

3.10 Hazardous Materials and Wastes

Since publication of the Burbank to Los Angeles Project Section Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS), the following substantive changes have been made to this section:

- Section 3.10.2 was updated to include California Code of Regulations (Cal. Code Regs.) Title 22, Division 4.5, California Division of Occupational Safety and Health, and South Coast Air Quality Management District (SCAQMD) Rules 1166 and 1466.
- Two footnotes were added to Section 3.10.2.1 regarding the Federal Railroad Administration's (FRA) new regulations implementing the National Environmental Policy Act (NEPA), which were adopted during the preparation of the Draft EIR/EIS, and the updated Council on Environmental Quality regulations issued after release of the Draft EIR/EIS.
- Section 3.10.5.1 was revised to clarify that the project is within the San Fernando Groundwater Basin Superfund site.
- Text was added to Section 3.10.6.3, Impact HMW # 3, to include additional details about remediation facilities for the San Fernando Groundwater Basin Superfund site. The discussion under Impact HMW #3 was revised to clarify the potential impacts of the High-Speed Rail (HSR) Build Alternative on the remedies for the San Fernando Groundwater Basin Superfund site, and a new figure (Figure 3.10-6, Superfund Site Location) was added depicting the site
- Text was added to Section 3.10.8.2 to address EPA's request to include clarifying language about impacts to the San Fernando Valley Groundwater Basin Superfund site.
- Section 3.10.4.2 was revised to include a new Impact Avoidance and Minimization Feature (IAMF) #11, which requires stakeholder consultation for the San Fernando Valley Groundwater Basin Superfund Site to review the permitting requirements as well as the project design and construction methods for proposed modifications to the extraction wells and ancillary infrastructure.

The revisions and clarifications provided in this section of the Final EIR/EIS do not change the impact conclusions pertaining to hazardous materials and wastes presented in the Draft EIR/EIS.

3.10.1 Introduction

Section 3.10, Hazardous Materials and Wastes, of the EIR/EIS analyzes the potential impacts of the No Project Alternative and the HSR Build Alternative and describes impact avoidance and minimization features (IAMF) that would avoid, minimize, or reduce impacts. Where applicable, mitigation measures are proposed to further reduce, compensate for, or offset impacts of the HSR Build Alternative. This section also summarizes the existing hazardous materials and wastes conditions within the region and describes the affected environment in the resource study areas (RSA).

Hazardous Materials and Wastes

The presence or release of hazardous materials on construction sites can expose workers, residents, and ecosystems to contaminants that may compromise their health. As a result, regulations require evaluation of the potential for rail projects to affect or be affected by hazardous material sites.

The *Burbank to Los Angeles Project Section Hazardous Materials and Wastes Technical Report* (California High-Speed Rail Authority [Authority] 2021a) serves as the basis for the information in this section. Additional details on hazardous materials and wastes are provided in the following appendices in Volume 2 of this EIR/EIS:

- Appendix 2-B, Impact Avoidance and Minimization Features
- Appendix 2-D, Applicable Design Standards
- Appendix 3.1-B, Regional and Local Policy Inventory
- Appendix 3.10-A, Sites of Potential Environmental Concern

Nine other resource sections in this EIR/EIS provide additional information related to hazardous materials and wastes:

- **Section 3.3, Air Quality and Global Climate Change**—Construction and operational changes from the HSR Build Alternative related to air quality and global climate change
- **Section 3.5, Electromagnetic Fields and Electromagnetic Interference**—Construction and operational changes from the HSR Build Alternative related to the potential for electromagnetic fields and interference or of corrosion off underground pipelines and cables to the adjoining rail
- **Section 3.6, Public Utilities and Energy**—Construction and operational changes from the HSR Build Alternative related to construction and operations of the HSR Build Alternative on existing pipelines and landfills
- **Section 3.8, Hydrology and Water Resources**—Construction and operational changes from the HSR Build Alternative related to contamination of surface water and groundwater resources, as well as natural phenomena such as flooding
- **Section 3.9, Geology, Soils, Seismicity, and Paleontology**—Construction and operational changes from the HSR Build Alternative related to soil erosion and stability that could affect hazardous materials and waste sites, as well as natural phenomena such as earthquakes
- **Section 3.11, Safety and Security**—Construction and operational changes from the HSR Build Alternative related to emergency response preparedness in the event of leaks, spills, or accidents involving hazardous materials and wastes
- **Section 3.13, Station Planning, Land Use, and Development**—Current land uses in the Burbank to Los Angeles Project Section
- **Section 3.17, Cultural Resources**—Historical land uses in the Burbank to Los Angeles Project Section
- **Section 3.19, Cumulative Impacts**—Cumulative impacts of this and other past, present, and reasonably foreseeable future projects

3.10.1.1 Definition of Resources

The following are definitions for hazardous materials and wastes analyzed in this EIR/EIS:

- **Hazardous Materials** are those that, because of quantity, concentration, or physical or chemical characteristics, pose a significant present or potential hazard to human health and safety, or to the environment, if released. Hazardous materials include, but are not limited to, hazardous substances, hazardous wastes, and any material that a handler or the administering regulatory agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment (California Health and Safety Code, Section 25501[o]). Although often treated separately from hazardous materials, petroleum products (including crude oil and refined products such as fuels and lubricants) and natural gas are considered in this analysis because they might also pose a potential hazard to human health and safety if released into the environment.
- **Hazardous Wastes** include residues, discards, byproducts, contaminated products, or similar substances that exceed regulatory thresholds for toxicity, ignitability, corrosivity, or reactivity. Federal and state regulations identify by name specific wastes that the U.S. Environmental Protection Agency (USEPA) has determined are hazardous and has designated as “listed wastes.” In addition, hazardous wastes include non-Resource Conservation and Recovery Act (California) hazardous waste that exhibits any of the four characteristics of a hazardous waste as defined in Article 3 of Chapter 11 of the hazardous waste regulations (Sections 66261.21 to 66261.24).¹

¹ Cal. Code Regs. Website: [https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=IA3C92E90D4BA11DE8879F88E8B0DAAAE&originationContext=documenttoc&transitionType=Default&contextData=\(sc.Default\)](https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=IA3C92E90D4BA11DE8879F88E8B0DAAAE&originationContext=documenttoc&transitionType=Default&contextData=(sc.Default)).

3.10.2 Laws, Regulations, and Orders

This section identifies the federal, state, and local laws, regulations, orders, and plans that are relevant to hazardous materials and wastes.

3.10.2.1 Federal

Federal Railroad Administration, Procedures for Considering Environmental Impacts (64 Federal Register 28545)

On May 26, 1999, the FRA released Procedures for Considering Environmental Impacts (FRA 1999). These FRA procedures supplement the Council on Environmental Quality Regulations (40 Code of Federal Regulations [C.F.R.] 1500 et seq.) and describe FRA's process for assessing the environmental impacts of actions and legislation proposed by the agency and for the preparation of associated documents (42 U.S. Code [U.S.C.] 4321 et seq.).^{2,3} The FRA Procedures for Considering Environmental Impacts states that "the EIS should identify any significant changes likely to occur in the natural environment and in the developed environment. The EIS should also discuss the consideration given to design quality, art, and architecture in project planning and development as required by U.S. Department of Transportation Order 5610.4. These FRA procedures state that an EIS should consider possible impacts on hazardous materials and waste.

Resource Conservation and Recovery Act (42 U.S.C. § 6901 et seq.)

The Resource Conservation and Recovery Act regulates the identification, generation, transportation, storage, treatment, and disposal of solid and hazardous materials and hazardous wastes.

Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. § 9601 et seq.)

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) regulates former and newly discovered uncontrolled waste disposal and spill sites. The act established the National Priorities List of contaminated sites and the "Superfund" cleanup program.

Clean Air Act (42 U.S.C. 7401 et seq.)

The Clean Air Act protects the public from exposure to airborne contaminants known to be hazardous to human health. Under the Clean Air Act, the USEPA established National Emissions Standards for Hazardous Air Pollutants, which are emissions standards for air pollutants, including asbestos.

Clean Water Act – National Pollutant Discharge Elimination System (Section 402[p]) (33 U.S.C. 1342 [p])

The Clean Water Act regulates discharges and spills of pollutants, including hazardous materials to surface waters and groundwater.

Safe Drinking Water Act (42 U.S.C. 300(f) et seq.)

The Safe Drinking Water Act regulates discharges of pollutants to underground aquifers and establishes standards for drinking water quality.

² While this EIR/EIS was being prepared, FRA adopted new NEPA compliance regulations (23 C.F.R. 771). Those regulations only apply to actions initiated after November 28, 2018. See 23 C.F.R. 771.109(a)(4). Because this EIR/EIS was initiated prior to that date, it remains subject to FRA's Environmental Procedures rather than the Part 771 regulations.

³ The Council on Environmental Quality issued new regulations on July 14, 2020, effective September 14, 2020, updating the NEPA implementing procedures at 40 C.F.R. Parts 1500-1508. However, this project initiated NEPA before the effective date and is not subject to the new regulations, relying on the 1978 regulations as they existed prior to September 14, 2020. All subsequent citations to Council on Environmental Quality regulations in this environmental document refer to the 1978 regulations, pursuant to 40 C.F.R. 1506.13 (2020) and the preamble at 85 Fed. Reg. 43340.

Toxic Substances Control Act (15 U.S.C. 2601 et seq.)

The Toxic Substances Control Act regulates manufacturing, inventory, and disposition of industrial chemicals, including hazardous materials.

Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 and 40 C.F.R. 152–171)

The Federal Insecticide, Fungicide, and Rodenticide Act regulates the manufacturing, distribution, sale, and use of pesticides.

Hazardous Materials Transportation Act (49 U.S.C. 5101 et seq. and 49 C.F.R. 101, 106, 107, and 171–180)

The Hazardous Materials Transportation Act regulates the transport of hazardous materials by motor vehicles, marine vessels, and aircraft.

Hazardous Materials Transportation Uniform Safety Act of 1990 (Public Law 101-615)

The Hazardous Materials Transportation Uniform Safety Act regulates the safe transport of hazardous material intrastate, interstate, and for foreign commerce. The statute includes provisions to encourage uniformity between different state and local highway routing regulations, to develop criteria for the issuance of federal permits to motor carriers of hazardous materials, and to regulate the transport of radioactive materials.

Emergency Planning and Community Right to Know Act (42 U.S.C. 11001 et seq. and 40 C.F.R. 350.1 et seq.)

The Emergency Planning and Community Right-to-Know Act regulates facilities that use hazardous materials in quantities that require reporting to emergency response officials.

Federal Compliance with Pollution Control (Executive Order 12088)

U.S. Presidential Executive Order 12088 requires federal agencies to take necessary actions to prevent, control, and abate environmental pollution from facilities and activities under the control of federal agencies.

3.10.2.2 State**Well Safety Devices for Critical Wells (California Code Register Title 14, § 1724.3)**

This regulation governs safety devices required on “critical wells” within 100 feet of an operating railway.

Gas Monitoring and Control at Active and Closed Disposal Sites (California Code Register Title 27, § 20917 et seq.)

The regulations within Article 6 set forth the performance standards and the minimum substantive requirements for landfill gas monitoring and control as it relates to active solid waste disposal sites and to proper closure, post closure maintenance, and ultimate reuse of solid waste disposal sites to ensure that public health and safety and the environment are protected from pollution due to the disposal of solid waste.

Closure and Post-Closure Maintenance of Landfills (California Code Register Title 27, Subchapter 5)

This regulation provides post-closure maintenance guidelines, including the requirements for an emergency response plan and site security. It regulates post-closure land use, requiring protection of public health and safety and the built environment, as well as the prevention of gas explosions. Construction on the site must maintain the integrity of the final cover, drainage and erosion control systems, and gas monitoring and control systems. All post-closure land use within 1,000 feet of a landfill site must be approved by the local enforcement agency.

California Public Resources Code (California Code Register, § 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.

Porter-Cologne Water Quality Control Act (California Water Code, § 13000 et seq.)

The Porter-Cologne Water Quality Control Act regulates water quality through the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards, including oversight of water monitoring and contamination cleanup and abatement.

Hazardous Materials Release Response Plans and Inventory Law (California Health and Safety Code, § 25500 et seq.)

This section of the California Health and Safety Code requires facilities using hazardous materials to prepare Hazardous Materials Business Plans.

Hazardous Waste Control Act (California Health and Safety Code, § 25100 et seq.)

This act is similar to the Resource Conservation and Recovery Act on the federal level in regulating the identification, generation, transportation, storage, and disposal of materials deemed hazardous by the State of California.

Safe Drinking Water and Toxic Enforcement Act (Proposition 65, California Health and Safety Code, § 25249.5 et seq.)

The 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.

Cortese List Statute (California Government Code, § 65962.5)

This regulation requires the Department of Toxic Substances Control (DTSC) to compile and maintain lists of potentially contaminated sites throughout the state, and includes the Hazardous Waste and Substances Sites List.

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 Certified Unified Program Agencies (CUPA). 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.

Certified Unified Program Agencies

As mentioned above, a CUPA is designated and authorized by the State of California to apply statewide standards to facilities within its jurisdiction that treat or generate hazardous waste, operate underground storage tanks, or store hazardous materials. The CUPAs and CUPA

Participating Agencies within Los Angeles County that would have jurisdiction over environmental matters associated with the Burbank to Los Angeles Project Section consist of the following:

- Los Angeles County Fire Department, Health Hazardous Materials Division
- Los Angeles County Department of Public Works
- City of Los Angeles Fire Department
- City of Burbank Fire Department
- City of Glendale Fire Department

California Code of Regulations Title 22, Division 4.5

Cal. Code Regs. Title 22, Division 4.5, contains the Environmental Health Standards for the Management of Hazardous Waste, which include California waste identification and classification regulations. Cal. Code Regs. 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.

California Division of Occupational Safety and Health

The California Division of Occupational Safety and Health, better known as Cal-OSHA, protects and improves the health and safety of working men and women in California and the safety of passengers riding on elevators, amusement rides, and tramways through the following activities:

- Setting and enforcing standards
- Providing outreach, education, and assistance
- Issuing permits, licenses, certifications, registrations, and approvals

3.10.2.3 Regional and Local

The regional and local regulatory programs and agencies that regulate, coordinate, and enforce the handling of hazardous waste and materials and spill response are described below. Refer to Section 3.3 of the *Burbank to Los Angeles Project Section Hazardous Materials and Wastes Technical Report* (Authority 2021a) for additional information on regional and local agencies in the project section that implement hazardous materials policies and enforce hazardous materials regulations.

Office of Emergency Services

The California Office of Emergency Services maintains the California Hazardous Materials Incident Report System, which contains information on reported hazardous material accidental releases or spills.

The Los Angeles County Office of Emergency Management is responsible for organizing and directing the preparedness efforts of the county Emergency Management Organization. The Office of Emergency Management is the day-to-day coordinator for the entire organization, whose responsibilities include planning and coordination, operations, training, and public education.

Division of Environmental Health Services

Los Angeles County Public Health Investigation is an enforcement agency operating as part of the Los Angeles County 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 Investigation 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

Division of Environmental Health Emergency Response Teams

The Los Angeles County Emergency Preparedness and Response Unit ensures that the Division of Environmental Health can protect the public from health hazards that occur after emergencies or disasters. The agency develops plans and establishes procedures to coordinate responses with partner agencies. The agency provides training and conducts exercises to create a workforce that can manage the health effects of any emergency.

Fire Department Hazardous Materials Response Teams

The Los Angeles County Fire Department, Health Hazardous Materials Division, is the lead agency (CUPA) for hazardous materials within Los Angeles County. Any business that handles a quantity of hazardous material or hazardous waste that at any one time during 1 year equals or exceeds a total volume of 55 gallons, a total weight of 500 pounds, or a total volume of 200 cubic feet of a compressed gas is a hazardous materials handler and must report Owner/Operator, Business Activities, Inventory, Site Map, and Emergency Response and Contingency Plan and Employee Training Plan information in the California Environmental Reporting System. As noted above, fire departments within Los Angeles County (the Cities of Los Angeles, Burbank, and Glendale in the Burbank to Los Angeles Project Section) have their own hazardous materials divisions and are therefore not necessarily under the jurisdiction of the Health Hazardous Materials Division with respect to hazardous materials issues.

The City of Los Angeles Emergency Operations Master Plan and Procedures and Hazardous Materials Annex, along with departmental plans, provide direction and guidance to City of Los Angeles departments when responding to a hazardous materials accident. The purpose of the Hazardous Materials Annex is to provide direction and guidance to the City of Los Angeles in responding to significant incidents involving hazardous materials that exceed the scope of incidents managed at the field level. The annex includes the concept that a hazardous materials incident may be an accidental release; an intentional release or use of a chemical, biological, radiological, nuclear, or explosive material; or a result of a secondary incident to another natural or anthropogenic incident (City of Los Angeles 2008).

The City of Los Angeles Fire Department also maintains a Bureau of Fire Prevention and Public Safety. The bureau requires local businesses that handle, store, and/or transport hazardous materials to register with the City of Los Angeles so that the Fire Department is aware of any hazardous material risks that may be present when it responds to emergency calls.

The City of Burbank Fire Department is responsible for responding to incidents involving toxic and/or hazardous materials within City of Burbank limits, including spills due to transportation of hazardous materials through the city, industrial activities that use or produce hazardous materials, airport activities, underground pipelines, and illegal dumping. The Burbank Fire Department also oversees the Hazardous Materials Inventory Disclosure Program, which identifies quantities and locations of hazardous materials stored in the community. It also manages the Risk Management and Prevention Program, which was designed to minimize the risk of spills (or adverse impacts caused by spills) and releases of extremely dangerous materials (City of Burbank 2013).

The Glendale Fire Department receives inventory information from local businesses that handle hazardous materials as part of the City of Glendale's Hazardous Materials Disclosure Program (City of Glendale 2003).

Enforcement Agencies for Solid Waste Disposal

The Los Angeles County Department of Public Works is the designated agency involved in solid waste disposal for Los Angeles County.

Local Air Quality Management District Regulations

The Burbank to Los Angeles Project Section is within the South Coast Air Basin, which is governed by the SCAQMD. This air district includes all of Orange County, Los Angeles County except for the Antelope Valley, the nondesert portion of western San Bernardino County, and the

western and Coachella Valley portions of Riverside County. The SCAQMD is the agency principally responsible for air pollution control in the South Coast Air Basin and is tasked with implementing certain programs and regulations required by the federal Clean Air Act and the California Clean Air Act. The SCAQMD prepares plans to attain both California and national ambient air quality standards.

The SCAQMD is directly responsible for reducing emissions from stationary (area and point) sources. The agency develops rules and regulations, establishes permitting requirements, inspects emissions sources, and enforces such measures through educational programs or fines, when necessary. The following sections summarize the SCAQMD rules and regulations that may be applicable to the project.

South Coast Air Quality Management District Rule 1166—Volatile Organic Compound Emissions from Decontamination of Soil

This rule requires the preparation of a Site-Specific and Various Locations Soil Mitigation Plan. Rule 1166 requires that an approved mitigation plan be obtained from the SCAQMD prior to commencing any of the following activities:

- The excavation of an underground storage tank or piping that has stored volatile organic compounds (VOC)
- The excavation or grading of soil containing VOCs material, including gasoline, diesel, crude oil, lubricant, waste oil, adhesive, paint, stain, solvent, resin, monomer, and/or any other material containing VOCs
- The handling or storage of VOCs-contaminated soil (soil that registers >50 parts per million using an organic vapor analyzer calibrated with hexane) at or from an excavation or grading site
- The treatment of VOCs-contaminated soil at a facility

South Coast Air Quality Management District Rule 1466—Control of Particulate Emissions from Soils with Toxic Air Contaminants

The purpose of Rule 1466 is to minimize off-site fugitive dust emissions from earth-moving activities at sites containing specific toxic air contaminants by establishing dust control measures. At least 72 hours and no more than 30 days prior to conducting any earth-moving activities on any site meeting the applicability of the rule, the owner or operator shall electronically notify the SCAQMD of the intent to conduct any earth-moving activities.

Regional and Local Plans and Policies

Table 3.10-1 lists city general plan policies relevant to the HSR Build Alternative with respect to hazardous materials and wastes.⁴

⁴ All plans and policies have been adopted unless otherwise noted.

Table 3.10-1 Regional and Local Plans and Policies

Plan/Policy	Summary
Los Angeles County	
Los Angeles County General Plan (2015)	<ul style="list-style-type: none"> ▪ Policy PS/F 5.1: Maintain an efficient, safe and responsive waste management system that reduces waste while protecting the health and safety of the public. ▪ Policy PS/F 5.2: Ensure adequate disposal capacity by providing for environmentally sound and technically feasible development of solid waste management facilities, such as landfills and transfer/processing facilities.
Los Angeles County Operational Area Emergency Response Plan (1998)	The <i>Operational Area Emergency Response Plan</i> addresses the coordinated response to emergency situations associated with natural, anthropogenic, and technological incidents in the operational area. The intent of the plan is to define responsibilities and provide guidance to agencies/jurisdictions within the operational area on how to interface with the operational area coordinator during emergencies and disasters.
Los Angeles County All-Hazard Mitigation Plan (2014)	The <i>All-Hazard Mitigation Plan</i> sets strategies for coping with natural and anthropogenic hazards faced by residents in the county, including earthquake, flood, wildlife, and tsunami hazards, as well as other nonsignificant hazards.
City of Burbank	
City of Burbank General Plan (2013) Safety Element	<ul style="list-style-type: none"> ▪ Policy 8.1: Review proposed projects involving the use or storage of hazardous materials. ▪ Policy 8.2: Encourage businesses and organizations that store and use hazardous materials to improve planning and management procedures. ▪ Policy 8.3: Distribute information and use incentives and disincentives to reduce or eliminate the use of hazardous materials where feasible. ▪ Policy 8.5: Consult with appropriate agencies regarding hazardous materials regulations.
City of Glendale	
City of Glendale General Plan (2003) Safety Element	<ul style="list-style-type: none"> ▪ Goal 5: Reduce threats to the public health and safety, and to the environment, from hazardous materials. ▪ Policy 5-1: The City shall strive to reduce the potential for residents, workers, and visitors to Glendale to being exposed to hazardous materials and wastes. ▪ Policy 5-1.4: The City shall maintain the capability of responding to hazardous materials incidents in the City and along the sections of freeways that extend across the City. This includes maintaining cooperation agreements with adjacent jurisdictions and continuing to coordinate with regional providers of emergency services.
City of Los Angeles	
City of Los Angeles General Plan (1996) Safety Element	<ul style="list-style-type: none"> ▪ Goal 1: A city where potential injury, loss of life, property damage and disruption of the social and economic life of the City due to fire, water related hazard, seismic event, geologic conditions or release of hazardous materials disasters is minimized. ▪ Policy 1.1.4: Protect the public and workers from the release of hazardous materials and protect City water supplies and resources from contamination resulting from accidental release or intrusion resulting from a disaster event, including protection of the environment and public from potential health and safety hazards associated with program implementation. ▪ Policy 3.1.2: Develop and establish procedures for identification and abatement of physical and health hazards that may result from a disaster. Provisions shall include measures for protecting workers, the public and the environment from contamination or other health and safety hazards associated with abatement, repair and reconstruction programs. [All EOO hazard mitigation, response, recovery programs involving identification and mitigation of release of hazardous materials and protection of the public and emergency personnel from hazardous materials implement this policy.]

Sources: City of Los Angeles, 1996; City of Burbank, 2013; City of Glendale, 2003; Los Angeles County, 2015
 EOO = Emergency Operations Organization

3.10.3 Consistency with Plans and Laws

As indicated in Section 3.1, Introduction, California Environmental Quality Act (CEQA) and NEPA regulations⁵ require a discussion of inconsistencies or conflicts between a proposed undertaking and federal, state, regional, or local plans and laws.

Several federal and state laws, listed in Section 3.10.2.1, Federal, and Section 3.10.2.2, State, pertain to hazardous materials and hazardous wastes. The Authority, as the federal lead agency and state lead agency proposing to construct and operate the HSR system, is required to comply with all federal and state laws and regulations and to secure all applicable federal and state permits prior to initiating construction of the project. Therefore, there would be no inconsistencies between the HSR Build Alternative and these federal and state laws and regulations.

The Authority is a state agency and therefore is not required to comply with local land use and zoning regulations; however, it has endeavored to design and construct the HSR project so that it is consistent with land use and zoning regulations. A total of four plans and ten policies were reviewed as shown in Table 3.10-1. The HSR Build Alternative would be consistent with all reviewed plans and policies.

Refer to Appendix 3.1-B, Regional and Local Policy Inventory, for a complete consistency analysis of local plans and policies.

3.10.4 Methods for Evaluating Impacts

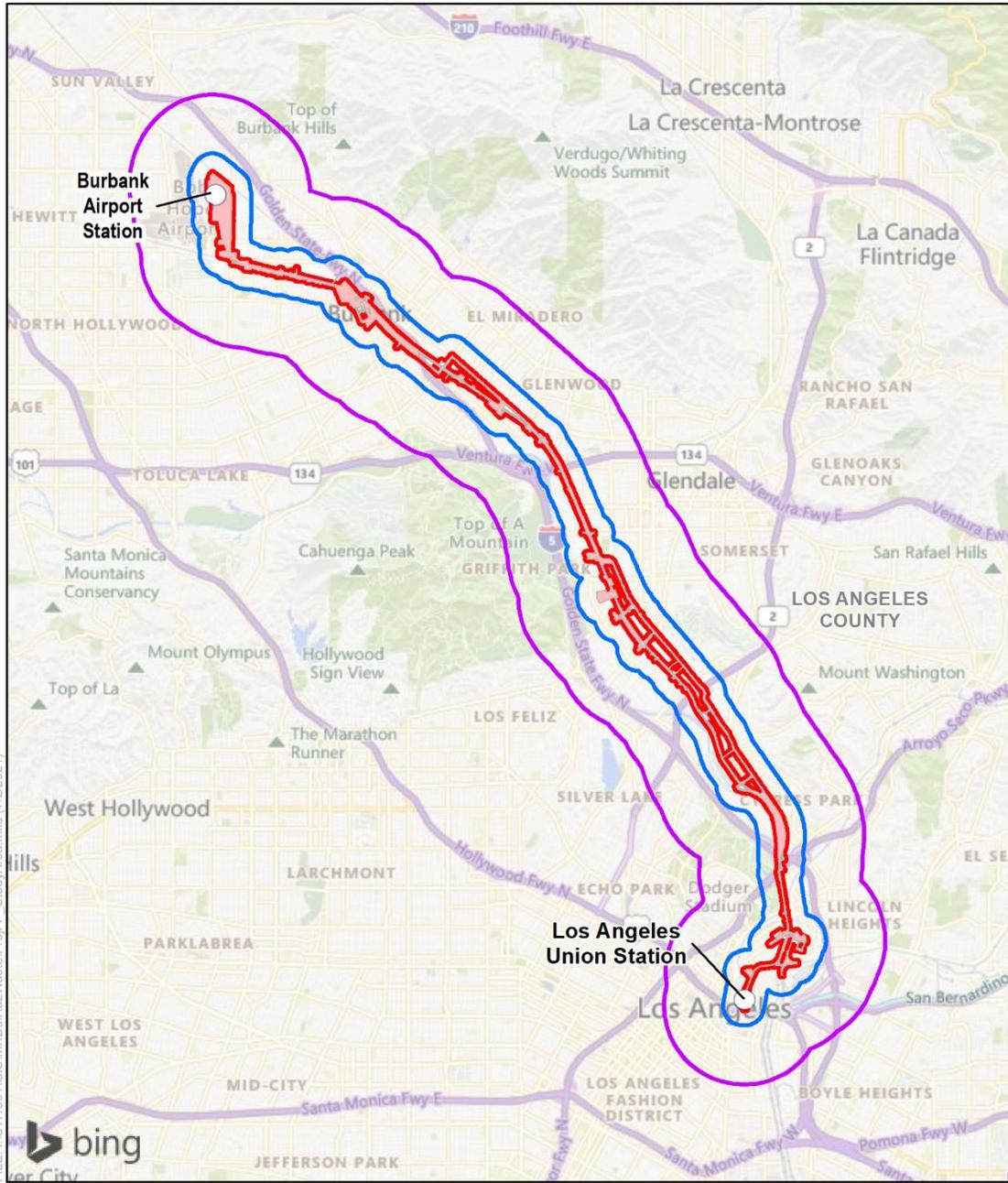
The following sections summarize the RSAs and methods used to analyze impacts from hazardous materials and wastes. As summarized in Section 3.10.1, Introduction, nine other sections also provide additional information related to hazardous materials and wastes: Section 3.3, Air Quality and Global Climate Change; Section 3.5, Electromagnetic Interference and Electromagnetic Fields; Section 3.6, Public Utilities and Energy; Section 3.8, Hydrology and Water Resources; Section 3.9, Geology, Soils, Seismicity, and Paleontological Resources; Section 3.11, Safety and Security; Section 3.13, Station Planning, Land Use, and Development; Section 3.17, Cultural Resources; and Section 3.19, Cumulative Impacts.

3.10.4.1 Definition of Resource Study Area

As defined in Section 3.1, Introduction, RSAs are the geographic boundaries in which the Authority conducted environmental investigations specific to each resource topic. The RSA for impacts related to hazardous materials and wastes includes the project footprint plus a 150-foot buffer to account for hazardous material and waste issues on adjacent properties. The RSA for potential environmental concern (PEC) sites extends one mile from the project footprint, consistent with ASTM International (ASTM) specified minimum search distances. Additional RSA boundaries are for assessing impacts related to hazardous materials and wastes, depending on the presence and proximity of PEC sites, landfills, oil and gas wells, and educational facilities.

Table 3.10-2 provides a general definition and boundary description for each hazardous materials and wastes RSA within the Burbank to Los Angeles Project Section. The RSA boundaries are shown on Figure 3.10-1.

⁵ NEPA regulations refer to the regulations issued by the Council for Environmental Quality in 40 C.F.R. 1500.



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SOURCE: Bing Maps (2018); CHSRA (6/2021)

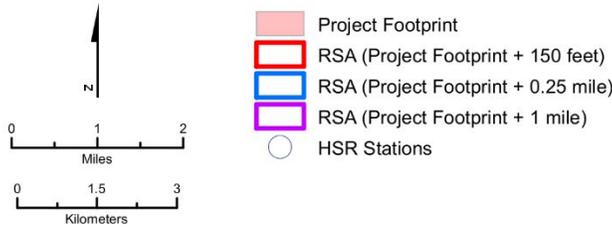


Figure 3.10-1 High-Speed Rail Project Footprint and Resource Study Areas

Table 3.10-2 Definition of Resource Study Areas

General Definition	Resource Study Area Boundary and Definition
General hazardous materials and wastes	Project footprint plus a 150-foot buffer from the footprint to account for hazardous materials and waste issues on adjacent properties
PEC sites database	Project footprint plus a 1-mile buffer to cover areas within the ASTM-specified minimum search distances
Landfills	Project footprint plus a 0.25-mile buffer
Oil and gas wells	Project footprint plus a 0.25-mile buffer
Educational facilities	Project footprint plus a 0.25-mile buffer

ASTM = ASTM International

RSA = resource study area

PEC = potential environmental concern

Also considered is the larger, regional geographic area within which hazardous materials and wastes would be transported to or from the project section during construction and operation, primarily via major transportation or freight corridors.

3.10.4.2 Impact Avoidance and Minimization Features

The HSR Build Alternative incorporates standardized HSR features to avoid and minimize impacts. These features are referred to as IAMFs. The Authority would implement IAMFs during project design and construction. As such, the analysis of impacts of the HSR Build Alternative in this section factors in all applicable IAMFs. Appendix 2-B, Impact Avoidance and Minimization Features, provides a detailed description of IAMFs that are included as part of the HSR Build Alternative design. IAMFs applicable to hazardous materials and wastes include:

- **HMW-IAMF#1: Property Acquisition Phase I and Phase II Environmental Site Assessments—** Requires completion of a Phase I Environmental Site Assessment (ESA) during the right-of-way acquisition phase to identify potential hazardous waste on parcels to be acquired, as well as appropriate testing and remediation (if necessary).
- **HMW-IAMF#2: Landfill—** Requires preparation of a technical memorandum that identifies additional methane protection construction procedures for work within 1,000 feet of a landfill, including detection systems and personnel training.
- **HMW-IAMF#3: Work Barriers—** Requires preparation of a technical memorandum to identify whether work barriers in conjunction with site investigation and remediation would limit the potential release of subsurface contaminants during construction.
- **HMW-IAMF#4: Undocumented Contamination—** Requires preparation of a construction management plan (CMP) addressing procedures and requirements for responding to disturbance of undocumented contaminated soil.
- **HMW-IAMF#5: Demolition Plans—** Requires preparation of a demolition plan for the safe dismantling and removal of building components and debris, including a plan for lead and asbestos abatement.
- **HMW-IAMF#6: Spill Prevention—** Requires preparation and identification of construction best management practices (BMP) to contain and prevent accidental spills and procedures to clean up any accidental hazardous material release.
- **HMW-IAMF#7: Storage and Transport of Materials—** Requires preparation of a hazardous materials and waste plan identifying responsible parties and procedures for hazard waste transport to reduce the likelihood of hazardous waste spills.
- **HMW-IAMF#8: Permit Conditions—** Requires preparation of and compliance with a hazardous materials and waste plan that includes responsible parties, procedures for hazardous waste and hazardous materials transport, containment, and storage BMPs during construction and operation.

- HMW-IAMF#9: Environmental Management System—Requires a process that would be used to evaluate the full inventory of hazardous materials as defined by federal and state law. The process would be employed on an annual basis and would replace hazardous substances with nonhazardous materials.
- HMW-IAMF#10: Hazardous Materials Plans—Requires preparation of and compliance with a hazardous materials plan and a Spill Prevention, Control, and Countermeasure (SPCC) plan, including procedures to account for the temporary generation of additional waste materials from construction at sites with existing contamination.
- HMW-IAMF #11: Stakeholder Consultation for the San Fernando Valley Groundwater Basin Superfund Site—Requires the Authority to coordinate with USEPA, the Los Angeles Regional Water Quality Control Board, and other relevant stakeholders on an ongoing basis to review the permitting requirements as well as the project design and construction methods for proposed modifications to the extraction wells and ancillary infrastructure.
- GEO-IAMF#1: Geologic Hazards – Requires preparation of a CMP in which a health and safety plan would be developed and deployed.
- GEO-IAMF#3: Gas Monitoring—Requires preparation of a CMP addressing how gas monitoring would be incorporated into construction and operation BMPs.
- GEO-IAMF#4: Historic or Abandoned Mines and Other Toxic Sites: Requires preparation of a CMP in which mitigations would include environmental cleanups at sites that are releasing or threatening to release hazardous substances such as heavy metals from acid mine drainage and contaminated water and vapors.
- GEO-IAMF#5: Hazardous Minerals, Soils, or Vapors: Requires preparation of a CMP in which an effective monitoring and cleanup program would be developed and implemented for spills and leaks of any hazardous materials. An Emergency Response Procedure Plan would be developed and deployed during operation of the HSR Build Alternative.
- HYD-IAMF#1: Storm and Groundwater Management: Requires that on-site storm and groundwater management facilities would be designed and constructed to capture runoff and provide treatment prior to discharge of pollutant-generating surfaces, including tunnels, trenches, station parking areas, access roads, new road over- and underpasses, reconstructed interchanges, and new or relocated roads and highways.
- HYD-IAMF#3: Prepare and Implement an Industrial Stormwater Pollution Prevention Plan— Requires preparation and implementation of a Construction Stormwater Pollution Prevention Plan.
- SS-IAMF#4: Oil and Gas Wells—Requires identification and inspection of all active and abandoned oil and gas wells within 200 feet of the HSR tracks.

3.10.4.3 Methods for NEPA and CEQA Impact Analysis

The section describes the sources and methods the Authority used to analyze potential hazardous materials and wastes impacts on the public and environment as a result of HSR Build Alternative implementation. These methods apply to both NEPA and CEQA unless otherwise indicated. Refer to Section 3.1.3.4, Methods for Evaluating Impacts, for a description of the general framework for evaluating impacts under NEPA and CEQA. Refer to the *Burbank to Los Angeles Project Section Hazardous Materials and Wastes Technical Report* (Authority 2021a) for information regarding the methods and data sources used in this analysis. This evaluation also considers laws, regulations, and orders that regulate hazardous materials and wastes (see Section 3.10.2).

Hazardous materials or wastes that have been released into soil, surface water, groundwater, or air are considered contamination. Properties where hazardous materials or wastes are currently handled, or were handled in the past, have the potential to be contaminated. Properties on which hazardous materials or wastes have been mismanaged are almost certain to be contaminated (California Department of Transportation [Caltrans] 2014).

In addition, hazardous materials have the potential to be accidentally released during construction or operation of the HSR Build Alternative during transport, use, storage, or disposal of hazardous materials; as a result of ground-disturbing activities that inadvertently disturb contaminated sites; or during demolition of buildings and roadways with hazardous building materials (e.g., asbestos, lead).

Analysts used the following methods to evaluate potential direct and indirect hazardous materials and wastes impacts.

- **Identification of Potential Environmental Concern (PEC) Sites**—PEC sites were identified using the definitions for hazardous waste, materials, and substances provided in Chapter 10 of the Initial Site Assessment guidance document (DTSC 2006b) and the California Office of State, Project Development Procedures and Quality Improvement in Division of Design, *Project Development Procedures Manual*, Chapter 18 (DTSC 2006a). Sites were identified as having PECs where there was a possible presence of any hazardous material or waste under conditions that indicated the possibility of an existing release, a past release, or a threat of a release of the hazardous material or waste into structures on the property or into the ground, groundwater, or surface water of the property. This designation includes sites where hazardous materials or wastes are handled and stored in compliance with laws and regulations.
- **Screening-Level Assessment**—A screening-level assessment was conducted by reviewing government record databases, historical records, and agency records. The results of the database search report were reviewed to note reported release sites up to 1 mile from the project footprint. To evaluate sites identified in the database with the potential to negatively affect the RSA, screening criteria were applied. A site assessed to be a PEC was based on at least one of the following three characteristics: (1) the nature of the site's environmental history, (2) the site's proximity to the project alignment, and (3) the groundwater flow direction near the site. The purpose of this assessment was to identify PECs, to the extent feasible, in connection with selected sites within the RSA according to the processes described in this report, to establish the baseline conditions.

This methodology was not intended to be a parcel-level due-diligence assessment for the purpose of property acquisition, nor was it intended to satisfy the Phase I ESA requirements as defined by ASTM Standard E 1527-13 (ASTM 2013) or the All Appropriate Inquiry requirements defined in 40 C.F.R. 312. This methodology did not include interviewing property owners, performing reconnaissance at individual properties, field sampling, or conducting analysis or investigation of individual buildings or structures. A hazardous materials assessment of individual parcels potentially subject to property transfer/acquisition would occur subsequent to the NEPA and CEQA environmental review and final design/project implementation processes. For this reason, specific properties requiring abatement of building materials could not be determined at this time.

Within the RSA, potentially large or highly contaminated PEC sites were reviewed. These include sites on the CERCLA National Priorities List, where contamination could extend well beyond the address that was mapped and into the RSA. In this analysis, the database search results did not identify any such sites.

- **Ranking of PEC Sites**—PEC sites in the RSA were ranked as having High-, Medium-, or Low-Risk potential to result in impacts. The sites that pose the greatest concerns are: (1) those with soil and/or groundwater contamination in or adjacent to the project footprint for an alternative, and (2) those with groundwater contamination near areas where excavation down to groundwater would be necessary. Table 3.10-3 identifies the ranking system applied to the PEC sites in the RSA. The *Burbank to Los Angeles Project Section Hazardous Materials and Wastes Technical Report* (Authority 2021a) provides a detailed account of these methods.
- **Adjacent Property Review**—For those sites with a reported release either in or adjacent to the project footprint, an additional search for information (including current case status) was conducted online through the DTSC Site Mitigation and Brownfields Reuse Program, the California Department of Resources Recycling and Recovery Database website (Department of Resources Recycling and Recovery 2016), the EnviroStor Database website (DTSC 2015), and the SWRCB's GeoTracker website (SWRCB 2016), as appropriate.

Table 3.10-3 Ranking Applied to Potential Environmental Concern Sites in the Resource Study Area

Site Condition	High-Risk	Medium-Risk	Low-Risk
Review indicates that contamination is present and likely to be encountered during construction	X		
Review indicates that contamination is or may be present, but is not likely to be encountered during excavation		X	
Abatement of building materials may be required prior to construction ¹	X		
Review indicates that there is no contamination and abatement of building materials will not be required ¹			X

¹ Specific properties belonging in these ranking categories cannot be determined at this time and would be the focus of future parcel-by-parcel due-diligence investigations prior to the property acquisition phase. For the purposes of this analysis, parcels have been ranked according to the presence of structures. Additional surveys would be required for properties receiving a High-Risk ranking.

3.10.4.4 Method for Determining Significance under CEQA

CEQA requires that an EIR identify the significant environmental impacts of a project (State CEQA Guidelines § 15126). One of the primary differences between NEPA and CEQA is that CEQA requires a significance determination for each impact using a threshold-based analysis (see Section 3.1.3.3, Methods for Evaluating Impacts, for further information). By contrast, under NEPA, significance is used to determine whether an EIS will be required; NEPA requires that an EIS is prepared when the proposed federal action (project) as a whole has the potential to “significantly affect” the quality of the human environment.” Accordingly, Subsection 3.10.9, CEQA Significance Conclusions, summarizes the significance of the environmental impacts related to hazardous materials and wastes for the HSR Build Alternative. The Authority is using the following thresholds to determine if a significant impact related to hazardous materials and wastes would occur as a result of the HSR Build Alternative. A significant impact is one that would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions that involve the release of hazardous materials into the environment
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school
- 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 create a significant hazard to the public or the environment

3.10.5 Affected Environment

This section describes the affected environment for hazardous materials and wastes in the RSA based on the *Hazardous Materials and Wastes Technical Report* (Authority 2021a).

A summary of stakeholder issues and concerns from public outreach efforts can be found in Chapter 9, Public and Agency Involvement.

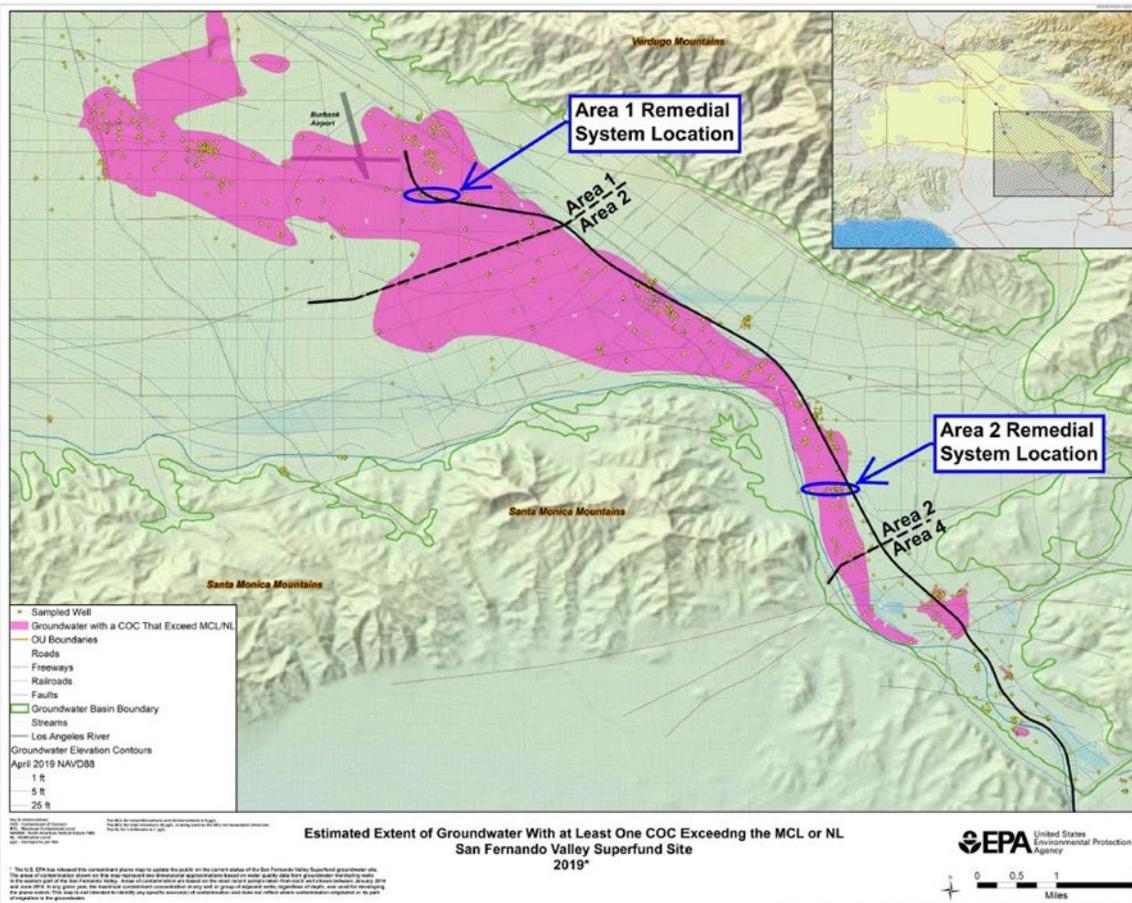
3.10.5.1 General Environmental Concerns

General hazardous materials and wastes are present within the adjacent properties hazardous materials and wastes RSA due to current and past land uses (e.g., agriculture and industrial uses). Specific PEC sites associated with hazardous materials and wastes are discussed in Section 3.10.5.2. General areas of concern are identified where any of the following may occur: lead-based paint (LBP); asbestos-containing materials (ACM); residual pesticides; polychlorinated biphenyls (PCB); aerially deposited lead; hydrocarbons and solvents; and semi-volatile organic compounds, polyaromatic hydrocarbons, and pesticides. Other general

concerns include the transport, use, storage, and disposal of hazardous materials associated with existing facilities. The following discussion summarizes the types of substances and conditions that could be expected for each of the general areas of concern.

San Fernando Valley Groundwater Basin Superfund Site

The project is within the San Fernando Valley Groundwater Basin Superfund site, Areas 1, 2, and 4 where there are numerous hazardous waste sites that contributed to the soil, soil vapor, and groundwater contamination that is currently being remediated by the USEPA. The Superfund site is shown in Figure 3.10-2. The Area 1 Superfund Site (Area 1) is an approximately 20-square-mile area of contaminated groundwater located within the San Fernando Groundwater Basin. Area 1 boundaries are located primarily within North Hollywood and Burbank. The EPA has divided Area 1 into the Burbank Operable Unit (BOU), located primarily in Burbank and south of Hollywood Burbank Airport, and the North Hollywood Operable Unit (NHOU), located to the west of the BOU. The Area 2 Superfund Site (Area 2) is an approximately 10.5-square-mile area of contaminated groundwater located primarily within Los Angeles and Glendale, California. Area 2 is bordered by Area 1 to the north and the Area 4 Superfund Site to the south. The Area 4 Superfund Site (Area 4) is an approximately 9-square-mile area of contained groundwater located in the City of Los Angeles.



Source: U.S. Environmental Protection Agency, 2019

Figure 3.10-2 HSR Build Alternative Alignment within USEPA Superfund Areas 1, 2, and 4 and the San Fernando Basin Groundwater Contaminant Plume

The BOU groundwater remediation system is operated by the BW&P with funding from the Potentially Responsible Parties (PRPs). The remedial system was constructed in two phases. The Phase I system was built between 1994 and 1996 and consists of seven groundwater extraction wells (V01 to V07). In 1997, the remediation system was expanded with construction of the Phase II system, when extraction well V08 was added with a second water conveyance pipeline leading to the water treatment plant (WTP) (Tetra Tech 2020a). The GSOU remedial system is operated by Glendale Water and Power (GW&P) and is serviced by five extraction wells (GS-01 to GS-05).

Appendix 3.10-A includes additional detailed information regarding the San Fernando Groundwater Basin Superfund site. Subsurface contamination was identified at the former Menasco Aerosystems site, including soil, soil gas, and groundwater (both perched and regional). Releases of chemicals associated with those activities occurred and resulted in soil and groundwater contamination at the site. The property has been extensively investigated since the early 1990s. Both VOCs and inorganic contaminants (metals) have been identified in the subsurface. The primary VOCs identified at the site include 1,1,1-trichloroethane, 1,1-dichloroethane, trichloroethylene, and tetrachloroethylene. The primary inorganic contaminants present at the site include chrome III and chrome VI.

Transport, Use, Storage, and Disposal of Hazardous Materials and Wastes

Hazardous materials, hazardous wastes, and petroleum products are a subset of the types of goods routinely shipped along transportation corridors such as Interstate 5, U.S. Route 101, State Route 134, State Route 2, State Route 110, and Union Pacific Railroad lines. In addition, hazardous materials transport and temporary storage activity are assumed to take place at landfill and recycling facilities and industrial-type facilities.

Potential Building Material Hazardous Substances

The adjacent properties hazardous materials and wastes RSA includes industrial, commercial, and residential structures. Asbestos is a mineral fiber that was used in a variety of building construction materials for insulation and as a fire-retardant prior to the 1980s. There is no health threat if ACMs remain undisturbed and do not become airborne; however, if ACMs are damaged or disturbed by repair, remodeling, or demolition activities, microscopic fibers become airborne and can be inhaled. When airborne asbestos is inhaled, the thin fibers irritate tissues and resist the body's natural defenses. Asbestos is linked to cancers of the lung and the lining of internal organs, as well as to asbestosis and other diseases that inhibit lung function. State and federal regulations typically require preparation of, and compliance with, ACM abatement plans before disturbing ACMs.

LBP is recognized as a potential health risk because of the known toxic effects of lead exposure on the central nervous system, kidneys, and blood stream. Lead exposure occurs primarily through the ingestion and inhalation of LBP. Concern for LBP is primarily related to residential structures, though the concern may also apply to commercial structures. The risk of lead toxicity in LBP varies based on the condition of the paint and the year of its application. Paint applied to residential structure in 1977, or later, is not expected to contain lead due to it being banned; however, LBP has not been banned for commercial and industrial use.

Potential Roadway Corridor Hazardous Substances

Yellow paint and tape used for pavement markings on roadways before 1997 might exceed the hazardous waste criteria for lead under Title 22, Cal. Code Regs. If so, such materials would need to be disposed in a disposal facility authorized to accept this type of waste. In addition to lead-containing materials, ACMs might be found in roadway materials, such as the material used before the 1980s for expansion joints in the pavement.

Leaded gasoline was used as a vehicle fuel in the U.S. from the 1920s until the 1990s. Although lead is no longer used in gasoline formulations, lead emissions from automobiles are a recognized source of contamination in soils along roadways (i.e., aurally deposited lead). Surface and near-surface soils along heavily used roadways have the potential to contain elevated concentrations of lead. Aerially deposited lead is generally found within 30 feet from the edge of the road pavement (DTSC 2016).

Potential Railway Corridor Hazardous Substances

Contaminants common in railway corridors include wood preservatives (e.g., creosote and arsenic), PCBs, VOCs, semi-volatile organic compounds, polycyclic aromatic hydrocarbon compounds, metals, petroleum hydrocarbons in soil and groundwater, asbestos from sources other than ballast, and heavy metals in ballast rock. ACMs might also occur in ballast rock and soils associated with railroad tracks. In addition, soils in and adjacent to these corridors might contain herbicide residues because of historic and ongoing weed-abatement practices.

Potential Utility Corridor Hazardous Substances

The adjacent properties hazardous materials and wastes RSA includes urban areas and associated public utilities. Contaminants common to utility corridors include wood preservatives, herbicide residues, ACMs, VOCs, petroleum hydrocarbons, and PCB-containing equipment. Any utility lines for the Southern California Gas Company may be contaminated with PCB oil and VOCs. Domestically, PCBs were produced from 1929 until production was banned in 1979. They belong to a broad family of manufactured organic chemicals known as chlorinated hydrocarbons. PCBs, which have a range of toxicity, vary in consistency from thin, light-colored liquids to yellow or black waxy solids. Because of their nonflammability, chemical stability, high boiling point, and electrical insulating properties, PCBs were used in hundreds of industrial and commercial applications. Equipment in the adjacent properties hazardous materials and wastes RSA that might contain PCBs includes transformers, capacitors, and other electrical equipment; oil used in motors and hydraulic systems; and thermal insulation material. In particular, older pole-mounted electrical transformers typically contain PCBs.

Landfills

Landfills and waste disposal sites within 0.25 mile of the project footprint were evaluated to be consistent with Title 27 Cal. Code Regs. for their potential to release methane gas, which may be present. These sites are listed in Table 3.10-4 and shown on Figure 3.10-3. Typically, old burn dumps pose a limited landfill gas risk because the methane-forming organic material has been burned and cannot further decompose. However, the risk would vary based on the degree to which each site was burned, whether additional waste was placed (legally or illegally) and whether the waste was burned before landfill gas had the chance to be generated. Under current regulations, all operating and most closed landfills are required to have landfill gas migration control systems and monitoring programs. Additionally, most active and many closed landfills have landfill gas capture and treatment and destruction systems.

Oil and Gas Wells

The HSR Build Alternative passes through the California Division of Oil, Gas, and Geothermal Resources District 1. No gas wells are within the oil and gas wells RSA. The locations of oil wells in the RSA were obtained from the California Division of Oil, Gas, and Geothermal Resources database (California Department of Conservation 2016). Three of the four mapped oil wells are in the southern area of the RSA; all four wells are “plugged and abandoned dry hole” wells. Figure 3.10-4 provides illustrations of these oil wells for the HSR Build Alternative.

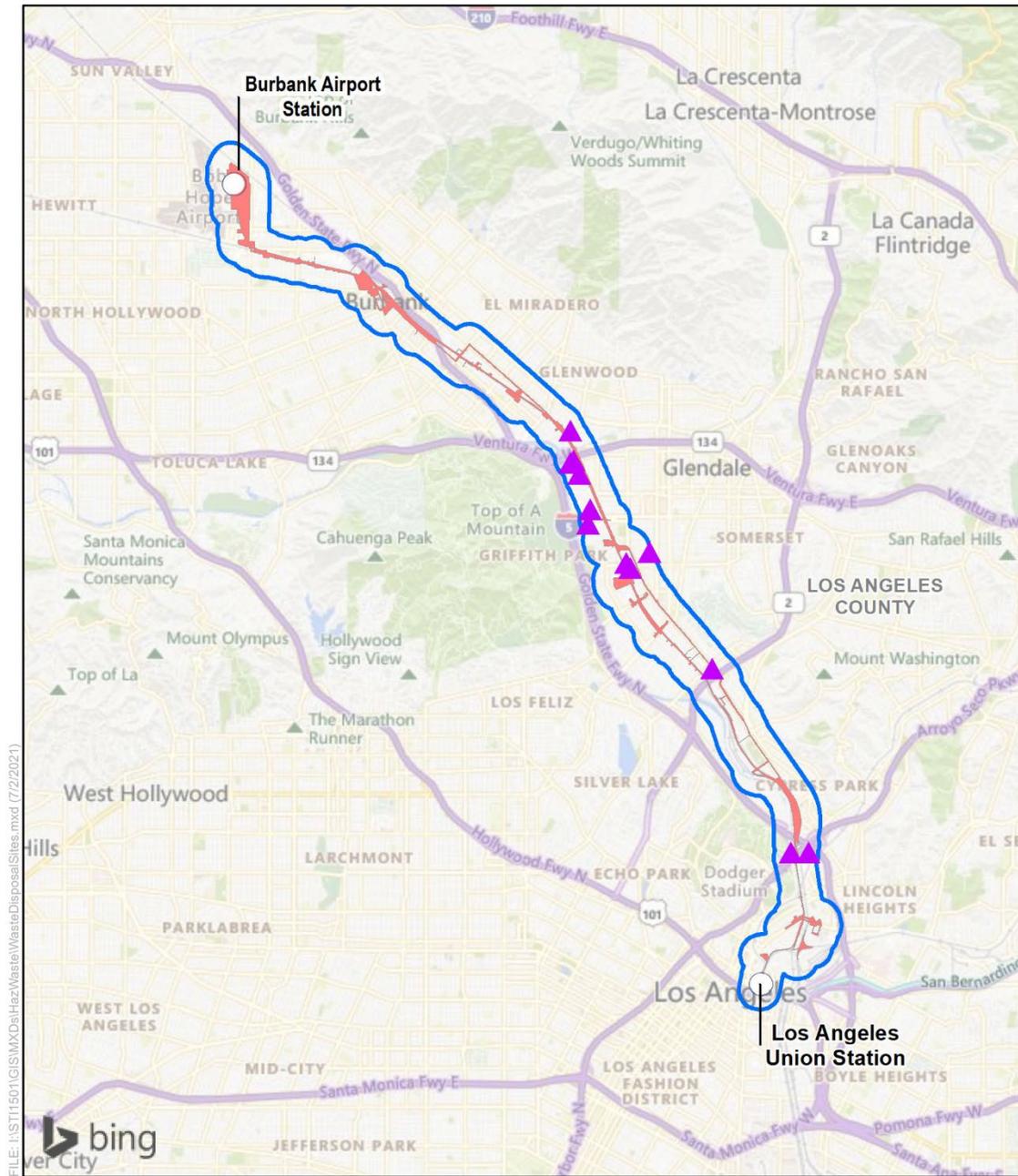
Table 3.10-4 Waste Disposal Sites in the Resource Study Area

Facility Name	Address	Status	Location from Project Footprint ¹	Potential for Landfill Gas Release?
Kelly Avenue Dump	630 Kellogg Avenue, Glendale	Not accepting waste; solid waste facility—closed site; no violations or areas of concern reported.	Approximately 100 feet northeast	Low—Inspection on January 2016 reported no evidence of past landfill activities observed; no methane gas emissions detected; no gas-like odors detected in the neighborhood; and no water accumulation observed.
American Reclamation Chipping and Grinding	4560 Doran Street, Los Angeles	Active transfer/processing for construction/demolition; inert, green materials; and wood waste. No violations or areas of concern reported.	Approximately 500 feet southwest	Low—There is no known release.
E.L. Flemming Dump	5431 San Fernando Road, Los Angeles	Not accepting waste; solid waste facility—closed site; no violations or areas of concern reported.	Approximately 150 feet southwest	Low—An inspection in April 2016 reported that the drainage and the erosion control systems appeared intact, and the integrity of the post-closure land uses, roads, and structures were maintained at the time of the inspection. There was no visible exposure of solid waste where the public can come into contact with the buried trash and the leachate.
San Fernando & Brazil LF	3950 W Colorado Boulevard, Los Angeles	Not accepting waste; solid waste facility—closed site; no violations or areas of concern reported.	Approximately 50 feet southwest	Low—An inspection in April 2016 reported that there was no major unevenness of the ground potentially caused by the soil settling over time.
Silverlake St. Maintenance District Yard	4610 Colorado Boulevard, Los Angeles	Active; limited-volume transfer operation for construction/demolition; inert, green materials; and mixed municipal. No violations or areas of concern reported.	Approximately 1,100 feet southwest	Low—Inspection in May 2016 reported that the yard is maintained satisfactorily and no violations or areas of concern were observed during inspection.
City of Glendale Corporation Yard	541 Chevy Chase Drive, Glendale	Active transfer/processing for construction/demolition; inert, green materials and mixed municipal. No violations or areas of concern reported.	Approximately 50 feet northeast	Low—An inspection in May 2016 reported that the yard is maintained satisfactorily and trash is removed at least once a week.

Facility Name	Address	Status	Location from Project Footprint ¹	Potential for Landfill Gas Release?
City of Glendale MRF and Transfer Station	540 Chevy Chase Drive, Glendale	Not accepting trash at transfer/processing; only recyclable materials. No violations or areas of concern reported.	Approximately 50 feet northeast	Low—An inspection in April 2016 reported that maintenance of sorting equipment is satisfactory and the area under the equipment is periodically maintained during the day and thoroughly cleaned after 1:00 p.m. every day.
San Fernando Maintenance District Yard	11370 San Fernando Road	Active; limited-volume transfer operation for construction/demolition; inert, green materials and mixed municipal. No violations or areas of concern reported.	Approximately 700 feet northeast	Low—An inspection in June 2016 reported that no areas of concern were observed and the facility has not been accepting solid waste.
East Street Maintenance District Yard	452 San Fernando Road, Los Angeles	Active transfer/processing for construction/demolition, mixed municipal, and tires. No violations or areas of concern reported.	Approximately 400 feet northeast	Low—An inspection in May 2016 reported that there was no solid waste material being tracked out of the transfer station to public streets.
Avenue 26 & Figueroa Solid Waste Disposal	400 Avenue 26, Los Angeles	Closed, solid waste disposal site.	Approximately 200 feet west	Low—Inspections in January and May 2016 reported no violations or areas of concern.

MRF = materials recycling facility

¹ Waste disposal sites are shown in relation to the project footprint on Figure 3.10-2.

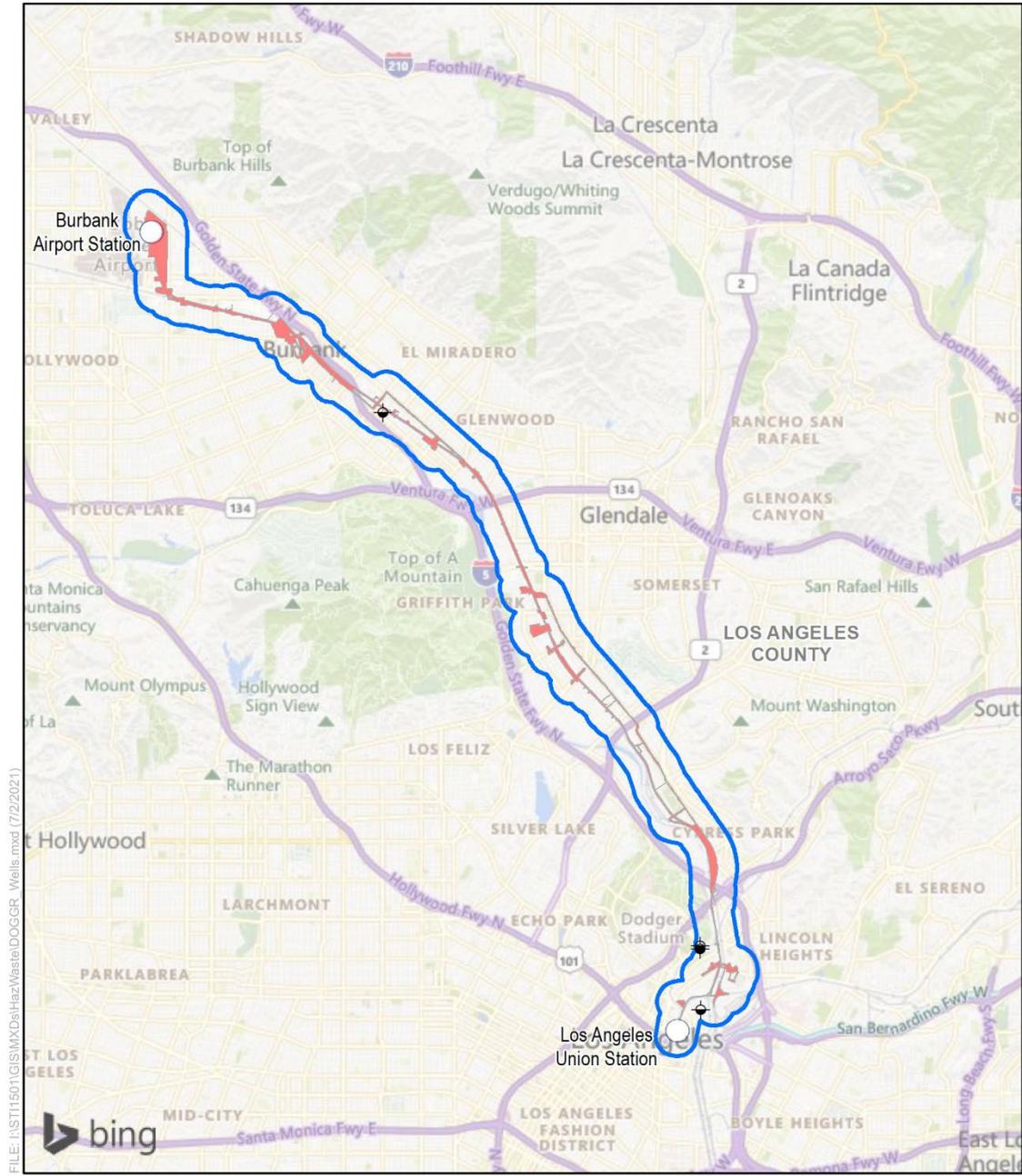


FILE: I:\ST11501\GIS\MXDs\Haz\Waste\WasteDisposalSites.mxd (7/2/2021)

SOURCE: Bing Maps (2018); Cal Recycle Solid Waste Information System (2016); CHSRA (6/2021)



Figure 3.10-3 Waste Disposal Sites in the Resource Study Area



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SOURCE: Bing Maps (2018); DOGGR (2016); CHSRA (6/2021)



DOGGR = California Division of Oil, Gas, and Geothermal Resources

Figure 3.10-4 Oil Wells in the Resource Study Area

3.10.5.2 Specific Potential Environmental Concern Sites

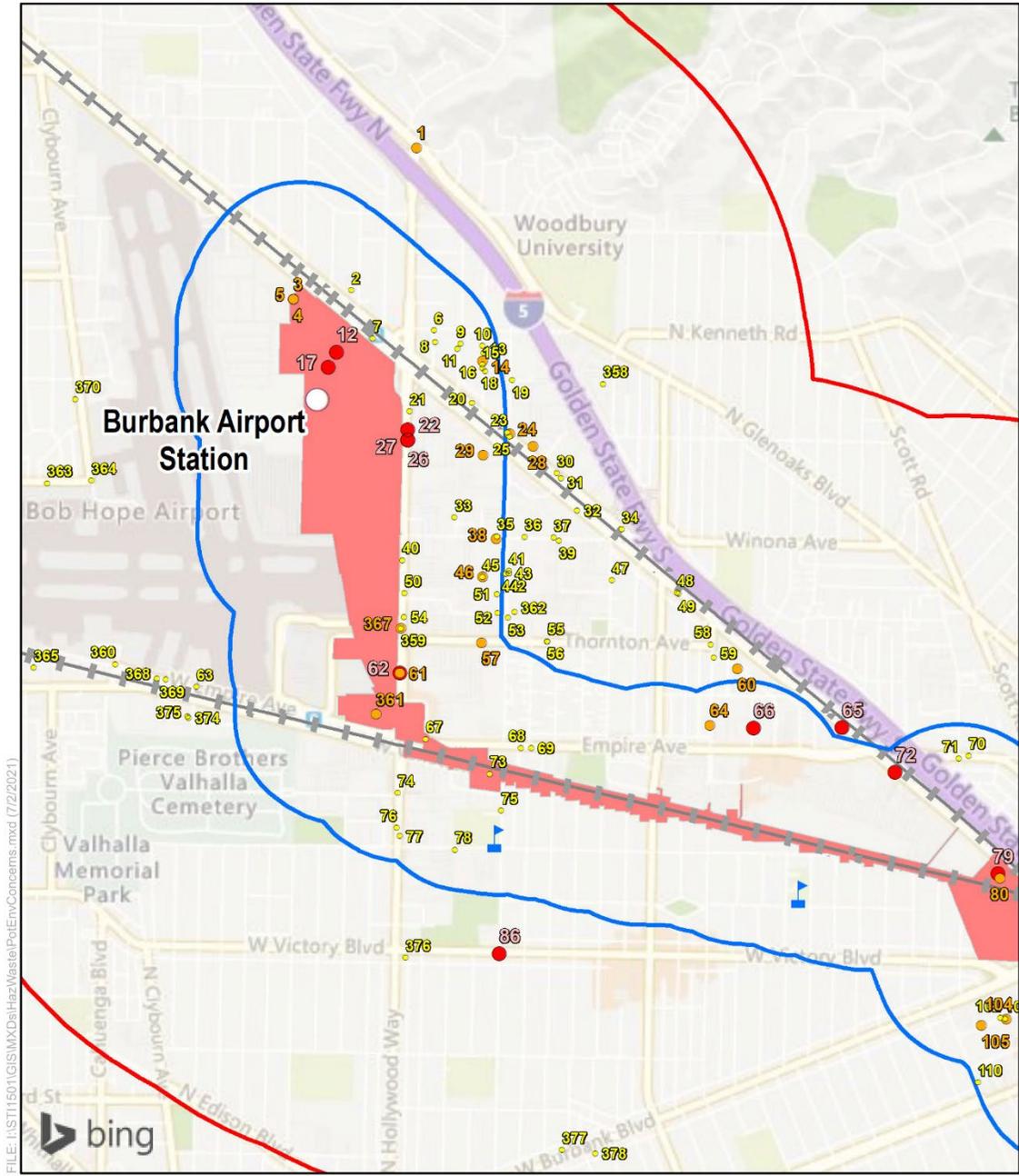
As discussed earlier in Section 3.10.4, Methods for Evaluating Impacts, key steps to determine specific sites of concern included reviewing regulatory database reports, historical environmental records, and environmental agency files; conducting site reconnaissance from public rights-of-way; and ranking the specific PEC sites in the PEC database search RSA as having High-, Medium-, or Low-Risk potential to result in impacts. Table 3.10-A in Appendix 3.10-A, Sites of Potential Environmental Concern, provides a list of 378 properties (41 high-risk, 102 medium-risk, and 235 low-risk properties) and potential associated releases of hazardous materials and wastes within and adjoining the areas of potential disturbance for the HSR Build Alternative. The locations of these PEC sites are shown on Figure 3.10-5 (Sheets 1 through 6).

Low-risk sites may conceivably affect construction and operation of the HSR Build Alternative or the staging areas if a listed property near the project footprint has experienced a past release of hazardous materials or wastes. However, based on the distance of the low-risk sites from the project footprint and their case-closed status, low-risk PEC sites are not expected to affect the HSR Build Alternative. These sites are included because further investigation or future events at these locations could result in potential effects on the HSR Build Alternative.

3.10.5.3 Educational Facilities

It is important to consider the location of educational facilities (defined as colleges, high schools, middle schools, elementary schools, after-school programs, or charter schools) with respect to the HSR Build Alternative because individuals particularly sensitive to hazardous materials exposure use these facilities. Additional protective regulations apply to projects that could use or disturb potentially hazardous products near or at schools. The California Public Resources Code requires projects that might reasonably be expected to emit or handle hazardous materials within 0.25 mile of a school to discuss potential effects with the school district.

The Los Angeles County Geographic Information System (GIS) Program for Educational Facilities identified 30 educational facilities within the 0.25-mile study area (0.25 mile of the project footprint). Table 3.10-5 lists these educational facilities.



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SOURCE: Bing Maps (2018); EDR Data Map (2016, 2018, 2019); CHSRA (6/2021)

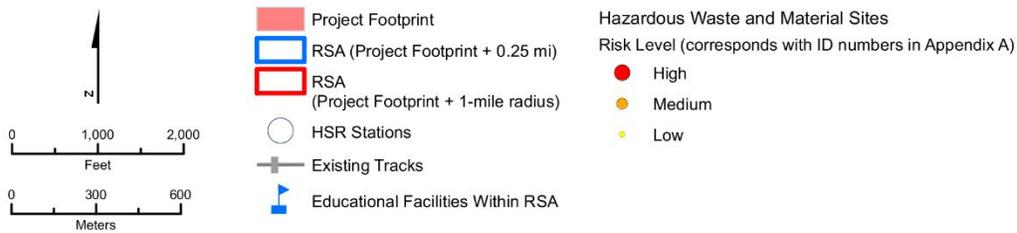
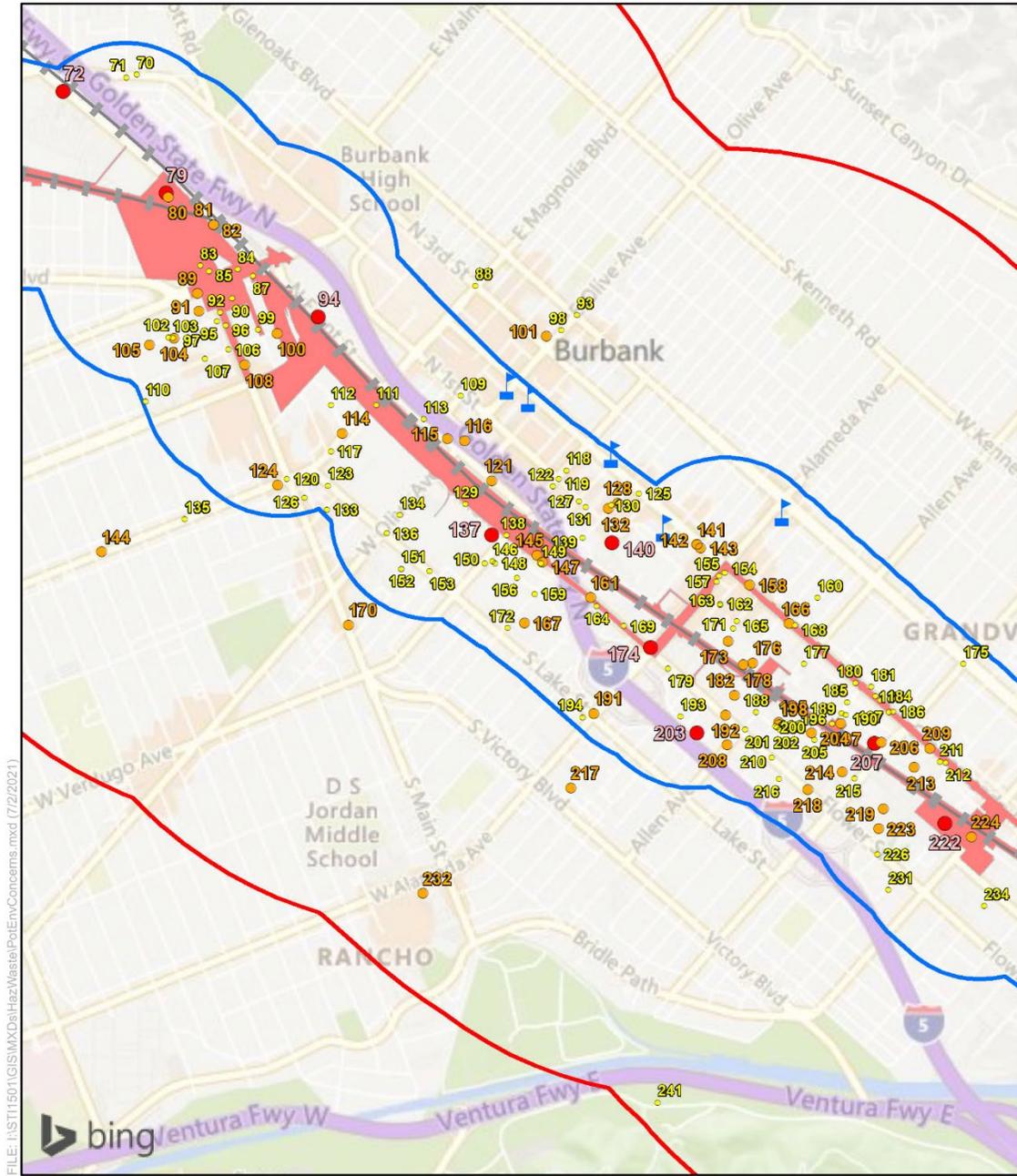


Figure 3.10-5 Potential Environmental Concerns
(Sheet 1 of 6)



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SOURCE: Bing Maps (2018); EDR Data Map (2016, 2018, 2019); CHSRA (6/2021)

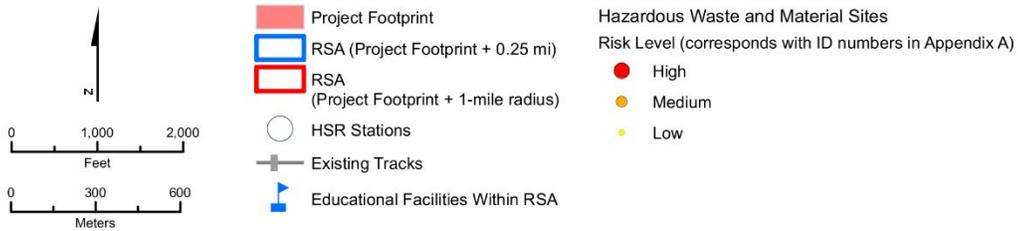
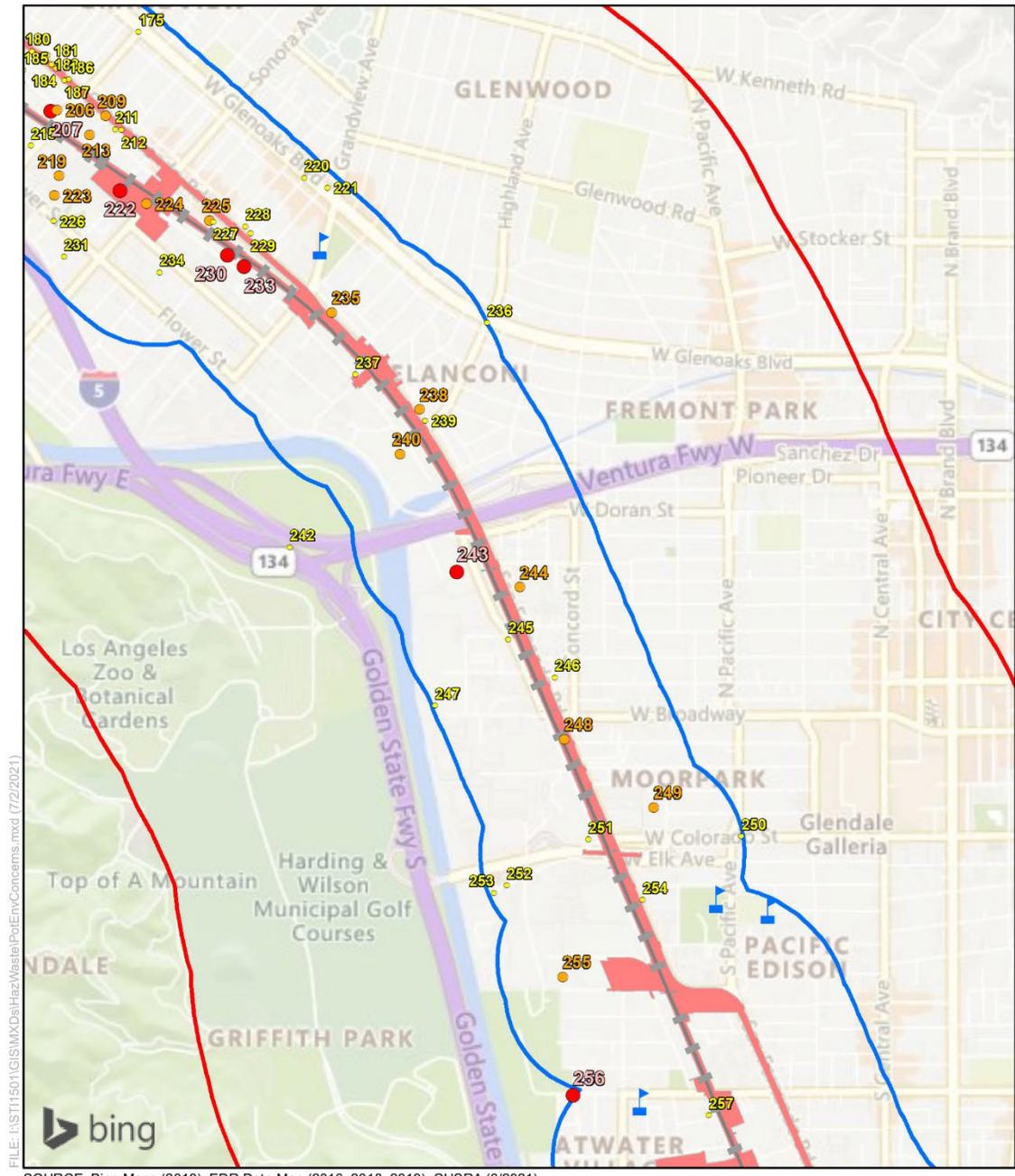


Figure 3.10-5 Potential Environmental Concerns
(Sheet 2 of 6)



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SOURCE: Bing Maps (2018); EDR Data Map (2016, 2018, 2019); CHSRA (6/2021)

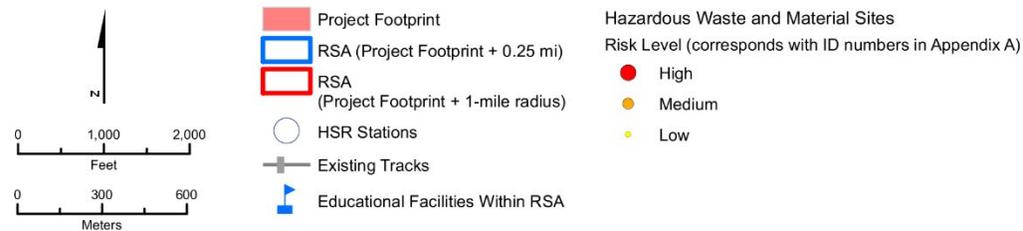
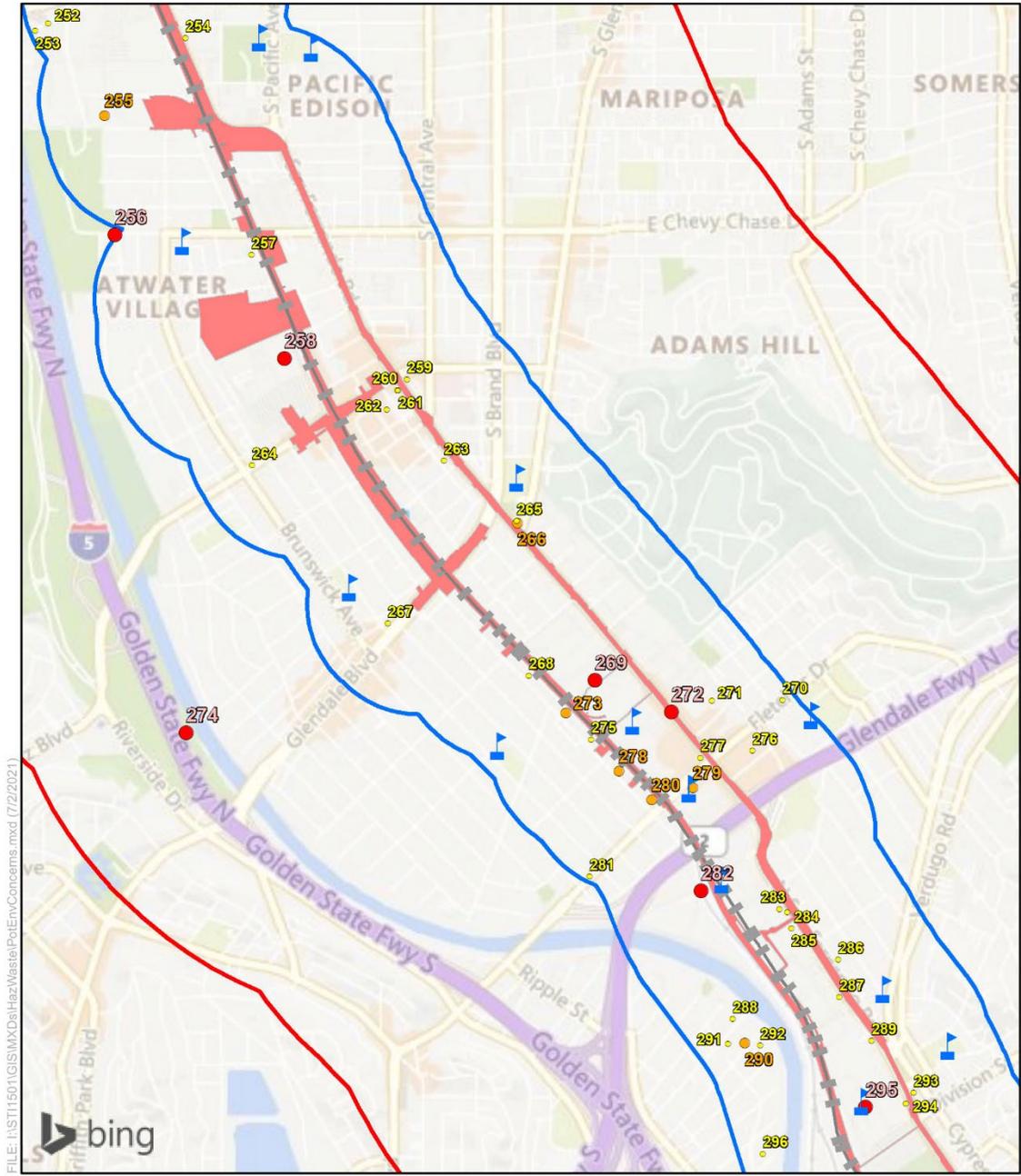


Figure 3.10-5 Potential Environmental Concerns
(Sheet 3 of 6)



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SOURCE: Bing Maps (2018); EDR Data Map (2016, 2018, 2019); CHSRA (6/2021)

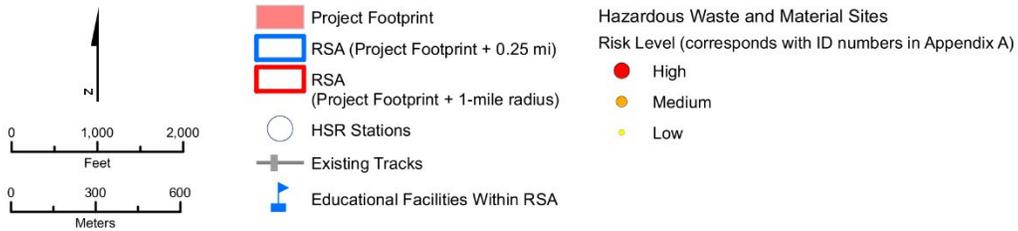
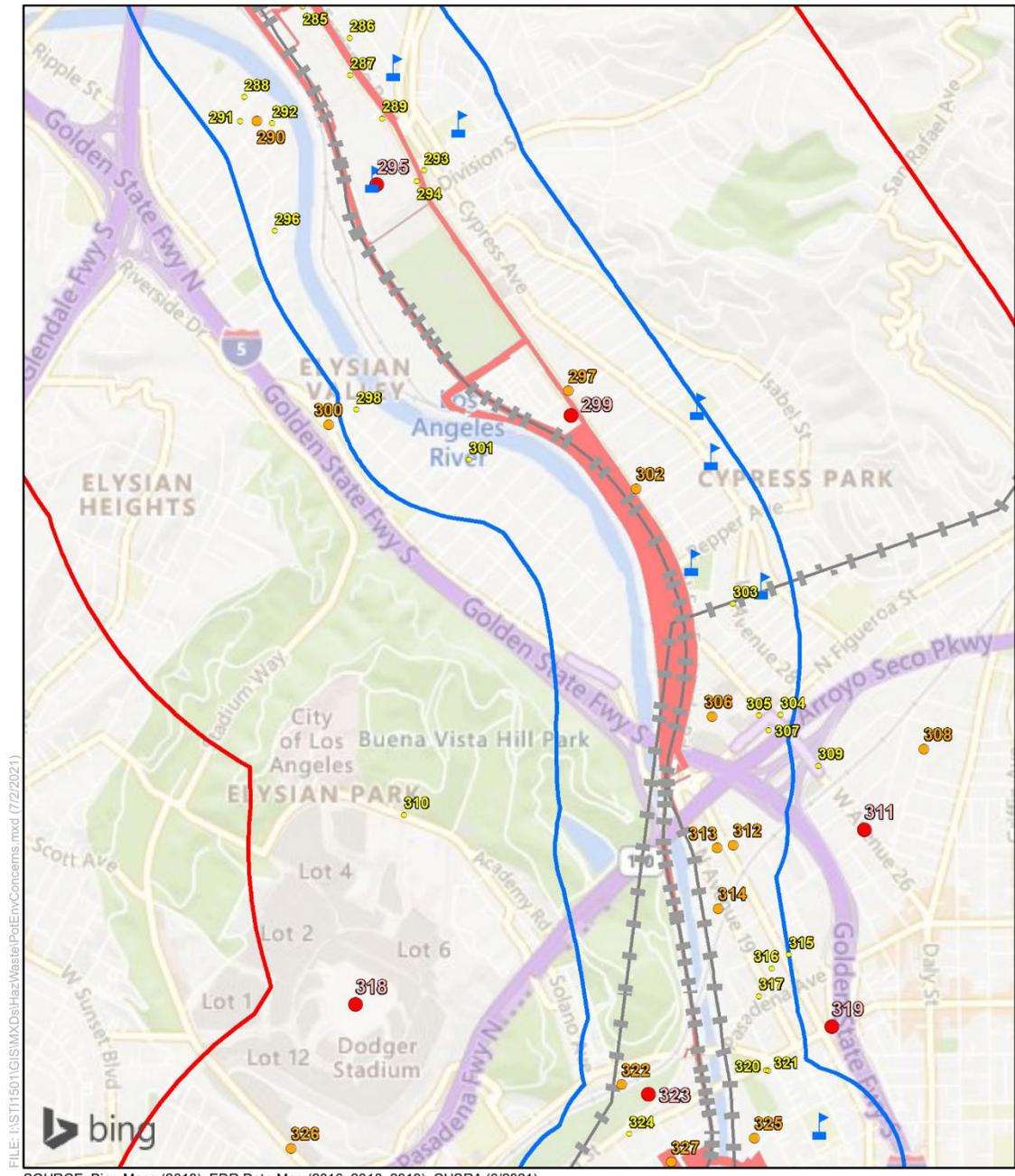


Figure 3.10-5 Potential Environmental Concerns
(Sheet 4 of 6)



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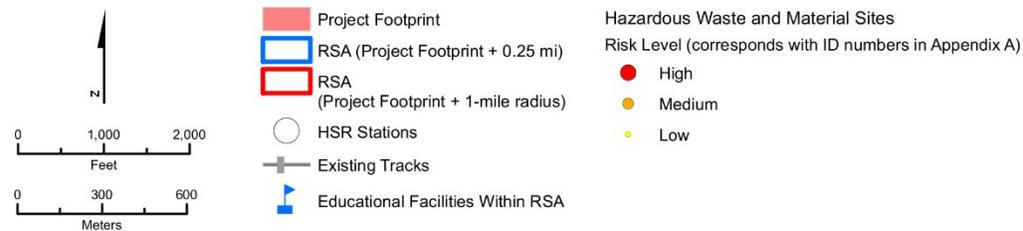
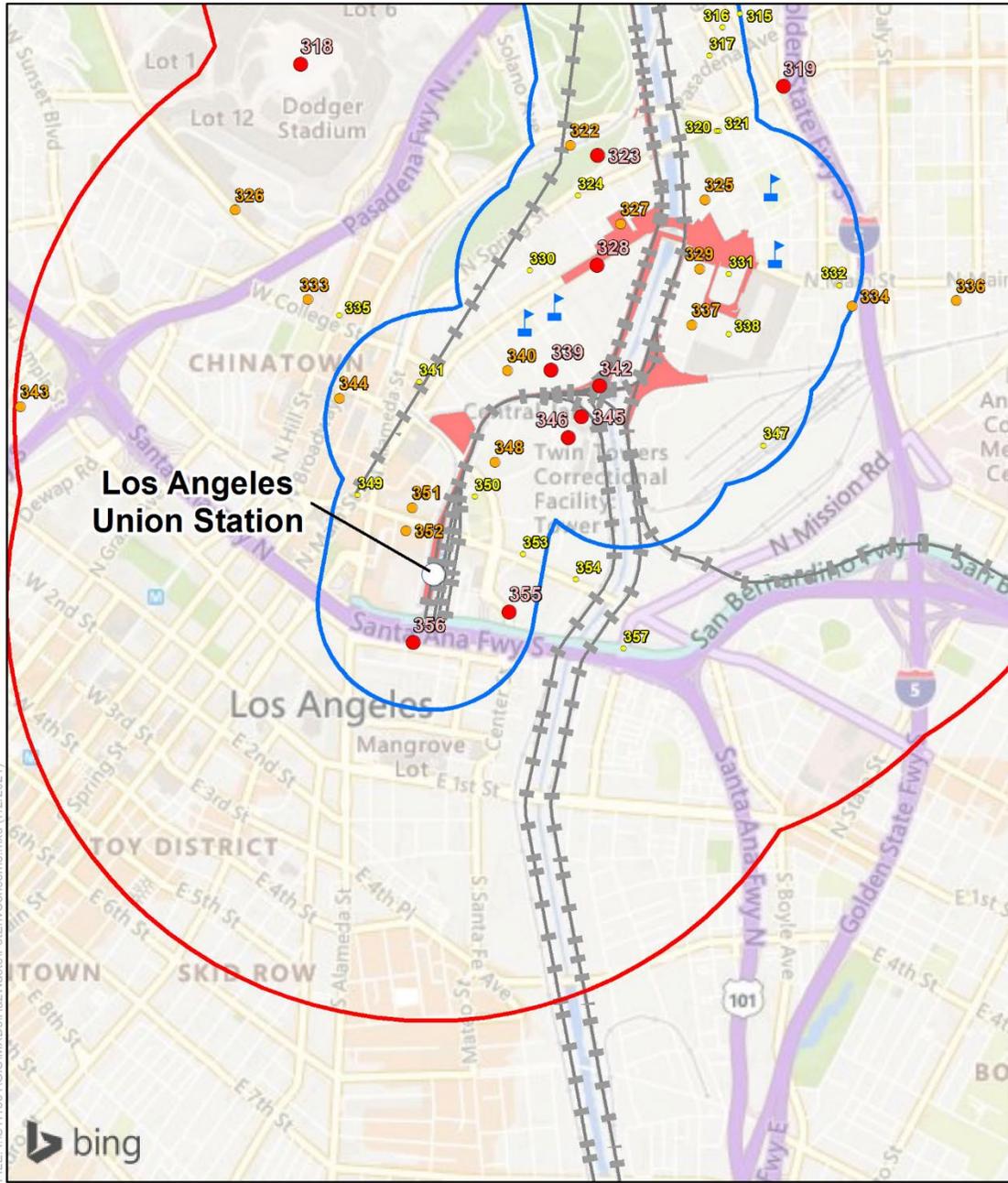


Figure 3.10-5 Potential Environmental Concerns
(Sheet 5 of 6)



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SOURCE: Bing Maps (2018); EDR Data Map (2016, 2018, 2019); CHSRA (6/2021)

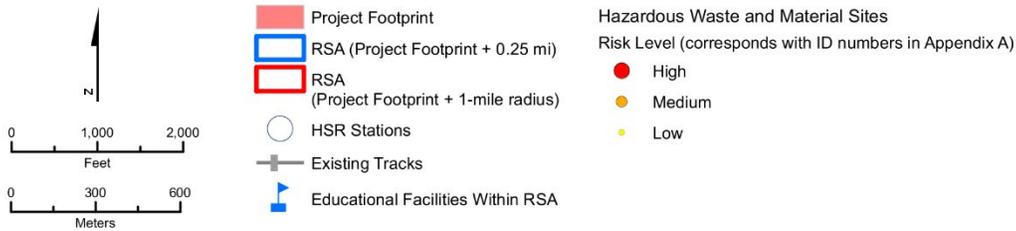


Figure 3.10-5 Potential Environmental Concerns
(Sheet 6 of 6)

Table 3.10-5 Educational Facilities in the Resource Study Area

Facility	City	Type	Description	District
Providencia Elementary	Burbank	Public	Elementary	Burbank USD
Monterey High School (Continuation)	Burbank	Public	Elementary	Burbank USD
Magnolia Park School	Burbank	Public	K–12	Burbank USD
Intercoast Colleges	Burbank	Private	College	–
Make-Up Designory	Burbank	Private	College	–
Burbank USD Community Day	Burbank	Public	After School Program	Burbank USD
Little Angels Academy Burbank, Inc.	Burbank	Private	K–2	–
Scholars Preparatory	Burbank	Private	K–12	–
Cypress Park Head Start	Los Angeles	Public	Early Childhood	Los Angeles County
Glendale Career College	Glendale	Private	College	–
Thomas Edison Elementary School	Glendale	Public	Elementary	Glendale USD
Cerritos Elementary School	Glendale	Public	Elementary	Glendale USD
Jewel City Community Day	Glendale	Public	Grades 7–10	Glendale USD
Pacific Avenue – Early Bird Preschool	Glendale	Public	Preschool	Glendale USD
Perlita Early Childhood Education	Los Angeles	Private	Elementary	–
Holy Trinity Elementary School	Los Angeles	Private	Elementary	–
Atwater Elementary School	Los Angeles	Public	Elementary	Los Angeles USD
Alliance Environmental Science and Technology High School	Los Angeles	Public	High School	Los Angeles USD
Los Feliz Charter Schools for the Arts	Los Angeles	Private	Arts	–
Glassell Park Elementary School	Los Angeles	Public	Elementary	Los Angeles USD
Sonia Sotomayor Learning Academies	Los Angeles	Public	High School, Middle School	Los Angeles USD
Divine Saviour	Los Angeles	Private	K–8	–
Albion Street Elementary School	Los Angeles	Public	Elementary	Los Angeles USD
PUC Milagro Charter Elementary School	Los Angeles	Private	Elementary	–
Catholic Charities of Los Angeles – Archdiocesan Youth Employment Services	Los Angeles	Private	Youth Center	–
Ann Street Elementary School	Los Angeles	Public	Elementary	Los Angeles USD
William Mead Head Start	Los Angeles	Private	Early Childhood	–
Cypress Park Familysource Center	Los Angeles	Public	Early Childhood	City of Los Angeles
Aragon Avenue Elementary School	Los Angeles	Public	Elementary	Los Angeles USD
Washington Irving Middle School Math Music Engineering Magnet	Los Angeles	Public	Middle School	Los Angeles USD
Ribét Academy College Preparatory	Los Angeles	Private	K–12	–
Renaissance Arts Academy	Los Angeles	Public	K–12	Los Angeles USD

Source: California High-Speed Rail Authority, 2019

PUC = Partnerships to Uplift Communities USD = Unified School District

3.10.6 Environmental Consequences

3.10.6.1 Overview

This section evaluates how the No Project Alternative and the HSR Build Alternative could affect the public and environment from the use, storage, transport, and disposal of hazardous materials and wastes. The impacts of the HSR Build Alternative are described and organized as follows:

Construction Impacts

- Impact HMW #1: Hazards Due to the Routine Transport, Use, or Disposal of Hazardous Materials during Construction
- Impact HMW #2: Hazards Due to Reasonably Foreseeable Upset and Accident Conditions That Involve the Release of Hazardous Materials during Construction
- Impact HMW #3: Hazards Due to Project Location on Potential Environmental Concern Sites or Cortese List Sites during Construction
- Impact HMW #4: Hazards Due to Increased Exposure to Asbestos as a Result of Building Demolition
- Impact HMW #5: Emit Hazardous Emissions or Handle Hazardous or Acutely Hazardous Materials, Substances, or Waste within 0.25 Mile of a School during Construction
- Impact HMW #6: Risks during Construction on or near Landfills and Oil and Gas Wells

Operations Impacts

- Impact HMW #7: Hazards Due to the Routine Transport, Use, or Disposal of Hazardous Materials during Operation
- Impact HMW #8: Hazards Due to Reasonably Foreseeable Upset and Accident Conditions That Involve the Release of Hazardous Materials during Operation
- Impact HMW #9: Hazards Due to Project Location on Potential Environmental Concern Sites or Hazardous Material Sites Compiled Pursuant to Government Code § 65962.5 during Operation
- Impact HMW #10: Emit Hazardous Emissions or Handle Hazardous or Acutely Hazardous Materials, Substances, or Waste within 0.25 Mile of a School during Operation

3.10.6.2 No Project Alternative

Under the No Project Alternative, recent development trends within the Burbank to Los Angeles Project Section are anticipated to continue, leading to use of the types and relative quantities of hazardous materials for construction and operation that would be comparable to those necessary for the HSR Build Alternative. Each future project is expected to generate a comparable mix and quantity of hazardous wastes proportional to the magnitude of the improvements. Because many of the PEC sites identified in Section 3.10.5.2, Specific Potential Environmental Concern Sites, are associated with major highway and rail transportation corridors in the project vicinity, these same sites could result in impacts on future No Project Alternative improvements within the same corridors.

It is reasonable to assume that by 2040, some of the existing PEC sites would be investigated further and, if necessary, remediated with appropriate regulatory agency oversight. However, it is unlikely that investigation and cleanup of all potentially hazardous materials in the RSA, including contaminated soil or groundwater, would occur under the No Project Alternative. Accidental spills or releases of hazardous materials and wastes could occur with the continued operation of commercial and industrial facilities or during transportation of hazardous materials and wastes. Such accidents might result in new PEC sites that could affect future improvements under the No Project Alternative. However, implementation of standard BMPs and compliance with existing regulations would minimize potential effects.

There are schools near the existing railroad corridor, within the 0.25-mile study area. These schools could be subjected to risks associated with the routine transport and handling of hazardous materials and wastes and the construction and operation of future transportation system improvements under the No Project Alternative.

Based on forecasted population growth in the region, existing and future transportation systems would experience more traffic and congestion under the No Project Alternative. A higher level of traffic and congestion would likely increase the risk of accidents and other incidents that could result in the release of hazardous materials or wastes into the environment and threaten or affect these facilities either directly (e.g., causing a structure fire) or indirectly (e.g., contaminating a potable water source).

3.10.6.3 High-Speed Rail Build Alternative

The construction of the HSR Build Alternative would involve the short-term transport, use, and disposal of construction-related hazardous materials and wastes. Construction has the potential to result in accidental spills or releases of hazardous materials and wastes, affect PEC sites, and result in temporary hazards to schools. The potential hazardous materials and wastes impacts during construction are described below. Additional hazardous materials and wastes impacts related to Airport Land Use Plans, Emergency Response Plans, and Wildfire are discussed in 3.11, Safety and Security, of this EIR/EIS.

- The transport, use, and disposal of construction-related hazardous materials and wastes could involve release of these substances into the environment during accidental spills or improper disposal.
- The environment could be exposed to hazardous materials and wastes associated with PEC sites or Cortese List Sites.
- The environment could be exposed to hazardous building materials such as asbestos during structure demolition.
- Accidental spills or improper handling of hazardous materials or wastes could lead to exposure of schools to hazardous emissions.
- Accident conditions or improper construction practices could result in leaks associated with landfills and oil and gas wells.

Hazardous materials and wastes could affect the HSR Build Alternative during construction, but the Authority has incorporated IAMFs into design that would reduce these potential effects (see Appendix 2-B). These IAMFs include:

- Identifying potential hazardous waste on parcels to be acquired as well as appropriate testing and remediation prior to construction (HMW-IAMF#1)
- Identifying additional methane protection construction procedures for work within 1,000 feet of a landfill, including detection systems and personnel training (HMW-IAMF#2)
- Identifying any needed work barriers to limit the potential release of subsurface contaminants during construction (HMW-IAMF#3)
- Preparing a CMP with procedures and requirements for responding to disturbance of undocumented contaminated soil and implementing gas monitoring into construction and operation BMPs (HMW-IAMF#4 and GEO-IAMF#3)
- Preparing a demolition plan for the safe dismantling and removal of building components and debris, including a plan for lead and asbestos abatement (HMW-IAMF#5)
- Preparing a spill prevention plan identifying construction BMPs to contain and prevent accidental spills and procedures to clean up any accidental hazardous material release (HMW-IAMF#6)

- Preparing and implementing a hazardous materials and waste plan identifying responsible parties and procedures for hazard waste storage and transport to reduce the likelihood of hazardous waste spills (HMW-IAMF#7)
- Preparing and complying with a hazardous materials and waste plan that includes responsible parties, procedures for hazardous waste and hazardous materials transport, containment, and storage BMPs during construction and operation (HMW-IAMF#8)
- Implementing a process to evaluate the full inventory of hazardous materials as defined by federal and state law—process would be employed on an annual basis and would replace hazardous substances with nonhazardous materials (HMW-IAMF#9)
- Preparing and complying with a hazardous materials plan and an SPCC plan, including procedures to account for the temporary generation of additional waste materials from construction at sites with existing contamination (HMW-IAMF#10)
- Identifying and inspecting all active and abandoned oil and gas wells within 200 feet of the HSR tracks (SS-IAMF#4)

Operation and maintenance of the HSR Build Alternative would involve the transport, use, and disposal of small quantities of hazardous materials or wastes associated with routine maintenance of rail facilities. The potential impacts during operation and maintenance involve accidental spills or improper use or disposal of these substances.

Each early action project has a much smaller footprint than the HSR Build Alternative as a whole; however, there is a potential for each early action project to result in hazardous material and hazardous waste impacts based on the existing setting (presence of hazardous waste), the use of hazardous materials, and the ground disturbance required to implement these projects. Therefore, the analyses in this section as well as the IAMFs are applicable to the early action projects.

The sections below describe the construction and operations impacts of the HSR Build Alternative.

Construction Impacts

Construction of the HSR Build Alternative would involve demolition of existing structures, clearing and grubbing; reduction of permeable surface area; handling, storing, hauling, excavating, and placing fill; possible pile driving; and construction of aerial structures, bridges, road modifications, utility upgrades and relocations, HSR electrical systems, and railbeds. Construction activities are described in Chapter 2, Alternatives.

Impact HMW #1: Hazards Due to the Routine Transport, Use, or Disposal of Hazardous Materials during Construction

Construction of the HSR Build Alternative would temporarily increase the regional transport, use, and disposal of construction-related hazardous materials and petroleum products (e.g., diesel fuel, lubricants, paints and solvents, and cement products containing strong basic or acidic chemicals). These materials are commonly used at construction sites, although they are not expected to be acutely hazardous. In addition, construction on a PEC site, which is confirmed to be contaminated, would require transport and disposal of hazardous wastes from the site (Impact HMW #3). As a result, the increased use of hazardous materials associated with construction activities could result in a temporary incremental increase in hazardous waste generation.

Hazardous waste might also be generated during demolition, excavation, tunneling, or other activities that require the removal of hazardous building materials such as ACMs, LBP, mercury, and PCBs, as well as soil and/or groundwater contaminated by petroleum hydrocarbons, pesticides, herbicides, asbestos, heavy metals, or other hazardous materials discussed earlier in Section 3.10.5.1, General Environmental Concerns. Any contaminated materials unearthed during construction would be disposed of at appropriate disposal sites in accordance with state and federal regulations. The 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 right-of-way acquisition in accordance with HMW-IAMF#5, Demolition Plans. A demolition plan for any

location with positive results for asbestos or lead would also be prepared. The plan would specify how to appropriately contain, remove, and dispose of the asbestos- and lead-containing material while meeting all requirements and BMPs to protect human health and the environment.

The transportation, use, and disposal of construction-related hazardous materials and wastes would be subject to state and federal regulations described in Section 3.10.2, Laws, Regulations, and Orders. All hazardous materials, soils, drums, trash, and debris generated during construction would be handled and disposed of in accordance with these regulations. Compliance with existing regulations would protect the public and environment from exposure to substantial hazards.

The HSR Build Alternative would include several IAMFs to reduce potential impacts resulting from the routine transport, use, or disposal of hazardous materials and wastes during construction through the following mechanisms. HMW-IAMF#5 would require preparation and implementation of a demolition plan for any location with positive results for asbestos or lead. HMW-IAMF#7 would require compliance with applicable state and federal regulations related to the storage and transport of hazardous materials and wastes during construction. It would also require preparation and implementation of a hazardous materials and wastes plan describing responsible parties and procedures for hazardous wastes and hazardous materials transport. HMW-IAMF#8 would require compliance with the Clean Water Act Section 402 General Permit conditions and requirements for transport, labeling, containment, cover, and other BMPs for storage of hazardous materials during construction. It would also require preparation and implementation of a hazardous materials and wastes plan describing responsible parties and procedures for hazardous wastes and materials transport, containment, and storage BMPs that would be implemented during construction. Finally, HMW-IAMF#9 would require use of an Environmental Management System to describe the process that would be used to evaluate the full inventory of hazardous materials, as defined by federal and state law, employed on an annual basis, and that would replace hazardous substances with nonhazardous materials. Material substitutions would be contained in the annual inventory.

Compliance with existing regulatory requirements and implementation of project IAMFs would avoid or minimize potential hazards associated with construction activities related to the routine transport, use, or disposal of hazardous materials and hazardous wastes.

CEQA Conclusion

Construction activities would temporarily increase the regional transport, use, storage, and disposal of hazardous materials and wastes, which could increase the probability of inadvertent hazardous substances releases. However, the IAMFs include effective measures to avoid creation of a significant hazard to the public or the environment by implementing and complying with a demolition plan, a hazardous materials and waste plan, and procedures for replacing hazardous substances with nonhazardous materials. Through adherence to HMW-IAMF#5, HMW-IAMF#7, and HMW-IAMF#9, and compliance with applicable regulatory requirements related to the release of hazardous materials and wastes to the environment (e.g., air, water, soil, and groundwater; see Section 3.10.2) during construction of the HSR Build Alternative, the impact resulting from the transport, use, and disposal of hazardous materials and wastes would be less than significant under CEQA. Therefore, CEQA does not require any mitigation.

Impact HMW #2: Hazards Due to Reasonably Foreseeable Upset and Accident Conditions That Involve the Release of Hazardous Materials during Construction

Releases or spills can occur from the improper storage of hazardous materials, improper handling of hazardous materials, negligence, transportation accidents, derailments, vehicle or rail collision or similar accidents, seismic activity, or inclement weather. The degree of effect from a hazardous materials-related release or spill is dependent on the proximity of the spill to population densities, concentrated development, and environmentally sensitive areas.

Off-site accidents during hazardous materials or wastes transport to or from the job sites could expose individuals and the environment. Although transportation accidents are infrequent, accidents could occur during shipment of hazardous commodities (such as gasoline, diesel, or compressed gases) for construction and operation. Accidents could also occur during the

transport of hazardous wastes and materials generated during construction or during the cleanup of existing contaminated sites before construction, prior to the property acquisition phases.

In the event of an on-site or off-site accident, collision, or derailment, hazardous materials or wastes may be released into the environment. In the case of some chemicals, toxic fumes may be carried from the accident site. A fire and explosives hazard may be present at the site if flammable substances are present during an accident, collision, or derailment. Although the state enforces standard accident and hazardous materials recovery training and procedures, which are followed by private state-licensed, certified, and bonded transportation companies and contractors, the HSR Build Alternative's location along interstate rail and highway corridors may include a potential risk of exposure.

The pathways through which the community or the environment (e.g., local air quality, local plant and animal life) could be exposed to hazardous substances include dermal contact, inhalation from air emissions and dust, and ingestion of contaminated water.

Trenching, cut-and-cover, and other ground-disturbing activities during HSR Build Alternative construction could expose undocumented soil and/or groundwater contamination. Impacts would result if construction activities inadvertently disperse contaminated material into the environment. For example, dewatering activities during construction have the potential to cause contaminated groundwater to migrate farther into the groundwater table or to release contaminated groundwater into drainage systems if proper procedures are not followed.

The State of California enforces standard accident and hazardous materials recovery training and procedures. Private state-licensed, certified, and bonded transportation companies and contractors follow these procedures when dealing with situations involving hazardous materials. Further, pursuant to 40 C.F.R. 112, an SPCC plan (or, for smaller quantities, a spill prevention and response plan that identifies BMPs for spill and release prevention) is required. These plans provide procedures and responsibilities for rapidly, effectively, and safely cleaning up and disposing of any spills or releases and would be implemented prior to commencement of construction of the HSR Build Alternative. As required under state and federal law, plans for notification and evacuation of site workers and local residents in the event of a hazardous materials release would be implemented throughout the construction period.

The HSR Build Alternative would conform to permit requirements and spill prevention plans prepared under SWRCB Construction General Permit (2009-0009 DWQ) to avoid spills and releases of hazardous materials and wastes. Inspections would be conducted to verify consistent implementation of general construction permit conditions and BMPs to avoid and minimize the potential for spills and releases and of the immediate cleanup and response thereto. BMPs may include, but would not be limited to, the designation of special storage areas and labeling, containment berms, coverage from rain, and concrete washout areas. Compliance with various federal, state, and local regulations described in Section 3.10.2, Laws, Regulations, and Orders, would avoid or minimize the risk of a spill or accidental release of hazardous materials.

In addition to the regulatory requirements outlined above, the HSR Build Alternative would incorporate IAMFs to avoid or minimize effects arising from reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. HMW-IAMF#1 calls for conducting Phase I ESAs to characterize each parcel and Phase II ESAs (e.g., soil, groundwater, soil vapor subsurface investigations) if sites are determined to be contaminated and remediation or corrective action (e.g., removal of contamination, in-situ treatment, or soil capping) would be conducted as necessary. HMW-IAMF#3 would implement work barriers as needed to limit the potential release of volatile subsurface contaminants in conjunction with site investigation and remediation. HMW-IAMF#4 would require the preparation and implementation of a CMP that would address undocumented contamination that could be encountered during construction activities. Resolution would be conducted in accordance with oversight agencies requirements. HMW-IAMF#6 would require the preparation of a CMP to address spill prevention. An SPCC plan or Soil Prevention and Response Plan, as applicable, would describe procedures to prevent hazardous material releases and clean-up, if required. Additionally, HMW-IAMF#5, HMW-IAMF#7, HMW-IAMF#8, and HMW-IAMF#9 would be implemented, as described under

Impact HMW #1. The HSR Build Alternative would include a hydrology and water resources IAMF HYD-IAMF#3, which would require the preparation and implementation of a construction stormwater pollution prevention plan. A soil management plan would be prepared as part of the Authority's compliance with SWRCB General Permit 2009-0009 DWQ. The HSR Build Alternative would also incorporate GEO-IAMF#5 which includes an effective monitoring and cleanup program to be developed as part of the CMP and implemented for spills and leaks of any hazardous materials.

Implementation of project IAMFs and compliance with existing regulations would avoid or minimize temporary effects associated with construction activities related to reasonably foreseeable upset and accident conditions involving the potential release of hazardous materials into the environment.

CEQA Conclusion

Construction activities would temporarily increase the potential for hazardous substances releases due to upset or accidents. However, the IAMFs include effective measures to avoid creation of a significant impact to the public or the environment by implementing appropriate testing and remediation of hazardous waste on acquired parcels, identifying needed work barriers, implementing a plan to respond to undocumented contaminated soil and conducting gas monitoring; and implementing a demolition plan, a spill prevention and remediation plan, and a hazardous materials and waste management plan. Through adherence to HMW-IAMF#1, HMW-IAMF#3, HMW-IAMF#4, HMW-IAMF#5, HMW-IAMF#6, HMW-IAMF#7, HMW-IAMF#8, HMW-IAMF#9, HYD-IAMF#3, GEO-IAMF#5, and compliance with applicable regulatory requirements during construction of the HSR Build Alternative, the impact resulting from the reasonably foreseeable upset or accident conditions involving the release of hazardous materials would be less than significant under CEQA. Therefore, CEQA does not require any mitigation.

Impact HMW #3: Hazards Due to Project Location on Potential Environmental Concern Sites or Cortese List Sites during Construction

Construction of portions of the HSR system may occur at or near PEC sites (some of which may have ongoing remediation activities). Sites with known or suspected contamination would be investigated during right-of-way acquisition. Generally, PEC sites would be remediated by the property owner prior to acquisition of the property and construction on the site, depending on the arrangement negotiated during property acquisition.

Table 3.10-6 lists the PEC properties within the footprint that may be affected during construction. Table 3.10-A in Appendix 3.10-A, Sites of Potential Environmental Concern, provides additional details on these properties.

Table 3.10-6 Potential Environmental Concern Properties in the High-Speed Rail Build Alternative Project Footprint

Location	Total Number of Properties	High-Risk Properties ¹ by Figure 3.10-5 ID Number	Medium-Risk Properties ² by Figure 3.10-5 ID Number	Low-Risk Properties ³ by Figure 3.10-5 ID Number
Burbank	28	12, 17, 79, 174	80, 89, 100, 108, 145, 147, 161, 361	67, 73, 83, 84, 85, 87, 90, 92, 96, 99, 111, 129, 138, 155, 164, 169
Glendale	14	222	158, 166, 197, 209, 224, 248	168, 180, 183, 184, 186, 187, 196, 212
Los Angeles	5	272	3, 4, 5, 327	Not applicable

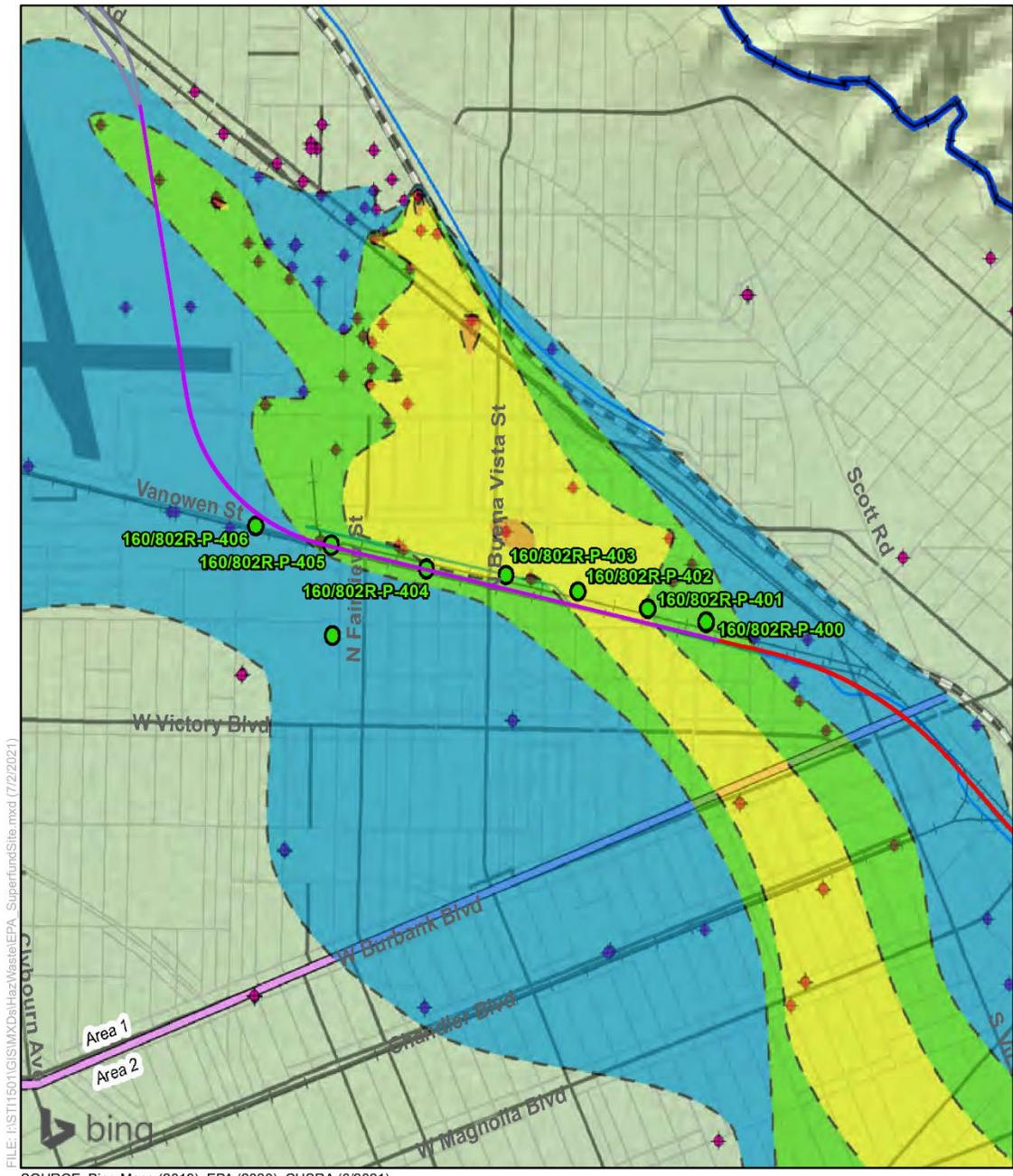
¹ High-Risk Properties = Additional investigation and review indicated contamination is present and likely to be encountered during construction, and abatement of building materials will be required prior to construction.

² Medium-Risk Properties = Additional investigation and review indicated contamination is or may be present at the identified site, but is not likely to be encountered during excavation.

³ Low-Risk Properties = Additional investigation and review indicated that there is no contamination associated with the identified site, and abatement of building materials will not be required.

Construction activities such as grading, cut-and-cover, trenching, or any other ground-disturbing activities could encounter contaminants or interfere with ongoing remediation efforts. Unless construction activities for the HSR Build Alternative are coordinated with site remediation activities, there could be a temporary increased risk of damage to or interference with remediation site controls (e.g., soil containment areas). Construction activities, such as demolishing structures, excavating, and drilling into the ground, could also increase the risk of damage to or interference with groundwater remediation facilities (e.g., extraction and monitoring wells, pumps, and pipelines). Construction at sites with existing contamination could also result in the generation of additional waste materials and could expose workers to hazardous materials. For these reasons, construction activities would be coordinated with site remediation activities, reducing potential effects of damage or interfering with remediation site controls, such as soil containment areas.

One site of special concern within the Burbank to Los Angeles Project Section is the San Fernando Valley Groundwater Basin Superfund site (Figure 3.10-6, ID Nos. 62, 79, 88, 114, 144, 174, 203, and 210; refer to Appendix 3.10-A for a description of each location), which contains numerous hazardous waste sites that contributed to the soil, soil vapor, and groundwater contamination currently being remediated by the USEPA. As shown in the utility plans provided in Volume 4, Composite Utilities Plan, of Volume 3 of this EIR/EIS, the HSR Build Alternative would affect seven extraction wells in Area 1 used to extract contaminated groundwater from the Superfund site. Five of these wells (V01, V02, V03, V04, and V07) would be protected in place and their function would not be impaired. Two other wells would require replacement (V05 and V06). The design of the HSR Build Alternative would also require the relocation of the conveyance pipeline and some of the ancillary infrastructure, most notably the sampling cabinets, to allow for realignment of the Lockheed Channel. In Area 2, the HSR Build Alternative would conflict with one extraction well (GS-04), which would need to be replaced. Refer to Status of California High Speed Rail Design Amidst San Fernando Valley Superfund Sites Area 1 and Area 2 Technical Memorandum (Authority, 2021b) for additional information on the wells and ancillary infrastructure. The Authority would coordinate the replacement of these wells and infrastructure with the USEPA as required under CERCLA. The replaced extraction wells would be installed and functional prior to the removal of any of the extraction wells for the San Fernando Valley Superfund site to avoid disruption of the ongoing remediation program for the Superfund site. Groundwater modeling and all other studies required prior to the removal and installation of wells and other infrastructure will be performed consistent with applicable laws, regulations, and guidance, with prior approval of the EPA. Information from the USEPA Record of Decision for the San Fernando Valley (Area 1) Superfund site, issued in 1989; the Second Consent Decree for San Fernando Valley Superfund Site, Burbank Operable Unit; the Consent Decree for the San Fernando Valley Superfund Site, Glendale Operable Unit No. CV 99-00552 MRP (ANx); and the Cleanup and Abatement Order No. 87-161 dated December 17, 1987, were reviewed and incorporated into the Final EIR/EIS.



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SOURCE: Bing Maps (2019); EPA (2020); CHSRA (6/2021)

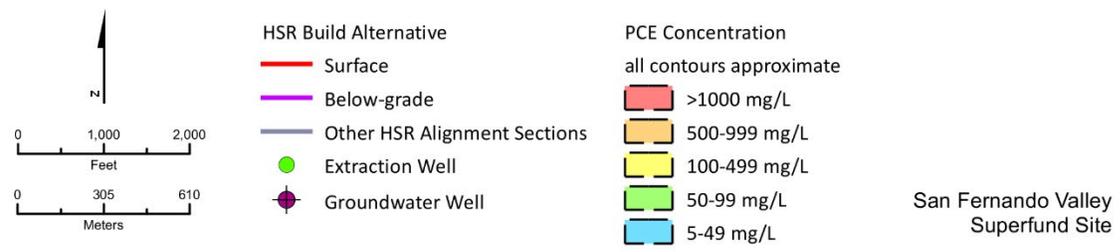


Figure 3.10-6 Superfund Site Location

Interference with any ongoing remediation activities at a PEC site could increase the risk of a release of contaminants or result in an interruption in cleanup; thus, construction at known PEC sites would require coordination with regulatory agencies before advancing. Within the Superfund site, construction crews may encounter soil and soil vapor which are impacted by residual potential contaminants of concern that have the potential to adversely affect treatment system operation and the public water supply. However, through implementation of GEO-IAMF#1, a health and safety plan, which will be part of the Construction Management Plan, would require weekly monitoring requirements and response protocols for exposure of personnel to constituents of concern identified in the Phase II Environmental Site Assessment(s). There is the potential for spreading or allowing migration of hazardous materials in soil and groundwater due to the need to replace remediation infrastructure or due to construction activities. Additionally, during the construction of the HSR project, there would be potential for planned remedial system shutdowns as well as unanticipated, transitory treatment system shutdowns. However, through implementation of HMW-IAMF#11, the Authority would minimize the impacts related to release of contaminants by coordinating with all relevant stakeholders on the implementation plans for replacement of extraction wells and ancillary infrastructure to ensure that all replacement treatment system components would be constructed and tested for viability, would be fully operational, and meet all requirements in concert with continued operations of the existing remedial treatment system. Any system shutdowns would not interfere with the effectiveness of the treatment system, as the shutdown timeframes would occur within approved timeframes of the remedial system for maintenance.

Preconstruction activities, such as preparation of Phase I and Phase II ESAs, as necessary, would be conducted during the right-of-way acquisition phase, and appropriate remediation, including removal of contamination, in-situ treatment, or soil capping, would be conducted prior to acquisition (HMW-IAMF#1). Testing and appropriately remediating acquired properties would minimize potential impacts from construction on or near PEC sites. Depending on proposed activities, such as subsurface ground disturbance, and the known extent and type of contamination, requirements for building at contaminated sites could include further evaluation of the level of contamination and associated potential risks to human health and the environment, as well as site remediation. Groundwater modeling and all other studies required prior to removal and installation of wells and other infrastructure will be performed consistent with applicable law, regulations, and guidance, and with prior approval, of the USEPA.

The HSR Build Alternative would potentially impact 43 water wells⁶. PUE-IAMF#4 requires the contractor to prepare a technical memorandum documenting how construction activities would be coordinated with service providers to minimize or avoid any potential interruptions. New potable water wells placed in impaired waterbodies would follow the State Water Resources Control Board, Division of Drinking Water permitting process. As design of the Burbank to Los Angeles Project Section progresses, more project-specific information will be developed regarding the requisite permitting and project design for the potential replacement of, or modification to, extraction wells and/or other ancillary infrastructure used for municipal water supply and remediation of groundwater within the Area 2 Superfund site. The Authority is committed to ensuring that municipal water supplies are maintained through the protection and continued use of extraction wells V01 through V04 and V07, the replacement of extraction wells V05 and V06, and/or through purchase of additional groundwater or surface water supplies with approval(s) from the Upper Los Angeles River Area (ULARA) Watermaster.

HMW-IAMF#1 would be implemented as part of the HSR Build Alternative, and would avoid or minimize potential effects associated with construction near PEC sites because these sites would

⁶ See Section 3.6, Public Utilities and Energy. Based on public comments related to the Superfund extraction wells, additional research was undertaken to determine locations of wells within the project footprint. The types of wells include extraction, monitoring, and observation wells, as well as wells that are of unknown status based on the current level of information. Therefore, this number of water wells represents a conservative, worst-case scenario based on current project design. The exact number of impacted water wells will be determined during final design, in consultation with the owners of impacted infrastructure, and it is anticipated that final design of the project would result in a lower number of impacted water wells

be investigated and remediated prior to construction. Federal and state regulations and policies, including CERCLA and the Certified Unified Hazardous Waste and Hazardous Materials Management Regulatory Program administered by city and county agencies, would require ESA procedures (i.e., due diligence) for future development for parcels to be acquired or future development on or near a PEC site. Three phases of ESAs could be conducted:

- Phase I ESA—A parcel-level Phase I ESA would be conducted on all parcels. The parcel-level ESA would include all standards for an All Appropriate Inquiry put forth by the USEPA (40 C.F.R. Part 312) and performed at ASTM standards (ASTM E 1527-13). A written report would present results, conclusions, and recommendations.
- Phase II ESA—If the Phase I ESA uncovers potential contaminated site conditions, a Phase II ESA sampling study would be required. Sampling may include soil, groundwater, or other media potentially containing hazardous materials. A written report would be prepared to describe the sampling work conducted, results, applicable regulations, and screening levels and recommendations.
- Phase III ESA—If the Phase II ESA concludes that the site is contaminated, a Phase III ESA would be conducted. A Phase III ESA would generally describe the design and implementation of any required mitigation or remediation measures. Remediation could include excavation, bioremediation, or other measures required to clean up the site to comply with regulatory requirements. Appropriate environmental regulations would be complied with during the Phase III ESA process.

As design of the Burbank to Los Angeles Project Section progresses, more project-specific information will be developed regarding the requisite permitting and project design for the potential replacement of, or modification to, extraction wells and/or other ancillary infrastructure used for municipal water supply and remediation of groundwater within the Superfund sites in the San Fernando Valley. As the design of the Burbank to Los Angeles Project Section progresses, environmental re-validations may be needed to address changes to impacts or mitigation described, to satisfy requirements under CEQA/NEPA. As stated in HMW-IAMF#11, the Authority will coordinate with relevant stakeholders on an ongoing basis to review the permitting requirements as well as the project design and construction methods for proposed modifications to the extraction wells and ancillary infrastructure, to ensure that municipal water supplies and the effectiveness of the Superfund site clean-up remedies are not impaired by construction and operation of the HSR Build Alternative. The relevant stakeholders currently include the USEPA, the Regional Board, the California Department of Toxic Substances Control (DTSC), the California Department of Water Resources (DWR), the State Water Resources Control Board Division of Drinking Water (DDW), the Upper Los Angeles River Area (ULARA) Watermaster, the City of Burbank Water & Power (BW&P), the City of Glendale Water & Power (GW&P), Los Angeles, and Lockheed Martin with the other PRPs named in the Consent Decrees for the Area 1 and Area 2 Superfund sites. The Authority would coordinate with relevant stakeholders on issues such as ensuring system shutdowns occur within approved timeframes, maintaining operating of existing systems while testing new replacement systems, and providing additional groundwater or surface water supplies if needed. In addition, depending upon the scope of the potential modifications to the extraction wells and ancillary infrastructure, the Authority shall enter into enforceable agreements with the USEPA as the agency responsible for the Superfund Program.

Compliance with existing regulatory requirements and implementation of the IAMFs discussed above would avoid or minimize the potential impacts associated with PEC sites and hazardous material sites compiled pursuant to Government Code § 65962.5.

CEQA Conclusion

Construction activities would temporarily increase the potential for hazardous substances releases associated with PEC properties. However, the IAMFs include effective measures to avoid creation of a significant hazard to the public or the environment by implementing appropriate testing and remediation of hazardous waste on acquired parcels and implementing a plan to respond to undocumented contaminated soil and conduct gas monitoring. Through adherence to HMW-IAMF#1, GEO-IAMF#1, and HMW-IAMF#11 and compliance with applicable

regulatory requirements such as CERCLA during construction of the HSR Build Alternative, the impact resulting from the construction near PEC sites and hazardous material sites compiled pursuant to Government Code § 65962.5 would be less than significant under CEQA. Therefore, CEQA does not require any mitigation.

Impact HMW #4: Hazards Due to Increased Exposure to Asbestos as a Result of Building Demolition

Construction of the HSR Build Alternative would result in 180 displacements and building demolition to clear the limits of disturbance for project construction. Many of the buildings and other facilities that would be demolished would likely have features and other structural components that are coated in or otherwise contain asbestos. The inappropriate handling or prolonged exposure to ACMs—specifically asbestos fibers—has been linked to mesothelioma and other serious health problems.

The California Department of Industrial Relations/Occupational Safety and Health Administration has established comprehensive programs to address this issue. Specifically, Cal. Code Regs., Title 8, Section 1529, policies and procedures have been promulgated that establish requirements for transport, disposal, storage, containment, and housekeeping activities associated with activities involving asbestos. Compliance with the Cal. Code Regs. and the development of facility- or building-specific asbestos management plans would ensure full disclosure and awareness of risks, to establish project-specific requirements for containment and housekeeping, and to protect workers and other local sensitive populations from dangerous exposure levels associated with the demolition of facilities (e.g., residential, commercial, and warehouse).

Prior to building demolition, the construction contractor would prepare a demolition plan for the safe dismantling and removal of building components and debris that would include a plan for asbestos abatement (HMW-IAMF#5). If ACMs are handled appropriately from demolition through disposal, effects associated with exposure would be avoided or minimized.

Compliance with existing regulatory requirements and implementation of HMW-IAMF#5 would avoid or minimize the potential impacts associated with increased exposure to asbestos because of building demolition.

CEQA Conclusion

Construction activities would temporarily increase the potential for asbestos release during building demolition. However, HMW-IAMF#5 includes effective procedures to avoid creation of a significant hazard to the public or the environment by implementing a demolition plan for safe handling and removal of building components and debris. Through adherence to HMW-IAMF#5 and compliance with applicable regulatory requirements during construction of the HSR Build Alternative, the impact resulting from increased exposure to asbestos because of building demolition would be less than significant under CEQA. Therefore, CEQA does not require any mitigation.

Impact HMW #5: Emit Hazardous Emissions or Handle Hazardous or Acutely Hazardous Materials, Substances, or Waste within 0.25 Mile of a School during Construction

Potentially hazardous materials and items containing potentially hazardous materials commonly used in railway construction and demolition of existing structures would be used or stored within the project footprint, in some cases within 0.25 mile of a school. Additionally, hazardous wastes such as asbestos-containing materials and lead-based paint could be generated during demolition of existing structures within the project footprint. As noted in Table 3.10-5, 30 educational facilities, defined as colleges, high schools, middle schools, elementary schools, after-school programs, or charter schools, are within 0.25 mile of the project footprint. However, although there are planned extensions and additions to existing schools within the 0.25-mile project footprint, there are no proposed or planned schools in the project footprint. The California Department of Education private and public school directories were used to make this determination. Therefore, Table 3.10-5 includes only existing schools, and no further analysis of proposed schools is included within this section.

Hazardous materials use associated with the HSR Build Alternative would be subject to federal, state, and local regulations and policies described in Section 3.10.2. County and municipal codes require any business that stores hazardous materials to provide either a hazardous materials inventory statement or a hazardous materials management plan to the CUPAs of the respective city or county. Compliance with California Public Resources Code Section 21151.4 allows any school within 0.25 mile of HSR Build Alternative activities to comment on the project and express related concerns that may result in potential prescriptive actions (e.g., limits on the materials used or restrictions on the transport and storage of such materials).

Engineering controls would be applied to contain emissions that might affect an adjacent school. These controls may include, but would not be limited to, emission control for diesel off-road equipment and diesel generators, dust control through wetting or covering, short- and long-term ambient air monitoring in neighborhoods near and downwind from the construction or maintenance sites, and field olfactory measuring and quantification of odor strength in the ambient air. The HSR Build Alternative would comply with this and all other applicable federal, state, and local regulations, as well as with HMW-IAMF#6, HMW-IAMF#7, and HMW-IAMF#8.

An accident or collision during storage or transport of materials during construction could result in a leak or spill in within 0.25 mile of a school. Although effects on schools are unlikely due to the generally small quantities of materials stored or transported or used at any given time during construction of the HSR Build Alternative and due to the precautions required by the regulations and IAMFs described under Impact HMW #3, there is still the potential for impacts to occur.

CEQA Conclusion

Construction activities would temporarily increase the potential for the release of hazardous emissions within 0.25 mile of a school. HMW-IAMF#6, HMW-IAMF#7, and HMW-IAMF#8 include measures to reduce the potential for hazardous emissions within 0.25 mile of a school by implementing: a spill prevention plan and hazardous materials and waste plan, a demolition plan, and a spill prevention and remediation plan. However, even with implementation of IAMFs and compliance with applicable regulatory requirements during construction of the HSR Build Alternative, the potential impact of hazardous emissions or handling of hazardous substances within 0.25 mile of a school would still be a significant impact under CEQA due to the potential for inadvertent release of unrestricted extremely hazardous substances during storage, use, or transport. Therefore, CEQA requires mitigation. Mitigation measure HMW-MM#1, described in Section 3.10.7, Mitigation Measures, would be implemented to further limit and control use of extremely hazardous materials near schools during construction by requiring the contractor to monitor all extremely hazardous substances and avoid the handling of these substances within 0.25 mile of schools. Therefore, through implementation of Mitigation measure HMW-MM#1, the potential impact of hazardous emissions or handling of hazardous substances within 0.25 mile of a school would be less than significant pursuant to CEQA.

Impact HMW #6: Risks during Construction on or near Landfills and Oil and Gas Wells

Petroleum products and product conveyances (e.g., pipelines, tanks, and wells), including crude oil and refined products such as fuels, lubricants, and natural gas, are considered in this analysis because they may also pose a potential hazard to human health and safety if released into the environment. Petroleum products and pipelines, including crude oil and refined products (e.g., fuels, solvents, lubricants, and natural gas) are excluded from the definition of a “hazardous substance” in CERCLA. These materials may pose a hazard to human health and safety or to the environment if released into the workplace or the environment. Release could occur through spills during construction, rupture of a pipeline or well casing hit during construction, or disturbance of contaminated soil or groundwater.

Effects from landfills include their potential to release methane gas, which may present an explosion risk when exposed to a flame or spark during excavation activities. The *Burbank to Los Angeles Project Section Hazardous Materials and Wastes Technical Report* (Authority 2021a) concluded that the likelihood of landfill methane gas affecting an area beyond the landfill properties is low because the landfills have existing gas mitigation control systems and monitoring programs. As required in HMW-IAMF#2, prior to any ground-disturbing activities, the

contractor would prepare a technical memorandum verifying to the Authority that methane protection measures would be implemented for all work within 1,000 feet of a landfill, including gas detection systems and personnel training, pursuant to State of California Title 27, Environmental Protection – Division 2, Solid Waste, and the hazardous materials BMPs plan. In addition, the technical memorandum would include emergency response procedures for gas release containment and evacuation.

As described in Section 3.10.5.1, four plugged and abandoned dry holes are within the RSA. Release could occur through rupture of a pipeline or a well casing that is disturbed during construction. Prior to construction, the Authority would require construction contractors to prepare a plan addressing spill prevention (HMW-IAMF#6). This plan would prescribe BMPs that must be followed to respond to inadvertent releases, including from oil and gas wells. Spill response preparedness would minimize the effect of an inadvertent release should one occur.

Prior to ground-disturbing activities, all oil wells within 200 feet of the HSR tracks would be identified and inspected, and any active wells would be abandoned and relocated in accordance with the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources standards and in coordination with the well owners (SS-IAMF#4).

Hazards related to the potential migration of hazardous gases due to the presence of oil fields, gas fields, or other subsurface sources can be avoided or minimized by following strict federal and state Occupational Safety & Health Administration regulatory requirements for excavations, and by consulting with other agencies as appropriate, such as the Department of Conservation, Division of Oil, Gas, and Geothermal Resources and the California Environmental Protection Agency, and the DTSC, regarding known areas of concern. Practices would include using safe and explosion-proof equipment during construction, and testing for gases regularly. In accordance with GEO-IAMF#3, the installation of passive or active gas venting systems and gas collection systems, as well as active monitoring systems and alarms, would be required in underground construction areas and facilities where subsurface gases are present.

CEQA Conclusion

Construction activities would temporarily increase the potential for release of hazardous gases associated with oil and gas wells and landfills. HMW-IAMF#2, HMW-IAMF#6, SS-IAMF#4, and GEO-IAMF#3 include measures to reduce the potential for release of hazardous gases by implementing methane protection construction procedures, a spill prevention plan, inspections of oil and gas wells within 200 feet of the HSR tracks, and a CMP for undocumented contaminated soil as well as gas monitoring. With implementation of HMW-IAMF#2, HMW-IAMF#6, SS-IAMF#4, and GEO-IAMF#3 and compliance with applicable regulatory requirements during construction of the HSR Build Alternative, potential subsurface gases associated with nearby landfills and oil and gas wells during construction would not create substantial hazards to the public or the environment, and impacts would be less than significant under CEQA. Therefore, CEQA does not require any mitigation.

Operations Impacts

Operation of the HSR Build Alternative would include inspection and maintenance along the track and railroad right-of-way, as well as on the structures, fencing, power system, train control, electric interconnection facilities, and communications facilities. Chapter 2, Alternatives, describes operations and maintenance activities.

In general, operation and maintenance of the HSR Build Alternative would involve the transport, use, and disposal of small quantities of hazardous materials or wastes associated with routine maintenance of rail facilities. The HSR Build Alternative would be dedicated to passenger transport, not the transport of freight or hazardous substances.

Impact HMW #7: Hazards Due to the Routine Transport, Use, or Disposal of Hazardous Materials during Operation

Routine maintenance activities along the HSR Build Alternative and at stations would periodically involve the use of small amounts of hazardous materials (e.g., solvents, paints, vehicle fuels, and pesticides) that are not expected to be acutely hazardous; substantial amounts of hazardous materials would not be routinely transported, used, or disposed. The realignment of the nonelectrified tracks, which are used by freight and passenger rail, closer to the right-of-way boundary would not create unique impacts with respect to the use, transport, or storage of hazardous materials or hazardous wastes because existing procedures and protocols would remain in place. The Authority will develop a hazardous materials and waste plan describing responsible parties and procedures for hazardous waste and hazardous materials transport, containment, and storage BMPs that would be implemented during operation (HMW-IAMF#8). Operation of the HSR Build Alternative and stations would also comply with existing federal, state, and local regulations with respect to the routine transport, use, or disposal of hazardous materials consistent with HMW-IAMF#10 (preparing and complying with a hazardous materials plan and an SPCC plan).

CEQA Conclusion

Like other transportation projects, operation of the HSR Build Alternative has the potential to release a small amount of hazardous materials during routine handling. HMW-IAMF#8 includes a hazardous materials and waste plan describing responsible parties and procedures for hazardous waste and hazardous materials transport, containment, and storage BMPs that would be implemented during operation of the HSR Build Alternative. HMW-IAMF#10 includes procedures to reduce the potential for hazardous substances releases through preparation and implementation of hazardous materials monitoring and reporting plans. Through adherence to HMW-IAMF#8, HMW-IAMF#10, and compliance with applicable regulatory requirements during operation and maintenance of the HSR Build Alternative, the routine transport, use, or disposal of hazardous materials would not create substantial hazards to the public or the environment, and impacts would be less than significant under CEQA. Therefore, CEQA does not require any mitigation.

Impact HMW #8: Hazards Due to Reasonably Foreseeable Upset and Accident Conditions That Involve the Release of Hazardous Materials during Operation

During HSR Build Alternative operation, hazardous or potentially hazardous materials would be used occasionally to operate maintenance vehicles and equipment along the alignment. Appropriate use and maintenance of vehicles and equipment would avoid reasonably foreseeable upset and accident conditions. However, in the unlikely event of a major hazardous materials release close to or in the vicinity of the project, implementation of GEO-IAMF#5 would require the Authority to prepare and deploy an Emergency Response Procedure Plan in conformance with Federal, State, and local regulations.

No demolition activities would occur during operation and maintenance of the HSR Build Alternative and no new sources of ACM would be introduced. It is possible that the peeling or chipping of LBP in the RSA could occur during HSR Build Alternative operations, but this would be in small quantities, would not be exacerbated by operation of the HSR Build Alternative, and would not result in substantial exposure for workers, the environment, or the public.

HMW-IAMF#10 would also avoid or minimize potential operational effects through the preparation of a hazardous materials business plan addressing HSR operations.

The HSR Build Alternative would not involve the transport, storage, or disposal of hazardous materials in quantities greater than needed to support standard operation and would be limited to small quantities of materials needed for facility maintenance. Therefore, the potential for exposure of the public, project work staff, and the environment to hazardous materials would be minimal.

CEQA Conclusion

Like other transportation projects, operation of the HSR Build Alternative has the potential to release a small amount of hazardous materials during accident conditions. HMW-IAMF#10

includes procedures to reduce the potential for hazardous substances releases through preparation and implementation of hazardous materials monitoring, reporting, and spill prevention plans. In addition, GEO-IAMF#5 would require the Authority to prepare and deploy an Emergency Response Procedure Plan in conformance with Federal, State, and local regulations in the unlikely event of a major hazardous materials release close to or in the vicinity of the project. Through adherence to HMW-IAMF#10, GEO-IAMF#5, and compliance with applicable regulatory requirements, the potential release of hazardous materials during operation and maintenance of the HSR Build Alternative would not create substantial hazards to the public or the environment, and impacts would be less than significant under CEQA. Therefore, CEQA does not require any mitigation.

Impact HMW #9: Hazards Due to Project Location on Potential Environmental Concern Sites or Hazardous Material Sites Compiled Pursuant to Government Code § 65962.5 during Operation

Although the HSR Build Alternative contains below-grade sections near the San Fernando Valley Superfund Site, based on the historic groundwater levels, the below-grade sections of the HSR Build Alternative are anticipated to be above the groundwater table and therefore not require ongoing dewatering of contaminated groundwater near the Superfund site. However, implementation of HYD-IAMF#1 would require that on-site storm and groundwater management facilities would be designed and constructed to capture runoff and provide treatment prior to discharge of pollutant-generating surfaces, including tunnels, trenches, station parking areas, access roads, new road over- and underpasses, reconstructed interchanges, and new or relocated roads and highways.

Although it is not anticipated that HSR passengers and workers would be exposed to ongoing soil vapor from the Superfund site during operation of the HSR Build Alternative, implementation of GEO-IAMF#3 and GEO-IAMF#4 requires the Authority to develop a CMP that includes installation of gas-detection systems to monitor the effectiveness of any passive or active gas venting systems, gas collection systems, as well as active monitoring systems and alarms (GEO-IAMF#3) and mitigations to clean up historic or abandoned mines and other toxic sites that are releasing or threatening to release hazardous substances such as heavy metals from contaminated water and vapors (GEO-IAMF#4). In addition, operation of the HSR Build Alternative includes inspection and maintenance activities. Maintenance activities may occur near both known and unknown hazardous materials sites. However, as required by HMW-IAMF#1, testing and appropriate remediation of hazardous materials sites would be part of HSR Build Alternative construction. Because hazardous materials sites would be remediated or barriers would be implemented prior to construction, HSR operations would not affect hazardous materials sites.

CEQA Conclusion

Operation of the HSR Build Alternative has the potential to encounter hazardous materials or wastes associated with PEC sites or other sites with hazardous substances releases. HMW-IAMF#1, GEO-IAMF#3, GEO-IAMF#4, and HYD-IAMF#1 include procedures to reduce the potential to encounter hazardous substances associated with other sites through identification of hazardous waste on parcels to be acquired and associated testing and remediation. Through adherence to HMW-IAMF#1, GEO-IAMF#3, GEO-IAMF#4, HYD-IAMF#1, and compliance with applicable regulatory requirements, operation and maintenance of the HSR Build Alternative would not create a significant hazard to the public or the environment related to potential PEC sites or hazardous materials sites compiled pursuant to Government Code § 65962.5, and impacts would be less than significant under CEQA. Therefore, CEQA does not require any mitigation.

Impact HMW #10 Emit Hazardous Emissions or Handle Hazardous or Acutely Hazardous Materials, Substances, or Waste within 0.25 Mile of a School during Operation

Operation and maintenance of the HSR Build Alternative would involve the use and generation of only small amounts of hazardous substances for the routine maintenance of stations. In addition, HMW-IAMF#9 includes procedures to limit the use of hazardous materials by replacing hazardous substances with nonhazardous materials, and HMW-IAMF#10 includes procedures to

reduce the potential for hazardous substances releases through preparation and implementation of hazardous materials monitoring, reporting, and spill prevention plans. The HSR Build Alternative would operate on electric power. As a result, long-term risks associated with intermittent handling and use of hazardous materials in the vicinity of schools during HSR Build Alternative operation would be negligible because the passenger rail service would not involve hazardous emissions or the transport of acutely hazardous materials. Hazardous materials used for maintenance activities would be similar to those used for other transportation facilities and would not require additional control measures.

CEQA Conclusion

Through adherence to HMW-IAMF#9 and HMW-IAMF#10 and compliance with applicable regulatory requirements, and because of the low risk associated with passenger rail facilities, the potential impact of hazardous emissions or handling of hazardous substances within 0.25 mile of a school would not pose a health and safety hazard to students or school employees. Therefore, CEQA does not require mitigation.

3.10.7 Mitigation Measures

The Authority has identified the following mitigation measures for impacts under NEPA and significant impacts under CEQA that cannot be avoided or minimized adequately by IAMFs.

HMW-MM#1: Limit Use of Extremely Hazardous Materials near Schools during Construction

Prior to construction, the Contractor will prepare a memorandum establishing BMPs regarding hazardous materials best management practices related to construction activity for approval by the Authority. The memorandum and a signed agreement as well as the CMP will confirm that the Contractor will not handle or store an extremely hazardous substance (as defined in California Public Resources Code § 21151.4⁷) 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. The memorandum, signed agreement, and CMP will acknowledge that prior to construction activities, signage would be installed to delimit all work areas within 0.25 mile of a school, informing all personnel associated with construction of the Project not to bring extremely hazardous substances into the area. The Contractor would be required to monitor all use of extremely hazardous substances as delineated in the CMP. This construction mitigation measure for hazardous materials and wastes is consistent with California Public Resources Code Section 21151.4. The memorandum, signed agreement, and CMP will be submitted to the Authority prior to any construction.

Impacts from Implementing Mitigation Measure HMW-MM#1

There would be no secondary impacts from mitigation, because HMW-MM#1 would only involve implementing restrictions related to use of extremely hazardous substances.

⁷ (2) (A) An extremely hazardous substance listed in Appendix A of Part 355 (commencing with Section 355.10) of Subchapter J of Chapter I of C.F.R. Title 40 that is any of the following:

- (i) A gas at standard temperature and pressure.
- (ii) A liquid with a vapor pressure at standard temperature and pressure equal to or greater than 10 millimeters mercury.
- (iii) A solid that is one of the following:
 - (I) In solution or in molten form.
 - (II) In powder form with a particle size less than 100 microns.
 - (III) Reactive with a National Fire Protection Association rating of 2, 3, or 4.
- (iv) A substance that the office determines may pose a regulated substances accident risk pursuant to subclause (II) of clause (i) of subparagraph (B) or pursuant to Section 25543.3.

3.10.7.1 Early Action Projects

As described in Chapter 2, Section 2.5.2.9, early action projects would be completed in collaboration with local and regional agencies. They include grade separations and improvements at regional passenger rail stations. These early action projects are analyzed in further detail to allow the agencies to adopt the findings and mitigation measures as needed to construct the projects. The following hazardous materials and waste mitigation measures listed in Table 3.10-7 would be required for these early action projects.

Table 3.10-7 Mitigation Measures Required for Early Action Projects

Early Action Project	Impacts	Mitigation Measure
Burbank Metrolink Station Modifications	Impact HMW #5	HMW-MM#1
Grandview Avenue Grade Separation	Impact HMW #5	HMW-MM#1
Goodwin Avenue/Chevy Chase Drive Grade Separation	Impact HMW #5	HMW-MM#1
Main Street Grade Separation	Impact HMW #5	HMW-MM#1

3.10.8 NEPA Impact Summary

This section summarizes the impacts of the HSR Build Alternative and compares them to the anticipated impacts of the No Project Alternative.

3.10.8.1 No Project Alternative

Under the No Project Alternative, development trends within the Burbank to Los Angeles Project Section are anticipated to continue, including operation of the existing regional transportation systems, leading to population growth within the RSA. Existing highway, airport, and conventional rail systems described in adopted regional transportation plans and municipal general plans would likely be implemented. There are also planned industrial, residential, and associated infrastructure development projects, such as shopping centers and wastewater conveyance upgrades. These growth initiatives and planned improvements would require the storage, transport, use, and disposal of hazardous materials and would generate a mix and quantity of hazardous wastes based on the magnitude of the improvements and contamination at any given site.

PEC sites in the RSA are associated with commercial and industrial facilities and uses, as well as operations and maintenance of major highway and railway corridors in the project vicinity. Contamination risks associated with these sites could result in or compound effects on future No Project Alternative improvements within those same corridors. Some (but not all) existing PEC sites in the RSA would be investigated and undergo remediation by 2040, and the potential for effects on planned and future improvements would remain. Upsets and accidents may create PEC sites that could affect future improvements under the No Project Alternative, although any accidents or spills of hazardous wastes or materials are regulated and cleanups would be required.

Transportation and planned improvements in areas of existing oil or gas fields also could threaten the safety of the public in the RSA. Risks would be comparable to development of similar past and ongoing improvement projects in these areas.

Based on forecasted population growth in the region, existing and future transportation systems would experience more traffic and congestion. This would likely increase the risk of accidents and other incidents that could release hazardous materials or wastes into the environment and threaten or affect schools, hospitals, parks, and other places where the public gathers, either directly (e.g., a structure fire) or indirectly (e.g., contaminating a potable water source). However, planned improvements and transportation projects under the No Project Alternative would likely include the implementation of mitigation to address the effects of exposure to hazardous materials and wastes.

3.10.8.2 High-Speed Rail Build Alternative

Construction and operation of the HSR Build Alternative could result in the following temporary and permanent impacts on the public and environment from release or disturbance of hazardous materials and wastes:

- Transport, storage, use, and disposal of hazardous materials and generation, storage, or disposal of hazardous wastes during construction of the HSR Build Alternative could result in the release of hazardous materials or wastes. Implementation of HMW-IAMF#6, HMW-IAMF#7, HMW-IAMF#8, and HMW-IAMF#9 would minimize effects from the release of hazardous materials or wastes by ensuring that hazardous materials and wastes are stored and transported in compliance with state and federal regulations, BMPs for hazardous materials storage and handling are followed, procedures for spill prevention are in place prior to construction, and the full inventory of hazardous materials in use during construction of the HSR Build Alternative is available to first responders.
- Construction of the HSR Build Alternative could inadvertently release hazardous materials and wastes as a result of accidents or spills related to the storage, transport, shipping, and use of hazardous materials. With implementation of HMW-IAMF#1, HMW-IAMF#3, HMW-IAMF#4, HMW-IAMF#5, HMW-IAMF#6, HMW-IAMF#7, HMW-IAMF#8, HMW-IAMF#9, HYD-IAMF#3, and GEO-IAMF#5, the potential for inadvertent release of hazardous materials and wastes would be reduced.
- During construction of the HSR Build Alternative, trenching and other ground-disturbing activities could encounter or disturb previously undocumented or unknown hazardous materials or contamination. The Authority would require contractors to develop a CMP prior to construction that includes provisions for responding to the disturbance of undocumented contamination (HMW-IAMF#4). Additional measures include compliance with regulations that control the transport, use, storage, and disposal of hazardous materials (HMW-IAMF#7) and procedures for the safe dismantling and prevention of accidental releases of lead and asbestos (HMW-IAMF#5). These provisions would minimize the potential for hazardous materials exposure of workers or the public and release into the environment as a result of inadvertent disturbance of undocumented contamination.
- Construction of the HSR Build Alternative on or near PEC sites could expose workers, the public, or the environment to hazardous materials or wastes. The following would minimize the impacts associated with construction on or near these sites.
 - During property acquisition for project construction, a parcel-level Phase I ESA would be conducted to characterize the properties proposed for acquisition (HMW-IAMF#1). Additional phases of ESAs could be conducted based on the results of the Phase I ESA.
 - The construction contractor may use work barriers, in conjunction with site investigation and remediation, to limit the potential release of subsurface contaminants (HMW-IAMF#3).
 - A CMP would be developed prior to construction that includes provisions for responding to the disturbance of undocumented contamination (HMW-IAMF#4).
 - A spill prevention plan (HMW-IAMF#6) and Environmental Management System (HMW-IAMF#9) would establish procedures to minimize potential accidents during the transportation of contaminated soils or groundwater and potential accidents during remediation as a result of operational failure of treatment systems.
 - A health and safety plan (GEO-IAMF#1) would be developed and would include weekly monitoring requirements and response protocols for exposure of personnel to constituents of concern identified in the Phase II Environmental Site Assessment(s).
- Demolition of roadways, track modification, and dismantling and removal of building or other structure components or debris could accidentally release lead and asbestos, exposing workers and the public to hazardous materials and wastes during demolition prior to

construction of the HSR Build Alternative. HMW-IAMF#1 and HMW-IAMF#5 include measures that would ensure the safe demolition and removal of materials and debris, preventing the accidental release of lead and asbestos.

- Construction of the HSR Build Alternative would involve the transport, storage, and use of hazardous substances or mixtures within 0.25 mile of schools, a health or safety hazard to students or employees in the event of a release of hazardous materials or wastes. IAMFs would reduce but not completely avoid the potential of a release. Mitigation Measure HMW-MM#1 would further limit the use of extremely hazardous materials within 0.25 mile of a school.
- Construction of the HSR Build Alternative on or near active or closed landfills and oil and gas wells could increase the risk of exposure or accident associated with hazardous materials and wastes to the public and workers. HMW-IAMF#2 would minimize the potential risk of explosion related to methane gas release from closed landfills. IAMFs would reduce the risk of accidents associated with encountering oil or gas wells, such as spills, fires, or explosions that could compromise the safety of construction workers and the public. The Authority would identify, inspect, and abandon wells within 200 feet, as well as relocate active wells (SS-IAMF#4). In addition, the construction contractors would be required to monitor for subsurface gases and use safe and explosion-proof equipment during project construction in areas where explosion hazards exist (GEO-IAMF#3). Furthermore, a spill prevention plan would be in place, and spill containment equipment would be at the site during removal or decommissioning of any wells (HMW-IAMF#4).
- Construction of the HSR Build Alternative would affect seven extraction wells used to extract contaminated groundwater from the Superfund site. Five of these wells (V01, V02, V03, V04, and V07) would be protected in place and their function would not be impaired. Two other wells would require relocation (V05 and V06). The Authority would coordinate the relocation of these wells with the USEPA, the Los Angeles Regional Water Quality Control Board, and other jurisdictional agencies as required under CERCLA. The replaced extraction wells would be installed and functional prior to the removal of any of the extraction wells for the San Fernando Valley Superfund site to avoid disruption of the ongoing remediation program for the Superfund site. The USEPA Record of Decision for the San Fernando Valley (Area 1) Superfund site, issued in 1989; the Second Consent Decree for San Fernando Valley Superfund Site, Burbank Operable Unit; the Consent Decree for the Glendale Operable Unit, Civil Action No. 99-00552 MRP (ANx); and the Cleanup and Abatement Order No. 87-161 dated December 17, 1987, were reviewed and incorporated into the Final EIR/EIS.

Interference with any ongoing remediation activities at a PEC site, such as the San Fernando Valley Groundwater Basin Superfund site, could increase the risk of a release of contaminants or result in an interruption in cleanup; thus, construction at known PEC sites would require coordination with regulatory agencies before advancing. Preconstruction activities, such as Phase I and Phase II ESAs, as necessary, would be conducted during the right-of-way acquisition phase, and appropriate remediation, including removal of contamination, in-situ treatment, or soil capping, would be conducted prior to acquisition (HMW-IAMF#1). Testing and appropriately remediating acquired properties would minimize potential impacts from construction on or near PEC sites. Depending on proposed activities, such as subsurface ground disturbance, and the known extent and type of contamination, requirements for building at contaminated sites could include further evaluation of the level of contamination and associated potential risks to human health and the environment, as well as site remediation. Groundwater modeling and all other studies required prior to removal and installation of wells and other infrastructure will be performed consistent with applicable law, regulations, and guidance, and with prior approval, of the USEPA. During construction activities, construction crews may encounter soil and soil vapor which are impacted by residual primary contaminants of concern that have the potential to adversely affect treatment system operation and the public water supply. Implementation of GEO-IAMF#1, a health and safety plan, which will be part of the Construction Management Plan, would require weekly monitoring requirements and response protocols for exposure of personnel to constituents of concern identified in the Phase II Environmental Site Assessment(s). In addition,

the Authority will coordinate with USEPA, the Los Angeles Regional Water Quality Control Board, and other relevant stakeholders on an ongoing basis to review the permitting requirements as well as the project design and construction methods for proposed modifications to the extraction wells and ancillary infrastructure to ensure that municipal water supplies and the effectiveness of the Superfund site clean-up remedies are not impaired by construction and operation of the HSR Build Alternative (HMW-IAMF#11).

- Operation and maintenance of the HSR Build Alternative has the potential to affect the environment and the public through the transport, use, storage, and disposal of hazardous materials and wastes for the maintenance of the HSR trains, track, light maintenance facility, and stations. The transport, use, storage, and disposal of hazardous materials and wastes would primarily occur at the light maintenance facility, although smaller quantities of hazardous materials could be intermittently used on tracks or at stations. Implementation of an environmental management system and hazardous materials monitoring and reporting plans would reduce or avoid impacts (HMW-IAMF#7, HMW-IAMF#8, HMW-IAMF#9, and HMW-IAMF#10).
- Operation and maintenance of the HSR Build Alternative could result in the accidental release of hazardous materials and wastes, presenting health and safety risks to the public and workers, and contamination of the environment. IAMFs include measures that require preparation of a hazardous materials plan, an SPCC plan, an Emergency Response Procedures Plan, and an environmental management system that would limit the risks of upsets and accident conditions (HMW-IAMF#7, HMW-IAMF#9, GEO-IAMF#5, and HMW-IAMF#10).
- Operation and maintenance of the HSR Build Alternative on or near sites of undocumented or unknown contamination and associated risks would be negligible because these types of sites would be identified, tested, and remediated prior to construction (HMW-IAMF#1). Operations and maintenance activities would have limited potential for ground disturbance. As design of the project progresses, the Authority will participate in continued coordination with EPA, as stated in HMW-IAMF#11. Although the below-grade sections of the HSR Build Alternative are anticipated to be above the groundwater table and therefore not require ongoing dewatering of contaminated groundwater near the Superfund site, the Authority will implement HYD-IAMF#1 which would require that on-site storm and groundwater management facilities would be designed and constructed to capture runoff and provide treatment prior to discharge of pollutant-generating surfaces, including tunnels, trenches, station parking areas, access roads, new road over- and underpasses, reconstructed interchanges, and new or relocated roads and highways. In addition, although it is not anticipated that HSR passengers and workers would be exposed to ongoing soil vapor from the Superfund site during operation of the HSR Build Alternative; implementation of GEO-IAMF#3 and GEO-IAMF#4 requires the Authority to develop a CMP that includes installation of gas-detection systems to monitor the effectiveness of any passive or active gas venting systems, gas collection systems, as well as active monitoring systems and alarms (GEO-IAMF#3) and mitigations to clean up historic or abandoned mines or other toxic sites that are releasing or threatening to release hazardous substances such as heavy metals from contaminated water and vapors (GEO-IAMF#4).
- Operation and maintenance of the HSR Build Alternative would require limited and intermittent handling of small amounts of hazardous materials, substances, or wastes within 0.25 mile of schools. A hazardous materials plan, an SPCC plan, and an Environmental Management System would be prepared and implemented (HMW-IAMF#7, HMW-IAMF#9, and HMW-IAMF#10). HSR trains would operate on electric power with no hazardous air emissions, and the single at-grade crossing is not within 0.25 mile of any schools, eliminating the potential for accidents between the train and vehicles transporting hazardous materials.

3.10.9 CEQA Significance Conclusions

Table 3.10-8 provides a summary of the CEQA determination of significance for all construction and operations impacts discussed in Section 3.10.6.3, High-Speed Rail Build Alternative.

Table 3.10-8 Summary of CEQA Significance Conclusions and Mitigation Measures for Hazardous Materials and Wastes

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
Construction			
Impact HMW #1: Hazards Due to the Routine Transport, Use, or Disposal of Hazardous Materials during Construction	Less than Significant	No mitigation measures are required	Not Applicable
Impact HMW #2: Hazards Due to Reasonably Foreseeable Upset and Accident Conditions that Involve the Release of Hazardous Materials during Construction	Less than Significant	No mitigation measures are required	Not Applicable
Impact HMW #3: Hazards Due to Project Location on Potential Environmental Concern Sites or Cortese List Sites during Construction	Less than Significant	No mitigation measures are required	Not Applicable
Impact HMW #4: Hazards Due to Increased Exposure to Asbestos as a Result of Building Demolition	Less than Significant	No mitigation measures are required	Not Applicable
Impact HMW #5: Emit Hazardous Emissions or Handle of Hazardous or Acutely Hazardous Materials, Substances, or Waste within 0.25 Mile of a School during Construction	Significant	HMW-MM#1	Less than Significant
Impact HMW #6: Risks during Construction on or near Landfills and Oil and Gas Wells	Less than Significant	No mitigation measures are required	Not Applicable
Operations			
Impact HMW #7: Hazard Due to the Routine Transport, Use, or Disposal of Hazardous Materials during Operation	Less than Significant	No mitigation measures are required	Not applicable
Impact HMW #8: Hazards Due to Reasonably Foreseeable Upset and Accident Conditions that Involve the Release of Hazardous Materials during Operation	Less than Significant	No mitigation measures are required	Not applicable
Impact HMW #9: Hazards Due to Project Location on Potential Environmental Concern Sites or Hazardous Material Sites Compiled Pursuant to Government Code Section 65962.5 during Operation	Less than Significant	No mitigation measures are required	Not applicable
Impact HMW #10: Emit Hazardous Emissions or Handle Hazardous or Acutely Hazardous Materials, Substances, or Waste within 0.25 Mile of a School during Operation	Less than Significant	No mitigation measures are required	Not applicable

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