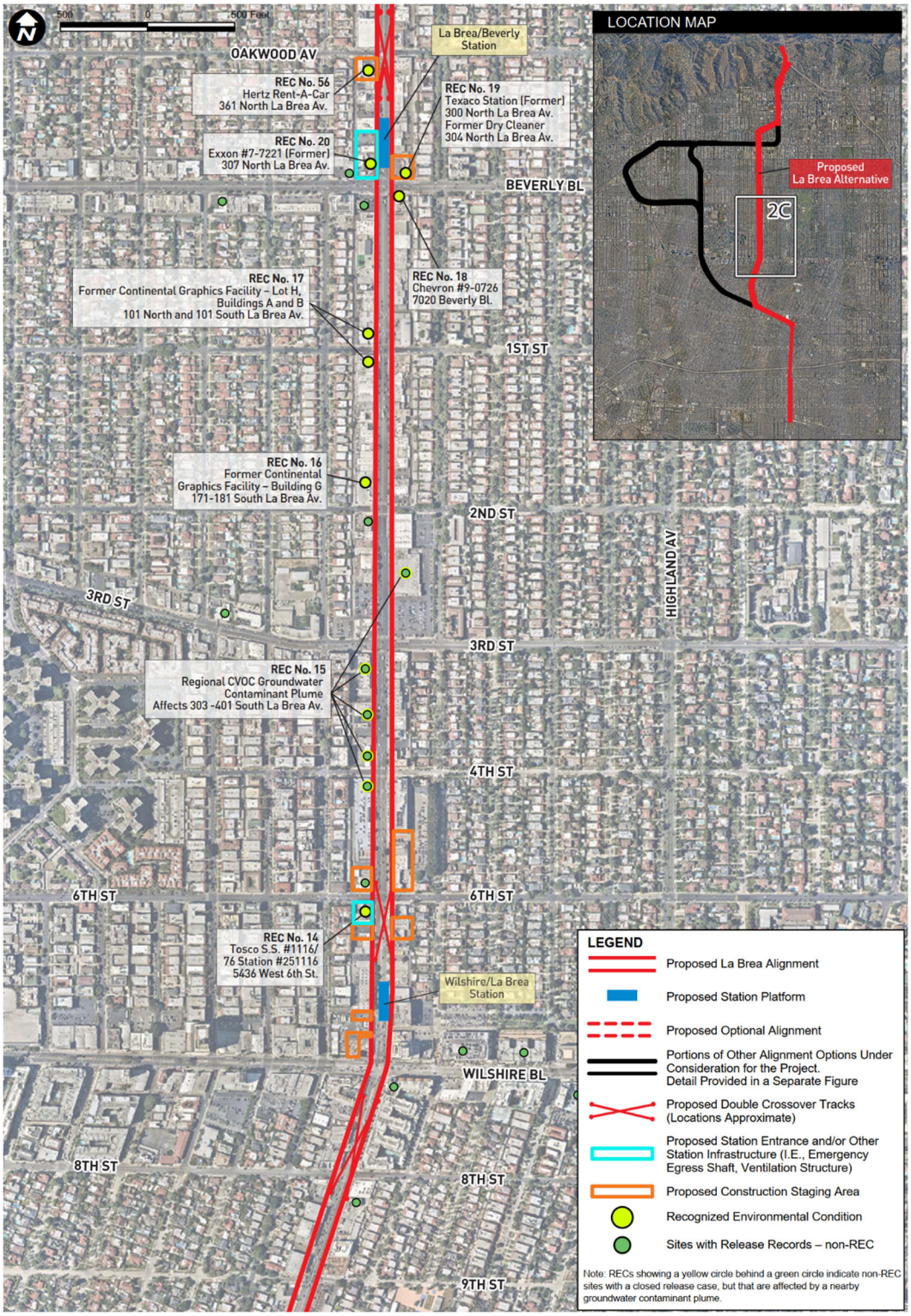
Source: Connect Los Angeles Partners 2023a

FIGURE 5-30. REC SITES ALONG LA BREA ALIGNMENT ALTERNATIVE (PAGE 3 OF 6)



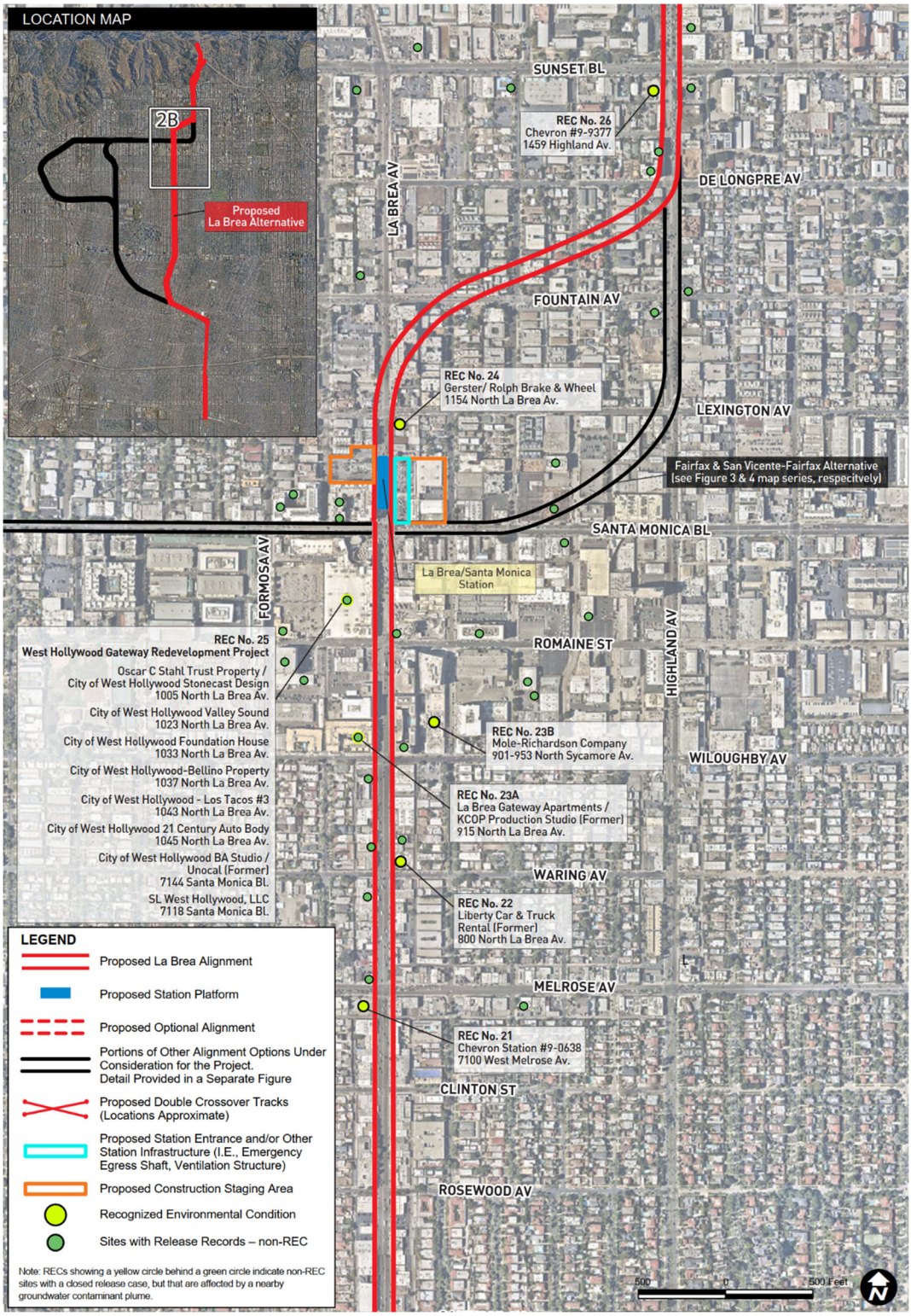
Source: Connect Los Angeles Partners 2023a

FIGURE 5-31. REC SITES ALONG LA BREA ALIGNMENT ALTERNATIVE (PAGE 4 OF 6)



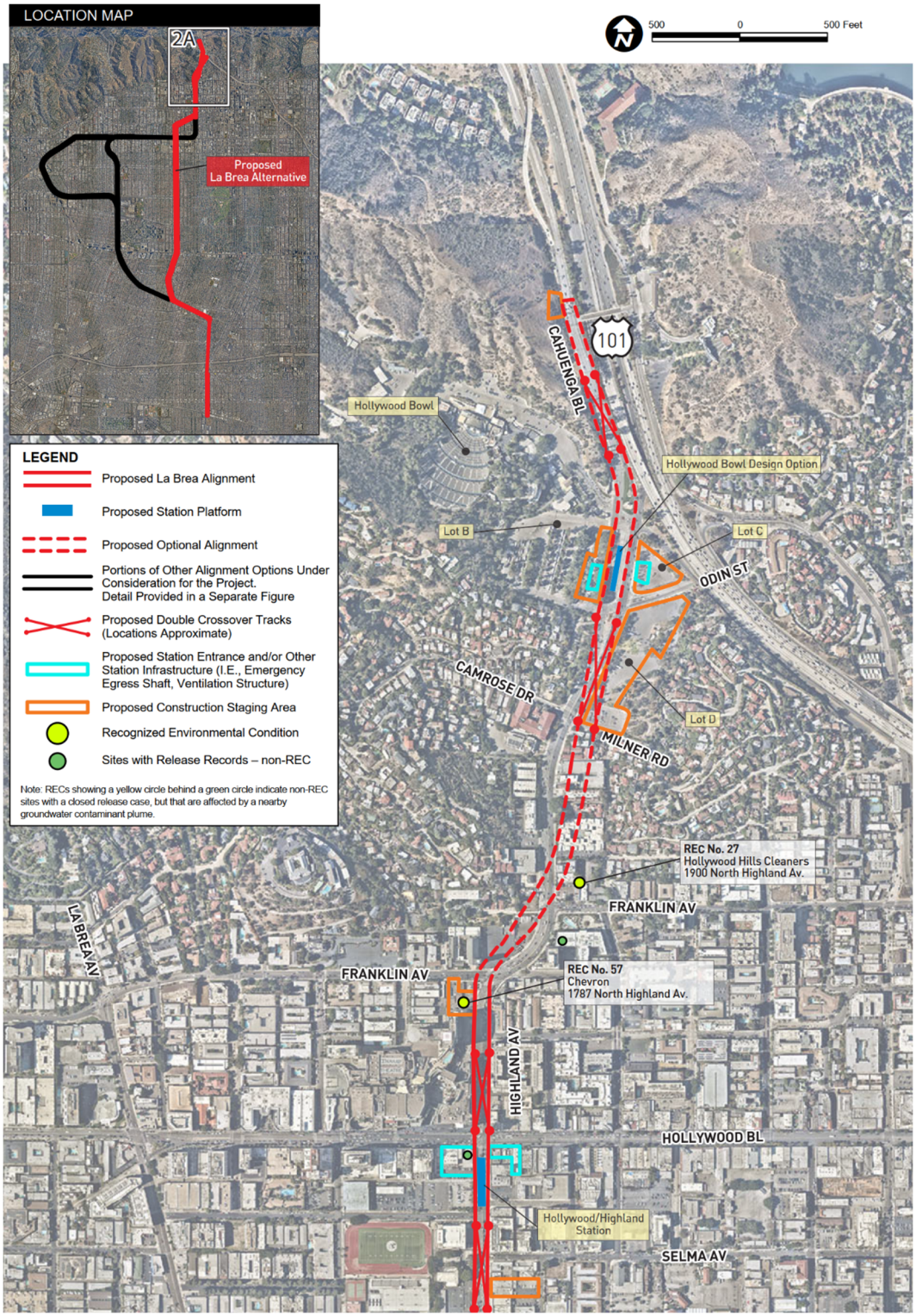
Source: Connect Los Angeles Partners 2023a

FIGURE 5-32. REC SITES ALONG LA BREA ALIGNMENT ALTERNATIVE (PAGE 5 OF 6)



Source: Connect Los Angeles Partners 2023a

FIGURE 5-33. REC SITES ALONG LA BREA ALIGNMENT ALTERNATIVE (PAGE 6 OF 6)



Source: Connect Los Angeles Partners 2023a

REC #3: WON KAP YI/CALIFORNIA FINE CLEANERS/SYSTEM CLEANERS

This site is an open CPS with an "Inactive" status as of 2015. This site appears to currently be part of a retail strip mall. The EDR Historical Cleaner database indicates that this site was historically occupied by a dry-cleaning facility from at least 1986 to 1994. The CPS-SLIC database reports that a release of VOCs occurred at this site. No additional information was available in the EDR database report or the online GeoTracker database. Based on the open/inactive case status, lack of readily available information regarding site investigations and/or cleanup, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #4: CRENSHAW CARWASH

This site is a closed CPS. This site appears to currently be developed with a vacant former auto repair facility. The EDR Historical Auto database indicates that this site was historically occupied by an auto repair facility from at least 1933 to 2014. The CPS-SLIC database reports that a release of TPH (potential media affected not specified) occurred at this site and no further action was required. No additional information was available in the EDR database report or the online GeoTracker database. Although regulatory closure has been issued for the site-related historical related case, based on the lack of information regarding subsurface investigations and/or remedial action completed, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #5: ARCO #0027

This site is a closed LUST Cleanup site. This site appears to currently be developed with an active ARCO gas station. The EDR Historical Auto database indicates that this site has been occupied by a gas station since at least 1975. The LUST database reports that a release of gasoline to soil and groundwater was initially discovered in 1988, site assessment activities began in 1992, and the case was closed in 1996. Based on review of online GeoTracker records, excavation of contaminated soils was conducted in 1988 and petroleum hydrocarbon impacts to groundwater were detected at that time. A subsequent release of "other solvent or non-petroleum hydrocarbon" to soil was discovered in 1998, site assessment activities began in 1999, and the case was closed in 2000. No additional information was available in the EDR database report or the online GeoTracker database regarding the 1998 release and subsequent 2000 closure. Although regulatory closure has been issued to this site for the site-related historical release cases, based the long-term use of the site as a gas station (over 45 years), lack of information regarding additional subsurface investigations and/or remedial action completed, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #6: EXXON #7-2560

This site is a closed LUST Cleanup site as of 1997. This site appears to currently be developed with an active Thrifty gas station with a convenience store, which has a current address of 2617 Crenshaw Boulevard. The EDR Historical Auto database indicates that this site has been occupied by a gas station since at least 1986. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 1992 during UST closure activities, at which time pollution characterization began, then "significant interim remedial action" was taken, and the case was closed in 1997. Based on

information reviewed in the online GeoTracker database, subsurface investigations were conducted between 1988 and 1996 and petroleum hydrocarbons were detected in soil, soil vapor, and groundwater. The last groundwater monitoring event was conducted in January 1997 and at that time benzene was detected above the regulatory threshold. In 1997, a risk assessment was completed which indicated that residual hydrocarbon impacts present in soil and groundwater were limited to the areas of the former USTs and that no significant risk to human health existed at the site. Although regulatory closure has been issued for the site-related historical release case, based on the long-term use of the site as a gas station (over 35 years), residual groundwater contamination left in place above regulatory thresholds, and the proposed use of the site (potential acquisition for a station entrance location for the Crenshaw/Adams Station), this site is considered a REC.

REC #7: EXXONMOBIL #18-LLF

This site is a closed LUST Cleanup site as of 2007. This site appears to currently be developed with an active Mobil gas station and a convenience store. The EDR Historical Auto database indicates that this site has been occupied by a gas station since at least 1982. The LUST database reports that an initial release of gasoline to soil was discovered in 1993 and the case was closed in 1997. A second release of gasoline to soil and groundwater was discovered in 2003, site assessment activities began in 2007, remediation began in 2010, and then the case was closed in 2015. Based on information reviewed in the online GeoTracker database, in 2003 the USTs and associated piping were replaced at the site and petroleum hydrocarbons were detected in soil. Based on the soil analytical results, the LAFD requested additional site assessment activities be performed to investigate the vertical and lateral extents of subsurface hydrocarbons. In 2007, three groundwater monitoring wells were installed, and dissolved phase petroleum hydrocarbons were detected in groundwater at concentrations above regulatory thresholds. Although regulatory closure has been issued for the site, based on the long-term use of this site as a gas station (at least 40 years), lack of recent soil or groundwater analytical data, detected petroleum hydrocarbon concentrations in groundwater at concentrations above regulatory thresholds, and the proposed use of the site (potential acquisition for a station entrance location for the Crenshaw/Adams Station), this site is considered a REC.

REC #8: CHEVRON #9-1400

This site is a closed LUST Cleanup site. This site appears to currently be developed with an active Chevron gas station and a convenience store. The EDR Historical Auto database indicates that this site has been occupied by a gas station since at least 1986. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 1983, remedial action (SVE) was undertaken in 1995, and then the case was closed in 1996. No additional information was available in the EDR database report or the online GeoTracker database. Although regulatory closure has been issued for the site, based on the long-term use of this site as gas station (over 35 years), lack of recent soil or groundwater analytical data, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #9: UNOCAL #5029/UNION 76

This site is a closed LUST Cleanup site. This site appears to currently be developed with an active gas station with a convenience store. The EDR Historical Auto and HIST UST databases indicate that this site has been occupied by a gas station since at least 1969. The LUST database reports that a release of an unspecified contaminant was discovered in 1989 during UST removal/replacement activities and then the case was closed in 1994. Based on information reviewed in the online GeoTracker database, during UST removal/replacement activities conducted in 1989, soil sampling was completed, and low levels of petroleum hydrocarbons were encountered in shallow soils, which did not require remediation, and closure was issued in 1990. The former gas station was demolished in 1993 (after damage from the 1992 Los Angeles Riots), limited areas of affected soils were encountered, and remedial soil excavation was completed. No impacts to groundwater were detected. The site was granted closure in 1994. No additional information was available in the EDR database report or the online GeoTracker database. Although regulatory closure has been issued for the site-related release case, based on the long-term use of this site as gas station (over 50 years), lack of recent soil or groundwater analytical data, and proximity to the Crenshaw/Adams Station Cross-Country Option – Entrance Option 2 at the southern end of the alignment alternative, this site is considered a REC.

REC #55: MIDTOWN CLEANERS

This site is associated with the portion of the Midtown Crossing shopping center property that is proposed for the location of the Midtown Crossing Station and associated infrastructure. The database listings indicate that Midtown Cleaners operated in this area between at least 1975 and 1995, and formerly maintained permits for dry-cleaning equipment that utilized PCE. The HAZMAT database lists the status as inactive. The RCRA database indicates that this former site was classified as a SQG in 1988 with no violations reported. Although no release case is identified associated with for the former dry cleaner, dry-cleaning operations typically use chlorinated solvents, particularly PCE, during the dry-cleaning process, and these solvents, even when properly stored and handled, are highly mobile chemicals and can readily migrate into the subsurface as a result of small releases associated with on-site operations. Based on the proposed use of the site (potential acquisition for a proposed station location and TBM launch site), the former dry-cleaning facility is considered a REC.

REC #11: PLAINS EXPLORATION AND PRODUCTION CO./UNION OIL CO. OF CA

This listing is in the Los Angeles County Site Mitigation database, and the abated status is reported as "no." No additional information was available in the Los Angeles County Public Works, Environmental Programs Division's Online File Review database. This site encompasses over 14.5 acres and is currently developed as the Midtown Crossing retail shopping center, with multiple buildings occupied by various retail tenants. Based on a review of the CalGEM online WellSTAR database, this area was historically used for oil exploration/production and is located within the boundaries of the Las Cienegas Oil Field (REC No. 49). The CalGEM Well Finder online database identifies multiple plugged and abandoned oil wells on the western portion of this site. No additional information was available in the EDR database report. Based on available information and the proposed location of the Midtown

Crossing Station and TBM launch site, double crossover tracks, and surface-level access portal on this parcel, the former oil exploration/production activities at this site is considered a REC.

REC #12: HARRY'S AUTO BODY INC.

This site is a closed CPS. This site appears to currently be developed with an auto body shop. The CPS-SLIC database reports that a release of unspecified contaminants was discovered in 2000 and then the case was closed in 2003. Based on information reviewed in the online GeoTracker database, site assessment activities revealed concentrations of petroleum hydrocarbons (TPH as crude oil) were detected in soil at concentrations below regulatory thresholds. Based on soil analytical results, it was concluded that soil impacts at the site between 15 and 30 feet bgs were from naturally occurring crude oil and no further requirements were required. The 2003 site closure letter specifically states that the no further requirements are related to soil only and do not address groundwater impacts detected beneath the site. Although regulatory closure has been issued for the site, based on the impacts detected in groundwater and soil, lack of information regarding further groundwater sampling and/or cleanup, and proximity and location to the alignment alternative (adjacent and upgradient), this site is considered a REC.

REC #13: UNOCAL #1074

This site is a closed LUST Cleanup site. This site appears to currently be occupied by an active ARCO gas station. The EDR Historical Auto database indicates that this site has been occupied by a gas station since at least 1969. The LUST database reports that a gasoline release to soil and groundwater was discovered in 1992, at which time pollution characterization began, remedial action (soil excavation) completed, groundwater monitoring performed, and then the case was closed in 1997. No additional information was available in the EDR database report or the online GeoTracker database. Although regulatory closure has been issued for the site, based on the long-term use of this site as a gas station (over 50 years), lack of recent analytical data, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #14: TOSCO S.S. #1116

This site is a closed LUST case. This site appears to currently be developed with an active 76 gas station with a convenience store and auto repair shop. The EDR Historical Auto and HIST UST databases indicate that this site has been occupied by a gas station since at least 1967. The LUST database reports that a release of gasoline to soil was discovered in 1997, the case was closed in 2000, and then in 2008 the RWQCB reopened the case. Based on information reviewed in the online GeoTracker database, between 2007 and 2014 site assessment activities were completed and petroleum hydrocarbons were detected in soil and groundwater at concentrations above regulatory thresholds. At the time of closure in 2016, residual petroleum hydrocarbons including benzene, MTBE, and TBA were present in groundwater at the site at concentrations above regulatory thresholds. The site was granted closure under the LTCP in 2016. Although regulatory closure has been issued for the site, based on the long-term use of this site as a gas station (over 50 years), residual contamination left in

place at the time of closure, lack of recent analytical data, and proposed use of this site (potential acquisition for the Wilshire/La Brea Station entrance location), this site is considered a REC.

REC #15: REGIONAL CHLORINATED VOC GROUNDWATER CONTAMINANT PLUME

Review of online GeoTracker records noted a regional CVOC contaminant plume in groundwater in the vicinity of several sites along South La Brea Avenue, adjacent to the west of La Brea Alignment Alternative, for which the source of the CVOCs in groundwater has not been identified, but that was reportedly not associated with the documented historical release cases that were subsequently remediated at each of these sites to the satisfaction of the regulatory agency and the case(s) closed. The sites identified within this plume area include La Brea Motors/La Brea Dodge at 339, 359, and 401 South La Brea Avenue on the west side of South La Brea Avenue, a vacant building at 400 South La Brea Avenue on the east side of South La Brea Avenue, and the Horowitz Property at 303 South La Brea Avenue on the west side of South La Brea Avenue. Historical releases have been documented at each of these sites. Based on the regulatory status (i.e., case closure, no further action), removal of the source (USTs/hydraulic lifts), results of risk assessments completed, remediation completed, and/or redevelopment of each of these sites, the releases that occurred at each of these sites are not considered individual RECs to the alignment alternative. However, the off-site CVOC contaminant plume that exists in this area and for which the source is unknown is considered a REC.

REC #16: FORMER CONTINENTAL GRAPHICS FACILITY, BUILDING G

This site is an open CPS with a "Remediation" status as of 2019. This site appears to currently be developed with an office/parking garage building. The CPS-SLIC database reports that a release of "benzene, gasoline, methane, other chlorinated hydrocarbons, PCE, TPH, and TCE" to soil, soil vapor, and groundwater occurred at this site. Based on information reviewed in the online GeoTracker database, this site was historically occupied by a gas station and auto repair facility in the 1920s to 1950s, and then a commercial printing business until the early 2000s. A subsurface investigation conducted in 2010 detected the presence of PCE in soil vapor and groundwater beneath the site. At the time of the most recent monitoring report (4th Quarter, 2021), reviewed in the online GeoTracker database, VOCs (primarily PCE) were detected in groundwater at concentrations above regulatory thresholds. Based on the open case status, impacts to groundwater at concentrations above regulatory thresholds, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #17: FORMER CONTINENTAL GRAPHICS FACILITY – LOT H

This site is an open CPS with an "Eligible for Closure" status as of 2016. This site appears to be related to the Continental Graphics Facility discussed above, but there are two separate regulatory cases for this former business that operated on both properties. The CPS-SLIC database reports that a historical release of "benzene, crude oil, gasoline, lead, methane, naphthalene, other petroleum polynuclear aromatic hydrocarbons, toluene, TPH, waste oil/motor/hydraulic/lubricating, and xylene" occurred at this site. Based on information review in the online GeoTracker database, a gas station was historically present at 101 North La Brea Avenue (Lot H; north of West 1st Street) and various auto service and repair businesses and a print shop were present at 101 South La Brea Avenue (Buildings A and B;

south of West 1st Street) in at least 1951; both business operations included the use of USTs. In addition, a waste oil UST was also historically located at 101 South La Brea Avenue (Building A) as well as a historic oil well prior to the mid-1920s. Subsurface investigations conducted at this site since 1996 identified the presence of VOCs and petroleum hydrocarbons in soil, soil vapor, and groundwater at concentrations above regulatory thresholds. An active methane mitigation system was installed beneath Building A (101 South La Brea Avenue) in 2013 to address VOCs and methane detected beneath the building above regulatory thresholds. In 2016, a certificate of completion and no further action status was issued to the portion of this site north of West 1st Street (101 North La Brea Avenue; Lot H). In 2017 and 2019, risk assessments were completed for Buildings A and B (south of West 1st Street), which identified potential cancer health risks at this portion of the site and indoor air sampling was recommended. Indoor air sampling was conducted in Buildings A and B in 2019 and 2021. With the exception of acrolein and benzene, all detected concentrations of VOCs were below commercial/industrial regulatory screening levels. A land use covenant was prepared for Buildings A and B to restrict occupancy to commercial use. Based on the land use restriction as the mitigation measure in place, the RWQCB is considering the site for closure. Based on soil vapor analytical data from Buildings A and B at concentrations above regulatory thresholds, the results of health risk assessment, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #18: CHEVRON #9-0726

This site is an open LUST Cleanup site with a "Remediation" status as of 2015. This site appears to currently be an active Chevron gas station with a food mart. The EDR Historical Auto and HIST UST databases indicate that this site has been occupied by a gas station since at least 1969. The LUST database indicates that a release of gasoline to soil and groundwater was discovered in 1989 during UST closure activities. Based on information reviewed in the online GeoTracker database, during the 1989 UST removal activities, petroleum-affected soils were excavated but were used as backfill. The COCs in soil, soil vapor, and groundwater are reported to primarily be TPH as gasoline (TPH-g), BTEX, MTBE, and TBA. Between 2015 and 2021, free product removal from groundwater was conducted at the site. Free product has historically been present in both on-site and off-site monitoring wells, including off-site wells within La Brea Avenue, within the boundaries of the La Brea Alignment Alternative alignment. In a Review Summary Report dated January 2022, the RWQCB states that "free product removal may not have been removed to the maximum extent practicable". In addition, based on recent groundwater data, water quality objectives have not been achieved and therefore, the site does not quality for closure under the LTCP. The extent of petroleum impacts present is reported to be limited to soil and shallow groundwater. According to site plans available in the online GeoTracker database, groundwater contamination from this site extends off-site and beneath La Brea Avenue. Based on the open case status, ongoing remediation, detections of VOCs in groundwater at concentrations above regulatory thresholds on and off-site including in monitoring wells within La Brea Avenue, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #19: TEXACO STATION (FORMER)

This site is a closed LUST Cleanup site. This site appears to currently be developed with a retail strip mall. The EDR Historical Auto database indicates that this site was historically occupied by a gas station

from at least 1933 to 1983. The LUST database reports that a release of gasoline to soil was discovered in 1981, at which time site assessment activities began, a remedial action plan was submitted in 1981, post-remedial action monitoring began in 1984, additional remedial action was underway in 1988, and then the case was closed in 1996. The abatement method used at the site is reported as "excavate and dispose." No additional information was available in the EDR database report or the online GeoTracker database. Although regulatory closure has been issued for the site, based on the long-term use of the site as a gas station (approximately 60 years), lack of confirmation soil sampling data post-remedial action, and the proposed use of the site (potential acquisition for the La Brea/Beverly Station entrance location), this site is considered a REC.

REC #20: EXXON #7-7221 (FORMER)

This site is a closed LUST Cleanup site. This site appears to currently be developed with an active Chevron gas station with a food mart and car wash. The EDR Historical Auto and HIST UST databases indicate that this site has been occupied by a gas station since at least 1967. The LUST database indicates that a release of gasoline to soil and groundwater was discovered in 1992. At the time of closure, residual concentrations of COCs detected in soil and groundwater were at concentrations below regulatory thresholds, except for benzene, MTBE, and TBA in groundwater, which were expected to naturally attenuate. In addition, it was reported that the groundwater monitoring data suggested that the groundwater plume had stabilized and/or reduced in size. The site was granted closure under the LTCP in 2009. Although regulatory closure has been issued for the site, based on the long-term use of the site as a gas station (over 50 years), presence of fuel constituents (benzene, MTBE, and TBA) in groundwater at concentrations above regulatory thresholds at the time of closure, the lack of recent soil and/or groundwater data, and the proposed use of the site (potential acquisition for the La Brea/Beverly Station entrance location), this site is considered a REC.

REC #56: HERTZ RENT-A-CAR

This site is in the HAZNET and HWTS databases for the generation of state-regulated hazardous wastes in the form of "oil/water separation sludge" in 2005 and 2011 that was disposed of off-site. The RCRA database indicates that this site was verified as a non-generator of hazardous waste in 2018 with no violations reported. Although no release case is identified associated with this site, based on the proposed use (potential acquisition for construction staging area) and the potential presence of an oil/water separator, this site is considered a REC.

REC #21: CHEVRON #90638

This site is a closed CPS and a closed LUST Cleanup site. The EDR Historical Auto database indicates that this site was historically occupied by a gas station from at least 1971 to 2014 and currently appears to be a vacant lot. Based on images on Google Street view, no aboveground structures (i.e., former station building, canopies or dispensers) are present on the site, but it is unknown if subsurface features (e.g., USTs, piping, etc.) have been removed. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 1989, site assessment activities began in 1992, groundwater monitoring was conducted in 1996 and 1997, and then the case was closed in

1997. Based on information reviewed in the online GeoTracker database, the case was transferred to the LUST program in 1996, at which time the CPS-SLIC case was closed. No additional information was available in the EDR database report or the online GeoTracker database. Although closure has been granted for the site, this site operated as a gas station until at least 2014 and no information was readily available regarding decommissioning of the former gas station (i.e., UST removal reports, soil or groundwater analytical data), and therefore, based on this information and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #22: LIBERTY CAR & TRUCK

This site is a closed LUST Cleanup site as of 1998 and an open LUST Cleanup site with a "Site Assessment" status as of 2015. This site appears to currently be an asphalt-paved vacant lot and was historically occupied by a gas station from the early 1940s to mid-1970s and then a car and truck rental facility from the mid-1980s to mid-1990s. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 1985 during UST removal activities. An additional release (potential COC not specified) was discovered in 2014 during UST removal activities and site assessment activities began at that time. Based on information reviewed in the online GeoTracker database, at the time of the 2014 UST removal activities, soil excavation was performed and TPH-d, TPH-g, BTEX, and MTBE were detected in post-excavation soil samples at concentrations below regulatory thresholds. The most recent information available in the online GeoTracker database was a letter dated February 18, 2015, from the Los Angeles RWQCB to the responsible party (Mr. Rob Goldberg) requesting additional information. There is no indication in the online records that additional investigation or remediation has been conducted at the site. Based on the open case status, lack of information indicating that additional investigative and/or remedial activities were completed, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #23A: LA BREA GATEWAY APARTMENTS/KCOP PRODUCTION STUDIO (FORMER)

This site is a closed CPS. This site appears to have been redeveloped with a mixed-use residential/commercial building with subterranean parking. The CPS-SLIC database reports that a release of PCE to groundwater was discovered at this site during redevelopment. Based on information reviewed in the online GeoTracker database, a portion of this site was occupied by a gas station from the 1920s to 1940s, and then a television studio from the late 1940s until approximately 2000. Subsurface sampling indicated impacts consisting primarily of VOCs and petroleum hydrocarbons in soil, soil vapor, and groundwater at the site as well as soil affected by polychlorinated biphenyls. Affected soils were excavated and disposed off-site. Impacts to groundwater were determined to be from an off-site upgradient source (Mole-Richardson Company, discussed below, located across La Brea Avenue). Based on the source removal, confirmation soil vapor and soil sampling, groundwater monitoring and sampling, and results of the risk assessment, the site was issued closure and no further action was required. Based on the regulatory status (i.e., case closure), source removal completed, and redevelopment of the site, this site is not considered a REC. However, the off-site VOC groundwater contaminant plume, identified as REC No. 23 both on this property and as discussed in the following site summary, is considered a REC.

REC #23B: MOLE-RICHARDSON COMPANY

This site is an open CPS with an "Assessment & Interim Remedial Action" status as of 2014 and an open LUST Cleanup site with a "Preliminary Site Assessment Workplan Submitted" status as of 2000. This site appears to have been redeveloped with an office building that includes subterranean parking. The CPS-SLIC database indicates that a release of "benzene, other chlorinated hydrocarbons, PCE, TCE, vinyl chloride, and gasoline" historically occurred at this site to soil, soil vapor, and groundwater. Based on information reviewed in the online GeoTracker database, this light industrial site was historically occupied by various businesses including a dry-cleaning facility that operated six USTs. The USEPA granted the site a Notice of Completion of Soil Remediation Activities on March 21, 2018. The site has undergone quarterly groundwater monitoring since 2008. Groundwater investigations were completed in 2016 to 2020 to define the vertical and lateral extent of VOCs in shallow groundwater. The most recent groundwater investigation was completed in 2020 to investigate potential vertical and lateral impacts to deep groundwater, which identified VOCs, including PCE and TCE at concentrations above regulatory thresholds down-gradient from the site (west of La Brea Avenue). During the most recent groundwater monitoring event (4th Quarter 2021), detected concentrations of VOCs in each monitoring well were generally consistent with results collected in recent years, and PCE was the only VOC detected at concentrations above regulatory thresholds. The Superfund Enterprise Management System database reports that this site is not listed on the National Priority List and identifies "Sycamore Site" (937 North Sycamore Avenue) as a "Removal Only Site (No Site Assessment Work Needed)." The PRP database reports that "953 N Sycamore (LA), LLC" has been identified as a PRP; no other specifics are reported. Based on the open case status, VOC concentrations in groundwater at concentrations above regulatory thresholds, and the proximity and location relative to the alignment alternative (adjacent and upgradient), this site is considered a REC.

REC #25: WEST HOLLYWOOD GATEWAY SHOPPING CENTER REDEVELOPMENT PROJECT

Several former businesses are identified on this block located on the western side of La Brea Avenue, between Santa Monica Boulevard to the north and Romaine Street to the south, with open CPS cases. This block was redeveloped with the current West Hollywood Gateway Shopping Center project in 2003. The following businesses were identified with open CPS cases with an "Inactive" status as of 2015:

- The Oscar C Stahl Trust Property/City of West Hollywood-Stonecast Design at 1005 North La Brea Avenue, closed LUST site and open CPS; The City of West Hollywood-Valley Sound at 1023 North La Brea Avenue, open CPS; The City of West Hollywood-Foundation House at 1033 North La Brea Avenue, open CPS; The City of West Hollywood-Bellino Property at 1037 North La Brea Avenue, open CPS; The City of West Hollywood-Los Tacos #3 at 1043 North La Brea Avenue, open CPS; and The City of West Hollywood-21 Century Auto Body at 1045 North La Brea Avenue, open CPS.
- The City of West Hollywood-BA Studio/Unocal (Former) at 7144 Santa Monica Boulevard, open CPS. This property is located on the northwestern corner of the same block associated with the sites described in the preceding bullets and is part of the West Hollywood Gateway Shopping Center redevelopment project.

- SL West Hollywood LLC at 7118 Santa Monica Boulevard, closed LUST Cleanup site. This property is located on the northwestern corner of the same block associated with the sites described in the preceding bullets and is part of the West Hollywood Gateway Shopping Center redevelopment project. Although closure has been granted to this release case, closure documents state that VOC concentrations in groundwater are from an unspecified regional source.

No additional information associated with the West Hollywood Gateway Shopping Center redevelopment project, the open/inactive cases associated with these former businesses, or the regional groundwater contamination was available in the EDR database report or the online GeoTracker database. Based on the open/inactive case status and lack of readily available information regarding site investigations and/or cleanup, this site is considered a REC.

REC #24: GERSTER/ROLPH BRAKE & WHEEL

This site is a closed LUST Cleanup site. This site appears to currently be developed with an auto repair facility. The EDR Historical Auto database indicates that this site was historically occupied by a gas station from at least 1933 to 1942 and has been occupied by an auto repair facility since at least 1937. The LUST database reports that a release of "waste oil/motor/ hydraulic/lubricating" to soil and groundwater was discovered in 2004, groundwater monitoring began in 2008, soil and groundwater investigations were conducted between 2008 and 2012, and then the case was closed in 2013. Based on information reviewed in the online GeoTracker database, two gasoline USTs were removed from the site sometime before 1980 and one waste oil UST was removed in 2004. The site was granted closure under the LTCP in 2013. At the time of closure, residual concentrations of VOCs, primarily benzene, remained in groundwater beneath this site at concentrations above regulatory thresholds. Although regulatory closure has been issued for the site, based on the long-term use of the site as an auto repair facility (almost 50 years), residual contamination left in place at concentrations above regulatory thresholds at the time of closure, and the location and proximity to the alignment alternative (adjacent and upgradient), this site is considered a REC.

REC #26: CHEVRON #9-9377

This site is a closed LUST Cleanup site. This site appears to currently be vacant and/or abandoned and surrounded by wood fencing. It is unclear based on Google Street view if the former gas station features (e.g., station building, USTs, dispensers, etc.) have been removed from the property. The EDR Historical Auto and HIST UST databases indicate that this site has been occupied by a gas station since at least 1967. The LUST database reports that a release of gasoline to soil and groundwater was discovered in 1989, at which time site assessment activities began, remedial action was underway by 1992, and then the case was closed in 1994. Although regulatory closure has been granted to this site for the site, based on the long-term use of the site as a gas station (approximately 55 years), lack of information regarding additional subsurface investigations and/or remedial action completed, unknown status of the former gas station, and proximity to the alignment alternative (adjacent), this site is considered a REC.

REC #57: CHEVRON

This site is the proposed location of the TBM extraction site for terminus Hollywood/Highland Station and is currently developed with an active gasoline service station and auto repairing facility with a snack shop. The EDR Historical Auto database indicates that this site has been occupied by a gasoline station and/or auto repairing facility since at least 1929. The UST, CERS, RCRA, HAZNET, and HWTS databases indicates that this site generates hazardous wastes, is a chemical storage facility, and maintains USTs. Although this site is not listed on a contamination-related database, based on the long-term use as a gasoline station and auto repairing facility (since 1929) and the proposed use (proposed TBM extraction site and egress shaft and ventilation structure for the terminus Hollywood/Highland Station), this site is considered a REC.

REC #27: HOLLYWOOD HILLS CLEANERS

This site is a closed CPS. This site is developed with a retail strip mall, which includes a dry-cleaning tenant. The EDR Historical Cleaner database indicates that a dry cleaner has been located at this property since at least 1993. The CPS-SLIC database reports that a release of VOCs occurred at this site and no further action is required. Based on information reviewed in the online GeoTracker database, subsurface investigations identified PCE in soil and groundwater and the detected concentration in groundwater was slightly above regulatory thresholds. Based on this information, the site was closed as a "Low Risk" case in 1998 and no further action was required. Although regulatory closure has been issued for the site, based on the proximity (adjacent), continued use of the site for dry-cleaning operations, and detections of PCE in groundwater at concentrations above regulatory thresholds at the time of closure, this site is considered a REC.

AERIALLY DEPOSITED LEAD

Each of the seven stations that are planned to be associated with the La Brea Alignment Alternative are located along main roads (Crenshaw Boulevard, San Vicente Boulevard, La Brea Avenue, and Highland Avenue). ADL may be present in the shallow soils at each station location, at the location of the double crossover tracks, and on the properties slated for acquisition for station entrances or for construction staging. The remainder of the alignment alternative would be situated at greater depths, and soils at those depths will not have been exposed to ADL.

LEAD-BASED PAINT

For the seven stations that are planned to be associated with the La Brea Alignment Alternative, each station location has at least one property planned for acquisition to accommodate the station entrance(s) and/or the construction staging areas that has structures currently on the property. The potential exists for these structures to contain LBP.

ASBESTOS-CONTAINING MATERIALS

For the seven stations that are planned to be associated with the La Brea Alignment Alternative, each station location has at least one property planned for acquisition to accommodate the station

entrance(s) and/or the construction staging areas that has structures currently on the property. The potential exists for these structures to contain ACM.

POLYCHLORINATED BIPHENYLS

Electrical transformers, hydraulic equipment, capacitors, and similar equipment located along the La Brea Alignment Alternative may contain PCBs in hydraulic or dielectric insulating fluids within the units. The federal Toxic Substances Control Act has generally prohibited the domestic manufacture of PCBs since 1976; therefore, equipment manufactured after 1976 has a lower potential to contain PCBs.

PESTICIDES

No agricultural activities are known to have occurred along the La Brea Alignment Alternative; therefore, pesticides are not a concern.

OIL/GAS FIELDS

The La Brea Alignment Alternative passes through two separate oil and gas fields as shown on Figure 5-34: the Las Cienegas and the Salt Lake. One additional oil and gas field (the Salt Lake South) is within the RSA and shown on the figure, but the alignment alternative does not pass through the boundaries of this field. The design and construction of subsurface components of the Project (tunnels, accessways, stations, etc.) within the boundaries of the oil and gas fields will require protection from methane and/or hydrogen sulfide gases. The following two proposed stations are within an oil and gas field: Midtown Crossing, La Brea/Beverly; the Wilshire/La Brea station would be located along the edge of an oil and gas field.

In addition, numerous plugged and idle oil and gas wells are located within the RSA for the La Brea Alignment Alternative; some of these wells may be within the alignment alternative footprint. See Appendix A, Subsurface Gas and Oil Well Hazards, for information on oil and gas fields, subsurface methane and hydrogen sulfide gases, and abandoned and unforeseen oil wells.

PETROLEUM PIPELINES

The La Brea Alignment Alternative crosses one hazardous liquid pipeline at West 29th Street one block south of the Crenshaw/Adams Station. One additional hazardous liquid pipeline is within the RSA; however, the alignment alternative does not cross it. This pipeline is present southwest of the Midtown Crossing Station as shown on Figure 5-35. No accidents or incidents were reported along the pipeline in the vicinity of the La Brea Alignment Alternative as of February 23, 2023.

RAILROADS

The La Brea Alignment Alternative crosses a railroad line, the existing at-grade Metro E Line, at the southern end of the alignment along W Exposition Boulevard.

FIGURE 5-34. OIL AND GAS FIELDS ALONG LA BREA ALIGNMENT ALTERNATIVE

Source: Connect Los Angeles Partners 2023

FIGURE 5-35. PETROLEUM PIPELINES ALONG LA BREA ALIGNMENT ALTERNATIVE

Source: Connect Los Angeles Partners 2023

EDUCATIONAL FACILITIES

The La Brea Alignment Alternative has 20 educational facilities within its 0.25-mile RSA, as shown in Table 5-6 and Figure 5-36. In cases where the map ID numbers in the table are not consecutive, it is because those facilities are identified on another alignment alternative.

TABLE 5-6. EDUCATIONAL FACILITIES ALONG LA BREA ALIGNMENT ALTERNATIVE

MAP ID	NAME	ADDRESS
1	Virginia Road Elementary School	2925 Virginia Road, Los Angeles
2	ISANA Nascent Academy	3417 W Jefferson Boulevard, Los Angeles
3	Montessori Academy of West Adams	4449 W Adams Boulevard, Los Angeles
4	Alta Loma Elementary School	1745 Vineyard Avenue, Los Angeles
5	Pico Preschool	4436 W Pico Boulevard, Los Angeles
22	Yeshiva Gedolah of Los Angeles	5444 W Olympic Boulevard, Los Angeles
23	Awaken Dreams Creative Learning Center	5555 W Olympic Boulevard, Los Angeles
24	Wilshire Crest Elementary School	5241 W Olympic Boulevard, Los Angeles
25	Cathedral Chapel School	755 S Cochran Avenue, Los Angeles
26	Ohr Eliyahu Academy (Yeshiva Aharon Yaakov Ohr Eliyahu)	241 S Detroit Street, Los Angeles
27	Yeshiva Rav Isacsohn/Toras Emes Academy	540 N La Brea Avenue, Los Angeles
28	Melrose Avenue Math/Science/Technology Magnet	731 N Detroit Street, Los Angeles
29	Yeshiva Ohr Elchonon Chabad	7215 Waring Avenue, Los Angeles
30	Cheder of Los Angeles	801 N La Brea Avenue, Los Angeles
31	Hollywood Schoolhouse	1233 North McCadden Place, Los Angeles
32	Hollywood High School	1521 N Highland Avenue, Los Angeles
33	Little Paws Montessori	1341 N Mansfield Avenue, Los Angeles
34	Sunset Montessori Preschool	1432 N Sycamore Avenue, Los Angeles
35	Selma Avenue Elementary School	6611 Selma Avenue, Los Angeles
36	The Oaks School	6817 Franklin Avenue, Los Angeles

Source: California Department of Education n.d.; Google Maps, 2023

FIGURE 5-36. EDUCATIONAL FACILITIES ALONG LA BREA ALIGNMENT ALTERNATIVE

Source: California Department of Education n.d.

AIRPORTS

The La Brea Alignment Alternative would not be situated within two miles of an airport.

WILDLAND FIRES

The La Brea Alignment Alternative would not be situated within a wildland fire zone.

5.2.2 HOLLYWOOD BOWL DESIGN OPTION

REC SITES

The Limited Phase I ESA (Connect Los Angeles Partners 2023a) identified one REC site within the RSA of the design option; this facility was also part of the primary alignment alternatives. This site is not on the Cortese list. This facility is identified on Table 5-1 and shown in Figure 5-14. Detailed information regarding this facility is presented below.

REC #27: HOLLYWOOD HILLS CLEANERS

This site is a closed CPS. This site is developed with a retail strip mall, which includes a dry-cleaning tenant. The EDR Historical Cleaner database indicates that a dry cleaner has been located at this property since at least 1993. The CPS-SLIC database reports that a release of VOCs occurred at this site and no further action is required. Based on information reviewed in the online GeoTracker database, subsurface investigations identified PCE in soil and groundwater and the detected concentration in groundwater was slightly above regulatory thresholds. Based on this information, the site was closed as a "Low Risk" case in 1998 and no further action was required. Although regulatory closure has been issued for the site, based on the proximity (adjacent), continued use of the site for dry-cleaning operations, and detections of PCE in groundwater at concentrations above regulatory thresholds at the time of closure, this site is considered a REC.

AERIALLY DEPOSITED LEAD

The station planned to be associated with the design option is located along Highland Avenue in proximity to the US-101 freeway. ADL may be present in the shallow soils at the station location, at the location of the double crossover tracks, and on the properties slated for acquisition for station entrances or for construction staging. The remainder of the design option would be situated at greater depths, and soils at those depths will not have been exposed to ADL.

LEAD-BASED PAINT

No structures exist on the properties planned for acquisition to accommodate the station entrance(s) and/or the construction staging areas; therefore, LBP is not a concern for the design option.

ASBESTOS-CONTAINING MATERIALS

No structures exist on the properties planned for acquisition to accommodate the station entrance(s) and/or the construction staging areas; therefore, ACM is not a concern for the design option.

POLYCHLORINATED BIPHENYLS

No electrical transformers or hydraulic equipment exists on the properties planned for acquisition to accommodate the station entrance(s) and/or the construction staging areas; therefore, PCBs are not a concern for the Hollywood Bowl Design Option.

PESTICIDES

No agricultural activities are known to have occurred along the Hollywood Bowl Design Option ; therefore, pesticides are not a concern.

OIL/GAS FIELDS

The Hollywood Bowl Design Option does not pass through an oil and gas field.

PETROLEUM PIPELINES

The Hollywood Bowl Design Option does not intersect with any petroleum pipelines.

RAILROADS

The Hollywood Bowl Design Option does not intersect with any railroad lines.

EDUCATIONAL FACILITIES

The Hollywood Bowl Design Option has one educational facility within its 0.25-mile RSA. This facility is The Oaks School at 6817 Franklin Avenue, Los Angeles; the location is shown in Table 5-1 and on Figure 5-14. This facility is also included in the alignment alternatives RSA.

AIRPORTS

The Hollywood Bowl Design Option would not be situated within two miles of an airport.

WILDLAND FIRES

The Hollywood Bowl Design Option would be situated within a wildland fire zone. The entire design option north of Franklin Street would be within the fire zone, which has a very high fire severity; however, with the exception of the proposed station entrance(s), this portion of the Project would be underground.

5.2.3 MAINTENANCE AND STORAGE FACILITY

The Project would include construction and operation of an MSF to maintain and store light rail vehicles. The MSF would serve as a base of rail operations and functions for the rail alignment. Rail operations and functions at the yard may include, but not be limited to, rail fleet services (vehicles storage, maintenance, and repair), rail transportation (train operators services), and maintenance-of-way (equipment and materials storage, maintenance, and repair). The majority of the MSF RSA is located in the City of Los Angeles, but a small part of the RSA northeast of the MSF is located in the City of Inglewood.

REC SITES

The Limited Phase I ESA identified nine RECs within the RSA of the MSF; two of these sites are on the Cortese list. These facilities are identified on Table 5-7 and the location of each is depicted on Figure 5-37. In cases where the map ID numbers in the table are not consecutive, it is because those sites are not relevant to the MSF or because those parcels were not identified as RECs. Detailed information regarding each of the REC sites is presented below the table and figure.

REC SITE #23, 24, AND 25: FORMER NEUTROGENA

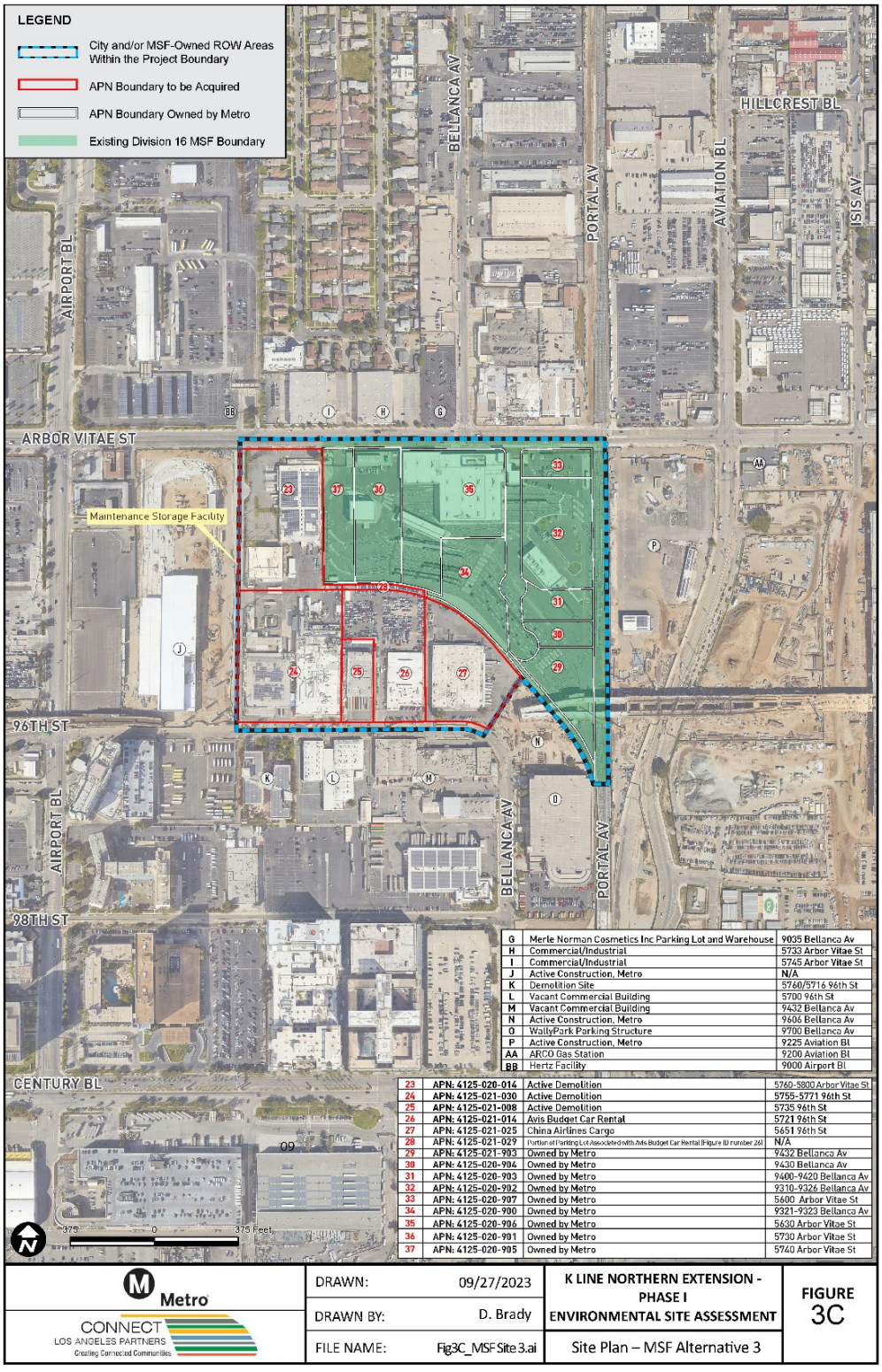
These parcels are part of the former Neutrogena facility and were historically occupied by "Los Angeles AFS Annex No. 1", which is listed in the Formerly Used Defense Sites database (FUDS Number: J09CA0453). The FUDS database reported that this site was historically used by the Air Force between 1955 and 1975 as a printing plant and as headquarters for the Space and Missile Systems Organization. In 1975, a portion of the site was disposed to the General Services Administration and then assigned to the Health, Education, and Welfare Department who transferred it to Northrop University in 1977. The remaining portion was purchased by Northrop University in 1984. The FUDS database indicates that two USTs were formerly used at this site (one 2,000 gallon and one 4,000 gallon), which had been removed by Neutrogena and soil sampling conducted. The parcels included in the investigation are known as the former Johnson & Johnson Consumer Inc. facility, which totals approximately 19 acres in size, and includes 5760-5800 Arbor Vitae Street (Figure ID number 23); 5755-5771 West 96th Street (Figure ID number 24); 5735 West 96th Street (Figure ID number 25); and the following off-site properties: 5760 West 96th Street (south side of 96th Street), and 5705, 5707, and 5733 West 98th Street (further to the south). Based on information reviewed on the DTSC's online EnviroStor database, this portion of the former Johnson & Johnson Consumer Inc. facility (Figure ID number 23) was historically used for offices, classrooms, soap manufacturing, warehousing, packaging, and research and development and included one 4,000-gallon diesel UST, one 2,000-gallon diesel UST, and hazardous materials staging area(s). Subsurface investigations conducted on this parcel as part of the large facility investigation beginning in 2020 have identified elevated concentrations of benzene, PCE, and TCE in soil vapor to depths of 15 feet bgs above screening levels. DTSC is requiring Johnson & Johnson Consumer Inc. to perform additional investigations to evaluate the extent of impacts to soil, soil vapor, and groundwater. Based on the required ongoing investigations and known impacts, this site is considered a REC.

TABLE 5-7. REC SITES FOR THE MSF

MAP ID	PARCEL #	CASE STATUS	NAME	ADDRESS
23/24/25/K	APN 4125-020-014 APN 4125-021-030 APN 4125-021-008 APN 4125-021-011	No Case Exists	**LA Airport Industrial Owner LP/ Neutrogena Research & Development**/Neutrogena Manufacturing/ Neutrogena/ Johnson & Johnson Consumer-Los Angeles Facility; Neutrogena Corporation	5760-5800 Arbor Vitae Street, Los Angeles, 5755-5771 West 96th Street, Los Angeles
26	APN 4125-021-014	No Case Exists	Avis Rent A Car System, LLC/ Grand Rent A Car DBA Avis RAC/ Dent Wizard International	5721 West 96th Street, Los Angeles
27	APN 4125-021-025	No Case Exists	Airborne Freight Corporation/ Airborne Express	5651 West 96th Street, Los Angeles
29	APN 4125-021-007	No Case Exists	Gourmet Logistics; Flying Tiger Line Inc.; LA County MTA	9432 Bellanca Avenue, Los Angeles
32	APN 4125-020-902	No Case Exists	ASG Forwarding Inc./ Jonas & Associates/ Blanca Air Freight LTD Partner /Tokyo Air-Cargo America Inc./ Allan Jones/ Dollar Rent A Car Parking Lot	9310-9326 Bellanca Avenue, Los Angeles
33	APN 4125-020-005	No Case Exists	**Former King Delivery, Inc.; LACMTA Division 16**	5600 Arbor Vitae, Westchester
34	APN 4125-020-900	No Case Exists	Western Federal Credit Union/ Ace Janitorial Supply Company	9321-9323 Bellanca Avenue, Los Angeles
35	APN 4125-020-003	No Case Exists	Dollar Rent-A-Car/ LA County Metro Transportation Authority (LACMTA)/ LACMTA Division 16	5630 Arbor Vitae Street, Los Angeles
P	APN 4128-001-007	Open	Hertz Rent-A-Car (1198-77)/ Hertz Corporation; Condon Johnson/ Garrett Airsearch-Arbor Vitae/ Honeywell International Inc./ Garret Thermal System	9225 Aviation Boulevard, Los Angeles

Sites in **bold** text are on the Cortese list.
Source: Connect Los Angeles Partners 2023b

FIGURE 5-37. REC SITES FOR THE MSF



Source: Connect Los Angeles Partners 2023b

REC SITE #26: AVIS BUDGET CAR RENTAL

This parcel (APN 4125-021-014) appears to be currently occupied by Avis Budget car rental. Avis Rent-A-Car System, LLC is listed in the UST database with an inactive status, in the RCRA database as a verified non-generator of hazardous waste in 1991 with no violations reported, in the CERS database in the Hazardous Waste Generator, Aboveground Petroleum Storage, and Chemical Storage Facilities regulatory programs, and in the HAZNET and HWTS database for the generation of state-regulated hazardous wastes beginning in 1991. Dent Wizard International was also verified in the RCRA database as a non-generator of hazardous waste in 2010 with no violations reported. Grand Rent-A-Car, dba Avis Rent-A-Car, was classified as a small quantity generator in the RCRA database in 1992 with no violations reported, in the AST and HAZMAT databases with an active status, in the CERS database in the Hazardous Waste Generator regulatory program, in the UST databases with at least two former tanks, and in the HAZNET and HWTS databases for the generation of state-regulated hazardous wastes between 1987 and 2000. Violations were noted in the CERS database at the time of the most recent inspection in 2021, which were reported to have been returned to compliance. According to historical records reviewed, a commercial or industrial building was present on this property as early as the 1950s. No details regarding chemical use and storage prior to current regulatory requirements were identified. Therefore, these listings are considered a REC.

REC SITE #27: CHINA AIRLINES CARGO

This parcel (APN 4125-021-025) appears to be currently occupied by China Airlines Cargo. Airborne was identified in the UST databases with a historical status for at least three former tanks. The Waste Discharge System database listing is related to waste discharge requirements. According to historical records reviewed, a commercial or industrial building was present on this property as early as the 1960s. No details regarding chemical use and storage prior to current regulatory requirements were identified. Therefore, these listings are considered a REC.

REC SITE #29: GOURMET LOGISTICS

This parcel is part of part of Metro's Division 16 Facility. Gourmet Logistics is identified in the UST database with no tank information reported. The permitting agency is identified as LAFD. Flying Tiger Line Inc. is identified in the UST databases with an inactive status and in the HAZNET and HWTS databases for the generation of state-regulated hazardous wastes between 2017 and 2018. Metro is identified in the HAZMAT database with an inactive status. Because this site is listed in the UST database and no additional information is available, this site is a REC.

REC SITE #32: ASG FORWARDING INC.

This parcel is part of part of Metro's Division 16 Facility. ASG Forwarding Inc., Jonas & Associates, Tokyo Air-Cargo America Inc., and Dollar Rent A Car Parking Lot are identified in the HAZMAT database with an inactive status. Allan Jones is identified in the UST databases with an active status and Blanca Air Freight LTD Partner with an inactive status. No tank specifics are reported. Because this site is listed in the UST database and no additional information is available, this site is a REC.

REC SITE #33: FORMER KING DELIVERY, INC.

This parcel is part of part of Metro's Division 16 Facility (northeast corner). Former King Delivery, Inc. identified as an open LUST case (Case No. 900450143) as of 2016 with a "Remediation" status. The LUST database reports that a release of gasoline to an "aquifer used for drinking water supply" was discovered in 1988. Based on information reviewed on the online GeoTracker database, King Delivery operated a freight distribution warehouse facility at the site from approximately 1968 to 1987 and operation included the use of two USTs (gasoline and diesel), which were removed in 1987. Subsequent investigations revealed impacts to soil, soil gas, and groundwater. Remedial actions have included SVE and groundwater remediation using in-situ chemical oxidation. Groundwater beneath the King Delivery site is affected by gasoline and diesel compounds, namely benzene, as a result of a former leaking UST and has comingled with the adjoining former Honeywell facility (Figure ID numbers 22 and P) which is affected by chlorinated solvents. Groundwater remediation at the King Delivery site was postponed due to Metro's construction and redevelopment activities of the Division 16 Facility. Upon completion, the remedial approach was supposed to be re-evaluated and in the interim semi-annual groundwater monitoring was to be continued. The most recent groundwater monitoring report available on GeoTracker is dated 2021 and at the time groundwater was detected at approximately 93 feet bgs with a flow direction to the east-northeast. Therefore, these listings are considered a REC.

REC SITE #34: WESTERN FEDERAL CREDIT UNION

This parcel is part of part of Metro's Division 16 Facility. Western Federal Credit Union is identified in the UST and HAZMAT databases with an inactive status. Ace Janitorial Supply Company is identified in the HAZMAT databases with an inactive status. Because this site is listed in the UST database and no additional information is available, this site is a REC.

REC SITE #35: DOLLAR RENT-A-CAR

This parcel is part of part of Metro's Division 16 Facility. Dollar Rent-A-Car is identified in the UST and SWEEPS UST databases, the HAZNET and HWTS databases for the generation of state-regulated hazardous waste in 2015, the RCRA database as a SQG in 2001 with no violations reported, and the HAZMAT database with an inactive status. Metro is identified in the AST and HAZMAT databases with an inactive status, in National Pollutant Discharge Elimination System and California Integrated Water Quality System databases related to industrial stormwater discharges, and the RCRA database as a verified non-generator in 2019 with no violations reported. Because this site is listed in the UST database and no additional information is available, this site is a REC.

REC SITE #P: HERTZ RENT-A-CAR

This property appears to currently be under redevelopment as part of the Airport Metro Connector at the 96th Street Transit Station. Honeywell International Inc. (Honeywell) is listed as an open CPS case (Case No. 0379) with a "Remediation" status as of 2016. Based on information reviewed on the online GeoTracker database, this property was historically occupied by an aerospace manufacturing facility for the production of turbochargers and heat exchangers for aircraft and other vehicles in the mid-1950s to early 1990s, which included the use of four industrial buildings, USTs, solvent degreasers, and

clarifiers. These former features were demolished in the mid-1990s when the property was sold to Hertz and redeveloped into a receiving yard for rental vehicles, which also included routine vehicle maintenance and car washing. In late 2019, the site was acquired by Metro, which is redeveloping the site as a regional transportation hub that will link Metro's bus and light rail system to LAX. Honeywell retains environmental liability for remediation of the site as a result of their former on-site operations and the use of chlorinated solvents. Former aerospace operations resulted in impacts to soil, soil vapor, and groundwater with halogenated VOCs including PCE, TCE, 1,1-dichloroethene, and 1,4-dioxane. Petroleum hydrocarbons including BTEX are also present in groundwater which were attributed to an off-site upgradient source (Former King Delivery Inc. at 5600 Arbor Vitae Street, currently part of the Metro's Division 16 Facility). The site has been under environmental investigation since the late 1980s. Remedial actions have included groundwater monitoring between 1993 and 2018 and operation of a SVE system between 2002 and 2018. The SVE system and groundwater monitoring wells were decommissioned in 2019 due to redevelopment activities. During the most recent groundwater monitoring event in 2019, groundwater was measured at depths between approximately 59 and 94 feet bgs. At that time, VOCs and 1,4-dioxane remained present in groundwater above regulatory screening levels. Redevelopment of the site will include a vapor intrusion mitigation system including vapor barriers and passive ventilation systems for the proposed buildings. However, according to a letter from the RWQCB dated February 4, 2021, regarding Review of Site Decommissioning and Soil Vapor Extraction System Completion Report prepared by Wood Environment & Infrastructure Solutions, Inc. on behalf of Honeywell dated April 6, 2020, additional soil vapor monitoring and vadose zone remediation are necessary following redevelopment activities at the site. In addition, Honeywell will be required to develop and submit a workplan for groundwater investigation on-site and off-site and the replacement of groundwater monitoring wells as necessary three months following the completion of site redevelopment by Metro. It is anticipated that redevelopment activities by Metro will be completed in fall of 2024. Based on this information, this parcel is considered a REC.

AERIALLY DEPOSITED LEAD

The MSF is bounded by 96th Street on the south and West Arbor Vitae Street on the north. ADL may be present in the shallow soils on the properties slated for acquisition for the MSF.

LEAD-BASED PAINT

Several structures exist on the properties planned for acquisition on the MSF; most of these structures have been present since at least the 1960s, and some as early as the 1950s. The potential exists for these structures to contain LBP.

ASBESTOS-CONTAINING MATERIALS

Several structures exist on the properties planned for acquisition on the MSF; most of these structures have been present since at least the 1960s, and some as early as the 1950s. The potential exists for these structures to contain ACM.

POLYCHLORINATED BIPHENYLS

Several commercial or industrial structures exist on the properties planned for acquisition of the MSF; most of these structures have been present since at least the 1960s, and some as early as the 1950s. The potential exists for these structures to have equipment that contains PCBs.

PESTICIDES

The MSF appeared to have been used for agricultural purposes until about 1950. It is likely that pesticides were regularly applied to the property for many years, making it likely that residual pesticides could be present in the soils on the MSF.

OIL/GAS FIELDS

The MSF is not within an oil and gas field.

PETROLEUM PIPELINES

The MSF is bounded along the north and east sides by two different natural gas transmission pipelines as shown on Figure 5-38. No accidents or incidents were reported along these pipelines near the MSF as of February 23, 2023.

RAILROADS

The MSF is bounded along the east side by a railroad line, and multiple spur lines are situated within the Division 16 property which is a part of the MSF.

EDUCATIONAL FACILITIES

The MSF has no educational facilities within its 0.25-mile RSA.

AIRPORTS

The MSF would be situated within two miles (northeast) of the LAX airport.

WILDLAND FIRES

The MSF would not be situated within a wildland fire zone.

FIGURE 5-38. PETROLEUM PIPELINES AROUND THE MSF

Source: Connect Los Angeles Partners 2023

CHAPTER 6 IMPACTS AND MITIGATION MEASURES

6.1 IMPACT ANALYSIS

This section presents the evaluation of impacts of the hazards and hazardous materials discussed in Chapter 5, as well as the corresponding mitigation measures, where applicable. Both construction and operational impacts are evaluated. Table 6-1 in Section 6.1.9 provides a summary of the impact conclusions.

Project measures are design features, best management practices, or other commitments that Metro implements as part of all alignment alternatives and stations, the design option, and the MSF to reduce or avoid environmental effects associated with the Project. Project measures are not the same as mitigation measures, which are used to reduce an environmental impact's significance level. Where applicable, project measures are identified here as part of the evaluation of environmental impacts in this chapter.

6.1.1 PM HAZ-1: RISK REDUCTION FOR SUBSURFACE GAS

The following construction approaches are implemented on Metro projects and will reduce risk associated with hazardous materials, in particular related to the risks associated with subsurface gas:

- Hazardous Gases: Methane in air is explosive in the range of concentration from 15 percent to five percent by volume. Very high concentrations of methane are not explosive; however, when diluted by air the mixture can readily become explosive. The level of five percent methane in air is termed the lower explosive limit (LEL), and below five percent methane in air does not ignite. Safety protocols typically require dilution of methane to 1/10th of the LEL.
- Monitoring and Recording of Air Quality at Worksites: Monitoring and recording of air quality within the underground worksites will be conducted. In areas of gassy soil conditions, air will be continuously monitored and recorded. Construction will be altered as required to maintain a safe working atmosphere. The working environment will be kept in compliance with federal, state, and local regulations, including South Coast Air Quality Management District and Cal/OSHA standards.
- Techniques to Lower the Risk of Exposure to Methane and Hydrogen Sulfide: The primary method for reducing exposure to subsurface gases during tunneling is dilution through the ventilation system. In areas where high levels of hazardous gas are encountered, several additional techniques could be used to lower the risk of exposure. These include isolation of gas from the tunnel environment through use of enclosed tunneling systems such as pressurized-face TBMs, which is mandatory for use on all Metro soft-ground tunnel projects. Where earth pressure balance TBMs are used, a measure to manage hazardous off-gassing from tunnel muck on conveyors is to fully enclose the conveyor from the TBM back to the work shaft. This approach would safely discharge any hazardous gases to the atmosphere outside the tunnel. Increased ventilation capacity and possibly slower rates of tunneling could assist with dilution of gas concentrations to safe levels as defined by Cal/OSHA. Secondary

measures for reduction in hydrogen sulfide levels could include pre-treatment of groundwater containing hydrogen sulfide by displacing and oxidation of the hydrogen sulfide by injecting water (possibly containing dilute hydrogen peroxide) into the ground and groundwater in advance of the tunnel excavation. This "in-situ oxidation" method reduces hydrogen sulfide levels even before the ground is excavated. Air injection and gas extraction techniques have also been used to oxidize hydrogen sulfide in advance of tunneling. These methods may also be implemented at tunnel-to-station connections or at cross-passage excavation areas. If slurry-face TBMs are used, the excavated soil with the hazardous gases is transported to the ground surface in a slurry pipeline. When needed to reduce hydrogen sulfide to safe levels for slurry treatment, additives could be mixed with the bentonite (clay) slurry during the tunneling and/or prior to discharge into the slurry separation plant. Following petroleum industry practices with hydrogen sulfide gas in drilling mud, the hydrogen sulfide would be oxidized by injection of hydrogen peroxide. In all cases, air quality standards would comply with Cal/OSHA requirements for a safe working environment.

- Oil Well Locations and Abandonment: In areas where historic oil wells have been documented, pre-construction geophysical (magnetic) surveys will be conducted to more precisely detect the locations of oil wells. It is anticipated that the geophysical surveys will be performed along the proposed tunnel alignment prior to construction in the areas of known oil production and mapped wells. Detection of oil wells will include use of magnetic devices (magnetometers) to sense oil well casings within the tunnel alignment. This survey could also use techniques such as ground-penetrating radar and electromagnetic testing procedures to screen for oil well casings and other suspected subsurface obstructions along the tunnel. These methods could be initiated from the ground surface, in horizontal holes drilled using horizontal directional drilling techniques, or a combination of methods. Shallow excavations may be made to expose and observe anomalies that are detected. Where the tunnel alignment cannot be adjusted to avoid a well casing, CalGEM will be contacted to determine the appropriate method to re-abandon the well. Oil well abandonment must proceed in accordance with California Laws for Conservation of Petroleum and Gas (1997), Division 3. Oil and gas, Chapter 1. Oil and Gas Conservation, Article 4, Sections 3228, 3229, 3230, and 3232. The requirements include written notification to CalGEM, protection of adjacent property, and before commencing any work to abandon any well, obtaining approval by CalGEM. Abandonment work, including sealing off oil/gas bearing units, pressure grouting, etc., must be performed by a state-licensed contractor under the regulatory oversight and approval of CalGEM. During construction, if an unknown well is encountered, the contractor will notify Metro, Cal/OSHA, and DOGGR for well abandonment, and proceed in accordance with state requirements. See Appendix A for further information.
- Worker Safety for Gassy Tunnels: Cal/OSHA requires the use of W65 self-rescuers, a breathing apparatus required for safety during evacuation of fires.
- Gas Monitoring – Assessment: Gas monitoring wells will be installed along the alignment alternative during the preliminary geotechnical investigations. Additional multistage (varying depths) soil gas wells (or probes) will be installed along the alignment in areas where elevated gas has been detected. The probes will be monitored for methane, hydrogen sulfide, oxygen,

and carbon dioxide before, during, and after tunneling. Ambient air monitoring will also be performed at the ground surface to screen for indications of soil gas emissions. Any instance where methane is detected at or above a concentration of 5,500 parts per million (ppm) (10 percent LEL) or hydrogen sulfide is detected at or above a concentration of 20 ppm (OSHA PEL) in a soil probe (five feet below the ground surface) will be investigated. Where these levels are exceeded, combustible gas monitoring will be performed in the interior of the closest building. In the unlikely event that elevated gas levels are found—and persist—the affected building(s) will be ventilated to reduce the gas levels.

During design, construction, and operations, Metro will implement the following measures to further reduce risks associated with subsurface gas:

- Metro Rail Design Criteria (MRDC) has comprehensive and proven requirements for mitigating, to the point of practically eliminating, the hazard of subsurface gases. Elements of the MRDC are elaborated below.
- Hazardous Subsurface Gas Operations: As with the existing B (Red) and D (Purple) Lines, K (Crenshaw/LAX) Line, and Regional Connector, as well as the planned Metro E (Gold) Line Eastside Extension, Metro will install gas monitoring and detection systems with alarms, as well as ventilation equipment to dissipate gas to safe levels according to Metro's current design criteria and Cal/OSHA standards for a safe work or operating environment. Measures will include, but are not limited to, the following for both tunnel and station operation:
  - High volume ventilation systems with back-up power sources
  - Gas detection systems with alarms
  - Emergency ventilation triggered by the gas detection systems
  - Automatic equipment shut-off
  - Maintenance and operations personnel training
  - Emergency Ventilation Operating Procedures (EVOP) established during design to operate emergency ventilation that is customized to the specifics of each underground transit line
  - Gas detection instrumentation is set to send alarms to activate ventilation systems and evacuate the structures as follows: methane gas—minor alarm at 10 percent of the LEL (activate ventilation) and major alarms at 20 percent of the LEL (evacuation of area)
  - Hydrogen sulfide—Minor alarm at eight ppm and major alarm at 10 ppm
- Hazardous Subsurface Gas Structural Design: Tunnels and stations will be designed to provide a redundant protection system against gas intrusion hazard. The primary protection from hazardous gases during operations is provided by the physical barriers (tunnel and station liner membranes) that keep gas out of tunnels and stations. High density polyethene (HDPE) is impermeable to and non-soluble in methane and hydrogen sulfide. As with the existing Metro B and D Lines and Regional Connector, as well as the planned Metro E Line Eastside Extension, tunnels and stations will be designed to exclude gas to below alarm levels and include gas monitoring and detection systems with alarms, as well as ventilation equipment to dissipate gas. At stations in elevated gassy ground (e.g., Wilshire/Fairfax), construction could be accomplished using slurry walls—or similar methods such as continuous drilled piles—to provide a reduction of gas inflow both during and after construction than would occur with

conventional soldier piles and lagging excavation support. Other station design concepts to reduce gas and water leakage are the use of additional barriers, compartmentalized barriers to facilitate leak sealing, and flexible sealants such as poly-rubber gels, along with high-density polyethylene-type materials used on Metro's underground stations. Consideration of secondary station walls to provide additional barriers or an active system (low- or high-pressure barrier) will also be studied further to determine if they will be incorporated into the Project.

- Tunnel Advisory Panel Design Review: The Metro Tunnel Advisory Panel will review designs with respect to geologic hazards in areas of identified higher risk. The panel will be supplemented, as necessary, by qualified experts in seismic design, gas intrusion, and ground contaminant effects on underground structures.

See Appendix A for further information.

6.1.2 IMPACT HAZ-1: HAZARDS FROM ROUTINE TRANSPORT, USE, OR DISPOSAL OF HAZARDOUS MATERIALS

Impact HAZ-1: Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

6.1.2.1 ALIGNMENT ALTERNATIVE 1: SAN VICENTE-FAIRFAX

CONSTRUCTION IMPACTS

Less Than Significant Impact. Construction of the San Vicente-Fairfax Alignment Alternative would temporarily increase the regional transport, use, and disposal of hazardous materials and petroleum products such as diesel fuel, lubricants, paints and solvents, and cement products containing strong basic or acidic chemicals. Some of these materials would be temporarily stored on site, but storage would be consistent with the guidelines established by manufacturers' recommendations and with the requirements of state and federal law. In addition, hazardous waste generated during construction could include welding materials, fuel and lubricant containers, paint and solvent containers, and cement products.

Demolition of structures containing asbestos and lead-based materials requires specialized procedures and equipment and appropriately certified personnel. Structures intended for demolition would be surveyed for ACMs and lead during the property acquisition phase. A site-specific Phase I ESA would be conducted for each property to be acquired, and if the property has a structure that needs to be demolished, a hazardous materials building survey (including ACM and LBP evaluations) would be undertaken. For structures with ACM or LBP identified, a demolition plan would be prepared specifying how to appropriately contain, remove, and dispose of the asbestos- and lead-containing material while meeting regulatory requirements and best management practices (BMPs) to protect human health and the environment.

Construction procedures would be established through preparation of a material management plan to limit the potential release of subsurface contaminants, reduce risks associated with disturbing

undocumented contaminated soil, and reduce the risk of hazardous material spills during transport. Details and content of the plan would be specified in the contract documents; the plan would be prepared prior to initiation of construction activities. Contaminated soil and/or groundwater or other wastes would be appropriately containerized for safe transport to a licensed disposal facility. Each load of waste or contaminated material would be manifested for tracking purposes and transported to the appropriate disposal facility by a licensed waste hauler in accordance with the federal, state, and local regulatory requirements, outlined in Chapter 3.

As described above, construction of the San Vicente-Fairfax Alignment Alternative would be required to comply with existing federal, state, and local regulations pertaining to routine transport, use, or disposal of hazardous materials. Therefore, construction activities associated with the San Vicente-Fairfax Alignment Alternative would not create a significant hazard to the public or the environment, and the impact would be a less than significant.

OPERATIONAL IMPACTS

Less Than Significant Impact. Operation of the San Vicente-Fairfax Alignment Alternative would involve the transport, use, and disposal of small quantities of hazardous materials such as lubricants, fuel, paints and solvents, or caulk associated with the routine maintenance of stations and other facilities. Maintenance vehicles used for regular inspections and equipment used for occasional repairs or reinforcements would also employ potentially hazardous materials such as paints, fuels, and lubricants. Any hazardous materials or wastes generated during operations would be managed and disposed in accordance with local, state, and federal regulations as outlined in Chapter 3. Each load of waste or contaminated material would be manifested for tracking purposes and transported to the appropriate disposal facility by a licensed waste hauler. Therefore, operation of the San Vicente-Fairfax Alignment Alternative would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and the operational impact would be less than significant.

6.1.2.2 ALIGNMENT ALTERNATIVE 2: FAIRFAX

CONSTRUCTION IMPACTS

Less Than Significant Impact. Construction of the Fairfax Alignment Alternative would temporarily increase the regional transport, use, and disposal of hazardous materials and petroleum products such as diesel fuel, lubricants, paints and solvents, and cement products containing strong basic or acidic chemicals. Some of these materials would be temporarily stored on site, but storage would be consistent with the guidelines established by manufacturers' recommendations and with the requirements of state and federal law. In addition, hazardous waste generated during construction could include welding materials, fuel and lubricant containers, paint and solvent containers, and cement products.

Demolition of structures containing asbestos and lead-based materials requires specialized procedures and equipment and appropriately certified personnel. Structures intended for demolition would be surveyed for ACMs and lead during the property acquisition phase. A site-specific Phase I ESA would

be conducted for each property to be acquired, and if the property has a structure that needs to be demolished, a hazardous materials building survey (including ACM and LBP evaluations) would be undertaken. For structures with ACM or LBP identified, a demolition plan would be prepared specifying how to appropriately contain, remove, and dispose of the asbestos- and lead-containing material while meeting regulatory requirements and best management practices (BMPs) to protect human health and the environment.

Construction procedures would be established through preparation of a material management plan to limit the potential release of subsurface contaminants, reduce risks associated with disturbing undocumented contaminated soil, and reduce the risk of hazardous material spills during transport. Details and content of the plan would be specified in the contract documents; the plan would be prepared prior to initiation of construction activities. Contaminated soil and/or groundwater or other wastes would be appropriately containerized for safe transport to a licensed disposal facility. Each load of waste or contaminated material would be manifested for tracking purposes and transported to the appropriate disposal facility by a licensed waste hauler in accordance with the federal, state, and local regulatory requirements outlined in Chapter 3.

As described above, construction of the Fairfax Alignment Alternative would be required to comply with existing federal, state, and local regulations pertaining to routine transport, use, or disposal of hazardous materials. Therefore, construction activities associated with the Fairfax Alignment Alternative would not create a significant hazard to the public or the environment, and the impact would be a less than significant.

OPERATIONAL IMPACTS

Less Than Significant Impact. Operation of the Fairfax Alignment Alternative would involve the transport, use, and disposal of small quantities of hazardous materials such as lubricants, fuel, paints and solvents, or caulk associated with the routine maintenance of stations and other facilities. Maintenance vehicles used for regular inspections and equipment used for occasional repairs or reinforcements would also employ potentially hazardous materials such as paints, fuels, and lubricants. Any hazardous materials or wastes generated during operations would be managed and disposed in accordance with local, state, and federal regulations as outlined in Chapter 3. Each load of waste or contaminated material would be manifested for tracking purposes and transported to the appropriate disposal facility by a licensed waste hauler in accordance with the federal, state, and local regulatory requirements outlined in Chapter 3. Therefore, operation of the Fairfax Alignment Alternative would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and the operational impact would be less than significant.

6.1.2.3 ALIGNMENT ALTERNATIVE 3: LA BREA

CONSTRUCTION IMPACTS

Less Than Significant Impact. Construction of the La Brea Alignment Alternative would temporarily increase the regional transport, use, and disposal of hazardous materials and petroleum products such as diesel fuel, lubricants, paints and solvents, and cement products containing strong basic or acidic chemicals. Some of these materials would be temporarily stored on site, but storage would be consistent with the guidelines established by manufacturers' recommendations and with the requirements of state and federal law. In addition, hazardous waste generated during construction could include welding materials, fuel and lubricant containers, paint and solvent containers, and cement products.

Demolition of structures containing asbestos and lead-based materials requires specialized procedures and equipment and appropriately certified personnel. Structures intended for demolition would be surveyed for ACMs and lead during the property acquisition phase. A site-specific Phase I ESA would be conducted for each property to be acquired, and if the property has a structure that needs to be demolished, a hazardous materials building survey (including ACM and LBP evaluations) would be undertaken. For structures with ACM or LBP identified, a demolition plan would be prepared specifying how to appropriately contain, remove, and dispose of the asbestos- and lead-containing material while meeting regulatory requirements and best management practices (BMPs) to protect human health and the environment.

Construction procedures would be established through preparation of a material management plan to limit the potential release of subsurface contaminants, reduce risks associated with disturbing undocumented contaminated soil, and reduce the risk of hazardous material spills during transport. Details and content of the plan would be specified in the contract documents; the plan would be prepared prior to initiation of construction activities. Contaminated soil and/or groundwater or other wastes would be appropriately containerized for safe transport to a licensed disposal facility. Each load of waste or contaminated material would be manifested for tracking purposes and transported to the appropriate disposal facility by a licensed waste hauler in accordance with the federal, state, and local regulatory requirements outlined in Chapter 3.

As described above, construction of the La Brea Alignment Alternative would be required to comply with existing federal, state, and local regulations pertaining to routine transport, use, or disposal of hazardous materials. Therefore, construction activities associated with the La Brea Alignment Alternative would not create a significant hazard to the public or the environment, and the impact would be a less than significant.

OPERATIONAL IMPACTS

Less Than Significant Impact. Operation of the La Brea Alignment Alternative would involve the transport, use, and disposal of small quantities of hazardous materials such as lubricants, fuel, paints and solvents, or caulk associated with the routine maintenance of stations and other facilities. Maintenance vehicles used for regular inspections and equipment used for occasional repairs or

reinforcements would also employ potentially hazardous materials such as paints, fuels, and lubricants. Any hazardous materials or wastes generated during operations would be managed and disposed in accordance with local, state, and federal regulations as outlined in Chapter 3. Each load of waste or contaminated material would be manifested for tracking purposes and transported to the appropriate disposal facility by a licensed waste hauler in accordance with the federal, state, and local regulatory requirements outlined in Chapter 3. Therefore, operation of the La Brea Alignment Alternative would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and the operational impact would be less than significant.

6.1.2.4 HOLLYWOOD BOWL DESIGN OPTION

CONSTRUCTION IMPACTS

Less Than Significant Impact. Construction of the Hollywood Bowl Design Option would temporarily increase the regional transport, use, and disposal of hazardous materials and petroleum products such as diesel fuel, lubricants, paints and solvents, and cement products containing strong basic or acidic chemicals. Some of these materials would be temporarily stored on site, but storage would be consistent with the guidelines established by manufacturers' recommendations and with the requirements of state and federal law. In addition, hazardous waste generated during construction could include welding materials, fuel and lubricant containers, paint and solvent containers, and cement products.

Demolition of structures containing asbestos and lead-based materials requires specialized procedures and equipment and appropriately certified personnel. Structures intended for demolition would be surveyed for ACMs and lead during the property acquisition phase. A site-specific Phase I ESA would be conducted for each property to be acquired, and if the property has a structure that needs to be demolished, a hazardous materials building survey (including ACM and LBP evaluations) would be undertaken. For structures with ACM or LBP identified, a demolition plan would be prepared specifying how to appropriately contain, remove, and dispose of the asbestos- and lead-containing material while meeting regulatory requirements and best management practices (BMPs) to protect human health and the environment.

Construction procedures would be established through preparation of a material management plan to limit the potential release of subsurface contaminants, reduce risks associated with disturbing undocumented contaminated soil, and reduce the risk of hazardous material spills during transport. Details and content of the plan would be specified in the contract documents; the plan would be prepared prior to initiation of construction activities. Contaminated soil and/or groundwater or other wastes would be appropriately containerized for safe transport to a licensed disposal facility. Each load of waste or contaminated material would be manifested for tracking purposes and transported to the appropriate disposal facility by a licensed waste hauler in accordance with the federal, state, and local regulatory requirements outlined in Chapter 3.

As described above, construction of the Hollywood Bowl Design Option would be required to comply with existing federal, state, and local regulations pertaining to routine transport, use, or disposal of hazardous materials. Therefore, construction activities associated with the design option would not create a significant hazard to the public or the environment, and the impact would be a less than significant.

OPERATIONAL IMPACTS

Less Than Significant Impact. Operation of the Hollywood Bowl Design Option would involve the transport, use, and disposal of small quantities of hazardous materials such as lubricants, fuel, paints and solvents, or caulk associated with the routine maintenance of stations and other facilities. Maintenance vehicles used for regular inspections and equipment used for occasional repairs or reinforcements would also employ potentially hazardous materials such as paints, fuels, and lubricants. Any hazardous materials or wastes generated during operations would be managed and disposed in accordance with local, state, and federal regulations as outlined in Chapter 3. Each load of waste or contaminated material would be manifested for tracking purposes and transported to the appropriate disposal facility by a licensed waste hauler in accordance with the federal, state, and local regulatory requirements outlined in Chapter 3. Therefore, operation of the Hollywood Bowl Design Option would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and the operational impact would be less than significant.

6.1.2.5 MAINTENANCE AND STORAGE FACILITY

CONSTRUCTION IMPACTS

Less Than Significant Impact. Construction of the MSF would temporarily increase the regional transport, use, and disposal of hazardous materials and petroleum products such as diesel fuel, lubricants, paints and solvents, and cement products containing strong basic or acidic chemicals. Some of these materials would be temporarily stored on site, but storage would be consistent with the guidelines established by manufacturers' recommendations and with the requirements of state and federal law. In addition, hazardous waste generated during construction could include welding materials, fuel and lubricant containers, paint and solvent containers, and cement products.

Demolition of structures containing asbestos and lead-based materials requires specialized procedures and equipment and appropriately certified personnel. Structures intended for demolition would be surveyed for ACMs and lead during the property acquisition phase. A site-specific Phase I ESA would be conducted for each property to be acquired, and if the property has a structure that needs to be demolished, a hazardous materials building survey (including ACM and LBP evaluations) would be undertaken. For structures with ACM or LBP identified, a demolition plan would be prepared specifying how to appropriately contain, remove, and dispose of the asbestos- and lead-containing material while meeting regulatory requirements and best management practices (BMPs) to protect human health and the environment.

Construction procedures would be established through preparation of a material management plan to limit the potential release of subsurface contaminants, reduce risks associated with disturbing undocumented contaminated soil, and reduce the risk of hazardous material spills during transport. Details and content of the plan would be specified in the contract documents; the plan would be prepared prior to initiation of construction activities. Contaminated soil and/or groundwater or other wastes would be appropriately containerized for safe transport to a licensed disposal facility. Each load of waste or contaminated material would be manifested for tracking purposes and transported to the appropriate disposal facility by a licensed waste hauler in accordance with the federal, state, and local regulatory requirements outlined in Chapter 3.

As described above, construction of the MSF would be required to comply with existing federal, state, and local regulations pertaining to routine transport, use, or disposal of hazardous materials. Therefore, construction activities associated with the MSF would not create a significant hazard to the public or the environment, and the impact would be a less than significant.

OPERATIONAL IMPACTS

Less Than Significant Impact. Operation of the MSF would involve the transport, use, and disposal of larger quantities of hazardous materials than for the alignment alternatives or design option. Maintenance, servicing, and daily cleaning of the light rail vehicles would occur at the MSF. The maintenance and repair activities may require a wide variety of substances, including cleaning chemicals, degreasers, fuels, lubricants, paints, and caulk. Materials may also be generated from these activities in greater quantities, and include spent containers for the aforementioned substances, used filters, and cleaning cloths contaminated with chemical residues. Any hazardous materials or wastes generated during operations would be managed and disposed in accordance with local, state, and federal regulations as outlined in Chapter 3. Each load of waste or contaminated material would be manifested for tracking purposes and transported to the appropriate disposal facility by a licensed waste hauler in accordance with the federal, state, and local regulatory requirements outlined in Chapter 3. Therefore, operation of the MSF would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and the operational impact would be less than significant.

6.1.3 IMPACT HAZ-2: HAZARDS DUE TO UPSET AND ACCIDENT CONDITIONS THAT INVOLVE THE RELEASE OF HAZARDOUS MATERIALS

Impact HAZ-2: Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

6.1.3.1 ALIGNMENT ALTERNATIVE 1: SAN VICENTE-FAIRFAX

CONSTRUCTION IMPACTS

Less Than Significant Impact. Construction of the San Vicente-Fairfax Alignment Alternative would temporarily increase the regional transport, use, and disposal of hazardous materials and petroleum products, such as gasoline and diesel fuel, compressed gases, lubricants, paints, solvents, and cement products containing strong basic or acidic chemicals, as well as hazardous waste generated during construction. In addition, structures that require demolition may contain ACM and LBP that would require transport and disposal. Hazardous materials could be released into the environment if there is an accident or if existing contamination is exposed during construction.

Some of the hazardous materials identified above would be temporarily stored on site, but storage would be limited to specific areas. The storage of these materials would comply with the Project guidelines established by Metro's specifications as part of Project design and with the state and federal regulatory requirements outlined in Chapter 3.

Off-site accidents could occur during transport of the hazardous materials listed above, and other material, or during transport of contaminated soil or groundwater from the cleanup of existing contaminated sites. Transport of these materials would expose individuals and the environment to off-site risks. These materials would be appropriately containerized for safe transport to a licensed disposal facility. Each load of waste or contaminated material would be manifested for tracking purposes and transported to the appropriate disposal facility by a licensed waste hauler in accordance with the federal, state, and local regulatory requirements outlined in Chapter 3. Any accidents or spills that involve hazardous materials or wastes would be promptly cleaned up in accordance with project-specific spill response and material management plans. Details and content of the plan would be specified in the contract documents; the plan would be prepared prior to initiation of construction activities.

As described above, construction of the San Vicente-Fairfax Alignment Alternative would be required to comply with existing federal, state, and local regulations pertaining to hazardous materials, as well as to Metro's guidelines. Therefore, the San Vicente-Fairfax Alignment Alternative would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, and the impact would be less than significant during construction.

OPERATIONAL IMPACTS

Less Than Significant Impact. Operation of the San Vicente-Fairfax Alignment Alternative would involve the occasional transport, use, and disposal of small quantities of hazardous materials such as lubricants, fuel, paints, solvents, and caulk associated with the routine maintenance of stations and other facilities. Maintenance vehicles used for regular inspections and equipment used for occasional repairs or reinforcements would employ small quantities of potentially hazardous materials such as paints, fuels, and lubricants. The light rail vehicles would be electric and would therefore carry no fuel, but minimal other hazardous products such as hydraulic fluids or coolants may be on board. Any

hazardous materials or wastes generated during operations would be appropriately containerized for safe transport to a licensed disposal facility. Each load of waste would be manifested for tracking purposes and transported to the appropriate disposal facility by a licensed waste hauler in accordance with the federal, state, and local regulatory requirements outlined in Chapter 3. Because of the infrequent nature of transport of these materials during the operations phase of the Project and the small quantities involved, the potential for a major hazardous materials incident or accident would be negligible. Any accidents or spills that involve hazardous materials or wastes would be promptly cleaned up in accordance with project-specific spill response and material management plans. Details and content of the plans would be specified in the contract documents; the plans would be prepared prior to initiation of construction activities. Therefore, operation of the San Vicente-Fairfax Alignment Alternative would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and the impact would be less than significant.

6.1.3.2 ALIGNMENT ALTERNATIVE 2: FAIRFAX

CONSTRUCTION IMPACTS

Less Than Significant Impact. Construction of the Fairfax Alignment Alternative would temporarily increase the regional transport, use, and disposal of hazardous materials and petroleum products, such as gasoline and diesel fuel, compressed gases, lubricants, paints, solvents, and cement products containing strong basic or acidic chemicals, as well as hazardous waste generated during construction. In addition, structures that require demolition may contain ACM and LBP that would require transport and disposal. Hazardous materials could be released into the environment if there is an accident or if existing contamination is exposed during construction.

Some of the hazardous materials identified above would be temporarily stored on site, but storage would be limited to specific areas. The storage of these materials would comply with the Project guidelines established by Metro's specifications as part of Project design and with the state and federal regulatory requirements outlined in Chapter 3.

Off-site accidents could occur during transport of the hazardous materials listed above, and other material, or during transport of contaminated soil or groundwater from the cleanup of existing contaminated sites. Transport of these materials would expose individuals and the environment to off-site risks. These materials would be appropriately containerized for safe transport to a licensed disposal facility. Each load of waste or contaminated material would be manifested for tracking purposes and transported to the appropriate disposal facility by a licensed waste hauler in accordance with the federal, state, and local regulatory requirements outlined in Chapter 3. Any accidents or spills that involve hazardous materials or wastes would be promptly cleaned up in accordance with project-specific spill response and material management plans. Details and content of the plans would be specified in the contract documents; the plans would be prepared prior to initiation of construction activities.

As described above, construction of the Fairfax Alignment Alternative would be required to comply with existing federal, state, and local regulations pertaining to hazardous materials, as well as to Metro's guidelines. Therefore, the Fairfax Alignment Alternative would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, and the impact would be less than significant during construction.

OPERATIONAL IMPACTS

Less Than Significant Impact. Operation of the Fairfax Alignment Alternative would involve the occasional transport, use, and disposal of small quantities of hazardous materials such as lubricants, fuel, paints, solvents, and caulk associated with the routine maintenance of stations and other facilities. Maintenance vehicles used for regular inspections and equipment used for occasional repairs or reinforcements would employ small quantities of potentially hazardous materials such as paints, fuels, and lubricants. The light rail vehicles would be electric and would therefore carry no fuel, but minimal other hazardous products such as hydraulic fluids or coolants may be on board. Any hazardous materials or wastes generated during operations would be appropriately containerized for safe transport to a licensed disposal facility. Each load of waste would be manifested for tracking purposes and transported to the appropriate disposal facility by a licensed waste hauler in accordance with the federal, state, and local regulatory requirements outlined in Chapter 3. Because of the infrequent nature of transport of these materials during the operations phase of the Project and the small quantities involved, the potential for a major hazardous materials incident or accident would be negligible. Any accidents or spills that involve hazardous materials or wastes would be promptly cleaned up in accordance with project-specific spill response and material management plans. Details and content of the plans would be specified in the contract documents; the plans would be prepared prior to initiation of construction activities. Therefore, operation of the Fairfax Alignment Alternative would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and the impact would be less than significant.

6.1.3.3 ALIGNMENT ALTERNATIVE 3: LA BREA

CONSTRUCTION IMPACTS

Less Than Significant Impact. Construction of the La Brea Alignment Alternative would temporarily increase the regional transport, use, and disposal of hazardous materials and petroleum products, such as gasoline and diesel fuel, compressed gases, lubricants, paints, solvents, and cement products containing strong basic or acidic chemicals, as well as hazardous waste generated during construction. In addition, structures that require demolition may contain ACM and LBP that would require transport and disposal. Hazardous materials could be released into the environment if there is an accident or if existing contamination is exposed during construction.

Some of the hazardous materials identified above would be temporarily stored on site, but storage would be limited to specific areas. The storage of these materials would comply with the Project guidelines established by Metro's specifications as part of Project design and with the state and federal regulatory requirements outlined in Chapter 3.

Off-site accidents could occur during transport of the hazardous materials listed above, and other material, or during transport of contaminated soil or groundwater from the cleanup of existing contaminated sites. Transport of these materials would expose individuals and the environment to off-site risks. These materials would be appropriately containerized for safe transport to a licensed disposal facility. Each load of waste or contaminated material would be manifested for tracking purposes and transported to the appropriate disposal facility by a licensed waste hauler in accordance with the federal, state, and local regulatory requirements outlined in Chapter 3. Any accidents or spills that involve hazardous materials or wastes would be promptly cleaned up in accordance with project-specific spill response and material management plans. Details and content of the plans would be specified in the contract documents; the plans would be prepared prior to initiation of construction activities.

As described above, construction of the La Brea Alignment Alternative would be required to comply with existing federal, state, and local regulations pertaining to hazardous materials, as well as to Metro's guidelines. Therefore, the La Brea Alignment Alternative would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, and the impact would be less than significant during construction.

OPERATIONAL IMPACTS

Less Than Significant Impact. Operation of the La Brea Alignment Alternative would involve the occasional transport, use, and disposal of small quantities of hazardous materials such as lubricants, fuel, paints, solvents, and caulk associated with the routine maintenance of stations and other facilities. Maintenance vehicles used for regular inspections and equipment used for occasional repairs or reinforcements would employ small quantities of potentially hazardous materials such as paints, fuels, and lubricants. The light rail vehicles would be electric and would therefore carry no fuel, but minimal other hazardous products such as hydraulic fluids or coolants may be on board. Any hazardous materials or wastes generated during operations would be appropriately containerized for safe transport to a licensed disposal facility. Each load of waste would be manifested for tracking purposes and transported to the appropriate disposal facility by a licensed waste hauler in accordance with the federal, state, and local regulatory requirements outlined in Chapter 3. Because of the infrequent nature of transport of these materials during the operations phase of the Project and the small quantities involved, the potential for a major hazardous materials incident or accident would be negligible. Any accidents or spills that involve hazardous materials or wastes would be promptly cleaned up in accordance with project-specific spill response and material management plans. Details and content of the plans would be specified in the contract documents; the plans would be prepared prior to initiation of construction activities. Therefore, operation of the La Brea Alignment Alternative would not create a significant hazard to the public or the environment through reasonably foreseeable

upset and accident conditions involving the release of hazardous materials into the environment and the impact would be less than significant.

6.1.3.4 HOLLYWOOD BOWL DESIGN OPTION

CONSTRUCTION IMPACTS

Less Than Significant Impact. Construction of the Hollywood Bowl Design Option would temporarily increase the regional transport, use, and disposal of hazardous materials and petroleum products, such as gasoline and diesel fuel, compressed gases, lubricants, paints, solvents, and cement products containing strong basic or acidic chemicals, as well as hazardous waste generated during construction. In addition, structures that require demolition may contain ACM and LBP that would require transport and disposal. Hazardous materials could be released into the environment if there is an accident or if existing contamination is exposed during construction.

Some of the hazardous materials identified above would be temporarily stored on site, but storage would be limited to specific areas. The storage of these materials would comply with the Project guidelines established by Metro's specifications as part of Project design and with the state and federal regulatory requirements outlined in Chapter 3.

Off-site accidents could occur during transport of the hazardous materials listed above, and other material, or during transport of contaminated soil or groundwater from the cleanup of existing contaminated sites. Transport of these materials would expose individuals and the environment to off-site risks. These materials would be appropriately containerized for safe transport to a licensed disposal facility. Each load of waste or contaminated material would be manifested for tracking purposes and transported to the appropriate disposal facility by a licensed waste hauler in accordance with the federal, state, and local regulatory requirements outlined in Chapter 3. Any accidents or spills that involve hazardous materials or wastes would be promptly cleaned up in accordance with project-specific spill response and material management plans. Details and content of the plans would be specified in the contract documents; the plans would be prepared prior to initiation of construction activities.

As described above, construction of the Hollywood Bowl Design Option would be required to comply with existing federal, state, and local regulations pertaining to hazardous materials, as well as to Metro's guidelines. Therefore, the design option would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, and the impact would be less than significant during construction.

OPERATIONAL IMPACTS

Less Than Significant Impact. Operation of the Hollywood Bowl Design Option would involve the occasional transport, use, and disposal of small quantities of hazardous materials such as lubricants, fuel, paints, solvents, and caulk associated with the routine maintenance of stations and other facilities. Maintenance vehicles used for regular inspections and equipment used for occasional repairs or reinforcements would employ small quantities of potentially hazardous materials such as paints,

fuels, and lubricants. The light rail vehicles would be electric and would therefore carry no fuel, but minimal other hazardous products such as hydraulic fluids or coolants may be on board. Any hazardous materials or wastes generated during operations would be appropriately containerized for safe transport to a licensed disposal facility. Each load of waste would be manifested for tracking purposes and transported to the appropriate disposal facility by a licensed waste hauler in accordance with the federal, state, and local regulatory requirements outlined in Chapter 3.

Because of the infrequent nature of transport of these materials during the operations phase of the Project and the small quantities involved, the potential for a major hazardous materials incident or accident would be negligible. Any accidents or spills that involve hazardous materials or wastes would be promptly cleaned up in accordance with project-specific spill response and material management plans. Details and content of the plans would be specified in the contract documents; the plans would be prepared prior to initiation of construction activities. Therefore, operation of the Hollywood Bowl Design Option would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and the impact would be less than significant.

6.1.3.5 MAINTENANCE AND STORAGE FACILITY

CONSTRUCTION IMPACTS

Less Than Significant Impact. Construction of the MSF would temporarily increase the regional transport, use, and disposal of hazardous materials and petroleum products, such as gasoline and diesel fuel, compressed gases, lubricants, paints, solvents, and cement products containing strong basic or acidic chemicals, as well as hazardous waste generated during construction. In addition, structures that require demolition may contain ACM and LBP that would require transport and disposal. Hazardous materials could be released into the environment if there is an accident or if existing contamination is exposed during construction.

Some of the hazardous materials identified above would be temporarily stored on site, but storage would be limited to specific areas. The storage of these materials would comply with the Project guidelines established by Metro's specifications as part of Project design and with the state and federal regulatory requirements outlined in Chapter 3.

Off-site accidents could occur during transport of the hazardous materials listed above, and other material, or during transport of contaminated soil or groundwater from the cleanup of existing contaminated sites. Transport of these materials would expose individuals and the environment to off-site risks. These materials would be appropriately containerized for safe transport to a licensed disposal facility. Each load of waste or contaminated material would be manifested for tracking purposes and transported to the appropriate disposal facility by a licensed waste hauler in accordance with the federal, state, and local regulatory requirements outlined in Chapter 3. Any accidents or spills that involve hazardous materials or wastes would be promptly cleaned up in accordance with project-specific spill response and material management plans. Details and content of the plans would be specified in the contract documents; the plans would be prepared prior to initiation of construction activities.

As described above, construction of the MSF would be required to comply with existing federal, state, and local regulations pertaining to hazardous materials, as well as to Metro's guidelines. Therefore, the MSF would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, and the impact would be less than significant during construction.

OPERATIONAL IMPACTS

Less Than Significant Impact. Operation of the MSF would involve the occasional transport, use, and disposal of small quantities of hazardous materials such as lubricants, fuel, paints, solvents, and caulk associated with the routine maintenance of stations and other facilities. Maintenance vehicles used for regular inspections and equipment used for occasional repairs or reinforcements would employ small quantities of potentially hazardous materials such as paints, fuels, and lubricants. Any hazardous materials or wastes generated during operations would be appropriately containerized for safe transport to a licensed disposal facility. Each load of waste would be manifested for tracking purposes and transported to the appropriate disposal facility by a licensed waste hauler in accordance with the federal, state, and local regulatory requirements outlined in Chapter 3. Because of the infrequent nature of transport of these materials during the operations phase of the Project and the small quantities involved, the potential for a major hazardous materials incident or accident would be negligible. Any accidents or spills that involve hazardous materials or wastes would be promptly cleaned up in accordance with project-specific spill response and material management plans. Details and content of the plans would be specified in the contract documents; the plans would be prepared prior to initiation of construction activities. Therefore, operation of the MSF would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and the impact would be less than significant.

6.1.4 IMPACT HAZ-3: HAZARDOUS EMISSIONS, MATERIALS, OR WASTE WITHIN ONE-QUARTER MILE OF A SCHOOL

Impact HAZ-3: Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

6.1.4.1 ALIGNMENT ALTERNATIVE 1: SAN VICENTE-FAIRFAX

CONSTRUCTION IMPACTS

Significant Impact. There are 26 educational facilities within 0.25 mile of the San Vicente-Fairfax Alignment Alternative, as shown on Figure 5-17. Construction of the San Vicente-Fairfax Alignment Alternative would temporarily increase the regional transport, use, and disposal of hazardous materials and petroleum products commonly used during construction (such as oils, fuels and additives, lubricants, compressed gases, paints, varnishes, solvents, adhesives, and glues and cement products containing strong basic or acidic chemicals as part of the construction of the tunnels, stations, and other Project components) in the RSA, in some cases within 0.25 mile of one or more the

schools identified on the figure. Additionally, demolition of structures could release asbestos, lead, and other contaminants into the environment. Schools near areas that require building demolition, substantial excavation, and soil disturbance would have the highest risks of exposure to hazardous materials.

During construction, hazardous materials would be stored and transported in accordance with federal, state, and local regulations regarding the transport, use, and storage of hazardous materials, as outlined in Chapter 3. Compliance with these regulations would minimize the potential for a release of hazardous materials and would also therefore minimize potential impacts to schools.

Prior to construction that involves demolition, the contractor would prepare building-specific demolition plans for the safe dismantling and removal of building components and debris. The demolition plans would include procedures for lead and asbestos abatement. In addition, prior to construction, the contractor would provide Metro with a hazardous materials and waste plan describing responsible parties and procedures for hazardous materials transport, containment, and storage, including BMPs, that would be implemented during construction. Details and content of the plans would be specified in the contract documents; the plans would be prepared prior to initiation of construction activities.

Proper implementation of project-specific materials storage procedures would limit the extent of any spilled material within a storage area to that storage facility. Furthermore, the contractor would develop an environmental management plan to identify, track, and document the locations of hazardous materials and to communicate practices required for proper handling, storage, and transport of hazardous materials.

CARB requires air monitoring for construction projects, contaminated soil and groundwater remediation projects, and demolition projects. On-site monitoring regulations are summarized at the CARB website[1] for the following airborne contaminants, which are expected to be produced as part of this Project:

- Visible emissions
- Fugitive dust
- Particulate matter
- Vehicle and equipment emissions
- Odor
- Organic solvents
- Storage of organic liquids
- Transfer of gasoline and diesel fuel to vehicles
- Transfer of gasoline and diesel fuel to fuel storage tanks

[1] https://ww2.arb.ca.gov/

Examples of engineering controls and BMPs that would be incorporated in Project design to contain any emissions that might affect a school within one-quarter mile of construction activities include emission control for diesel off-road equipment and diesel generators; dust control through wetting or covering; short- and long-term ambient air quality monitoring in neighborhoods near and downwind from the construction or maintenance sites; and field olfactometry measuring and quantifying odor strength in the ambient air. All heavy-duty off-road construction diesel equipment used during construction would meet the USEPA Tier IV emissions requirements (40 CFR 1039.101) of the Clean Air Act. In addition, toxic air contaminants from products typically used during construction (e.g., compressed gases, oils and lubricants, fuels and additives, paints and varnishes, adhesives, and glues) are expected to be minimal.

As described above, hazardous materials and wastes could be released in proximity to schools in quantities greater than the state threshold, potentially exposing students and faculty to hazardous materials or wastes through skin contact, ingestion, or inhalation, and there could be environmental impacts on school grounds through contact with released hazardous materials or wastes. Hazardous materials would be used in a manner consistent with typical construction site procedures. Project features also include management plans to transport and prevent spills of hazardous materials associated with construction. Although Project features would require materials to be selected to minimize potential impacts to the public and the environment, and environmental management plans would be used to track and document the location and types of hazardous materials used so they are properly stored and transported, these requirements would not eliminate the possibility of a release of hazardous materials in quantities greater than the state thresholds identified in subdivision (l) of Section 25532 of the Health and Safety Code near schools within 0.25 mile of the Project footprint. Therefore, the potential impact during construction of the San Vicente-Fairfax Alignment Alternative would be significant, and mitigation is required (see Section 6.2).

OPERATIONAL IMPACTS

Significant Impact. Operation of the San Vicente-Fairfax Alignment Alternative would involve the transport, use, and disposal of small quantities of hazardous materials such as lubricants, fuel, paints and solvents, or caulk associated with the routine maintenance of stations and other facilities. Maintenance vehicles used for regular inspections and equipment used for occasional repairs or reinforcements would employ potentially hazardous materials such as paints, fuels, and lubricants. There are 26 educational facilities in the RSA of San Vicente-Fairfax Alignment Alternative, as shown on Figure 5-17, and operation of the San Vicente-Fairfax Alignment Alternative could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste in proximity to one or more of these schools.

Hazardous materials and wastes could be released in proximity to schools in quantities greater than the state threshold, potentially exposing students and faculty to hazardous materials or wastes through skin contact, ingestion, or inhalation, and there could be environmental impacts on school grounds through contact with released hazardous materials or wastes. Although Project features would require materials to be selected to minimize potential impacts to the public and the environment, and environmental management plans would be used to track and document the

location and types of hazardous materials used so they are properly stored and transported, these requirements would not eliminate the possibility of a release of hazardous materials in quantities greater than the state thresholds identified in subdivision (l) of Section 25532 of the Health and Safety Code near schools within 0.25 mile of the Project footprint. Therefore, the potential impact during operation of the San Vicente-Fairfax Alignment Alternative would be significant, and mitigation is required (see Section 6.2).

6.1.4.2 ALIGNMENT ALTERNATIVE 2: FAIRFAX

CONSTRUCTION IMPACTS

Significant Impact. There are 22 educational facilities within 0.25 mile of the Fairfax Alignment Alternative, as shown on Figure 5-27. Construction of the Fairfax Alignment Alternative would temporarily increase the regional transport, use, and disposal of hazardous materials and petroleum products commonly used during construction (such as oils, fuels and additives, lubricants, compressed gases, paints, varnishes, solvents, adhesives, and glues and cement products containing strong basic or acidic chemicals as part of the construction of the tunnels, stations, and other Project components) in the RSA, in some cases within 0.25 mile of one or more the schools identified on the figure. Additionally, demolition of structures could release asbestos, lead, and other contaminants into the environment. Schools near areas that require building demolition, substantial excavation, and soil disturbance would have the highest risks of exposure to hazardous materials.

During construction, hazardous materials would be stored and transported in accordance with federal, state, and local regulations regarding the transport, use, and storage of hazardous materials, as outlined in Chapter 3. Compliance with these regulations would minimize the potential for a release of hazardous materials and would also therefore minimize potential impacts to schools.

Prior to construction that involves demolition, the contractor would prepare building-specific demolition plans for the safe dismantling and removal of building components and debris. The demolition plans would include procedures for lead and asbestos abatement. In addition, prior to construction, the contractor would provide Metro with a hazardous materials and waste plan describing responsible parties and procedures for hazardous materials transport, containment, and storage, including BMPs, that would be implemented during construction. Details and content of the plans would be specified in the contract documents; the plans would be prepared prior to initiation of construction activities.

Proper implementation of project-specific materials storage procedures would limit the extent of any spilled material within a storage area to that storage facility. Furthermore, the contractor would develop an environmental management plan to identify, track, and document the locations of hazardous materials and to communicate practices required for proper handling, storage, and transport of hazardous materials.

CARB requires air monitoring for construction projects, contaminated soil and groundwater remediation projects, and demolition projects. On-site monitoring regulations are summarized at the CARB website[2] for the following airborne contaminants, which are expected to be produced as part of this Project:

- Visible emissions
- Fugitive dust
- Particulate matter
- Vehicle and equipment emissions
- Odor
- Organic solvents
- Storage of organic liquids
- Transfer of gasoline and diesel fuel to vehicles
- Transfer of gasoline and diesel fuel to fuel storage tanks

Examples of engineering controls and BMPs that would be incorporated in Project design to contain any emissions that might affect a school within one-quarter mile of construction activities include emission control for diesel off-road equipment and diesel generators; dust control through wetting or covering; short- and long-term ambient air quality monitoring in neighborhoods near and downwind from the construction or maintenance sites; and field olfactometry measuring and quantifying odor strength in the ambient air. All heavy-duty off-road construction diesel equipment used during construction would meet the USEPA Tier IV emissions requirements (40 CFR 1039.101) of the Clean Air Act. In addition, toxic air contaminants from products typically used during construction (e.g., compressed gases, oils and lubricants, fuels and additives, paints and varnishes, adhesives, and glues) are expected to be minimal.

As described above, hazardous materials and wastes could be released in proximity to schools in quantities greater than the state threshold, potentially exposing students and faculty to hazardous materials or wastes through skin contact, ingestion, or inhalation, and there could be environmental impacts on school grounds through contact with released hazardous materials or wastes. Hazardous materials would be used in a manner consistent with typical construction site procedures. Project features also include management plans to transport and prevent spills of hazardous materials associated with construction. Although Project features would require materials to be selected to minimize potential impacts to the public and the environment, and environmental management plans would be used to track and document the location and types of hazardous materials used so they are properly stored and transported, these requirements would not eliminate the possibility of a release of hazardous materials in quantities greater than the state thresholds identified in subdivision (l) of Section 25532 of the Health and Safety Code near schools within 0.25 mile of the Project footprint.

[2] https://ww2.arb.ca.gov/

Therefore, the potential impact during construction of the Fairfax Alignment Alternative would be significant, and mitigation is required (see Section 6.2).

OPERATIONAL IMPACTS

Significant Impact. Operation of the Fairfax Alignment Alternative would involve the transport, use, and disposal of small quantities of hazardous materials such as lubricants, fuel, paints and solvents, or caulk associated with the routine maintenance of stations and other facilities. Maintenance vehicles used for regular inspections and equipment used for occasional repairs or reinforcements would employ potentially hazardous materials such as paints, fuels, and lubricants. There are 22 educational facilities in the RSA of the Fairfax Alignment Alternative, as shown on Figure 5-27, and operations of the Fairfax Alignment Alternative could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste in proximity to one or more of these schools.

Hazardous materials and wastes could be released in proximity to schools in quantities greater than the state threshold, potentially exposing students and faculty to hazardous materials or wastes through skin contact, ingestion, or inhalation, and there could be environmental impacts on school grounds through contact with released hazardous materials or wastes. Although Project features would require materials to be selected to minimize potential impacts to the public and the environment, and environmental management plans would be used to track and document the location and types of hazardous materials used so they are properly stored and transported, these requirements would not eliminate the possibility of a release of hazardous materials in quantities greater than the state thresholds identified in subdivision (l) of Section 25532 of the Health and Safety Code near schools within 0.25 mile of the Project footprint. Therefore, the potential impact during operation of the Fairfax Alignment Alternative would be significant, and mitigation is required (see Section 6.2).

6.1.4.3 ALIGNMENT ALTERNATIVE 3: LA BREA

CONSTRUCTION IMPACTS

Significant Impact. There are 20 educational facilities within 0.25 mile of the La Brea Alignment Alternative, as shown on Figure 5-36. Construction of the La Brea Alignment Alternative would temporarily increase the regional transport, use, and disposal of hazardous materials and petroleum products commonly used during construction (such as oils, fuels and additives, lubricants, compressed gases, paints, varnishes, solvents, adhesives, and glues and cement products containing strong basic or acidic chemicals as part of the construction of the tunnels, stations, and other Project components) in the RSA, in some cases within 0.25 mile of one or more the schools identified on the figure. Additionally, demolition of structures could release asbestos, lead, and other contaminants into the environment. Schools near areas that require building demolition, substantial excavation, and soil disturbance would have the highest risks of exposure to hazardous materials.

During construction, hazardous materials would be stored and transported in accordance with federal, state, and local regulations regarding the transport, use, and storage of hazardous materials, as outlined in Chapter 3. Compliance with these regulations would minimize the potential for a release of hazardous materials and would also therefore minimize potential impacts to schools.

Prior to construction that involves demolition, the contractor would prepare building-specific demolition plans for the safe dismantling and removal of building components and debris. The demolition plans would include procedures for lead and asbestos abatement. In addition, prior to construction, the contractor would provide Metro with a hazardous materials and waste plan describing responsible parties and procedures for hazardous materials transport, containment, and storage, including BMPs, that would be implemented during construction. Details and content of the plans would be specified in the contract documents; the plans would be prepared prior to initiation of construction activities.

Proper implementation of project-specific materials storage procedures would limit the extent of any spilled material within a storage area to that storage facility. Furthermore, the contractor would develop an environmental management plan to identify, track, and document the locations of hazardous materials and to communicate practices required for proper handling, storage, and transport of hazardous materials.

CARB requires air monitoring for construction projects, contaminated soil and groundwater remediation projects, and demolition projects. On-site monitoring regulations are summarized at the CARB website[3] for the following airborne contaminants, which are expected to be produced as part of this Project:

- Visible emissions
- Fugitive dust
- Particulate matter
- Vehicle and equipment emissions
- Odor
- Organic solvents
- Storage of organic liquids
- Transfer of gasoline and diesel fuel to vehicles
- Transfer of gasoline and diesel fuel to fuel storage tanks

Examples of engineering controls and BMPs that would be incorporated in Project design to contain any emissions that might affect a school within one-quarter mile of construction activities include emission control for diesel off-road equipment and diesel generators; dust control through wetting or covering; short- and long-term ambient air quality monitoring in neighborhoods near and downwind from the construction or maintenance sites; and field olfactometry measuring and quantifying odor

[3] https://ww2.arb.ca.gov/

strength in the ambient air. All heavy-duty off-road construction diesel equipment used during construction would meet the USEPA Tier IV emissions requirements (40 CFR 1039.101) of the Clean Air Act. In addition, toxic air contaminants from products typically used during construction (e.g., compressed gases, oils and lubricants, fuels and additives, paints and varnishes, adhesives, and glues) are expected to be minimal.

As described above, hazardous materials and wastes could be released in proximity to schools in quantities greater than the state threshold, potentially exposing students and faculty to hazardous materials or wastes through skin contact, ingestion, or inhalation, and there could be environmental impacts on school grounds through contact with released hazardous materials or wastes. Hazardous materials would be used in a manner consistent with typical construction site procedures. Project features also include management plans to transport and prevent spills of hazardous materials associated with construction. Although Project features would require materials to be selected to minimize potential impacts to the public and the environment, and environmental management plans would be used to track and document the location and types of hazardous materials used so they are properly stored and transported, these requirements would not eliminate the possibility of a release of hazardous materials in quantities greater than the state thresholds identified in subdivision (l) of Section 25532 of the Health and Safety Code near schools within 0.25 mile of the Project footprint. Therefore, the potential impact during construction of the La Brea Alignment Alternative would be significant, and mitigation is required (see Section 6.2).

OPERATIONAL IMPACTS

Significant Impact. Operation of the La Brea Alignment Alternative would involve the transport, use, and disposal of small quantities of hazardous materials such as lubricants, fuel, paints and solvents, or caulk associated with the routine maintenance of stations and other facilities. Maintenance vehicles used for regular inspections and equipment used for occasional repairs or reinforcements would employ potentially hazardous materials such as paints, fuels, and lubricants. There are 20 educational facilities in the RSA of the La Brea Alignment Alternative, as shown on Figure 5-36, and operation of the La Brea Alignment Alternative could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste in proximity to one or more of these schools.

Hazardous materials and wastes could be released in proximity to schools in quantities greater than the state threshold, potentially exposing students and faculty to hazardous materials or wastes through skin contact, ingestion, or inhalation, and there could be environmental impacts on school grounds through contact with released hazardous materials or wastes. Although Project features would require materials to be selected to minimize potential impacts to the public and the environment, and environmental management plans would be used to track and document the location and types of hazardous materials used so they are properly stored and transported, these requirements would not eliminate the possibility of a release of hazardous materials in quantities greater than the state thresholds identified in subdivision (l) of Section 25532 of the Health and Safety Code near schools within 0.25 mile of the Project footprint. Therefore, the potential impact during operation of the La Brea Alignment Alternative would be significant, and mitigation is required (see Section 6.2).

6.1.4.4 HOLLYWOOD BOWL DESIGN OPTION

CONSTRUCTION IMPACTS

Significant Impact. There is one educational facility within 0.25 mile of the Hollywood Bowl Design Option. Construction of the design option would temporarily increase the regional transport, use, and disposal of hazardous materials and petroleum products commonly used during construction (such as oils, fuels and additives, lubricants, compressed gases, paints, varnishes, solvents, adhesives, and glues and cement products containing strong basic or acidic chemicals as part of the construction of the tunnels, stations, and other Project components) in the RSA, in some cases within 0.25 mile of the school identified on the figure. The design option would not require demolition of structures, and building-specific demolition plans for the safe dismantling and removal of building components and debris, including procedures for lead and asbestos abatement, would not be required. Additionally, demolition of structures could release asbestos, lead, and other contaminants into the environment.

During construction, hazardous materials would be stored and transported in accordance with federal, state, and local regulations regarding the transport, use, and storage of hazardous materials, as outlined in Chapter 3. Compliance with these regulations would minimize the potential for a release of hazardous materials and would also therefore minimize potential impacts to the school.

Proper implementation of project-specific materials storage procedures would limit the extent of any spilled material within a storage area to that storage facility. Furthermore, the contractor would develop an environmental management plan to identify, track, and document the locations of hazardous materials and to communicate practices required for proper handling, storage, and transport of hazardous materials.

CARB requires air monitoring for construction projects, contaminated soil and groundwater remediation projects, and demolition projects. On-site monitoring regulations are summarized at the CARB website[4] for the following airborne contaminants, which are expected to be produced as part of this Project:

- Visible emissions
- Fugitive dust
- Particulate matter
- Vehicle and equipment emissions
- Odor
- Organic solvents
- Storage of organic liquids
- Transfer of gasoline and diesel fuel to vehicles
- Transfer of gasoline and diesel fuel to fuel storage tanks

[4] https://ww2.arb.ca.gov/

Examples of engineering controls and BMPs that would be incorporated in Project design to contain any emissions that might affect a school within one-quarter mile of construction activities include emission control for diesel off-road equipment and diesel generators; dust control through wetting or covering; short- and long-term ambient air quality monitoring in neighborhoods near and downwind from the construction or maintenance sites; and field olfactometry measuring and quantifying odor strength in the ambient air. All heavy-duty off-road construction diesel equipment used during construction would meet the USEPA Tier IV emissions requirements (40 CFR 1039.101) of the Clean Air Act. In addition, toxic air contaminants from products typically used during construction (e.g., compressed gases, oils and lubricants, fuels and additives, paints and varnishes, adhesives, and glues) are expected to be minimal.

As described above, hazardous materials and wastes could be released in proximity to the school in quantities greater than the state threshold, potentially exposing students and faculty to hazardous materials or wastes through skin contact, ingestion, or inhalation, and there could be environmental impacts on school grounds through contact with released hazardous materials or wastes. Hazardous materials would be used in a manner consistent with typical construction site procedures. Project features also include management plans to transport and prevent spills of hazardous materials associated with construction. Although Project features would require materials to be selected to minimize potential impacts to the public and the environment, and environmental management plans would be used to track and document the location and types of hazardous materials used so they are properly stored and transported, these requirements would not eliminate the possibility of a release of hazardous materials in quantities greater than the state thresholds identified in subdivision (l) of Section 25532 of the Health and Safety Code near a school within 0.25 mile of the Project footprint. Therefore, the potential impact during construction of the Hollywood Bowl Design Option would be significant, and mitigation is required (see Section 6.2).

OPERATIONAL IMPACTS

Significant Impact. Operation of the Hollywood Bowl Design Option would involve the transport, use, and disposal of small quantities of hazardous materials such as lubricants, fuel, paints and solvents, or caulk associated with the routine maintenance of stations and other facilities. Maintenance vehicles used for regular inspections and equipment used for occasional repairs or reinforcements would employ potentially hazardous materials such as paints, fuels, and lubricants. There is one educational facility in the RSA of the Hollywood Bowl Design Option and the operation of the design option could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste in proximity to this school.

Hazardous materials and wastes could be released in proximity to schools in quantities greater than the state threshold, potentially exposing students and faculty to hazardous materials or wastes through skin contact, ingestion, or inhalation, and there could be environmental impacts on school grounds through contact with released hazardous materials or wastes. Although Project features would require materials to be selected to minimize potential impacts to the public and the environment, and environmental management plans would be used to track and document the location and types of hazardous materials used so they are properly stored and transported, these

requirements would not eliminate the possibility of a release of hazardous materials in quantities greater than the state thresholds identified in subdivision (l) of Section 25532 of the Health and Safety Code near schools within 0.25 mile of the Project footprint. Therefore, the potential impact during operation of the design option would be significant, and mitigation is required (see Section 6.2).

6.1.4.5 MAINTENANCE AND STORAGE FACILITY

CONSTRUCTION IMPACTS

No Impact. There are no schools within 0.25 mile of the MSF. Therefore, there would be no impact during construction.

OPERATIONAL IMPACTS

No Impact. There are no schools within 0.25 mile of the MSF. Therefore, there would be no impact during operation.

6.1.5 IMPACT HAZ-4: HAZARDS DUE TO LOCATION ON A HAZARDOUS MATERIALS SITE

Impact HAZ-4: Would the Project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Government Code Section 65962.5(a) (the Cortese List) requires that DTSC "shall compile and update as appropriate, but at least annually, and shall submit to the Secretary for Environmental Protection, a list of all the following: hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code." The hazardous waste facilities identified in Health and Safety Code § 25187.5 are those where DTSC has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under Health and Safety Code § 25187, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment.

Consistent with American Society of Testing Materials (ASTM) International E 1527-13 (ASTM 2013), environmental databases and records were reviewed during preparation of the Limited Phase I ESAs to determine whether the proposed alignments alternatives and stations, design option, or MSF, or the surrounding properties, are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Cortese list). In addition to evaluating sites on the Cortese list, this Impact HAZ-4 analyzes the potential impacts resulting from accidental exposure of existing contamination (e.g., from a REC site, from previously unknown contamination, oil and gas fields).

6.1.5.1 ALIGNMENT ALTERNATIVE 1: SAN VICENTE-FAIRFAX

The San Vicente-Fairfax Alignment Alternative RSA has 39 REC sites; 18 of these sites are on the Cortese list, as discussed in Section 5.2.1. The alignment alternative also passes through four oil and gas fields, and two other oil and gas fields are within the RSA boundary.

CONSTRUCTION IMPACTS

Less Than Significant Impact. Construction of the San Vicente-Fairfax Alignment Alternative would include demolition, earthmoving, and excavation in areas of known or potential soil and/or groundwater contamination. Site-specific Phase I ESAs and hazardous materials building surveys would be conducted during the property acquisition phase to help ensure that potential contamination is identified and addressed, and that wastes are properly transported and disposed prior to construction. Contractors would comply with SWRCB requirements to help ensure the proper transport, labeling, containment, cover, and other BMPs for storage of hazardous materials during construction. A hazardous materials plan would be created and implemented to help ensure proper handling of hazardous materials. Details and content of the plan would be specified in the contract documents; the plan would be prepared prior to initiation of construction activities.

Soil to be excavated from potentially contaminated properties, including Cortese list sites, or within oil and gas fields, may need to be tested in advance of or during construction to identify whether the soils are contaminated, and if so, how they may be handled and/or remediated. If dewatering is necessary, the extracted groundwater may also need to be tested prior to discharge or disposal. Refer to Appendix A for additional information on potential hazard identification prior to construction and tunneling activities.

Construction activities within the six oil and gas fields in the RSA could disturb naturally occurring subsurface petroleum, which could result in spill conditions related to the naturally occurring petroleum. There would be a risk of explosions or spills related to an active or idle oil and gas wells and related infrastructure encountered during construction. Any spills would be addressed in accordance with project-specific spill response and material management plans. Details and content of the plans would be specified in the contract documents; the plans would be prepared prior to initiation of construction activities.

In addition, the potential exists for elevated levels of methane and/or hydrogen sulfide gases to be present in subsurface soils, which would pose an explosion or inhalation risk and have an impact to workers, public health, and the environment. Engineered barriers or other design features may be necessary to prevent vapor intrusion of certain contaminants (e.g., VOCs, methane, hydrogen sulfide) into subsurface structures; monitoring of the subsurface air during construction activities may be necessary to help prevent exposure of airborne contaminants emanating from the surrounding soil to construction workers (see PM HAZ-1).

Numerous plugged, idle, and active oil and gas wells are located within the RSA for the San Vicente-Fairfax Alignment Alternative; some of these wells may be within the alignment alternative footprint. Care should be exercised while tunneling near the well locations to avoid disturbing the well casing, which would potentially create a pathway for migration of gases or residual petroleum. Encountering contaminated soil near the well casing is also possible. All construction and grading work conducted within 100 feet of an oil or gas well site should be coordinated with the California Department of Conservation. Active wells would need to be capped and abandoned or relocated. Associated facilities such as pipelines would also potentially need to be relocated if they fall within the construction footprint. See Appendix A for additional information on gas and oil well hazards.

For the reasons described above, construction of the San Vicente-Fairfax Alignment Alternative would not create a significant hazard to the public or the environment related to location on a hazardous materials site. Therefore, the impact during construction would be less than significant.

OPERATIONAL IMPACTS

Less Than Significant Impact. As stated above, there are REC sites, including sites on the Cortese list, as well as oil and gas fields, within the San Vicente-Fairfax Alignment Alternative RSA. However, impacts related to contamination from REC sites (including Cortese list sites) or historic releases from oil and gas fields would have been remediated during the construction phase. Any engineered barriers installed to prevent exposure of the public or the environment to airborne contaminants related to vapor intrusion may need to be monitored during operation of the alignment alternative to ensure they are functioning as designed (e.g., an active subsurface ventilation system) (see PM HAZ-1). Hazardous materials plans would be prepared and implemented to help ensure that hazardous materials are handled correctly if residual contamination is detected.

For the reasons described above, operation of the San Vicente-Fairfax Alignment Alternative would not create a significant hazard to the public or the environment related to location on a hazardous materials site. Therefore, operational impacts would be less than significant.

6.1.5.2 ALIGNMENT ALTERNATIVE 2: FAIRFAX

The Fairfax Alignment Alternative has 27 REC sites; 15 of these sites are on the Cortese list as discussed in Section 5.2.1. The alignment alternative also passes through three oil and gas fields; one additional oil and gas field is within the RSA boundary.

The analysis below evaluates potential impacts anticipated during construction activities and operational activities of the Fairfax Alignment Alternative.

CONSTRUCTION IMPACTS

Less Than Significant Impact. Construction of the Fairfax Alignment Alternative would include demolition, earthmoving, and excavation in areas of known or potential soil and/or groundwater contamination. Site-specific Phase I ESAs and hazardous materials building surveys would be conducted during the property acquisition phase to help ensure that potential contamination is identified and addressed, and that wastes are properly transported and disposed prior to construction. Contractors would comply with SWRCB requirements to help ensure the proper transport, labeling, containment, cover, and other BMPs for storage of hazardous materials during construction. A hazardous materials plan would be created and implemented to help ensure proper handling of hazardous materials. Details and content of the plan would be specified in the contract documents; the plan would be prepared prior to initiation of construction activities.

Soil to be excavated from potentially contaminated properties, including Cortese list sites, or within oil and gas fields, may need to be tested in advance of or during construction to identify whether the soils are contaminated, and if so, how they may be handled and/or remediated. If dewatering is necessary, the extracted groundwater may also need to be tested prior to discharge or disposal. Refer to

Appendix A for additional information on potential hazard identification prior to construction and tunneling activities.

Construction activities within the four oil and gas fields in the RSA could disturb naturally occurring subsurface petroleum, which could result in spill conditions related to the naturally occurring petroleum. There would be a risk of explosions or spills related to any active or idle oil and gas wells and related infrastructure encountered during construction. Any spills would be addressed in accordance with project-specific spill response and material management plans. Details and content of the plans would be specified in the contract documents; the plans would be prepared prior to initiation of construction activities.

In addition, the potential exists for elevated levels of methane and/or hydrogen sulfide gases to be present in subsurface soils, which would pose an explosion or inhalation risk and have an impact to workers, public health, and the environment. Engineered barriers or other design features may be necessary to prevent vapor intrusion of certain contaminants (e.g., VOCs, methane, hydrogen sulfide) into subsurface structures; monitoring of the subsurface air during construction activities may be necessary to help prevent exposure of airborne contaminants emanating from the surrounding soil to construction workers (see PM HAZ-1).

Numerous plugged, idle, and active oil and gas wells are located within the RSA for the Fairfax Alignment Alternative; some of these wells may be within the alignment alternative footprint. Care should be exercised while tunneling near the well locations to avoid disturbing the well casing, which would potentially create a pathway for migration of gases or residual petroleum. Encountering contaminated soil near the well casing is also possible. All construction and grading work conducted within 100 feet of an oil or gas well site should be coordinated with the California Department of Conservation. Active wells would need to be capped and abandoned or relocated. Appurtenant facilities such as pipelines would also potentially need to be relocated if they fall within the construction footprint. See Appendix A for additional information on gas and oil well hazards.

For the reasons described above, construction of the Fairfax Alignment Alternative would not create a significant hazard to the public or the environment related to location on a hazardous materials site. Therefore, the impact during construction would be less than significant.

OPERATIONAL IMPACTS

Less Than Significant Impact. As stated above, there are REC sites, including sites on the Cortese list, as well as oil and gas fields, within the Fairfax Alignment Alternative RSA. However, impacts related to contamination from REC sites (including Cortese list sites) or historic releases from oil and gas fields would have been remediated during the construction phase. Any engineered barriers installed to prevent exposure of the public or the environment to airborne contaminants related to vapor intrusion may need to be monitored during operation of the alignment alternative to ensure they are functioning as designed (e.g., an active subsurface ventilation system) (see PM HAZ-1). Hazardous materials plans would be prepared and implemented to help ensure that hazardous materials are handled correctly if residual contamination is detected.

For the reasons described above, operation of the Fairfax Alignment Alternative would not create a significant hazard to the public or the environment related to location on a hazardous materials site. Therefore, operational impacts would be less than significant.

6.1.5.3 ALIGNMENT ALTERNATIVE 3: LA BREA

The La Brea Alignment Alternative has 30 REC sites; 15 of these sites are on the Cortese list as discussed in Section 5.2.1. The alignment alternative also passes through two oil and gas fields; one additional oil and gas field is within the RSA boundary.

The analysis below evaluates potential impacts anticipated during construction activities and operational activities of the La Brea Alignment Alternative.

CONSTRUCTION IMPACTS

Less Than Significant Impact. Construction of the La Brea Alignment Alternative would include demolition, earthmoving, and excavation in areas of known or potential soil and/or groundwater contamination. Site-specific Phase I ESAs and hazardous materials building surveys would be conducted during the property acquisition phase to help ensure that potential contamination is identified and addressed, and that wastes are properly transported and disposed prior to construction. Contractors would comply with SWRCB requirements to help ensure the proper transport, labeling, containment, cover, and other BMPs for storage of hazardous materials during construction. A hazardous materials plan would be created and implemented to help ensure proper handling of hazardous materials. Details and content of the plan would be specified in the contract documents; the plan would be prepared prior to initiation of construction activities.

Soil to be excavated from potentially contaminated properties, including Cortese list sites, or within oil and gas fields, may need to be tested in advance of or during construction to identify whether the soils are contaminated, and if so, how they may be handled and/or remediated. If dewatering is necessary, the extracted groundwater may also need to be tested prior to discharge or disposal. Refer to Appendix A for additional information on potential hazard identification prior to construction and tunneling activities.

Construction activities within the three oil and gas fields in the RSA could disturb naturally occurring subsurface petroleum, which could result in spill conditions related to the naturally occurring petroleum. There would be a risk of explosions or spills related to any active or idle oil and gas wells and related infrastructure encountered during construction. Any spills would be addressed in accordance with project-specific spill response and material management plans. Details and content of the plans would be specified in the contract documents; the plans would be prepared prior to initiation of construction activities.

In addition, the potential exists for elevated levels of methane and/or hydrogen sulfide gases to be present in subsurface soils, which would pose an explosion or inhalation risk and have an impact to workers, public health, and the environment. Engineered barriers or other design features may be necessary to prevent vapor intrusion of certain contaminants (e.g., VOCs, methane, hydrogen sulfide)

into subsurface structures; monitoring of the subsurface air during construction activities may be necessary to help prevent exposure of airborne contaminants emanating from the surrounding soil to construction workers (see PM HAZ-1).

Numerous plugged, idle, and active oil and gas wells are located within the RSA for the La Brea Alignment Alternative; some of these wells may be within the alignment alternative footprint. Care should be exercised while tunneling near the well locations to avoid disturbing the well casing, which would potentially create a pathway for migration of gases or residual petroleum. Encountering contaminated soil near the well casing is also possible. All construction and grading work conducted within 100 feet of an oil or gas well site should be coordinated with the California Department of Conservation. Active wells would need to be capped and abandoned or relocated. Appurtenant facilities such as pipelines would also potentially need to be relocated if they fall within the construction footprint. See Appendix A for additional information on gas and oil well hazards.

For the reasons described above, construction of the La Brea Alignment Alternative would not create a significant hazard to the public or the environment related to location on a hazardous materials site. Therefore, the impact during construction would be less than significant.

OPERATIONAL IMPACTS

Less Than Significant Impact. As stated above, there are REC sites, including sites on the Cortese list, as well as oil and gas fields, within the La Brea Alignment Alternative RSA. However, impacts related to contamination from REC sites (including Cortese list sites) or historic releases from oil and gas fields would have been remediated during the construction phase. Any engineered barriers installed to prevent exposure of the public or the environment to airborne contaminants related to vapor intrusion may need to be monitored during operation of the alignment alternative to ensure they are functioning as designed (e.g., an active subsurface ventilation system) (see PM HAZ-1). Hazardous materials plans would be prepared and implemented to help ensure that hazardous materials are handled correctly if residual contamination is detected.

For the reasons described above, operation of the La Brea Alignment Alternative would not create a significant hazard to the public or the environment related to location on a hazardous materials site. Therefore, operational impacts would be less than significant.

6.1.5.4 HOLLYWOOD BOWL DESIGN OPTION

The Hollywood Bowl Design Option has one REC site in its RSA, but it is not on the Cortese list. In addition, the Design Option is not within an oil and gas field.

CONSTRUCTION IMPACTS

Less Than Significant Impact. Construction of the Hollywood Bowl Design Option would include earthmoving and excavation in areas of known or potential soil and/or groundwater contamination. Contractors would comply with SWRCB requirements to help ensure the proper transport, labeling, containment, cover, and other BMPs for storage of hazardous materials during construction. A hazardous materials plan would be created and implemented to help ensure proper handling of

hazardous materials. Details and content of the plan would be specified in the contract documents; the plan would be prepared prior to initiation of construction activities.

Soil to be excavated from potentially contaminated properties may need to be tested in advance of or during construction to identify whether the soils are contaminated, and if so, how they may be handled and/or remediated. If dewatering is necessary, the extracted groundwater may also need to be tested prior to discharge or disposal. Refer to Appendix A for additional information on potential hazard identification prior to construction and tunneling activities.

For the reasons described above, construction of the Hollywood Bowl Design Option would not create a significant hazard to the public or the environment related to location on a hazardous materials site. Therefore, the impact during construction would be less than significant.

OPERATIONAL IMPACTS

Less Than Significant Impact. Impacts related to contamination from the currently identified REC site or any sites identified during construction (including Cortese list sites) would have been remediated during the construction phase. Hazardous materials plans would be prepared and implemented to help ensure that hazardous materials are handled correctly if residual contamination is detected. For these reasons, operation of the Hollywood Bowl Design Option would not create a significant hazard to the public or the environment related to location on a hazardous materials site. Therefore, operational impacts would be less than significant.

6.1.5.5 MAINTENANCE AND STORAGE FACILITY

The MSF RSA has nine REC sites, two of which are on the Cortese list, as discussed in Section 5.2.1. The analysis below evaluates potential impacts anticipated during construction activities and operational activities for the MSF.

CONSTRUCTION IMPACTS

Less Than Significant Impact. Construction of the MSF would include demolition, earthmoving, and excavation in areas of known or potential soil and/or groundwater contamination. Site-specific Phase I ESAs and hazardous materials building surveys would be conducted during the property acquisition phase to help ensure that potential contamination is identified and addressed, and that wastes are properly transported and disposed prior to construction. Contractors would comply with SWRCB requirements to help ensure the proper transport, labeling, containment, cover, and other BMPs for storage of hazardous materials during construction. A hazardous materials plan would be created and implemented to help ensure proper handling of hazardous materials. Details and content of the plan would be specified in the contract documents; the plan would be prepared prior to initiation of construction activities.

Soil to be excavated from potentially contaminated properties, including Cortese list sites, may need to be tested in advance of or during construction to identify whether the soils are contaminated, and if so, how they may be handled and/or remediated. If dewatering is necessary, the extracted

groundwater may also need to be tested prior to discharge or disposal. Refer to Appendix A for additional information on potential hazard identification prior to construction and tunneling activities.

For the reasons described above, construction of the MSF would not create a significant hazard to the public or the environment related to location on a hazardous materials site. Therefore, the impact during construction would be less than significant.

OPERATIONAL IMPACTS

Less Than Significant Impact. As stated above, there are REC sites, including sites on the Cortese list, within the RSA for the MSF. However, impacts related to contamination from REC sites (including Cortese list sites) would have been remediated during the construction phase. Hazardous materials plans would be prepared and implemented to help ensure that hazardous materials are handled correctly if residual contamination is detected. Details and content of the plan would be specified in the contract documents; the plan would be prepared prior to initiation of construction activities.

For the reasons described above, operation of the MSF would not create a significant hazard to the public or the environment related to location on a hazardous materials site. Therefore, operational impacts would be less than significant.

6.1.6 IMPACT HAZ-5: SAFETY HAZARDS OR EXCESSIVE NOISE FOR A PROJECT LOCATED NEAR AN AIRPORT

Impact HAZ-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 airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?

6.1.6.1 ALIGNMENT ALTERNATIVE 1: SAN VICENTE-FAIRFAX

CONSTRUCTION AND OPERATIONAL IMPACTS

No Impact. The closest airport to the San Vicente-Fairfax Alignment Alternative would be the Santa Monica Airport, located 5.4 miles southwest of the alignment alternative. LAX, which has an address of 1 World Way, would be just over six miles from the south end of the San Vicente-Fairfax Alignment Alternative. Therefore, the alignment alternative would not be within two miles of an airport and would not result in a safety hazard or excessive noise for people residing or working in the RSA. As a result, construction and operation of the San Vicente-Fairfax Alignment Alternative would have no impact.

6.1.6.2 ALIGNMENT ALTERNATIVE 2: FAIRFAX

CONSTRUCTION AND OPERATIONAL IMPACTS

No Impact. The closest airport to the Fairfax Alignment Alternative would be the Santa Monica Airport, located 5.5 miles southwest of the alignment alternative. LAX, which has an address of 1 World Way, would be just over six miles from the south end of the Fairfax Alignment Alternative. Therefore, the

alignment alternative would not be within two miles of an airport and would not result in a safety hazard or excessive noise for people residing or working in the RSA. As a result, construction and operation of the Fairfax Alignment Alternative would have no impact.

6.1.6.3 ALIGNMENT ALTERNATIVE 3: LA BREA

CONSTRUCTION AND OPERATIONAL IMPACTS

No Impact. The closest airport to the La Brea Alignment Alternative would be the Santa Monica Airport, located six miles southwest of the alignment alternative. LAX, which has an address of 1 World Way, would be just over six miles from the south end of the La Brea Alignment Alternative. Therefore, the alignment alternative would not be within two miles of an airport and would not result in a safety hazard or excessive noise for people residing or working in the RSA. As a result, construction and operation of the La Brea Alignment Alternative would have no impact.

6.1.6.4 HOLLYWOOD BOWL DESIGN OPTION

CONSTRUCTION AND OPERATIONAL IMPACTS

No Impact. The closest airport to the Hollywood Bowl Design Option is the Hollywood Burbank Airport, located 5.8 miles northeast of the design option. LAX, which has an address of 1 World Way, is approximately 12 miles from the south end of the design option. Therefore, the design option would not be within two miles of an airport and there would be no safety hazard or excessive noise for people residing or working in the RSA. As a result, construction and operation of the Hollywood Bowl Design Option would have no impact.

6.1.6.5 MAINTENANCE AND STORAGE FACILITY

CONSTRUCTION AND OPERATIONAL IMPACTS

No Impact. While the MSF would be within two miles of the LAX airport, it would be outside of the safety zone for the LAX runways. Therefore, there would be no safety hazard or excessive noise for people residing or working in the RSA, and construction and operation the MSF would have no impact.

6.1.7 IMPACT HAZ-6: IMPACTS TO EMERGENCY RESPONSE PLAN OR EMERGENCY EVACUATION PLAN

Impact HAZ-6: Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

State agencies, local governments and partner agencies must be prepared to respond to emergencies that might occur within their areas of responsibility and must be able to assess whether their capabilities are sufficient to respond effectively. The City of Los Angeles has adopted a comprehensive emergency response plan (City of Los Angeles 2018) that identifies procedures to be taken when a disaster occurs. The plan also has an Emergency Operations Plan Local Assistance Center Functional

Specific Annex and an Evacuation Functional Support Annex (City of Los Angeles 2020a, 2020b). The emergency response plan is intended to reduce risks from disasters to the people, property, economy, and environment within the city. The plan stipulates that decisions regarding evacuation routes will be decided at the time they are necessary as appropriate depending on the scope of the disaster.

6.1.7.1 ALIGNMENT ALTERNATIVE 1: SAN VICENTE-FAIRFAX

CONSTRUCTION IMPACTS

Less Than Significant Impact. Construction activities associated with the San Vicente-Fairfax Alignment Alternative could interfere with adopted emergency response or evacuation plans as a result of temporary construction activities within rights-of-way, primarily by temporary construction barricades or other obstructions that could impede emergency access. However, the RSA is crossed by numerous streets that provide multiple alternate routes for emergency response and evacuation. In addition, the goals, objectives, and policies of the Los Angeles County Operational Area emergency response plan provide guidance during situations requiring an unusual or extraordinary emergency response. Implementation of the emergency response plan would also incorporate and coordinate all the facilities and personnel of County government, along with the jurisdictional resources of the cities and special districts in the County, into an efficient Operational Area organization capable of responding to any emergency using a Standard Emergency Management System, mutual aid, and other appropriate response procedures.

The City of Los Angeles Department of Transportation and LAFD are responsible for ensuring that future development does not impair or physically interfere with an adopted emergency response or evacuation plan. As part of Metro's standard development procedures, construction and traffic management plans would be submitted to the City of Los Angeles Department of Transportation and LAFD for review and approval to ensure that the San Vicente-Fairfax Alignment Alternative has adequate emergency access and escape routes (clearly marked and delineated) during construction, in compliance with existing regulations. In addition, construction of the San Vicente-Fairfax Alignment Alternative would not introduce any features that would preclude implementation of or alter these policies or procedures, and construction activities would not impair implementation of, or physically interfere with, the emergency response plan.

Based on the above, development and implementation of construction and traffic management plans for construction activity would ensure that San Vicente-Fairfax Alignment Alternative construction activities would not impair or physically interfere with adopted emergency response or evacuation. Therefore, impacts related to emergency response plans and emergency evacuation plans would be less than significant.

OPERATIONAL IMPACTS

Less Than Significant Impact. Because operation of the San Vicente-Fairfax Alignment Alternative would be subsurface except for the station entrances (which would be situated on parcels or property not within the public ROW), it would not interfere with existing emergency response or evacuation plans. As part of Metro's standard development procedures, a traffic management plan would be

submitted to the City of Los Angeles Department of Transportation and LAFD for review and approval to ensure that the San Vicente-Fairfax Alignment Alternative has adequate emergency access and escape routes (clearly marked and delineated) during operation, in compliance with existing regulations. In addition, operation of the San Vicente-Fairfax Alignment Alternative would not introduce any features that would preclude implementation of or alter these policies or procedures, and operational activities would not impair implementation of or physically interfere with the emergency response plan. Therefore, impacts related to emergency response plans and emergency evacuation plans would be less than significant.

6.1.7.2 ALIGNMENT ALTERNATIVE 2: FAIRFAX

CONSTRUCTION IMPACTS

Less Than Significant Impact. Construction activities associated with the Fairfax Alignment Alternative could interfere with adopted emergency response or evacuation plans as a result of temporary construction activities within rights-of-way, primarily by temporary construction barricades or other obstructions that could impede emergency access. However, the RSA is crossed by numerous streets that provide multiple alternate routes for emergency response and evacuation. In addition, the goals, objectives, and policies of the Los Angeles County Operational Area emergency response plan provide guidance during situations requiring an unusual or extraordinary emergency response. Implementation of the emergency response plan would also incorporate and coordinate all the facilities and personnel of County government, along with the jurisdictional resources of the cities and special districts in the County, into an efficient Operational Area organization capable of responding to any emergency using a Standard Emergency Management System, mutual aid, and other appropriate response procedures.

The City of Los Angeles Department of Transportation and LAFD are responsible for ensuring that future development does not impair or physically interfere with an adopted emergency response or evacuation plan. As part of Metro's standard development procedures, construction and traffic management plans would be submitted to the City of Los Angeles Department of Transportation and LAFD for review and approval to ensure that the Fairfax Alignment Alternative has adequate emergency access and escape routes (clearly marked and delineated) during construction, in compliance with existing regulations. In addition, construction of the Fairfax Alignment Alternative would not introduce any features that would preclude implementation of or alter these policies or procedures, and construction activities would not impair implementation of, or physically interfere with, the emergency response plan.

Based on the above, development and implementation of construction and traffic management plans for construction activity would ensure that Fairfax Alignment Alternative construction activities would not impair or physically interfere with adopted emergency response or evacuation. Therefore, impacts related to emergency response plans and emergency evacuation plans would be less than significant.

OPERATIONAL IMPACTS

Less Than Significant Impact. Because operation of the Fairfax Alignment Alternative would be subsurface except for the station entrances (which would be situated on parcels or property not within the public ROW), it would not interfere with existing emergency response or evacuation plans. As part of Metro's standard development procedures, a traffic management plan would be submitted to the City of Los Angeles Department of Transportation and LAFD for review and approval to ensure that the Fairfax Alignment Alternative has adequate emergency access and escape routes (clearly marked and delineated) during operation, in compliance with existing regulations. In addition, operation of the Fairfax Alignment Alternative would not introduce any features that would preclude implementation of or alter these policies or procedures, and operational activities would not impair implementation of or physically interfere with the emergency response plan. Therefore, impacts related to emergency response plans and emergency evacuation plans would be less than significant.

6.1.7.3 ALIGNMENT ALTERNATIVE 3: LA BREA

CONSTRUCTION IMPACTS

Less Than Significant Impact. Construction activities associated with the La Brea Alignment Alternative could interfere with adopted emergency response or evacuation plans as a result of temporary construction activities within rights-of-way, primarily by temporary construction barricades or other obstructions that could impede emergency access. However, the RSA is crossed by numerous streets that provide multiple alternate routes for emergency response and evacuation. In addition, the goals, objectives, and policies of the Los Angeles County Operational Area emergency response plan provide guidance during situations requiring an unusual or extraordinary emergency response. Implementation of the emergency response plan would also incorporate and coordinate all the facilities and personnel of County government, along with the jurisdictional resources of the cities and special districts in the County, into an efficient Operational Area organization capable of responding to any emergency using a Standard Emergency Management System, mutual aid, and other appropriate response procedures.

The City of Los Angeles Department of Transportation and LAFD are responsible for ensuring that future development does not impair or physically interfere with an adopted emergency response or evacuation plan. As part of Metro's standard development procedures, construction and traffic management plans would be submitted to the City of Los Angeles Department of Transportation and LAFD for review and approval to ensure that the La Brea Alignment Alternative has adequate emergency access and escape routes (clearly marked and delineated) during construction, in compliance with existing regulations. In addition, construction of the La Brea Alignment Alternative would not introduce any features that would preclude implementation of or alter these policies or procedures, and construction activities would not impair implementation of, or physically interfere with, the emergency response plan.

Based on the above, development and implementation of construction and traffic management plans for construction activity would ensure that La Brea Alignment Alternative construction activities would not impair or physically interfere with adopted emergency response or evacuation. Therefore, impacts related to emergency response plans and emergency evacuation plans would be less than significant.

OPERATIONAL IMPACTS

Less Than Significant Impact. Because operation of the La Brea Alignment Alternative would be subsurface except for the station entrances (which would be situated on parcels or property not within the public ROW), it would not interfere with existing emergency response or evacuation plans. As part of Metro's standard development procedures, a traffic management plan would be submitted to the City of Los Angeles Department of Transportation and LAFD for review and approval to ensure that the La Brea Alignment Alternative has adequate emergency access and escape routes (clearly marked and delineated) during operation, in compliance with existing regulations. In addition, operation of the La Brea Alignment Alternative would not introduce any features that would preclude implementation of or alter these policies or procedures, and operational activities would not impair implementation of or physically interfere with the emergency response plan. Therefore, impacts related to emergency response plans and emergency evacuation plans would be less than significant.

6.1.7.4 HOLLYWOOD BOWL DESIGN OPTION

CONSTRUCTION IMPACTS

Less Than Significant Impact. Construction activities associated with the Hollywood Bowl Design Option could interfere with adopted emergency response or evacuation plans as a result of temporary construction activities within rights-of-way, primarily by temporary construction barricades or other obstructions that could impede emergency access. However, the RSA is crossed by numerous streets that provide multiple alternate routes for emergency response and evacuation. In addition, the goals, objectives, and policies of the Los Angeles County Operational Area emergency response plan provide guidance during situations requiring an unusual or extraordinary emergency response. Implementation of the emergency response plan would also incorporate and coordinate all the facilities and personnel of County government, along with the jurisdictional resources of the cities and special districts in the County, into an efficient Operational Area organization capable of responding to any emergency using a Standard Emergency Management System, mutual aid, and other appropriate response procedures.

The City of Los Angeles Department of Transportation and LAFD are responsible for ensuring that future development does not impair or physically interfere with an adopted emergency response or evacuation plan. As part of Metro's standard development procedures, construction and traffic management plans would be submitted to the City of Los Angeles Department of Transportation and LAFD for review and approval to ensure that the design option has adequate emergency access and escape routes (clearly marked and delineated) during construction, in compliance with existing regulations. In addition, construction of the design option would not introduce any features that

would preclude implementation of or alter these policies or procedures, and construction activities would not impair implementation of, or physically interfere with, the emergency response plan.

Based on the above, development and implementation of construction and traffic management plans for construction activity would ensure that construction activities associated with the Hollywood Bowl Design Option would not impair or physically interfere with adopted emergency response or evacuation. Therefore, impacts related to emergency response plans and emergency evacuation plans would be less than significant.

OPERATIONAL IMPACTS

Less Than Significant Impact. Because operation of the Hollywood Bowl Design Option would be subsurface except for the station entrances (which would be situated on parcels of property and not within the public ROW), it would not interfere with existing emergency response or evacuation plans. As part of Metro's standard development procedures, a traffic management plan would be submitted to the City of Los Angeles Department of Transportation and LAFD for review and approval to ensure that the design option has adequate emergency access and escape routes (clearly marked and delineated) during operation, in compliance with existing regulations. In addition, operation of the design option would not introduce any features that would preclude implementation of or alter these policies or procedures, and operational activities would not impair implementation of or physically interfere with the emergency response plan. Therefore, impacts related to emergency response plans and emergency evacuation plans would be less than significant.

6.1.7.5 MAINTENANCE AND STORAGE FACILITY

CONSTRUCTION IMPACTS

Less Than Significant Impact. Construction activities associated with the MSF could interfere with adopted emergency response or evacuation plans as a result of temporary construction activities within rights-of-way, primarily by temporary construction barricades or other obstructions that could impede emergency access. However, the MSF area is bounded by several streets that provide routes for emergency response and evacuation. In addition, the goals, objectives, and policies of the Los Angeles County Operational Area emergency response plan provide guidance during situations requiring an unusual or extraordinary emergency response. Implementation of the emergency response plan would also incorporate and coordinate all the facilities and personnel of County government, along with the jurisdictional resources of the cities and special districts in the County, into an efficient Operational Area organization capable of responding to any emergency using a Standard Emergency Management System, mutual aid, and other appropriate response procedures.

The City of Los Angeles Department of Transportation, LAFD, and/or City of Inglewood are responsible for ensuring that future development does not impair or physically interfere with an adopted emergency response or evacuation plan, as applicable. As part of Metro's standard development procedures, construction and traffic management plans would be submitted for review and approval to ensure that the MSF has adequate emergency access and escape routes (clearly marked and delineated) during construction, in compliance with existing regulations. In addition, construction of

the MSF would not introduce any features that would preclude implementation of or alter these policies or procedures, and construction activities would not impair implementation of, or physically interfere with, the emergency response plan.

Based on the above, development and implementation of construction and traffic management plans for all construction activity would ensure that construction activities associated with the MSF would not impair or physically interfere with adopted emergency response or evacuation. Therefore, impacts related to emergency response plans and emergency evacuation plans would be less than significant.

OPERATIONAL IMPACTS

Less Than Significant Impact. Because operation of the MSF would take place on parcels of property and not within the public ROW, it is not anticipated to interfere with existing emergency response or evacuation plans. As part of Metro's standard development procedures, a traffic management plan would be submitted to the City of Los Angeles Department of Transportation, LAFD, and/or City of Inglewood, as applicable, for review and approval to ensure that the MSF has adequate emergency access and escape routes (clearly marked and delineated) during operation, in compliance with existing regulations. In addition, operation of the MSF would not introduce any features that would preclude implementation of or alter these policies or procedures, and operational activities would not impair implementation of or physically interfere with the emergency response plan. Therefore, impacts related to emergency response plans and emergency evacuation plans would be less than significant.

6.1.8 IMPACT HAZ-7: RISK OF LOSS, INJURY, OR DEATH INVOLVING WILDLAND FIRES

Impact HAZ-7: Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

6.1.8.1 ALIGNMENT ALTERNATIVE 1: SAN VICENTE-FAIRFAX

CONSTRUCTION AND OPERATIONAL IMPACTS

No Impact. The San Vicente-Fairfax Alignment Alternative ends at the edge of a wildland fire zone, (demarcated by Franklin Street) (see Figure 5-6); however, the northernmost 1,000 feet of the alignment alternative (from the Hollywood/Highland Station to the north) would be underground. Therefore, construction and operation of the alignment alternative would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires, and there would be no impact.

6.1.8.2 ALIGNMENT ALTERNATIVE 2: FAIRFAX

CONSTRUCTION AND OPERATIONAL IMPACTS

No Impact. The Fairfax Alignment Alternative ends at the edge of a wildland fire zone (demarcated by Franklin Street) (see Figure 5-6); however, the northernmost 1,000 feet of the alignment alternative

(from the Hollywood/Highland Station to the north) would be underground. Therefore, construction and operation of the alignment alternative would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires, and there would be no impact.

6.1.8.3 ALIGNMENT ALTERNATIVE 3: LA BREA

CONSTRUCTION AND OPERATIONAL IMPACTS

No Impact. The La Brea Alignment Alternative ends at the edge of a wildland fire zone (demarcated by Franklin Street) (see Figure 5-6); however, the northernmost 1,000 feet of the alignment alternative (from the Hollywood/Highland Station to the north) would be underground. Therefore, construction and operation of the alignment alternative would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires, and there would be no impact.

6.1.8.4 HOLLYWOOD BOWL DESIGN OPTION

CONSTRUCTION AND OPERATIONAL IMPACTS

Less Than Significant Impact. The Hollywood Bowl Design Option (from Franklin Street to the northern terminus of the design option) is within a wildland fire zone with a very high fire hazard severity. While the entirety of design option is within an area with vegetation that can be prone to fire, the vegetated areas are not contiguous due to the presence of the roads and parking areas for the Hollywood Bowl. The proposed station for design option would be situated within an existing parking area and would be constructed of non-flammable materials. The remainder of the design option would be entirely underground, where it would be unaffected by fire. Therefore, although the surrounding areas could experience a fire, impacts during construction and operation would be less than significant.

6.1.8.5 MAINTENANCE AND STORAGE FACILITY

CONSTRUCTION AND OPERATIONAL IMPACTS

No Impact. The MSF site is over 1.75 miles southeast of the nearest wildland fire zone. Therefore, construction and operation of the MSF would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires, and there would be no impact.

6.1.9 SUMMARY OF IMPACT CONCLUSIONS

Table 6-1 provides a summary of the impact conclusions discussed in this section.

TABLE 6-1. IMPACT CONCLUSION SUMMARY TABLE

IMPACT SIGNIFICANCE THRESHOLD	IMPACT CONCLUSION				
	ALIGNMENT ALTERNATIVE 1: SAN VICENTE-FAIRFAX	ALIGNMENT ALTERNATIVE 2: FAIRFAX	ALIGNMENT ALTERNATIVE 3: LA BREA	HOLLYWOOD BOWL DESIGN OPTION	MAINTENANCE AND STORAGE FACILITY
Impact HAZ-1: Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant
Impact HAZ-2: Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant
Impact HAZ-3: Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Construction: Significant Operations: Significant	Construction: Significant Operations: Significant	Construction: Significant Operations: Significant	Construction: Significant Operations: Significant	Construction: No impact Operations: No Impact

IMPACT SIGNIFICANCE THRESHOLD	IMPACT CONCLUSION				
	ALIGNMENT ALTERNATIVE 1: SAN VICENTE-FAIRFAX	ALIGNMENT ALTERNATIVE 2: FAIRFAX	ALIGNMENT ALTERNATIVE 3: LA BREA	HOLLYWOOD BOWL DESIGN OPTION	MAINTENANCE AND STORAGE FACILITY
Impact HAZ-4: Would the Project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant
Impact HAZ-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 airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?	Construction: No Impact Operations: No Impact	Construction: No Impact Operations: No Impact	Construction: No Impact Operations: No Impact	Construction: No Impact Operations: No Impact	Construction: No Impact Operations: No Impact
Impact HAZ-6: Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant

IMPACT SIGNIFICANCE THRESHOLD	IMPACT CONCLUSION				
	ALIGNMENT ALTERNATIVE 1: SAN VICENTE-FAIRFAX	ALIGNMENT ALTERNATIVE 2: FAIRFAX	ALIGNMENT ALTERNATIVE 3: LA BREA	HOLLYWOOD BOWL DESIGN OPTION	MAINTENANCE AND STORAGE FACILITY
Impact HAZ-7: Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	Construction: No Impact Operations: No Impact	Construction: No Impact Operations: No Impact	Construction: No Impact Operations: No Impact	Construction: Less Than Significant Operations: Less Than Significant	Construction: No Impact Operations: No Impact

Source: Connect Los Angeles Partners 2023

6.2 MITIGATION MEASURES

The following mitigation measures are provided to reduce the significant project impacts identified in Section 6.1 to less than significant levels.

6.2.1 MITIGATION MEASURE MM HAZ-1: AVOID AND MINIMIZE EMISSIONS OF HAZARDOUS MATERIALS, SUBSTANCES, AND MIXTURES WITHIN 0.25 MILE OF SCHOOLS

6.2.1.1 ALIGNMENT ALTERNATIVE 1: SAN VICENTE-FAIRFAX

CONSTRUCTION MITIGATION

As part of construction activities, hazardous materials may be used for a variety of processes. Wherever possible, the hazardous materials would be replaced with nonhazardous materials. Prior to construction, the contractor would prepare a memorandum regarding hazardous materials BMPs related to construction activity for approval by Metro. The memorandum would confirm that the contractor would not handle or store an extremely hazardous substance (as defined in California Public Resources Code Section 21151.4) or a mixture containing extremely hazardous substances in a quantity equal to or greater than the state threshold quantity specified pursuant to subdivision (j) of Section 25532 of the Health and Safety Code within 0.25 mile of a school, unless within a designated staging area with appropriate procedures and protocols in place. The memorandum would acknowledge that prior to construction activities, signage would be installed to delimit all work areas within 0.25 mile of a school, informing the contractor not to bring extremely hazardous substances into the area. The contractor would be required to monitor all use of extremely hazardous substances. This mitigation measure for hazardous materials and wastes is consistent with California Public Resources Code Section 21151.4.

OPERATIONAL MITIGATION

During operations, small quantities of hazardous materials may be used for maintenance activities. Wherever possible, these hazardous materials would be replaced with nonhazardous materials. No extremely hazardous substances (or mixtures containing extremely hazardous substances) would be used within 0.25 mile of any school in accordance with California Public Resources Code Section 21151.4 in a quantity equal to or greater than the state threshold quantity specified pursuant to subdivision (j) of Section 25532 of the Health and Safety Code. This mitigation measure for hazardous materials and wastes is consistent with California Public Resources Code Section 21151.4.

IMPACT SIGNIFICANCE AFTER MITIGATION

Less Than Significant Impact. Implementation of mitigation measure MM HAZ-1 would reduce construction and operational impacts of the San Vicente-Fairfax Alignment Alternative to a less than significant level.

6.2.1.2 ALIGNMENT ALTERNATIVE 2: FAIRFAX

CONSTRUCTION MITIGATION

As part of construction activities, hazardous materials may be used for a variety of processes. Wherever possible, the hazardous materials would be replaced with nonhazardous materials. Prior to construction, the contractor would prepare a memorandum regarding hazardous materials BMPs related to construction activity for approval by Metro. The memorandum would confirm that the contractor would not handle or store an extremely hazardous substance (as defined in California Public Resources Code Section 21151.4) or a mixture containing extremely hazardous substances in a quantity equal to or greater than the state threshold quantity specified pursuant to subdivision (j) of Section 25532 of the Health and Safety Code within 0.25 mile of a school, unless within a designated staging area with appropriate procedures and protocols in place. The memorandum would acknowledge that prior to construction activities, signage would be installed to delimit all work areas within 0.25 mile of a school, informing the contractor not to bring extremely hazardous substances into the area. The contractor would be required to monitor all use of extremely hazardous substances. This mitigation measure for hazardous materials and wastes is consistent with California Public Resources Code Section 21151.4.

OPERATIONAL MITIGATION

During operations, small quantities of hazardous materials may be used for maintenance activities. Wherever possible, these hazardous materials would be replaced with nonhazardous materials. No extremely hazardous substances (or mixtures containing extremely hazardous substances) would be used within 0.25 mile of any school in accordance with California Public Resources Code Section 21151.4 in a quantity equal to or greater than the state threshold quantity specified pursuant to subdivision (j) of Section 25532 of the Health and Safety Code. This mitigation measure for hazardous materials and wastes is consistent with California Public Resources Code Section 21151.4.

IMPACT SIGNIFICANCE AFTER MITIGATION

Less Than Significant Impact. Implementation of the MM HAZ-1 would reduce construction and operational impacts of the Fairfax Alignment Alternative to a less than significant level.

6.2.1.3 ALIGNMENT ALTERNATIVE 3: LA BREA

CONSTRUCTION MITIGATION

As part of construction activities, hazardous materials may be used for a variety of processes. Wherever possible, the hazardous materials would be replaced with nonhazardous materials. Prior to construction, the contractor would prepare a memorandum regarding hazardous materials BMPs related to construction activity for approval by Metro. The memorandum would confirm that the contractor would not handle or store an extremely hazardous substance (as defined in California Public Resources Code Section 21151.4) or a mixture containing extremely hazardous substances in a quantity equal to or greater than the state threshold quantity specified pursuant to subdivision (j) of Section 25532 of the Health and Safety Code within 0.25 mile of a school, unless within a designated staging area with

appropriate procedures and protocols in place. The memorandum would acknowledge that prior to construction activities, signage would be installed to delimit all work areas within 0.25 mile of a school, informing the contractor not to bring extremely hazardous substances into the area. The contractor would be required to monitor all use of extremely hazardous substances. This mitigation measure for hazardous materials and wastes is consistent with California Public Resources Code Section 21151.4.

OPERATIONAL MITIGATION

During operations, small quantities of hazardous materials may be used for maintenance activities. Wherever possible, these hazardous materials would be replaced with nonhazardous materials. No extremely hazardous substances (or mixtures containing extremely hazardous substances) would be used within 0.25 mile of any school in accordance with California Public Resources Code Section 21151.4 in a quantity equal to or greater than the state threshold quantity specified pursuant to subdivision (j) of Section 25532 of the Health and Safety Code. This mitigation measure for hazardous materials and wastes is consistent with California Public Resources Code Section 21151.4.

IMPACT SIGNIFICANCE AFTER MITIGATION

Less Than Significant Impact. Implementation of the MM HAZ-1 would reduce construction and operational impacts of the La Brea Alignment Alternative to a less than significant level.

6.2.1.4 HOLLYWOOD BOWL DESIGN OPTION

CONSTRUCTION MITIGATION

As part of construction activities, hazardous materials may be used for a variety of processes. Wherever possible, the hazardous materials would be replaced with nonhazardous materials. Prior to construction, the contractor would prepare a memorandum regarding hazardous materials BMPs related to construction activity for approval by Metro. The memorandum would confirm that the contractor would not handle or store an extremely hazardous substance (as defined in California Public Resources Code Section 21151.4) or a mixture containing extremely hazardous substances in a quantity equal to or greater than the state threshold quantity specified pursuant to subdivision (j) of Section 25532 of the Health and Safety Code within 0.25 mile of a school, unless within a designated staging area with appropriate procedures and protocols in place. The memorandum would acknowledge that prior to construction activities, signage would be installed to delimit all work areas within 0.25 mile of a school, informing the contractor not to bring extremely hazardous substances into the area. The contractor would be required to monitor all use of extremely hazardous substances. This mitigation measure for hazardous materials and wastes is consistent with California Public Resources Code Section 21151.4.

OPERATIONAL MITIGATION

During operations, small quantities of hazardous materials may be used for maintenance activities. Wherever possible, these hazardous materials would be replaced with nonhazardous materials. No extremely hazardous substances (or mixtures containing extremely hazardous substances) would be used within 0.25 mile of any school in accordance with California Public Resources Code Section 21151.4 in a

quantity equal to or greater than the state threshold quantity specified pursuant to subdivision (j) of Section 25532 of the Health and Safety Code. This mitigation measure for hazardous materials and wastes is consistent with California Public Resources Code Section 21151.4.

IMPACT SIGNIFICANCE AFTER MITIGATION

Less Than Significant Impact. Implementation of mitigation measure MM HAZ-1 would reduce construction and operational impacts of the Hollywood Bowl Design Option to a less than significant level.

6.2.1.5 MAINTENANCE AND STORAGE FACILITY

No Impact. There are no schools with 0.25 mile of the proposed MSF. Therefore, there would be no impact during construction or operation, and no mitigation is required under CEQA.

CHAPTER 7 CUMULATIVE IMPACTS

7.1 INTRODUCTION

Under the state CEQA Guidelines, cumulative impacts are defined as two or more individual impacts that, when considered together, are considerable or would compound and increase other environmental impacts (Section 15355). These cumulative impacts must be discussed in an EIR when the project's incremental effect is "cumulatively considerable" (Section 15130). "Cumulatively considerable" is defined as when the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (Section 15065(a)(3)).

CEQA Guidelines Section 15130(b)(1) includes two methodology approaches for assessing cumulative impacts. One approach is a "list of past, present, and probable future projects producing related or cumulative impacts" (CEQA Guidelines Section 15130(b)(1)(A)). The other approach is a "summary of projections contained in an adopted local, regional, or statewide plan, or related document, that describes or evaluates conditions contributing to the cumulative effect" (CEQA Guidelines Section 15030 (b)(1)(B)). For the purposes of this analysis, the latter approach is used due to the long Project implementation time. The forecasted Project completion timeframe is in the mid- to late-2040s based on Metro Measure M funding. Due to the long-term nature of the Project's implementation, a list of land use and transportation projects is insufficient for the cumulative analysis since the currently known projects would be completed and operational by the Project's forecasted completion. In addition, it is highly likely many additional projects will be proposed and constructed between now and project implementation in 20 years; therefore, any project list developed now would be incomplete and incorrect.

The SCAG 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) Plan is the adopted long-range forecast for population, households, and employment within the six-county Southern California region, which includes all Project elements. The Project is also included in the SCAG 2020 RTP/SCS Plan, as well as Metro's 2020 Long Range Transportation Plan. The RTP/SCS was adopted in 2020 and proposes land use and transportation strategies to improve mobility options and achieve a more sustainable growth pattern (SCAG 2020). SCAG worked in close coordination with decision-makers and the public across multiple jurisdictions throughout the SCAG region to create the plan. The population, household, and employment growth projections from this plan are used to assess regional growth and its cumulative impact within the vicinity of the Project.

For the cumulative analysis, the RSA is defined as a half-mile radius from the stations, the design option, and the MSF. The half-mile radius is used for all resources to ensure consistency in evaluating cumulative effects. Table 7-1 shows the projected net growth in population, households, and employment between 2019 and 2045 for a half-mile radius from all Project stations, the design option, and the MSF. The data in the table were calculated by merging the SCAG 2020 RTP/SCS growth projections with the SCAG Tier 2 Transportation Analysis Zone boundaries for Los Angeles County, then assessed for a half-mile radius around the stations, the design option, and the MSF. The data show the projected growth from transportation and development projects, as well as associated infrastructure, that when combined with the Project's construction and operation, could result in cumulative effects.

TABLE 7-1. SCAG PROJECTED PERCENT GROWTH FOR HALF-MILE BUFFER AREAS, 2019-2045

HALF-MILE BUFFER AREA	POPULATION % GROWTH	HOUSEHOLD % GROWTH	EMPLOYMENT % GROWTH
STATIONS			
Expo/Crenshaw	46.0	65.9	26.4
Crenshaw/Adams	35.6	56.3	19.6
Midtown Crossing	20.2	33.1	21.1
Wilshire/Fairfax	19.8	21.2	6.2
Fairfax/3rd	21.9	23.1	6.5
La Cienega/Beverly	30.7	31.3	6.1
San Vicente/Santa Monica	11.5	11.4	46.2
Fairfax/Santa Monica	7.2	7.7	49.5
La Brea/Santa Monica	16.0	17.2	42.6
Hollywood/Highland	16.2	15.0	3.0
Wilshire/La Brea	22.8	24.3	9.4
La Brea/Beverly	17.9	24.5	14.5
DESIGN OPTION			
Hollywood Bowl Design Option	30.4	29.0	17.4
MAINTENANCE AND STORAGE FACILITY			
MSF	14.0	15.9	9.9

Source: SCAG 2020 RTP/SCS Growth Forecast
Note: MSF = maintenance and storage facility

7.2 CUMULATIVE IMPACTS

Impacts regarding hazardous materials are generally site-specific and not additive across a landscape. Each past, present, and reasonably foreseeable future project would follow the applicable federal, state, and local regulations regarding hazardous materials, which would reduce impacts associated with related projects. Therefore, the Project would not generate a cumulatively considerable increase in hazards to the public or environment; therefore, would result in a less than significant cumulative impact.

7.3 CUMULATIVE MITIGATION MEASURES

The Project's effects on hazards and hazardous materials for the alignment alternatives and stations, design option, and MSF would not be cumulatively considerable. Therefore, no mitigation is required under CEQA.

CHAPTER 8 REFERENCES

40 CFR Section 312, Standards and Practices for All Appropriate Inquiries, 69 Fed. Reg. 52541, November 1, 2005.

American Society for Testing and Materials (ASTM). 2013. ASTM E1527-13: Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. West Conshohocken, PA.

California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR). 2014. Division of Oil and Gas Well Finder. Website database. Sacramento, CA. Available at: https://maps.conservation.ca.gov/doggr/index.html.

California Department of Education. No Date. California School Directory. Sacramento, CA. Available at: www.cde.ca.gov/re/sd/.

California Department of Toxic Substances Control (DTSC). 2016. EnviroStor Electronic Database. Sacramento, CA. Available at: www.envirostor.dtsc.ca.gov/public.

California Department of Transportation. 2006. Standard Environmental Reference, Chapter 10 – Hazardous Materials, Hazardous Waste, and Contamination. Available at: http://www.dot.ca.gov/ser/vol1/sec3/physical/ch10haz/chap10.htm.

California Environmental Protection Agency. 2012. Unified Program Fact Sheet. March. Available at: http://www.calepa.ca.gov/CUPA/Documents/2012/FactSheet.pdf.

California Health and Safety Code, Section 25501. Available at: http://codes.findlaw.com/ca/health-and-safety-code/hsc-sect-25501.html. Accessed July 5, 2016.

California State Water Resources Control Board (SWRCB). 2016. GeoTracker Electronic Database. Sacramento, CA. Available at: www.geotracker.waterboards.ca.gov.

City of Inglewood. 2022b. Local Hazard Mitigation Plan Update, 2022-23. Available at: https://www.cityofinglewood.org/1651/Office-of-Emergency-Services.

City of Los Angeles. 2001. City of Los Angeles General Plan – Conservation Element. September 26, 2001. Available at: https://planning.lacity.org/plans-policies/general-plan-overview.

City of Los Angeles. 2018. Emergency Management Department. Emergency Operations Plan. November 2018. Available at: https://emergency.lacity.gov/city-readiness/emergency-plans.

City of Los Angeles. 2018. Local Hazard Mitigation Plan. Prepared by Tetra Tech. January 2018. Available at: https://emergency.lacity.gov/sites/g/files/wph1791/files/2021-10/2018_LA_HMP_Final_with_maps_2018-02-09.pdf.

City of Los Angeles. 2020a. Emergency Operations Plan Local Assistance Center Functional Specific Annex. September 2020. Available at: https://emergency.lacity.gov/city-readiness/emergency-plans.

City of Los Angeles. 2020b. Emergency Operations Plan Evacuation Functional Support Annex. October 2020. Available at: https://emergency.lacity.gov/city-readiness/emergency-plans.

City of Los Angeles. 2021 City of Los Angeles General Plan – Safety Element. Available at: https://planning.lacity.org/plans-policies/general-plan-overview.

City of Los Angeles Bureau of Engineering. No Date. Methane and Methane Buffer Zones Map. Available at: https://www.geoforward.com/wp-content/uploads/Methane-Zone-Map-Los-Angeles-by-Geo-Forward-Inc.-1.pdf.

City of West Hollywood. 2018. Hazard Mitigation Plan. November 5, 2018. Available at: https://www.weho.org/city-government/city-departments/community-safety/public-safety/emergency-preparedness.

City of West Hollywood. 2020. City of West Hollywood General Plan 2035 – Chapter 10 Safety and Noise, January 2020. Available at: https://www.weho.org/city-government/city-departments/planning-and-development-services/general-plan-2035.

Connect Los Angeles Partners. 2023a. *Revised Draft Limited Phase I Environmental Site Assessment, K Line Northern Extension Transit Corridor Project*. March 17, 2023.

Connect Los Angeles Partners. 2023b. *Draft Limited Phase I Environmental Site Assessment, Transit Corridor Project Maintenance and Storage Facility Alternatives*. February 10, 2023.

County of Los Angeles. 2023. Los Angeles County General Plan 2035. July 14, 2022. Available at: https://planning.lacounty.gov/long-range-planning/general-plan/.

County of Los Angeles. 2020 County of Los Angeles All Hazards Mitigation Plan. May 18, 2020. Available at: https://ceo.lacounty.gov/emergencydisaster-plans-and-annexes/.

Environmental Data Resources. 2021a. CNE Metro, Los Angeles, CA EDR Area/Corridor Report La Brea. November 18, 2021.

Environmental Data Resources. 2021b. CNE Metro, Los Angeles, CA EDR Area/Corridor Report Fairfax. November 18, 2021.

Environmental Data Resources. 2021c. CNE Metro, Los Angeles, CA EDR Area/Corridor Report San Vicente-Fairfax. November 18, 2021.

Environmental Data Resources. 2021d. KNE Metro MSF Sites, Arbor Vitae St./Portal Ave, Los Angeles, CA EDR Radius Map™ Report with GeoCheck®. November 18, 2021.

Environmental Data Resources. 2022. KNE Metro MSF Sites, Los Angeles, CA EDR Radius Map Report. October 20, 2022.

Los Angeles Fire Department (LAFD). No Date. Fire Zone Map. https://www.lafd.org/fire-prevention/brush/fire-zone/fire-zone-map. Accessed June 20, 2023.

Southern California Association of Governments (SCAG). 2020. Connect SoCal - The 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Available at: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176. Accessed: February 28, 2023.

APPENDIX A **SUBSURFACE GAS AND OIL WELL HAZARDS**

APPENDIX A: SUBSURFACE GAS AND OIL WELL HAZARDS

A.1 INTRODUCTION

This appendix provides additional information regarding the hazards associated with subsurface gases and abandoned oil wells, as well as the Los Angeles County Metropolitan Transportation Authority's (Metro) experience with safely constructing and operating subways in similar conditions, as discussed in the K Line Northern Extension (KNE) Transit Corridor Project Hazards and Hazardous Materials Technical Report. As described in Chapter 5 of the technical report, the KNE alignment alternatives would pass through oil and gas fields where there is the potential to encounter subsurface methane and hydrogen sulfide gases, as well as abandoned and unforeseen oil wells. Chapter 6 of the technical report documents the potential impacts of constructing the tunnel and operating the rail line through the oil and gas fields, as well as project measures to avoid and reduce environmental effects. There are no significant impacts identified related to oil and gas fields that would require mitigation under the California Environmental Quality Act (CEQA).

The information in this appendix is relevant to all alignment alternatives where the tunnels could encounter abandoned oil wells or elevated subsurface gas levels. Metro has defined "elevated" gas conditions as areas where gas monitoring readings have shown methane levels greater than 5 percent of the lower explosive limit (LEL) or hydrogen sulfide levels above 5 parts per million, which corresponds to the Occupational Health and Safety Administration (OSHA) permissible exposure limit (PEL) for an 8-hour time-weighted average exposure to hydrogen sulfide.

A.2 BACKGROUND AND OIL WELL CONSTRUCTION IN LOS ANGELES

The California Department of Conservation's Geologic Energy Management Division (CalGEM) provides oversight of the oil, natural gas, and geothermal industries to regulate the drilling, operation, and permanent closure of energy resource wells. CalGEM has developed the Construction Site Well Review Program to assist local permitting agencies in identifying and reviewing the status of oil or gas wells located near or beneath Project structures. Local regulations for Los Angeles County and the Cities of Los Angeles and West Hollywood are discussed in Chapter 3 of the technical report. Oil wells in Los Angeles were first drilled over 100 years ago, in the late 1800s. Records of the early oil wells, including their precise location, are sparse to non-existent and, therefore, all wells may not have been captured in the CalGEM databases.

Modern oil wells, which use well-established petroleum industry practices and are permitted under State of California regulations, typically have a larger-diameter (about 12 inches) steel "surface" casing that extends from the ground surface to a depth of 100 feet, or substantially deeper depending on site conditions. This casing isolates the oil well from near-surface aquifers, prevents drilling mud from leaking to the ground surface, and supports valves and blowout preventors. Modern wells are progressively drilled and cased through the surface casing to the depth of the oil-bearing stratum with one or more successively smaller-diameter steel casings inside the surface casing. When a well is abandoned, CalGEM requires the casings to be filled with a series of cement plugs along their lengths. A cement plug is required below the ground surface for a substantial length, potentially several

thousand feet deep. The surface casing is required to be cut off to a minimum of 6 feet below ground surface.

As documented in Chapter 5 of the technical report, locations of oil wells (active, idle, or plugged/abandoned) were plotted from the CalGEM online Well Finder (WellSTAR) database. An active oil well is one that has been drilled, completed, and in use. An idle oil well is one that has not produced oil or gas or has not been used for other petroleum reservoir management purposes continuously for over 24 months. Plugged oil wells have been sealed but have not gone through the abandonment process, whereas abandoned oil wells have been permanently sealed and closed to CalGEM standards. Abandoned oil wells have been identified near or within the alignment alternative resource study areas. All of the alignment alternatives avoid active and idle oil wells, whose locations and status are known and under review by the State.

A.3 HAZARDS CREATED BY OIL WELLS AND SUBSURFACE GAS

The hazards associated with encountering abandoned oil wells include the release of oil and gas, possibly under pressure, and the related potential for an explosive methane environment. Hydrogen sulfide gas is a toxic hazard at low concentrations and explosive at much higher levels. Contaminants from naturally occurring petroleum substances are also often present in the area around oil wells. Additionally, potentially explosive or otherwise harmful gases that could be encountered during excavation of tunnels and station boxes represent a potential exposure risk to workers in the tunnels and stations.

The risk of gas accumulation in and below structures exists in all areas of the Los Angeles Basin where gas occurs in the ground. Where methane gas accumulates at a concentration above the LEL (5 percent in air), there is a risk of explosion in confined spaces (not in soil) if there is sufficient oxygen and a source of ignition. Although the existing risk of an explosion due to build-up of methane gas is low, the result of such an explosion, if it were to occur, would be severe. In addition, hydrogen sulfide gas is toxic at concentrations far below the concentration for hydrogen sulfide in the air to be explosive.

The incremental risk of the tunnel construction to cause subsurface gas to migrate to buildings or off-gas from the ground surface is negligible; therefore, the incremental risk of an explosion is also negligible. As described in the KNE Hazards and Hazardous Materials Technical Report, since the incremental risk of an explosion is negligible, there would be a less than significant impact related to explosion risk during tunneling activities. Nevertheless, as discussed in Chapter 6 of the technical report, project measures to avoid, reduce, and monitor hazards would be implemented in areas where analysis shows the potential for migration of elevated concentrations of gas.

A.4 INVESTIGATING, AVOIDING, AND ELIMINATING HAZARDS ASSOCIATED WITH OIL WELLS

A.4.1 METHODS TO INVESTIGATE FOR THE PRESENCE OF OIL WELLS

A review of the United States Geological Survey topographic quadrangle maps was performed to identify evidence of oil drilling sites that may represent areas of hazardous materials and waste use or storage within the alignment alternatives, stations, design option, and maintenance and storage facility site.

In areas where historic oil wells have been documented, preconstruction geophysical (magnetic) surveys would be used to detect the locations of oil wells more precisely. Geophysical methods identify magnetic "anomalies," where something is identified that is different from what is normal or expected based on known geology or other conditions. A steel oil well casing in sedimentary rock would be seen as an anomaly within the rock. Geophysical surveys would be performed along the proposed tunnel alignment prior to construction in the areas of known oil production and mapped wells. Methods to detect oil wells include the use of magnetic devices (magnetometers) to sense oil well casings within the area of the tunnel alignment. Survey techniques could also include ground-penetrating radar and electromagnetic testing procedures to screen for oil well casings and other suspected subsurface obstructions along the tunnel. These methods could be initiated from the ground surface, in horizontal holes drilled using horizontal directional drilling techniques, or a combination of methods. Shallow excavations may be made to expose and observe anomalies that are detected.

A.4.2 METHODS TO AVOID OR ELIMINATE HAZARDS ASSOCIATED WITH OIL WELLS

AVOIDANCE

If an abandoned well is found that would obstruct tunnel excavation and access to the top of the well is not available at the ground surface (e.g., the well is located under a structure), avoidance options are limited. It first would be determined whether it is possible to adjust the tunnel alignment to avoid the abandoned well based on the well's location with respect to the tunnel. This is likely feasible if the well is very near the side of the tunnel. If the well is plugged but not abandoned in accordance with regulations, a special evaluation would be done to determine the hazard at the known separation distance between the well and the tunnel. Second, it would have to be determined if altering the alignment is feasible with respect to constructability and operation of the system.

In areas of suspected oil wells, a magnetometer survey could also be undertaken within a horizontal boring that is drilled ahead of the tunnel shield. The magnetometer would detect metal in front of the tunnel; if no metal is detected, tunneling could proceed without the concern for unexpectedly encountering an oil well. If the magnetometer identifies an oil well or other metal obstruction, the obstruction would be removed by working from the ground surface before tunneling farther. This method would likely delay the tunneling schedule. Except under special circumstances where the status of the well was reliably verified as having no connection to oil or gas under pressure, and there

were no alternatives, the removal of an oil well obstruction would not be done by working from inside the tunnel shield. For a map of the known oil and gas fields along the alignment alternatives and stations, refer to Figure 5-15 for San Vicente-Fairfax Alignment Alternative, Figure 5-25 for the Fairfax Alignment Alternative, and Figure 5-34 for the La Brea Alignment Alternative in the main body of the technical report.

ELIMINATION

A properly abandoned oil well should have no connection to oil or gas under pressure. Alternatively, an abandoned well with an uncertain or unknown record of plugging has the potential hazard of releasing oil or gas under pressure. Initial work to re-abandon a well would assume the possible hazard of a discharge of methane that could create an explosive gas environment, or a toxic gas environment, if hydrogen sulfide gas is encountered.

If an abandoned well is found and access to the top of the well is available at the ground surface, then the well can be abandoned or re-abandoned after removing the portion of steel casing to the tunnel depth. The work to remove the casings and re-abandon the well would be performed, after consultation with and permitting by CalGEM, by licensed oil well drilling contractors working from the surface via a borehole or small-diameter shaft drilled down to below the invert of the proposed tunnel.

The following section provides examples of Metro's recent project experience identifying oil wells and then reducing, eliminating, and managing related gas hazards.

A.5 METRO EXPERIENCE REDUCING, ELIMINATING, AND MANAGING GAS AND OIL WELL HAZARDS

Metro has extensively studied the characteristics of methane and hydrogen sulfide with respect to their effects on construction and operation of its facilities because these gases are present throughout the Los Angeles Basin. Metro assumes that the ground in tunnels that are under construction and in tunnels with operating subways contains methane and hydrogen sulfide. Metro has implemented measures during design, construction, and operation of its facilities throughout Los Angeles County where existing subsurface gases are encountered. Relevant Metro projects include the Metro Red and Purple Lines, the Crenshaw/K Line, the Regional Connector, and the underground portion of the Metro Gold Line Eastside Extension.

During construction of the initial subway tunnels for Metro in the 1980s, it was recognized that oil wells posed a hazard to tunneling. At that time, the soft ground tunnels of the Red Line (B and D Lines) were constructed with open-face tunnel shields. Rogue well drilling was known to occur in the early days of oil extraction in Los Angeles, and the hazard of unexpectedly encountering an oil well casing during tunneling needed to be avoided. Tunneling in areas of suspected oil wells required drilling a horizontal boring ahead of the tunnel shield through which a magnetometer survey was performed to detect metal. This allowed tunneling to proceed without the concern of unexpectedly encountering an oil well, thus avoiding the associated safety concern for workers and for damage to the tunneling equipment. On the more recent Purple (D) Line project, directional drilling and magnetometer surveys

from the surface— undertaken in advance of tunneling—were used to identify potential oil wells and foundation piles.

Metro also has experience with abandoning oil wells that interfered with subway construction. As recently as 2020, two oil wells were successfully identified along the Purple (D) Line alignment and abandoned in advance of tunneling. These are documented examples of a project measure that eliminated the oil well hazard. In these cases, well abandonment achieved the goal of removing the original steel casing to a level safely below the depth of future tunneling. In two of the areas where abandoned wells were mapped, horizontal directional drilling was specified in advance of tunneling to detect potential metallic well casings. When magnetometer surveys indicated metal, and the existence of a well was verified, Metro coordinated with CalGEM and other affected parties (i.e., the property owner) to develop the abandonment approach. This involved working with well abandonment specialty consultants and contractors and adhering to all State of California regulations to remove the casing and to plug and seal the wells to the required depths (over 2,000 feet deep). The work involved mandatory use of well workover safety procedures with blowout preventors that had fire-safe controls to prevent explosion and fire should oil or gas under high pressure be encountered.

Previous projects in the Methane Risk Zone—for example, Metro's B and D Line tunnels—have been safely and successfully excavated using procedures like those proposed for KNE. In particular, Section 1 of the D Line was constructed through gassy ground, including sands saturated with tar (asphalt) in the Wilshire/Fairfax Station area. Numerous basements and underground parking structures have also been constructed without incident along Wilshire Boulevard in areas with elevated subsurface gas levels. Most of those underground structures were constructed before 1986 with no project measures specific to methane or had only basic measures to deal with methane, such as passive or active ventilation. In contrast, KNE will include project measures such as extensive gas monitoring and active ventilation. Some buildings along Wilshire Boulevard adjacent to the alignment alternatives and stations, such as buildings at the Los Angeles County Museum of Art, are in proximity to the La Brea Tar Pits and successfully manage safe operations in the gassy environment.

Since 1984, Metro has been developing documentation and methods for reducing or eliminating hazardous conditions in its facilities under construction and in operation including, but not limited to, the following:

- In 1984, Metro developed the Alerting Report on Tunneling Liners, which included tunnel construction methods, lining methods, and ventilation requirements for the then-proposed 1983 alignment of the Red Line tunnels (along Wilshire Boulevard and Fairfax Avenue).
- In 1985, Metro commissioned the development of the Congressionally Ordered Reengineering Study that established methane conditions along alignment alternatives and led to the realignment of the then-proposed Metro Red Line into its current alignment, which follows Vermont Avenue and Hollywood Boulevard.
- Metro initially designed for the Metro Red Line a "two-pass" tunnel-lining system (i.e., two tunnel linings constructed in sequence: first a steel rib and timber lagging or precast concrete lining and second a cast -in-place concrete lining constructed within the first lining) that included a high-density polyethylene (HDPE) water and gas barrier between the linings.

- Metro undertook a study for the Mid-City area to locate and monitor gas-bearing geologic formations to determine the extent of the gas reservoirs, examine methods of treatment for pre-tunneling and tunneling timeframes, and recommend tunnel and station configurations to avoid the most gaseous areas. Soil vapor extraction methods developed during the Mid-City studies were successfully applied later during construction of the Purple Line Westside Extension (Metro D Line).
- Metro implemented a double-gasketed tunnel liner that can flex enough to protect the tunnel from gas intrusion before, during, and after an earthquake.
- Metro has further developed specification for HDPE liners (barriers) around cast-in-place concrete structures to reduce leakage of water and gas into the facilities. The developments include compartmentalization of the HDPE so that, should a leak develop, the location can be more easily identified and sealed.

Metro continuously monitors for gassy environments in its tunnels and has emergency ventilation in all its tunnel and station facilities, in addition to the standard and emergency ventilation provided for fires and other hazardous conditions.

A.6 METRO APPROACH FOR MANAGING SUBSURFACE GAS AND OIL WELL HAZARDS ON THE K LINE

A.6.1 ENGINEERING AND DESIGN

During preliminary engineering and final design, additional studies and testing will be performed to help ensure that all oil wells are identified. Geotechnical investigation will include magnetometer surveys to locate metallic well casings within the immediate area of the tunnel alignment and station limits. If present in the tunnel horizon, oil wells will be re-abandoned and cut off below the future Metro structure to eliminate the hazard according to approved CalGEM procedures prior to tunneling or station excavation. With these safeguards, the presence of existing oil wells is not considered an unacceptable hazard for the construction and operation of the alignment alternatives.

Tunnels and stations will be designed to provide a redundant protection system against gas intrusion hazard, such as those described in the City of Los Angeles Municipal Code, Chapter IX, Building Regulations, Article 1, Division 71, Methane Seepage Regulations, and used more recently on the D Line design in similar ground conditions. In compliance with these regulations, specific requirements are determined according to actual methane levels and pressures detected on a site. The identified specific requirements will be incorporated into design and construction. Therefore, the risk posed by hazardous subsurface gas to the operation of the alignment alternatives will be minimized. Further methods to reduce the hazard of gas exposure and intrusion into the Metro structures are described below.

Gas monitoring wells will be installed along the alignment during the geotechnical investigations. Additional multistage (i.e., varying depths) soil gas wells (or probes) will be installed along the alignment in areas where elevated gas has been detected. The probes will be monitored for methane,

hydrogen sulfide, oxygen, and carbon dioxide before, during, and after tunneling. In addition, in areas where elevated gas levels have been detected and in the vicinity of known oil wells, ambient air monitoring will be performed at the ground surface to screen for indications of soil gas emissions. This monitoring may be conducted daily during tunneling to detect if tunneling activities have or have not affected the subsurface gas environment, and it may be conducted less frequently before and after tunneling. If gas probes or ambient air monitoring indicate significant deviations from preconstruction levels, combustible gas monitoring will be conducted in basements of buildings closest to the tunnels in these areas. In the highly unlikely event that elevated gas levels are found and persist, the affected building(s) interior spaces will be ventilated to reduce the gas levels.

In addition, gas and waterproofing systems considered in preliminary and final design will include the following:

- Specially designed precast concrete tunnel linings that provide permanent ground support and a water/gas barrier that are designed with the possibility of adding a secondary liner as needed if leakage occurs at some future time. This approach is being used on the Metro D Line Extension.
- At some locations, the tunnel lining may include thicker segments than what was provided to date on Metro tunnels to protect against corrosion. This enables the use of wider gaskets to increase the performance of the gasket seals.
- Enhanced crack-resistant tunnel segment concrete, the segments of which may include steel fibers or other types of fiber reinforcement to limit cracking and to create less permeable concrete. In addition, coatings may be added.
- A double-gasket design to provide a second seal for a more redundant system (compared to single-gasket design) that also facilitates post-installation repair of leaks (if needed) by grouting the areas between the gaskets.
- Segment insert materials and use of non-corrosive plastics, for example plastic dowels, at segment circumferential joints.
- Rapid repair methods, such as pre-installed grout tubes within waterproofing systems.
- In station structures, water/gas proofing membranes are to be “compartmentalized” so that leakage, if it occurs, can be isolated and readily repaired using pre-installed grout tubes.
- Other methods for water/gas proofing will be added for evaluation as they are identified.

A.6.2 CONSTRUCTION

The combination of the proposed tunneling methods, the proposed monitoring and ventilation, and the potential in-situ pre-treatment of gases in the tunnel horizon and station excavation, would reduce the risk of exposure of workers to soil gases during construction. These approaches are described below.

- Tunneling Equipment and Protocol: A pressurized-face tunnel mining system is required to be used, per Metro policy. This technology is a considerable improvement over the methods used during construction of Metro’s initial Red Line operating segments, and it was used

successfully for the Metro Gold Line Eastside Extension Project, the Metro K Line, the Metro D Line Extension, and the Metro Regional Connector Line tunnels. New technologies for tunneling in gassy conditions developed within the tunneling industry will also be considered.

- Detection and Monitoring: Detection and monitoring equipment will be required to warn of the presence of methane and/or hydrogen sulfide in the excavations. Once excavation has been completed, Metro will continue to monitor for gases within the completed tunnel and stations. Exposing new ground for construction of cross passageways, shafts, and other structures could also expose workers to potentially hazardous gases, and monitoring will continue as these other types of structures are excavated. Monitoring will alert personnel working in the tunnel and station excavations to enhance ventilation, don personal protective equipment, suspend excavation activities and, if warranted, temporarily evacuate the excavation.
- Ventilation: Fans will provide fresh air and air movement to dilute methane and hydrogen sulfide concentrations in the tunnels and stations. Toxic gases, such as hydrogen sulfide emanating from a slurry treatment plant (if slurry-face tunnel boring machines are used), will be captured and treated (absorbed and/or neutralized). Once aboveground, methane rises and dissipates rapidly in the atmosphere and will not be a public health hazard.
- Treatment of Exhaust Air: If determined to be required, air scrubbers will be specified to treat hydrogen sulfide to meet Air Quality Management District standards before release from the tunnel/station ventilation system.
- Soil Vapor Extraction: Before tunnel and station construction, vapors would be extracted from soils to remove hazardous gases from the subsurface and either discharge safely to the atmosphere or, where air quality limits require, oxidized or otherwise rendered acceptable for discharge to the atmosphere.

Furthermore, for underground construction classified as “Gassy” by the State of California Division of Occupational Safety and Health (Cal/OSHA) (California Code of Regulations, Title 8, Tunnel Safety Orders), specific requirements will include compliance with the following Tunnel Safety Orders:

- All equipment used in the tunnel must be approved. For example, internal combustion engines and other equipment such as lighting must meet approval standards of the U.S. Mine Safety and Health Administration. These approvals require verification that equipment is safe with respect to not producing sparks or emitting carbon monoxide gas into the tunnel.
- Smoking will not be allowed in the tunnel, nor is standard welding, cutting, or other spark-producing activities. Special permits and additional air monitoring will be required if welding or cutting activities are essential for the work. In addition, welding will only be allowed in stable atmospheres containing less than 10 percent of the LEL and under the direct supervision of qualified personnel.
- A fixed system of continuous automatic monitoring equipment will be provided for the heading (i.e., working area of the tunnel), spoils handling transfer points, and return air sources. The monitors will be equipped with sensors situated so as to detect any anticipated gas to be encountered. Monitors will automatically signal the tunnel machine operator at the

tunnel heading, give visual and audible warnings, and shut down electric power in the tunnel—except for essential ventilation, lighting, and pumping equipment necessary to evacuate personnel—when 20 percent or more of the methane LEL is encountered. In addition, a manual shutdown control will be provided near the heading.

- Tests for flammable and hazardous gas and petroleum vapors will be conducted in the return air and measured a short distance from the working surfaces.
- Whenever gas levels in excess of 10 percent of the methane LEL are encountered, Cal/OSHA will be notified immediately. After the approval to proceed by Cal/OSHA, any work will then be conducted with required precautionary measures, such as increased ventilation.
- The main ventilation systems that must exhaust flammable gas or vapors from the tunnel will be provided with explosion-relief mechanisms and will be constructed of fire-resistant materials. This exhaust requirement means that only rigid fan lines (as opposed to flexible) and two-way fan systems that operate in both directions by either exhausting air out from the tunnel or supplying air into the tunnel can be used in gassy tunnels. In general, the tunnels and stations must have adequate ventilation to dilute gases to safe levels at all times.
- A refuge chamber or alternate escape route must be maintained within 5,000 feet of the face of a tunnel classified as gassy or extra-hazardous. Workers must be provided with emergency rescue equipment and trained in its use. Refuge chambers (typically prefabricated) will be equipped with a compressed air supply, a telephone, and means of isolating the chamber from the tunnel atmosphere. The emergency equipment, air supply, and rescue chamber installation will be acceptable to Cal/OSHA.

Special health and safety training and procedures will be implemented due to the potential health and safety hazards associated with tunneling through a zone known to have elevated methane, hydrogen sulfide, and oil seeps. These procedures require basic Hazardous Waste and Emergency Response training (29 Code of Federal Regulations (CFR) 1926 Subpart M), as well as training for excavations in a hazardous atmosphere (29 CFR 1926 Subpart P).

Furthermore, the tunnel is a ventilated space with barriers preventing movement of gases between the interior and exterior of the tunnel, as described above. The construction and permanent presence of the tunnel will not materially change the soil gas regime already within the ground. The tunnel will not provide new pathways for gas transmission because the tunneling methodology uses grout along its length such that the space around the tunnel lining is sealed by the grout. Therefore, the presence of the constructed tunnel will have minimal to no influence on the existing long-term migration of soil gas to the ground surface or into buildings, nor will it increase the risk of explosion.

A.7 OPERATIONS

During operation, gases, if present, will typically be purged from Metro tunnels simply by the air movement caused by the action of trains running through the tunnels. However, during non-revenue operations, air velocity must be maintained at a minimum of 100 feet per minute, per Metro's Design Criteria. This air velocity is the minimum that the ventilation system must achieve to direct gases toward the nearest exhaust point and to prevent hazardous gases from accumulating during the hours

when the trains are not operating. During emergencies, specific pre-established procedures are implemented. See Section 6.1.1 PM HAZ-1: Risk Reduction for Subsurface Gas in the KNE Hazards and Hazardous Materials Technical Report.

A.8 CONCLUSION

Metro has a long record of dealing with the hazards of oil wells and methane and hydrogen sulfide in the ground. Miles of subways and numerous subway stations have been constructed that safely operate in gassy conditions. With that past experience and understanding of what is required to undertake a new, major subway project, the hazards of subsurface gases and oil wells that are present throughout the resource study area can be avoided, reduced, and managed so that the construction and operational risks are acceptable. This experience, captured in the Metro Rail Design Criteria, will address the subsurface gas and oil well risks associated with new subway construction.