

3.9 Hazardous Materials

3.9.1 Introduction

This section describes the regulatory and environmental setting for hazardous materials in the vicinity of the Proposed Project and the Atwater Station Alternative. It also describes the impacts from hazardous materials that would result from implementation of the Proposed Project and the Atwater Station Alternative, and mitigation measures that would reduce significant impacts, where feasible and appropriate.

The term *hazardous material* is defined in this section as any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment (abbreviated from the California Health and Safety Code [Health & Saf. Code] 25501). The term *hazardous waste* generally refers to a hazardous material that has been used for its original purpose and is about to be discarded or recycled. In California, a hazardous waste is defined as a waste, or combination of wastes, that due to its quantity, concentration, or physical, chemical, or infectious characteristics may do one of the following.

- Cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness.
- Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed (abbreviated from Health & Saf. Code 25141).

Public safety concerns discussed in this section include the management of hazardous materials and the disturbance of existing hazardous materials in soil, ballast, groundwater, and building materials in the environmental footprint for the Proposed Project and the Atwater Station Alternative during construction and operation. Section 3.16, *Safety and Security*, discusses the potential for hazards, including freight accidents involving hazardous materials, and emergency response. Cumulative impacts from hazardous materials, in combination with planned, approved, and reasonably foreseeable projects, are discussed in Chapter 4, *Other CEQA-Required Analysis*.

3.9.2 Regulatory Setting

This section summarizes federal, state, regional, and local regulations related to hazardous materials and applicable to the Proposed Project and the Atwater Station Alternative.

3.9.2.1 Federal and State

Section 3.16, *Safety and Security*, presents a discussion of federal regulations related to hazardous material cargo carried by freight. That section includes a discussion of applicable Federal Railroad Administration (FRA) rules and other federal requirements relative to the carrying of hazardous materials by freight rail operators.

Hazardous Materials Management

The U.S. Environmental Protection Agency (USEPA) is the lead agency with responsibility for enforcing federal laws and regulations that govern hazardous materials that can affect public health or the environment. The major federal laws and regulations pertaining to the management of hazardous materials for the Proposed Project and the Atwater Station Alternative are the Resources Conservation Recovery Act (RCRA), Toxic Substances Control Act (TSCA), and Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

In 1976, RCRA was enacted to provide a general framework for USEPA to regulate hazardous waste from the time it is generated until its ultimate disposal. Under RCRA, a waste may be considered “hazardous” if it exhibits certain hazardous characteristics (e.g., ignitability, corrosivity, reactivity, toxicity) or if it is included on a specific list of wastes that USEPA has determined are hazardous. In accordance with RCRA, facilities that generate, treat, store, or dispose of hazardous waste are required to ensure that the waste is properly managed from “cradle to grave” by complying with the federal waste manifest system. In California, the Department of Toxic Substances Control (DTSC) administers the RCRA program, as well as additional state-specific requirements for managing hazardous waste in accordance with the California Hazardous Waste Control Law (Health & Saf. Code 25100 et seq.). The state criteria for identifying hazardous waste, as described in Title 22 of the California Code of Regulations (Cal. Code Regs.) Sections 66261.10 through 66261.24, are more comprehensive than the federal RCRA hazardous waste criteria; therefore, hazardous wastes in California can be identified as either RCRA hazardous waste or non-RCRA hazardous waste.

In 1976, TSCA was enacted to provide USEPA authority to regulate the production, transportation, use, and disposal of chemicals that pose a risk of affecting public health and the environment. TSCA and subsequent amendments give USEPA authority to regulate the cleanup and/or abatement of sites with specific toxic chemicals, such as polychlorinated biphenyls (PCB), asbestos-containing materials (ACM), and lead-based paint (LBP).

In 1972, an amendment to FIFRA provided USEPA authority to regulate the manufacture, distribution, and import of pesticides. USEPA approves registered uses of a pesticide based on an evaluation of its potential effects on human health and the environment. USEPA has granted the California Department of Pesticide Regulation (DPR) authority to enforce federal laws pertaining to the proper and safe use of pesticides (Cal. Code Regs. Title 3). The DPR can also designate pesticides as “restricted material” based on potential effects on public health, applicators, farm workers, domestic animals, honeybees, the environment, wildlife, or crops other than those being treated.

In California, hazardous waste and materials handling are regulated under the Unified Program. The Unified Program consolidates the administrative requirements, permits, inspections, and enforcement activities for the following existing programs.

- Hazardous Waste Generator and Tiered Permitting Program (Health & Saf. Code Chapter 6.5)
- Underground Storage Tank Program (Health & Saf. Code Chapter 6.7)
- Aboveground Petroleum Storage Tank Program (Health & Saf. Code Chapter 6.67)
- California Accidental Release Prevention Program (Health & Saf. Code Chapter 6.95)
- Hazardous Materials Release Response Plan and Inventory Program (Health & Saf. Code Chapter 6.95)

- Hazardous Material Management Plan and Hazardous Material Inventory Statement Program (California Fire Code and Health & Saf. Code Chapter 1)

The Unified Program requires facilities to properly manage hazardous materials and disclose information regarding such materials to minimize the risk of a hazardous materials release and improve emergency response actions in the event of a release. The California Environmental Protection Agency (Cal/EPA) oversees the entire program and local government agencies, known as Certified Unified Program Agencies (CUPA), implement and enforce the elements of the Unified Program. The following state agencies are involved with the Unified Program: Cal/EPA, DTSC, the State Water Resources Control Board (State Water Board), the Governor's Office of Emergency Services, and the Office of the State Fire Marshal.

Worker Health and Safety

The Occupational Safety and Health Administration (OSHA) is the federal agency responsible for enforcing and implementing federal laws and regulations pertaining to worker health and safety. OSHA's Hazardous Waste Operations and Emergency Response regulations require training and medical supervision for workers at hazardous waste sites (29 Code of Federal Regulations [C.F.R.] 1910.120). Additional regulations have been developed regarding exposure to lead (29 C.F.R. 1926.62) and asbestos (29 C.F.R. 1926.1101) to protect construction workers.

State worker health and safety regulations related to construction activities are enforced by the California Division of Occupational Safety and Health (Cal/OSHA). These regulations include requirements for protective clothing, training, and limits on exposure to hazardous materials. Cal/OSHA also enforces occupational health and safety regulations specific to lead and asbestos investigation and abatement. These regulations equal or exceed their federal counterparts. Specific worker safety measures for excavation hazards (e.g., falling or cave-in of the excavation wall) are described in Cal. Code Regs. Title 8, Section 1541.

Hazardous Building Materials

Hazardous building materials are commonly found in a variety of structures, including buildings, bridges, roadways, and railroad corridors. The proper management of hazardous building materials in accordance with various regulations during demolition and renovation activities is described in the following sections.

Asbestos-Containing Materials

Exposure to asbestos, a state-recognized carcinogen, can result in lung cancer, mesothelioma (cancer of the linings of the lungs and abdomen), or asbestosis (scarring of lung tissues that results in constricted breathing). ACMs, such as thermal system insulation, surfacing materials, and asphalt and vinyl flooring, may be present in building and bridge structures constructed prior to 1981 (8 Cal. Code Regs. 5208). Therefore, workers who conduct asbestos abatement must be trained in accordance with OSHA and Cal/OSHA requirements. California's local air districts oversee the removal of regulated ACMs; the Proposed Project and the Atwater Station Alternative are located within the jurisdictions of the San Joaquin Valley Air Pollution Control District (SJVAPCD). All friable (i.e., crushable by hand) ACMs or non-friable ACMs that may be damaged must be abated prior to demolition in accordance with applicable requirements. Friable ACMs must be disposed of as asbestos waste at an approved facility. Non-friable ACMs may be disposed of as non-hazardous waste at landfills that accept such wastes.

Lead-Based Paint

Exposure to lead, a state-recognized carcinogen, can result in stomach and lung cancer and impair nervous, renal, cardiovascular, and reproductive systems. Although LBP in residential structures was banned in 1978, this restriction did not apply to commercial and industrial structures (e.g., buildings and bridges); therefore, any commercial or industrial structures, regardless of construction date, could have surfaces that have been coated with LBP (Department of Toxic Substances Control 2006). Loose and peeling LBP must be disposed of as a state and/or federal hazardous waste if the concentration of lead equals or exceeds applicable waste thresholds. State and federal OSHA regulations require a supervisor who is certified with respect to identifying existing and predictable lead hazards to oversee air monitoring and other protective measures during demolition activities in areas where LBP may be present. Special protective measures and notification of Cal/OSHA are required for highly hazardous construction tasks related to lead, such as manual demolition, abrasive blasting, welding, cutting, or torch burning of structures, where LBP is present.

Prior to 1997, the California Department of Transportation (Caltrans) also used LBP for yellow traffic stripes and pavement markings along roadways (California Department of Transportation 2012). The residue that may be produced from the yellow thermoplastic and yellow paint during road improvement activities may contain lead and chromium. The debris produced during the removal of yellow thermoplastic and yellow paint may need to be disposed of as a state or federal hazardous waste if the concentrations of lead or chromium exceed applicable hazardous waste thresholds.

Universal Wastes

Universal wastes include a wide variety of hazardous wastes that are commonly produced in households and businesses. For example, universal wastes include electrical transformers, fluorescent lighting, electrical switches, heating/cooling equipment, and thermostats that could contain hazardous materials such as PCBs, diethylhexyl phthalate, mercury, and other metals. The disposal of these materials is regulated under the California Universal Waste Rule (Cal. Code Regs, Title. 22, Chapter 23), which is less stringent than most other federal and state hazardous waste regulations. To manage universal waste in accordance with the streamlined requirements for the state, generators must relinquish the waste to a universal waste transporter, another universal waste handler, or a universal waste destination facility.

Treated-Wood Waste

Railroad ties along existing railroad corridors are commonly treated with wood preservatives, such as arsenic, chromium, copper, pentachlorophenol, or creosote. If treated-wood waste is not properly disposed of, the chemicals it contains can potentially contaminate soil, surface water, and/or groundwater. If treated-wood waste is classified as hazardous, it must be managed under full hazardous waste management requirements or under the Alternative Management Standards adopted by DTSC under Cal. Code Regs. Title 22, Chapter 34. In general, the DTSC's Alternative Management Standards lessen storage requirements, extend accumulation periods, allow shipments without a hazardous waste manifest and a hazardous waste hauler, and allow disposal at specific non-hazardous-waste landfills.

Hazardous Materials Release Sites

In California, USEPA has granted most enforcement authority of federal hazardous materials regulations to Cal/EPA. Under the authority of Cal/EPA, the State Water Board and DTSC are responsible for overseeing the remediation of contaminated soil and groundwater sites. The provisions of Government Code Section 65962.5 (also known as the Cortese List) require the State Water Board, DTSC, the California Department of Health Services, and the California Department of Resources Recycling and Recovery to submit information to Cal/EPA pertaining to sites that were associated with solid waste disposal, hazardous waste disposal, and hazardous materials releases.

Hazardous Materials Transportation

In 1990 and 1994, the federal Hazardous Materials Transportation Act was amended to strengthen regulations for protecting life, property, and the environment from the inherent risks of transporting hazardous materials in all major modes of commerce. Further, the U.S. Department of Transportation (USDOT) developed hazardous materials regulations pertaining to classification, packaging, transport, and handling, as well as regulations regarding employee training and incident reporting (49 C.F.R. 171–180). The transport of hazardous materials is subject to both RCRA and USDOT regulations.

The California Highway Patrol, Caltrans, and DTSC are responsible for enforcing federal and state regulations pertaining to the transport of hazardous materials. If a discharge or spill of hazardous materials occurs during transportation, the transporter is required to take appropriate immediate action to protect human health and the environment (e.g., notify local authorities and contain the spill); the transporter is also responsible for cleanup (22 Cal. Code Regs. 66260.10 et seq.).

Petroleum Pipelines

Petroleum pipelines have been subject to pipeline safety and maintenance regulations since 1979, including the federal Hazardous Liquid Pipeline Safety Act (49 C.F.R. 195.412) and state regulations (California Government Code 51010–51019.1). These regulations require that petroleum pipelines be designed with equipment, such as low-pressure alarms and safety shut-down devices, to minimize spill volume in the event of a leak.

3.9.2.2 Regional and Local

The San Joaquin Regional Rail Commission (SJRRC), a state joint powers agency, proposes improvements inside and outside of the Union Pacific Railroad (UPRR) right-of-way (ROW). The Interstate Commerce Commission Termination Act (ICCTA) affords railroads engaged in interstate commerce considerable flexibility in making necessary improvements and modifications to rail infrastructure, subject to the requirements of the Surface Transportation Board.¹ ICCTA broadly preempts state and local regulation of railroads and this preemption extends to the construction and operation of rail lines. As such, activities within the UPRR ROW are clearly exempt from local building and zoning codes and other land use ordinances. However, facilities located outside of the UPRR ROW, including proposed stations, the proposed Merced Layover & Maintenance Facility, and the Atwater Station Alternative would be subject to regional and local plans and regulations. Though ICCTA does broadly preempt state and local regulation of railroads, SJRRC intends to obtain local

¹ Altamont Corridor Express (ACE) operates within a ROW and on tracks owned by the UPRR, which operates interstate freight rail service in the same ROW and on the same tracks.

agency permits for construction of facilities that fall outside of the UPRR ROW even though SJRRC has not determined that such permits are legally necessary and such permits may not be required.

Appendix G of this environmental impact report (EIR), *Regional Plans and Local General Plans*, provides a list of applicable goals, policies, and objectives from regional and local plans of the jurisdictions in which the Proposed Project and the Atwater Station Alternative would be located. Section 15125(d) of the California Environmental Quality Act (CEQA) Guidelines requires an EIR to discuss “any inconsistencies between the proposed project and applicable general plans, specific plans, and regional plans.” These plans were considered during the preparation of this analysis and were reviewed to assess whether the Proposed Project and the Atwater Station Alternative would be consistent with the plans of relevant jurisdictions.² The Proposed Project and the Atwater Station Alternative would be generally consistent with the applicable goals, policies, and objectives related to hazards and hazardous waste identified in Appendix G.

3.9.3 Environmental Setting

This section describes the environmental setting related to hazardous materials associated with implementation of the Proposed Project and the Atwater Station Alternative. For the purposes of this analysis, the study area for hazardous materials consists of the following.

- Potential sources of hazardous materials located in the environmental footprint of the Proposed Project and the Atwater Station Alternative.
- Potential sources of groundwater contamination within 0.25 mile of the environmental footprint of the Proposed Project and the Atwater Station Alternative.
- Schools within 0.25 mile of the environmental footprint of the Proposed Project and the Atwater Station Alternative.

Figures 3.9-1 through 3.9-5 depict the study area and locations of hazardous materials of concern in the vicinity of the Proposed Project and the Atwater Station Alternative. The principle data resources reviewed to describe existing hazardous materials concerns in the study area are listed as follows.

- Existing railroad and major roadway corridors mapped by Caltrans (2015).
- Naturally occurring asbestos (NOA) mapped by the U.S. Geological Survey (USGS) (Van Gosen and Clinkenbeard 2011).
- Petroleum pipelines mapped by the federal Pipeline and Hazardous Materials Safety Administration (PHMSA) (2020).
- Environmental records of hazardous materials release sites from the State Water Board’s (2020) GeoTracker database and the DTSC’s (2020) EnviroStor database.
- California Department of Water Resources Sustainable Groundwater Management Act (SGMA) Data Viewer (2020).

Pertinent hazardous materials information to the Proposed Project and the Atwater Station Alternative was geocoded and imported into a geographic information system to identify the

² An inconsistency with regional or local plans is not necessarily considered a significant impact under CEQA, unless it is related to a physical impact on the environment that is significant in its own right.

potential sources of hazardous materials in the study area. This section begins with an overview of potential hazardous materials sources and existing schools in the study area, followed by a detailed description of potential sources of hazardous materials.

3.9.3.1 Potential Hazardous Materials Sources

Hazardous Building Materials from Building, Bridge, Roadway, and Railroad Structures

As described in Section 3.9.2, *Regulatory Setting*, hazardous building materials could pose a health risk to construction workers, maintenance workers, and the public if not handled and disposed of properly. Existing building, bridge/overhead, roadway, and railroad structures located in the study area may contain hazardous building materials. Any building or bridge/overhead structures constructed before 1981 could potentially contain ACMs. Any residential building structures constructed before 1979 and any commercial or industrial building or bridge/overhead structures (regardless of construction date) could potentially contain LBP. All yellow traffic stripes and pavement markings applied to roadways before 1997 could also contain LBP. All railroad ties along existing railroad corridors could contain wood preservatives, such as arsenic, chromium, copper, pentachlorophenol, or creosote. All building structures could also contain other common hazardous materials (e.g., PCBs, diethylhexyl phthalate, mercury, and other metals) that would be considered universal wastes during demolition activities.

Contamination from Railroad Corridors

The most commonly reported soil contamination along railroad corridors are metals and petroleum products from railroad operations. For example, elevated concentrations of arsenic are common in shallow soils from historical applications of inorganic herbicides and leaching from chemically preserved railroad ties and/or arsenic-laced slag used as ballast material. Other sources of contaminants associated with historical railroad operations may include coal ash from engines and polycyclic aromatic hydrocarbons (PAH) from diesel exhaust. The risk of soil contamination is generally greater at railyards and along railroad corridors that are adjacent to industrial areas, where historical loading practices, leaks during material transfers or storage, and repair activities may have contaminated the soil. Therefore, metals and petroleum hydrocarbons could potentially be present in shallow soil and ballast materials along the existing UPRR ROW in the hazardous materials study area.

Aerially Deposited Lead from Major Roadway Corridors

Lead alkyl compounds were first added to gasoline in the 1920s. Beginning in 1973, USEPA ordered a gradual phase-out of lead from gasoline that significantly reduced the prevalence of leaded gasoline by the mid-1980s. Prior to the 1970s, USEPA estimated that vehicles emitted approximately 75 percent of the lead consumed in leaded gasoline as particulate matter in exhaust (Department of Toxic Substances Control 2004). As a result, shallow soils in major roadway corridors, which includes soils within approximately 30 feet of the pavement, have the potential to be contaminated with aerially deposited lead from historical car emissions prior to the elimination of lead in gasoline (Department of Toxic Substances Control 2009).

Naturally Occurring Asbestos from Bedrock

Geologic mapping by USGS does not show any areas of rock likely to contain NOA (ultramafic rock) in the hazardous materials study area. Therefore, NOA in bedrock would not be expected to be encountered in the study area.

Pesticide Residues from Existing Agricultural Land

Prior to 1950, inorganic pesticides that contained elevated concentrations of metals, such as arsenic, were commonly used in California agriculture. Introduced in 1944, organochlorine pesticides (OCP) were commonly used in California agriculture until about the mid-1970s (Department of Toxic Substances Control 2008). Arsenic from inorganic pesticides and residues from OCPs used in the past have the potential to persist in shallow soils and can affect human health and the environment. Shallow soils in the hazardous materials study area could potentially be contaminated with arsenic and OCPs from historical pesticide applications in areas located on existing agricultural land.

The approximate locations of existing agricultural lands in the study area were delineated based on available mapping of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland by the California Department of Conservation Farmland Mapping and Monitoring Program. Based on the farmland type definitions, these lands have been used for irrigated agricultural production or non-irrigated orchards and vineyards within the past 4 years prior to mapping.

Petroleum from Utility Pipelines

Existing pipeline safety regulations minimize potential impacts associated with future releases of petroleum (if any); however, they do not remove the possibility of undocumented petroleum releases that may have occurred in the past. Contaminants of concern from petroleum pipelines include gasoline, diesel, jet fuel, and PAH compounds. As a result, groundwater in the vicinity of the Proposed Project and the Atwater Station Alternative could potentially be contaminated by documented or undocumented releases from petroleum pipelines mapped within 0.25 mile of the environmental footprint for the Proposed Project and the Atwater Station Alternative.

The approximate locations of petroleum pipelines in the study area were delineated based on mapping from PHMSA's Public Map Viewer. In accordance with PHMSA's security policy, the scale of the Public Map Viewer is restricted to 1:24,000, and the minimum accuracy of the mapped pipeline locations is 500 feet.

Hazardous Materials from Release Sites

The review of hazardous materials release sites reported in the GeoTracker and EnviroStor databases included environmental records derived from the regulatory programs summarized in Table 3.9-1. Based on a review of the environmental records, 151 hazardous materials release sites were identified within 0.25 mile of the environmental footprint for the Proposed Project and the Atwater Station Alternative. Of the 151 hazardous materials release sites identified, 27 sites are active (i.e., investigation and cleanup are not complete) or have reported land-use restrictions. These release sites pose a greater potential for affecting environmental conditions in the study area than a closed release site without any land-use restrictions. To provide a preliminary overview of the potential hazardous materials release sites of concern that could have affected the environmental footprint of the Proposed Project and the Atwater Station Alternative, the 27 active hazardous materials release sites and/or sites with reported land-use restrictions in the Proposed

Project and the Atwater Station Alternative study area are described further below in Section 3.9.3.3, *Proposed Project and the Atwater Station Alternative*. The primary contaminants in soil and groundwater at many of the hazardous materials release sites of concern are petroleum hydrocarbons, chlorinated solvents, and metals.

Table 3.9-1. Summary of Environmental Records Reviewed

Regulatory Program	Environmental Record Description
Cleanup Program (formerly SLIC)	Contaminated sites generally not associated with petroleum USTs with Regional Water Board oversight for investigation and/or remediation.
FUDS	Military facilities that were FUDS with confirmed or unconfirmed releases and where DTSC is involved in investigation and/or remediation.
HWP/BZP Evaluation	Significant HWPs and BZPs located within 2,000 feet of a significant HWP.
Land Disposal	Regulated waste management units (e.g., waste piles, surface impoundments, and landfills) that discharge waste to land for treatment, storage and disposal.
LUST Cleanup	Sites contaminated from leaking USTs with Regional Water Board oversight for investigation and/or remediation.
Military Evaluation	Closed and open military facilities with confirmed or unconfirmed releases with DTSC oversight for investigation and/or remediation.
Military Cleanup	Military UST sites, Military Privatized sites, and Military Cleanup sites with Regional Water Board oversight for investigation and/or remediation.
School Investigation	Proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination.
Voluntary Cleanup	Sites with either confirmed or unconfirmed releases, and the project proponents have requested DTSC oversight for investigation and/or remediation.
Corrective Action	Investigation or cleanup activities at RCRA or state-only permitted hazardous waste facilities.
Expedited Remedial Action Program	High-priority and high potential risk sites requiring expedited cleanup with DTSC oversight. This is currently a pilot program.
Federal Superfund	Sites where USEPA proposed, listed, or delisted a site on the National Priority List.
State Response	High-priority and high potential risk sites requiring cleanup with DTSC oversight.

Sources: State Water Resources Control Board 2020; Department of Toxic Substances Control 2020.

UST = underground storage tank.

SLIC = Spills, Leaks, Investigation, and Cleanup.

Regional Water Board = Regional Water Quality Control Board.

FUDS = formerly used defense sites.

DTSC = Department of Toxic Substances Control.

HWP = hazardous waste property.

LUST = leaking underground storage tank.

BZP = border zone property.

RCRA = Resources Conservation Recovery Act.

USEPA = U.S. Environmental Protection Agency.

3.9.3.2 Existing Schools

Public and private schools with grades ranging from pre-kindergarten to 12th grade were identified in Section 3.14, *Public Services*, within 0.25 mile of the environmental footprint for the Proposed

Project and the Atwater Station Alternative. They are summarized in Section 3.9.3.3, *Proposed Project and the Atwater Station Alternative*.

3.9.3.3 Proposed Project and the Atwater Station Alternative

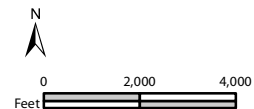
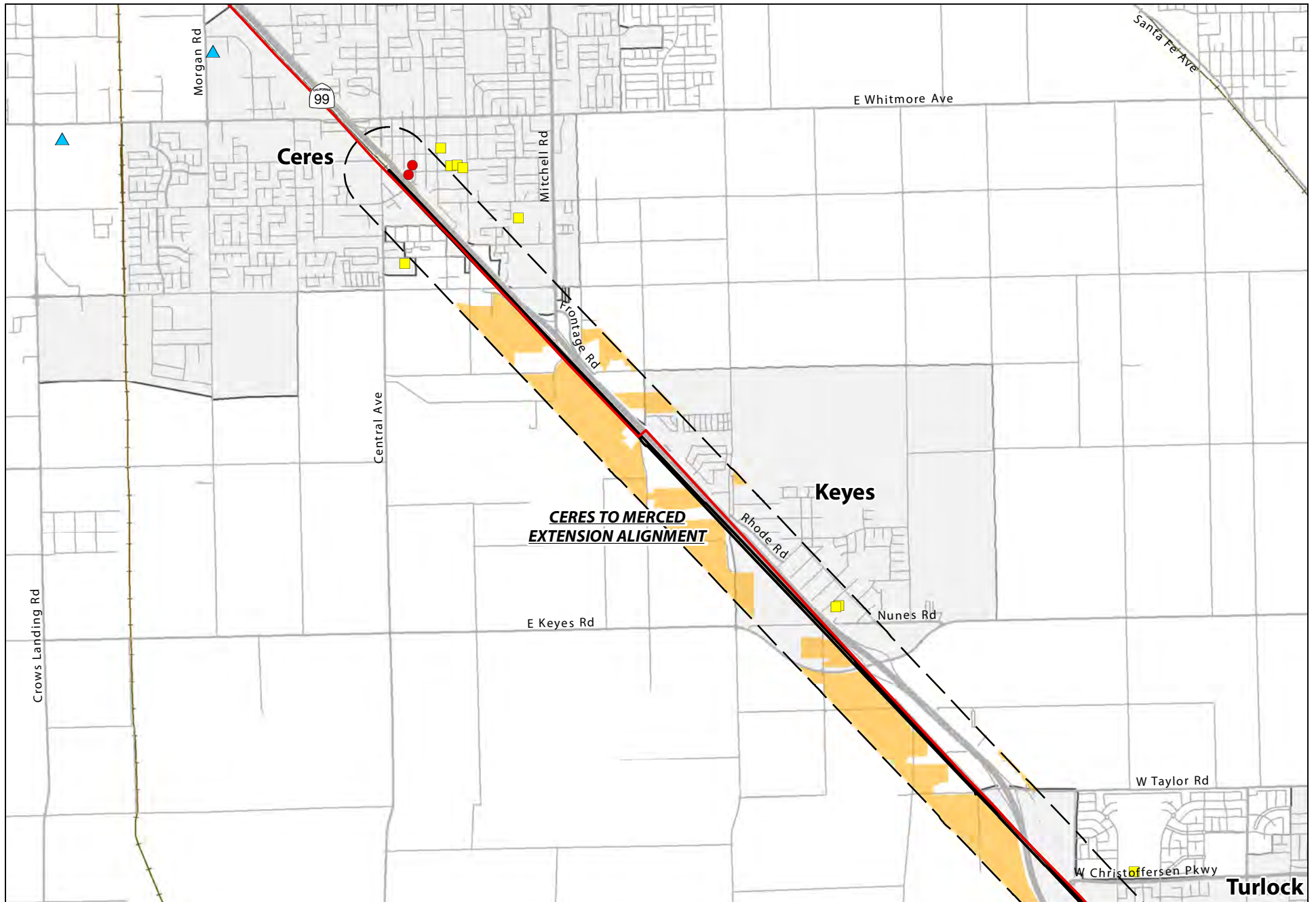
Figures 3.9-1 through 3.9-5 depict the study area and locations of hazardous materials concern in the vicinity of the Proposed Project and the Atwater Station Alternative. The following discussion describes the specific hazardous materials concerns for the Proposed Project and the Atwater Station Alternative.

Ceres to Merced Extension Alignment

The following sources of potential hazardous materials could have affected existing conditions in the study area for the Ceres to Merced Extension Alignment.

- Roadway overhead and bridge structures located in the environmental footprint.
- Roadways with potential yellow pavement stripes and markings located in the environmental footprint.
- A railroad corridor located in the environmental footprint.
- Major roadway corridors (State Routes 99 and 59) located in the environmental footprint.
- Existing agricultural land mapped in the environmental footprint.
- Approximately 35 miles of active and abandoned petroleum pipelines (Kinder Morgan and PG&E) located in the environmental footprint and study area.
- 27 hazardous materials release sites of concern located in the study area.

Table 3.9-2 lists the hazardous materials release sites of concern that could have affected soil and/or groundwater in the study area of the Ceres to Merced Extension Alignment. The 27 hazardous materials release sites of concern could have affected groundwater quality underlying the Ceres to Merced Extension Alignment. The depth to groundwater along the Ceres to Merced Extension Alignment is about 55 feet below ground surface (bgs) in Turlock, 75 feet bgs in Livingston, 88 feet bgs in Atwater, and 77 feet bgs in Merced (California Department of Water Resources 2020). Of these 27 hazardous materials release sites of concern, three are located in the footprint of the Ceres to Merced Extension Alignment. Soils underlying the Ceres to Merced Extension Alignment could be affected by these 3 hazardous materials release sites of concern. According to Section 3.14, *Public Services*, there are 15 schools within 0.25 mile of the Ceres to Merced Extension Alignment. Section 3.14 provides the addresses for these schools.



- Environmental Footprint
- Study Area
- Petroleum Pipeline (Approximate)
- Agricultural Land
- Existing Railroads

- Hazardous Materials Release Site (GeoTracker)
 - Hazardous Materials Release Site (EnviroStar)
 - School
- Note: Only existing agricultural land located within the Study Area are shown.

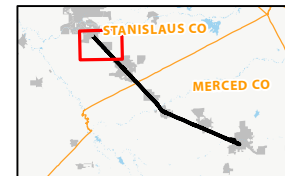
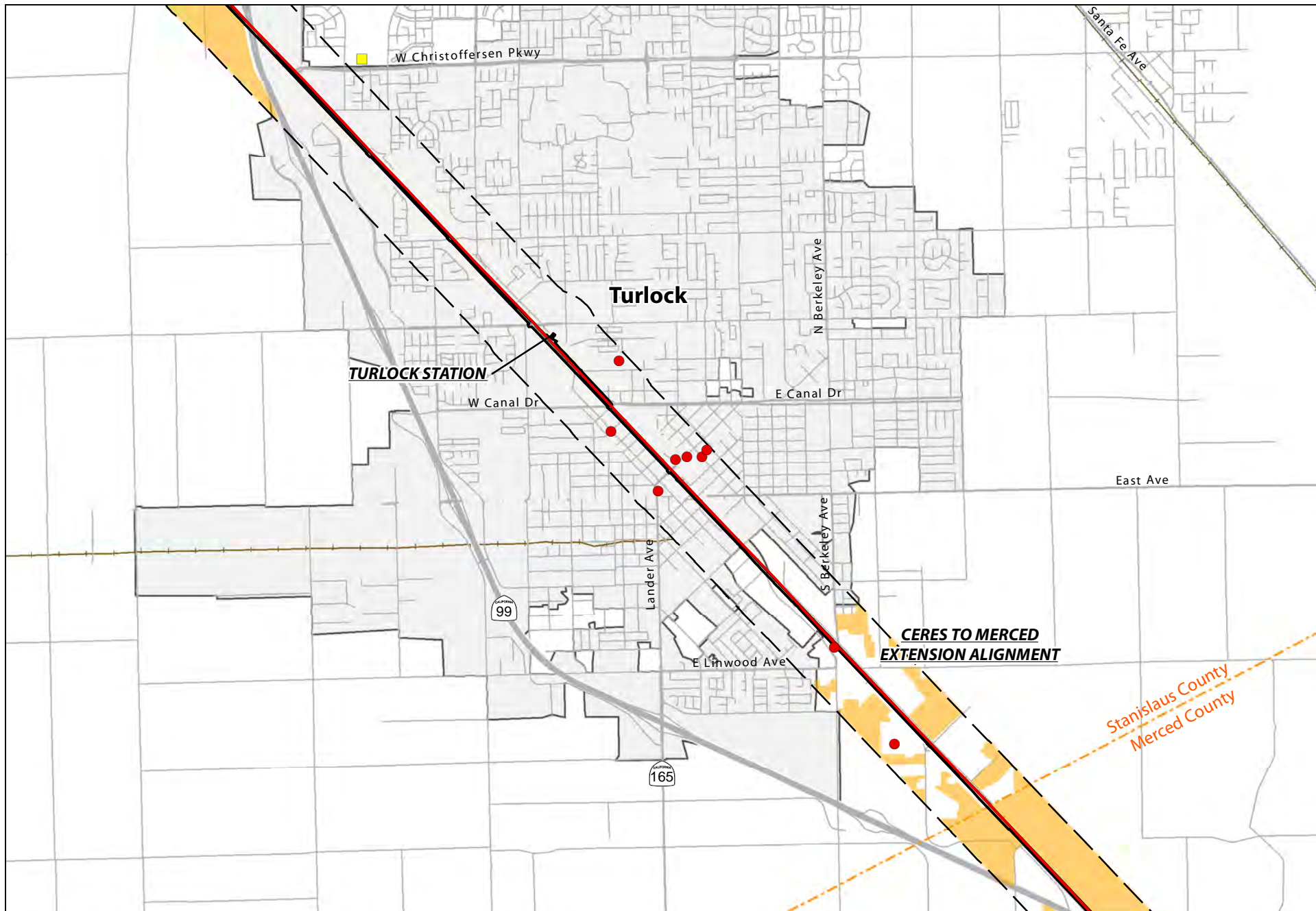
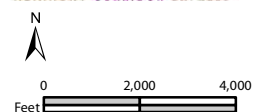


Figure 3.9-1
Hazardous Materials Concerns
ACE Ceres-Merced Extension Project



ACE
ALTAMONT CORRIDOR EXPRESS



- Environmental Footprint
- Study Area
- Petroleum Pipeline (Approximate)
- Agricultural Land
- Existing Railroads

- Hazardous Materials Release Site (GeoTracker)
 - ▲ Hazardous Materials Release Site (EnviroStar)
 - School
- Note: Only existing agricultural land located within the Study Area are shown.

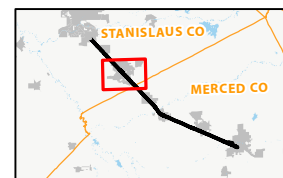
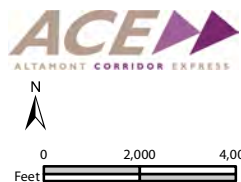


Figure 3.9-2
Hazardous Materials Concerns
ACE Ceres-Merced Extension Project



- Environmental Footprint
- Study Area
- Petroleum Pipeline (Approximate)
- Agricultural Land
- Existing Railroads

- Hazardous Materials Release Site (GeoTracker)
 - Hazardous Materials Release Site (EnviroStar)
 - School
- Note: Only existing agricultural land located within the Study Area are shown.

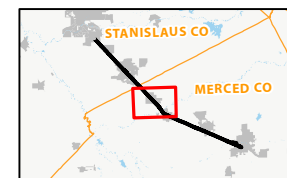
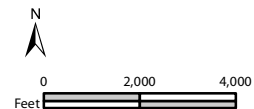
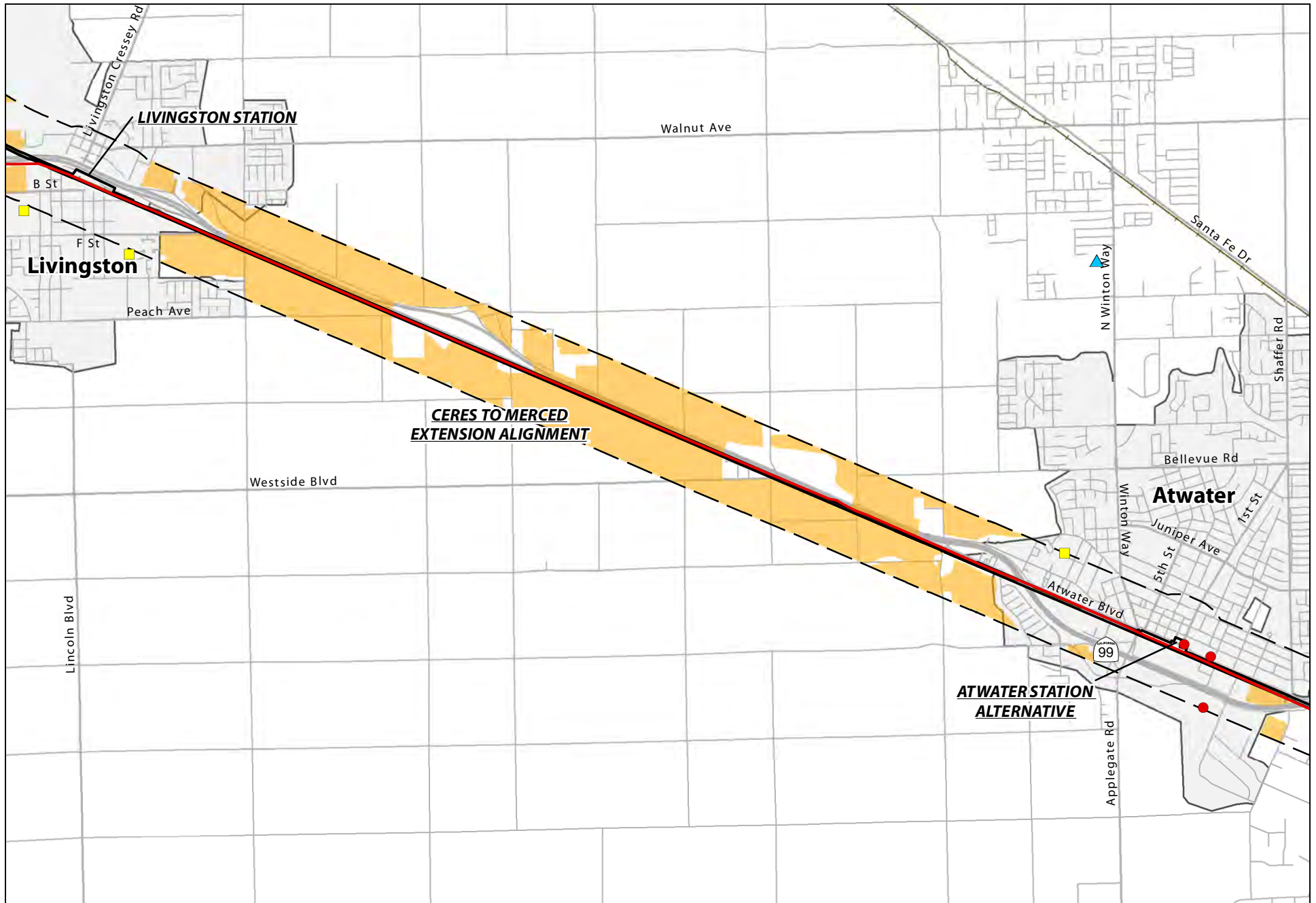


Figure 3.9-3
Hazardous Materials Concerns
ACE Ceres-Merced Extension Project



- Environmental Footprint
- Study Area
- Petroleum Pipeline (Approximate)
- Agricultural Land
- Existing Railroads

- Hazardous Materials Release Site (GeoTracker)
 - Hazardous Materials Release Site (EnviroStar)
 - School
- Note: Only existing agricultural land located within the Study Area are shown.

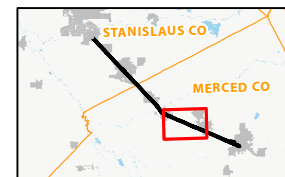
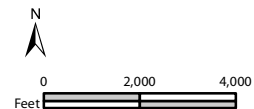
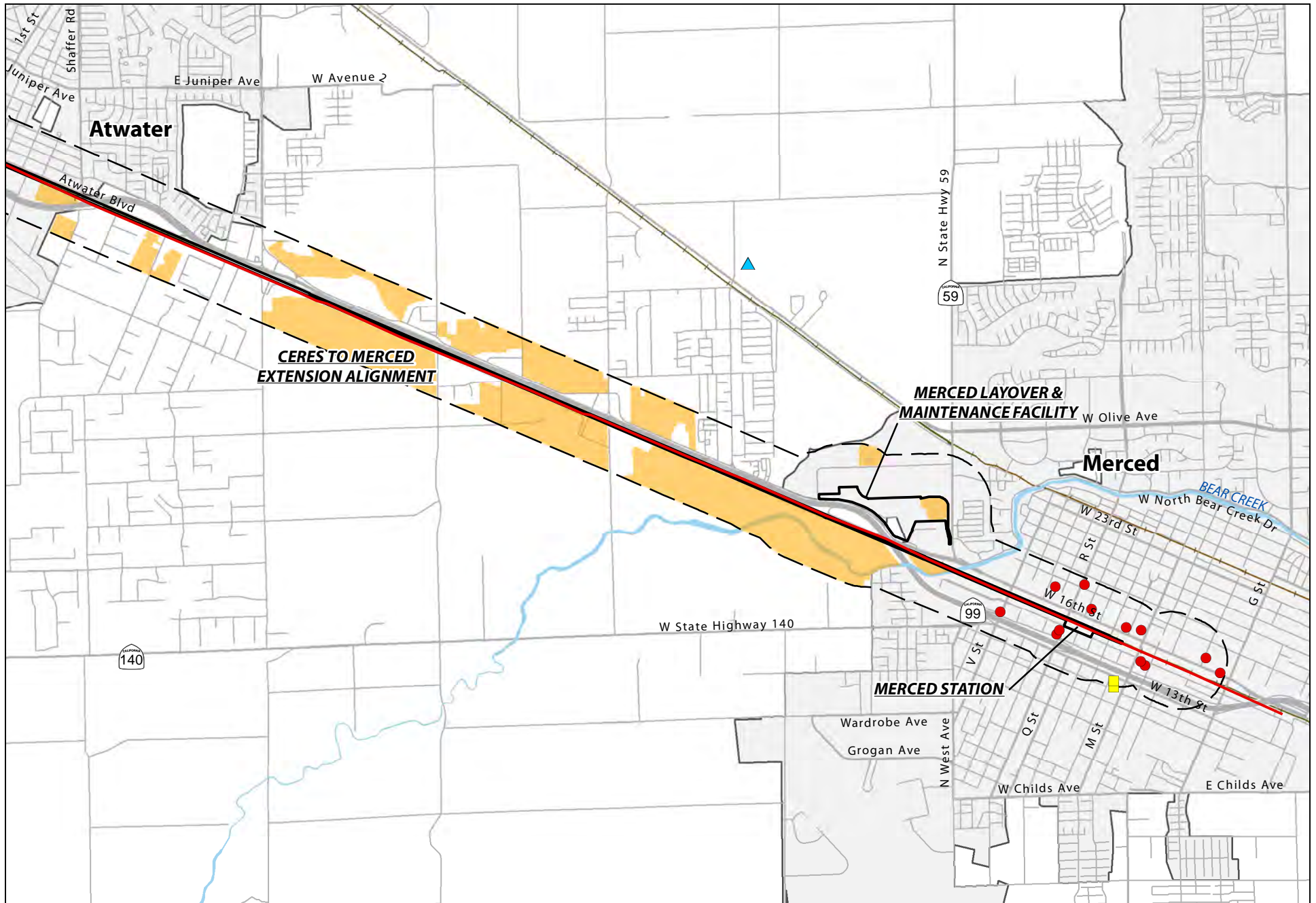


Figure 3.9-4
Hazardous Materials Concerns
ACE Ceres-Merced Extension Project



- Environmental Footprint
- Study Area
- Petroleum Pipeline (Approximate)
- Agricultural Land
- Existing Railroads

- Hazardous Materials Release Site (GeoTracker)
 - ▲ Hazardous Materials Release Site (EnviroStar)
 - School
- Note: Only existing agricultural land located within the Study Area are shown.

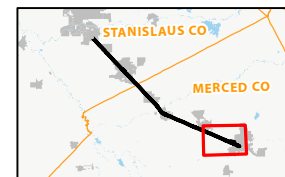


Figure 3.9-5
Hazardous Materials Concerns
ACE Ceres-Merced Extension Project

1 **Table 3.9-2. Ceres to Merced Extension Alignment—Hazardous Materials Release Sites of Concern**

Database Site ID	Site Name	Potential Media Affected		Database
		Soil	GW	
T0609900041	Arco #6161		X	GeoTracker
T0609900313	Monfredini Property aka Gaddys Shell		X	GeoTracker
SL0604784191	Merced PCE Sites - Merced Redevelopment Agency - Simpson's Cleaners		X	GeoTracker
SL0609917642	City of Turlock Dry Cleaners - Turlock PCE Investigation	X	X	GeoTracker
SLT5S1293169	City of Turlock Dry Cleaners - Du-Rite Cleaners		X	GeoTracker
T0604701828	Bank of America		X	GeoTracker
T0604762455	Smothers Deluxe Shell		X	GeoTracker
T0604700090	PG&E Service Center, Merced		X	GeoTracker
T10000008592	Atwater Former Wastewater Treatment Facility		X	GeoTracker
SL0604744142	Merced PCE Sites - Merced PCE- Merced Cleaners		X	GeoTracker
T10000004808	Turlock Rehab Center		X	GeoTracker
SL0604775501	Merced PCE Sites - Merced PCE- Sunshine Cleaners		X	GeoTracker
SLT5S0023054	Valley Wood Preserving, Inc.		X	GeoTracker
T0604700206	Unocal #5179		X	GeoTracker
T10000000711	Turlock Manufactured Gas Plant, Former	X	X	GeoTracker
T10000000910	Ceres Cleaners		X	GeoTracker
L10008760508	Valley Wood Preserving		X	GeoTracker
SLT5S2043243	Merced PCE Sites - Merced PCE- One Hour Martinizing- R Street		X	GeoTracker
T0604717592	Save Center No. 1		X	GeoTracker
T0604720839	Save Center No. 2		X	GeoTracker
T0609900404	Eagle Gas		X	GeoTracker
SL0604743220	Merced PCE Sites Merced PCE Bel Air Cleaners		X	GeoTracker
SLT5FT534528	PG&E-Merced MGP		X	GeoTracker
T0604700199	R ST Texaco (aka R ST Exxon)		X	GeoTracker
T0604709442	Pacific Pride Cardlock Station		X	GeoTracker
50240001	Valley Wood Preserving, Inc.		X	EnviroStor
50490006	So Cal Gas/Turlock MGP	X	X	EnviroStor

2 Source: State Water Resources Control Board 2020; Department of Toxic Substances Control 2020.

3 GW = groundwater.

4 PCE = Tetrachloroethene.

5 MGP = Manufactured Gas Plant.

6 Notes:

7 Site names (including spellings) are derived directly from the database.

8 All hazardous materials release sites of concern are active and/or have a recorded land-use restriction.

Turlock Station

The following sources of potential hazardous materials could have affected existing conditions in the study area for the Turlock Station.

- Roadways with potential yellow pavement stripes and markings located in the environmental footprint.
- Active petroleum pipeline (PG&E) located in the environmental footprint and study area.
- One hazardous materials release sites of concern located in the study area.

No hazardous materials release sites of concern are documented in the footprint of the Turlock Station. There is, however, one hazardous materials release sites of concern that could have affected groundwater within the study area of the Turlock Station (see Table 3.9-3). According to a Second Five-Year Review Report for the Valley Wood Preserving, Inc. Superfund Site, groundwater flow direction is to the southwest and towards the southern portion of the Turlock Station; however, historical groundwater depth in the area is approximately 55 feet below ground surface and therefore, the release associated with site is unlikely to affect underlying soil at the Turlock Station (Army Corp of Engineers Seattle District 2014). In addition, the State Water Resources Control Board currently has the hazardous materials release site of concern listed as a Category 1 site. According to the State Water Resources Control Board, Category 1 sites are characterized by soil or groundwater contamination that does not pose an immediate human health threat and does not extend off-site onto neighboring properties. Off-site groundwater plumes that extend only into the public right of way are also classified as Category 1 sites. There are no schools within 0.25 mile of the Turlock Station.

Table 3.9-3. Turlock Station—Hazardous Materials Release Sites of Concern

Database Site ID	Site Name	Potential Media Affected		Database
		Soil	GW	
SLT5S0023054	Valley Wood Preserving, Inc.		X	GeoTracker

Source: State Water Resources Control Board 2020.

GW = groundwater.

Notes: Site names (including spellings) are derived directly from the database.

All hazardous materials release sites of concern are active and/or have a recorded land-use restriction.

Livingston Station

The following sources of potential hazardous materials could have affected existing conditions in the study area for the Livingston Station.

- Building structures located in the environmental footprint.
- Roadways with potential yellow pavement stripes and markings located in the environmental footprint.
- Active and abandoned petroleum pipelines (Kinder Morgan and PG&E) located in the study area.

There are no hazardous materials release sites of concern within 0.25 mile of the Livingston Station. There is one school (Selma Herndon Elementary) within 0.25 mile of the Livingston Station. Section 3.14, *Public Services* provides the address for this school.

Atwater Station Alternative

The following sources of potential hazardous materials could have affected existing conditions in the study area for the Atwater Station Alternative.

- Building structures located in the environmental footprint.
- Roadways with potential yellow pavement stripes and markings located in the environmental footprint.
- Abandoned petroleum pipelines (Kinder Morgan) located in the study area.
- Two hazardous materials release sites of concern located in the study area.

Table 3.9-4 lists the hazardous materials release sites of concern that could have affected groundwater in the study area of the Atwater Station Alternative. The two hazardous materials release sites of concern could have affected groundwater quality underlying the Atwater Station Alternative. According to a First Quarter 2018 Semi-Annual Groundwater Monitoring Report for the Former Save Center No. 2, groundwater flow direction is to the north-northeast; however, historical groundwater depth in the area is within 65.71 and 89.25 feet below ground surface and therefore, the releases associated with the two sites are unlikely to affect underlying soil at the Atwater Station Alternative (Stantec 2018). There are no schools within 0.25 mile of the Atwater Station Alternative.

Table 3.9-4. Atwater Station—Hazardous Materials Release Sites of Concern

Database Site ID	Site Name	Potential Media Affected		Database
		Soil	GW	
T0604717592	Save Center No. 1		X	GeoTracker
T0604720839	Save Center No. 2		X	GeoTracker

Source: State Water Resources Control Board 2020.

GW = groundwater.

Notes:

Site names (including spellings) are derived directly from the database.

All hazardous materials release sites of concern are active and/or have a recorded land-use restriction.

Merced Layover & Maintenance Facility

The following sources of potential hazardous materials could have affected existing conditions in the study area for the Merced Layover & Maintenance Facility.

- Roadway overhead and bridge structures located in the environmental footprint.
- Roadways with potential yellow pavement stripes and markings located in the environmental footprint.
- A major roadway corridor (State Route 99) located adjacent to the environmental footprint.
- Petroleum pipelines located in the study area.

There are no hazardous materials release sites of concern within 0.25 mile of the Merced Layover & Maintenance Facility. There are no schools within 0.25 mile of the Merced Layover & Maintenance Facility.

Merced Station

The following sources of potential hazardous materials could have affected existing conditions in the study area for the Merced Station.

- Building structures located in the environmental footprint.
- Roadways with potential yellow pavement stripes and markings located in the environmental footprint.
- A petroleum pipeline located in the study area.
- Six hazardous materials release sites of concern located in the study area.

Table 3.9-5 lists the hazardous materials release sites of concern that could have affected groundwater in the study area of the Merced Station. The six hazardous materials release sites of concern could have affected groundwater quality underlying the Merced Station. According to a West Main Street (710) Third Quarter 2018 Groundwater Monitoring Report, groundwater flow direction is to the north-northeast, however, groundwater depth in the area is within 58 and 62 feet below ground surface (Youngdahl Consulting Group, Inc. 2018) and, therefore, the releases associated with the two sites are unlikely to affect soil underlying the Merced Station. There are no schools within 0.25 mile of the Merced Station.

Table 3.9-5. Merced Station—Hazardous Materials Release Sites of Concern

Database Site ID	Site Name	Potential Media Affected		Database
		Soil	GW	
T0604700199	R St Texaco (aka R St Exxon)		X	GeoTracker
T0604709442	Pacific Pride Cardlock Station		X	GeoTracker
SL0604775501	Merced PCE Sites - Sunshine Cleaners		X	GeoTracker
SLT5S2043243	Merced PCE- One Hour Martinizing- R Street		X	GeoTracker
SL0604743220	Merced PCE- Bel Air Cleaners		X	GeoTracker
T0604701828	Bank of America		X	GeoTracker

Source: State Water Resources Control Board 2020.

GW = groundwater.

PCE = Tetrachloroethene.

Notes:

Site names (including spellings) are derived directly from the database.

All hazardous materials release sites of concern are active and/or have a recorded land-use restriction.

3.9.4 Impact Analysis

This section describes the environmental impacts of the Proposed Project and the Atwater Station Alternative related to hazardous materials. It describes the methods used to evaluate the impacts and the thresholds used to determine whether an impact would be significant. Measures to mitigate significant impacts are provided, where appropriate.

3.9.4.1 Methods of Analysis

As described in Section 3.9.2, *Regulatory Setting*, the use, transport, and disposal of hazardous materials is subject to numerous laws and regulations. In most cases, the laws and regulations pertaining to hazardous materials management minimize risks to human health and the environment. The impact analysis identifies areas in which impacts related to the use, transport, and disposal of hazardous materials during construction and operation of the Proposed Project and the Atwater Station Alternative would be subject to applicable laws and regulations.

To assess the potential for construction activities associated with the Proposed Project and the Atwater Station Alternative to create a significant hazard to the public or environment as a result of disturbing hazardous materials in the study area, the impact analysis considers the potential sources of hazardous materials described in Section 3.9.3, *Environmental Setting*. Table 3.9-6 summarizes the potential sources of hazardous materials identified in the study area and the primary hazardous materials of concern (that could have affected soil, ballast, groundwater, and building materials) in the study area.

3.9.4.2 Thresholds of Significance

The CEQA Guidelines Appendix G (14 Cal. Code Regs. 15000 et seq.) identifies significance criteria to be considered for determining whether a project could have significant impacts related to hazardous materials. Section 3.16, *Safety and Security*, presents significance thresholds for and a discussion of potential impacts related to hazards.

An impact would be considered significant if construction or operation of the Proposed Project and the Atwater Station Alternative would have any of the following consequences.

- 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 involving 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 Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

Table 3.9-6. Potential Sources of Hazardous Materials and Primary Hazardous Materials of Concern in the Study Area

Potential Source of Hazardous Materials	Primary Hazardous Materials of Concern	Defined Study Area	Potential Media Affected in Study Area			
			BM	S	B	GW
Building structures	ACM, LBP, and universal wastes (e.g., PCBs and mercury)	Environmental footprint	X			
Bridge/overhead structures	ACM and LBP	Environmental footprint	X			
Roadway structures	LBP	Environmental footprint	X			
Railroad corridors	Metals, petroleum hydrocarbons, and wood preservatives (e.g., creosote)	Environmental footprint	X	X	X	
Major roadway corridors	Aerially-deposited lead	Environmental footprint		X		
Agricultural land	Arsenic and OCPs	Environmental footprint		X		
Petroleum pipelines ^a	Petroleum products (e.g., gasoline, diesel, jet fuel)	Environmental footprint+0.25 mile		X		X
Hazardous materials release sites ^a	Petroleum hydrocarbons, chlorinated solvents, and metals	Environmental footprint+0.25 mile		X		X

BM = building material.

S = soil.

B = ballast.

GW = groundwater.

LBP = lead-based paint.

ACM = asbestos-containing material.

PCB = polychlorinated biphenyl.

^a Petroleum pipelines and hazardous materials release sites located outside the environmental footprint would not be expected to affect the chemical quality of soil in the footprint.

3.9.4.3 Impacts and Mitigation Measures

Impact HAZ-1	Construction, operation, and maintenance of the Proposed Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal, or accidental release of hazardous materials.
Level of Impact	Less than significant impact

Impact Characterization and Significance Conclusion

Proposed Project

Construction

Construction activities associated with the Proposed Project are expected to involve the routine transport, use, and disposal of hazardous materials (e.g., fuels, paints, and lubricants) that could pose a significant threat to human health or the environment if not properly managed. The

transport, use, and disposal of hazardous materials during construction is regulated and enforced by federal and state agencies.

Workers who handle hazardous materials are required to adhere to OSHA and Cal/OSHA health and safety requirements. During construction, hazardous materials must be transported in accordance with the RCRA and USDOT regulations, stored in accordance with the Unified Program enforced by local CUPAs, and disposed of in accordance with RCRA and Cal. Code Regs. at a facility permitted to accept the waste. Moreover, any potential construction-related hazardous releases or emissions would be from commonly used materials (such as the materials previously mentioned) and would not include substances listed in 40 C.F.R. 355 Appendix A: *Extremely Hazardous Substances and Their Threshold Planning Quantities*. Releases involving common construction hazardous materials would be localized, contained, and cleaned up as they occur.

In accordance with the State Water Board, a stormwater pollution prevention plan (SWPPP) must be prepared and implemented during construction for coverage under the Construction General Permit. As detailed in Section 3.10, *Hydrology and Water Quality*, the SWPPP requires implementation of best management practices for hazardous materials storage and soil stockpiles, inspections, maintenance, training of employees, and containment of releases to prevent runoff into existing stormwater collection systems or waterways.

Thus, adherence to federal and state regulations reduces the risk of exposure to hazardous materials used during construction, as well as the accidental release of hazardous materials. Compliance with existing regulations is mandatory; therefore, construction of the Proposed Project is not expected to create a hazard to construction workers, the public, or the environment through the routine transport, use, disposal, or accidental release of hazardous materials. As a result, impacts related to the routine transport, use, disposal, or accidental release of hazardous materials during construction of the Proposed Project would be less than significant.

Operations and Maintenance

Proposed Project operations and maintenance activities are expected to involve the routine use of diesel to power locomotives and pesticides to clear vegetation from track areas. Similar to current operations, common activities such as fueling and pesticide applications could result in the exposure of workers, the public, and/or the environment to hazardous materials if the materials are not properly managed or accidentally released. The transport, use, and disposal of hazardous materials during operation is regulated and enforced by federal and state agencies. Other materials used in operation and maintenance activities include solvents, paints and other common cleaning materials. Any release involving these materials would be small, localized and would be contained and cleaned as spills occur.

Workers who handle hazardous materials are required to adhere to OSHA and Cal/OSHA health and safety requirements. Pesticides used for vegetation removal near the tracks would be required to comply with California Department of Pesticide Regulation (DPR) regulations, which are intended to protect human health and the environment. Hazardous materials must be transported in accordance with RCRA and USDOT regulations, managed in accordance with the Unified Program enforced by local CUPAs, and disposed of in accordance with RCRA and Cal. Code Regs. at a facility permitted to accept the waste.

As described in Section 3.16, *Safety and Security*, the potential increases in accident conditions resulting from Proposed Project of passenger trains include the accidental release of hazardous materials. However, based on historic FRA accident/incident data, these occurrences are rare, and

travel by rail remains one of the safest modes of transportation. Proposed Project operations would comply with stringent federal and state protocols and regulations intended to reduce the likelihood of accident conditions. Accident conditions, including the accidental release of hazardous materials, are not expected to increase with Proposed Project operations.

Thus, adherence to federal and state regulations and the Unified Program reduces the risk of exposure to hazardous materials, as well as the accidental release of hazardous materials. Compliance with existing regulations and the Unified Program is mandatory; therefore, Proposed Project operation and maintenance activities is not expected to create a hazard to the public or the environment through the routine transport, use, disposal, or accidental release of hazardous materials. As a result, impacts related to the routine transport, use, disposal, or accidental release of hazardous materials during Proposed Project operation and maintenance activities would be less than significant.

Atwater Station Alternative

Routine handling of hazardous materials used during construction activities associated with the Atwater Station Alternative would be similar to the routine handling of hazardous materials for the Proposed Project. Materials used would include common construction materials such as fuels, paints, and lubricants. Thus, routine use of hazardous materials under the Atwater Station Alternative would also adhere to federal and state regulations reducing potential impacts to a less-than-significant level.

Routine handling of hazardous materials used during operational activities associated with the Atwater Station Alternative would be similar to the routine handling of hazardous materials for operation of the Proposed Project. Materials used would include solvents, paints, common cleaning materials, fuels and pesticides. Thus, routine use of hazardous materials under the Atwater Station Alternative would also adhere to federal and state regulations reducing potential impacts to a less-than-significant level.

As similar hazardous materials would be handled under both alternatives, implementation of the Atwater Station Alternative instead of the proposed Livingston Station would not result in greater construction or operational impacts associated with routine transport, use, or disposal, or accidental release of hazardous materials. Both would result in a less-than-significant impact.

Impact HAZ-2	Construction, operation, and maintenance of the Proposed Project could create a significant hazard to the public or the environment involving reasonably foreseeable upset conditions or the disturbance of existing hazardous materials.
Level of Impact	Potentially significant impact
Mitigation Measures	HAZ-2.1: Implement voluntary oversight agreement HAZ-2.2: Conduct site investigations HAZ-2.3: Implement construction risk management plan
Level of Impact after Mitigation	Less than significant impact

Impact Characterization

Proposed Project

Construction and maintenance of the Proposed Project is expected to involve the disturbance of hazardous materials in soil; ballast; groundwater; and building, bridge/overhead, roadway, and railroad structures. Table 3.9-6 summarizes the potential sources of hazardous materials identified in the study area that could have affected existing conditions in the environmental footprint of the Proposed Project.

Table 3.9-7 presents the specific sources of hazardous materials that could have affected existing conditions in the environmental footprint of the Proposed Project.

Building Materials

Construction and maintenance of the Ceres to Merced Extension Alignment, Turlock Station, Livingston Station, Merced Layover & Maintenance Facility, and Merced Station could disturb potentially hazardous building materials associated with existing buildings, bridge/overhead, roadway, and/or railroad structures. These structures located in the environmental footprint of the Proposed Project could potentially contain hazardous building materials, such as ACM, LBP, universal wastes (e.g., PCBs, diethylhexyl phthalate, mercury, and other metals) and wood preservatives (e.g., arsenic, chromium, copper, pentachlorophenol, or creosote). The disturbance of hazardous building materials could pose a health risk to construction workers, maintenance workers, the public, and/or the environment if not handled and disposed of properly. The removal of hazardous building materials prior to demolition is governed by federal and state laws and regulations. Workers who conduct hazardous materials abatement and demolition activities must be trained in accordance with OSHA and Cal/OSHA requirements. Hazardous building materials removed during construction must be transported in accordance with USDOT regulations and disposed of in accordance with RCRA, Cal. Code Regs., and/or the California Universal Waste Rule at a facility permitted to accept the wastes. Treated-wood waste, such as railroad ties on existing bridge structures, may also be disposed of in accordance with the Alternative Management Standards adopted by DTSC under Cal. Code Regs. Title 22, Chapter 34.

In summary, construction and maintenance of the Proposed Project could result in the disturbance of hazardous building materials associated with building, bridge/overhead, roadway, and/or railroad structures, which could pose a health risk to construction workers, maintenance workers, the public, and/or the environment if not handled and disposed of properly. Adherence to federal and state laws and regulations reduces the risk of exposure to and improper disposal of hazardous building materials. Compliance with existing laws and regulations is mandatory; therefore, the disturbance of hazardous building materials during construction and maintenance of the Proposed Project is not expected to create a hazard to construction workers, maintenance workers, the public, and/or the environment. As a result, impacts related to the disturbance of hazardous building materials during construction and maintenance of the Proposed Project would be less than significant.

Soil, Ballast, Groundwater Contamination

Sources of potential soil, ballast, and/or groundwater contamination in the Proposed Project footprint include existing railroad corridors, major roadway corridors, agricultural land, petroleum

pipelines, and hazardous materials release sites. All Proposed Project features could encounter potential soil, ballast, and/or groundwater contamination through at least one of these sources.

Table 3.9-7. Hazardous Materials Sources with Potential to Affect Existing Conditions

Proposed and Alternative Facilities	Maximum Depth of Excavation (feet)	Hazardous Materials Sources							
		Building Structures	Bridge/Overhead Structures	Roadway Structures	Railroad Corridors	Major Roadway Corridors	Agricultural Land	Petroleum Pipelines	Hazardous Materials Release Sites
Ceres to Merced Extension Alignment	15	--	BM	BM	BM, S, B	S	S	S, GW	S, GW
Turlock Station	<5	--	--	BM	--	--	--	S, GW	GW
Livingston Station	15–20	BM	--	BM	--	--	--	GW	--
Atwater Station Alternative	15–20	BM	--	BM	--	--	--	GW	GW
Merced Layover & Maintenance Facility	20	BM	--	BM	--	S	S	GW	--
Merced Station	<5	BM	--	BM	--	--	--	GW	GW

BM = building materials.

S = soil.

B = ballast.

GW = groundwater.

Note: The maximum depth of excavation is approximate.

Construction of the Ceres to Merced Extension Alignment could include the disturbance of soil and ballast potentially contaminated from operation of the existing railroad corridors. Soil underlying the Ceres to Merced Extension Alignment and Merced Layover & Maintenance Facility could potentially be contaminated with aerially deposited lead from being located immediately adjacent to major roadway corridors and pesticide residues from historical agriculture operations. Soil and/or groundwater underlying all Proposed Project features could be contaminated from undocumented releases of petroleum (if any) from petroleum pipelines. Groundwater underlying the Ceres to Merced Extension Alignment, Turlock Station and Merced Station could be contaminated from nearby hazardous materials release sites. In addition, soil underlying the Ceres to Merced Extension Alignment could be contaminated from hazardous materials release sites located in the environmental footprint.

Construction and maintenance activities that could disturb hazardous materials in soil and ballast would include earthwork activities (e.g., excavation, grading, and stockpiling) and off-road trips, which could generate fugitive dust emissions or place materials in an area that results in a direct-exposure scenario for workers, the public, or environmental receptors. Construction and maintenance activities that could disturb hazardous materials in groundwater would be primarily from dewatering of pile shafts, trenches, or excavation pits. The chemical quality of soil, ballast, and groundwater that may be encountered during construction and maintenance activities has not been assessed through sampling for the Proposed Project. Therefore, the disturbance of potential hazardous materials in soil, ballast, and groundwater during construction of the Proposed Project could pose a health risk to construction workers, maintenance workers, the public, and/or the

environment if not characterized, handled, and disposed of properly. This is a potentially significant impact.

Atwater Station Alternative

Table 3.9-7 presents the specific sources of hazardous materials that could have affected existing conditions in the environmental footprint of the Atwater Station Alternative. Similar to the Proposed Project, construction and maintenance of the Atwater Station Alternative could disturb potentially hazardous building materials associated with existing buildings, roadway, and/or railroad structures (Table 3.9-7). Removal of these materials prior to demolition would require adherence to federal and state laws and regulations. As such, impacts related to the disturbance of hazardous building materials during construction and maintenance of the Atwater Station Alternative would be less than significant.

In addition, construction activities associated with the Atwater Station Alternative could encounter potential soil, ballast, and/or groundwater contamination from product pipelines and hazardous material sites in the vicinity. Earthwork activities during maintenance activities can disturb hazardous materials in soil and ballast. This is a potentially significant impact.

Mitigation Measures

The following mitigation measures would apply to construction and maintenance activities of the Proposed Project due to disturbances of contaminated soil, ballast, and/or groundwater.

Likewise, these mitigation measures would apply to construction and maintenance activities of the Atwater Station Alternative due to disturbances of contaminated soil, ballast, and/or groundwater.

Mitigation Measure HAZ-2.1: Implement voluntary oversight agreement

Prior to construction, SJRRC will establish an agreement with a state regulatory agency to oversee the investigation and management (described in Mitigation Measures HAZ-2.2, HAZ-2.3, and SJVAPCD Regulation VIII) of contaminated soil, ballast, and/or groundwater that would potentially be disturbed by construction and maintenance of the Project. Regulatory agency oversight may be provided by the State Water Board under the Site Cleanup Program or the DTSC under the Voluntary Cleanup Program.

Mitigation Measure HAZ-2.2: Conduct site investigations

Prior to construction, SJRRC's contractor(s) will conduct a site investigation of the Project to evaluate the chemical quality of soil, ballast, and/or groundwater that could be disturbed during construction and maintenance activities. A licensed professional will prepare a work plan describing how representative samples of soil, ballast, and groundwater will be collected and analyzed from the following potential sources of hazardous materials.

- Railroad corridors.
- Major roadway corridors.
- Petroleum pipelines.
- Hazardous materials release sites.

Work plans will be submitted to the appropriate oversight agency for review and approval. In accordance with the approved work plans, the site investigations will be conducted and evaluated by a licensed professional. A technical report summarizing the field activities and analytical results will be submitted to the appropriate oversight agency for review and approval.

Mitigation Measure HAZ-2.3: Implement construction and maintenance risk management plan

Prior to construction, SJRRC's contractors(s) will prepare a construction risk management plan (CRMP) for the Project that would provide a framework for proper characterization and management of contaminated soil, ballast, and groundwater that could be disturbed during construction and maintenance activities. The CRMP will describe how to meet the following key objectives.

- Identify various scenarios under which large volumes of soil and railroad ballast generated during construction and maintenance can be safely reused.
- Identify maximum acceptable contaminant levels to protect workers, passengers, the public, and ecological receptors for each soil and ballast reuse scenario.
- Identify maximum acceptable contaminant levels to protect station workers and passengers potentially exposed to vapor intrusion, if any, from soil or groundwater contamination.
- Identify sampling and analysis, stockpiling, transportation, health and safety, and other procedures by which soil and ballast must be managed in order to meet safety, regulatory and other standards.
- Define how the groundwater that would be encountered during construction and maintenance will be characterized, properly managed, and discharged or disposed to a permitted facility.

Based on the analytical results of the site investigations required under Mitigation Measure HAZ-2.2, maximum acceptable contaminant levels will be established for the following soil and ballast reuse scenarios.

- *Unrestricted Onsite Reuse*, in which soil and ballast that are excavated can be reused in any onsite area.
- *Stations Reuse*, in which soil and ballast that are excavated can be reused in station areas where there is anticipated to be relatively frequent potential exposure.
- *Right-of-Way Reuse*, in which soil and ballast that are excavated can be reused in areas where there is anticipated to be relative infrequent potential exposure along the ROW of the tracks.
- *Encapsulation*, in which soil and ballast that are excavated can be reused under barriers or other structures (and covered on all exposed sides by clean material).

To protect ecological receptors, the reuse scenarios will incorporate additional limitations, as necessary, near creeks, surface waters, or other aquatic habitats based on the findings of an ecological risk assessment. Soil or ballast that contains chemical constituents at levels greater than the acceptable reuse scenarios will be disposed of in accordance with RCRA and other applicable regulations at a facility permitted to accept the waste. Imported fill materials will be

characterized to demonstrate they satisfy the criteria for Unrestricted Onsite Reuse established in the CRMP.

All extracted groundwater will be considered potentially affected and require characterization to determine the appropriate treatment requirements (if necessary) for discharge or disposal. The extracted groundwater will be collected and managed for disposal or treatment prior to discharge in compliance with local and state regulations and permit requirements. Based on the preliminary groundwater analytical results from the site investigations required under Mitigation Measure HAZ-2.2, groundwater discharge and disposal options may include the following.

- Discharge directly to receiving waters.
- Discharge to the local sanitary sewer system.
- Discharge to the storm drain system.
- Disposal/recycling at an appropriately permitted offsite facility.

Health and safety procedures described in the CRMP will include requirements for an air quality monitoring program during excavation in areas with elevated contaminants of concern to ensure that fugitive dust emissions do not pose an unacceptable health risk to workers or the public. The air monitoring program will identify action levels for total particulates that require respiratory protection, implementation of engineering controls, and ultimately work stoppage. This monitoring program will be in addition to the fugitive dust controls required under SJVAPCD Regulation VIII.

A licensed professional will prepare the CRMP and submit it to the appropriate oversight agency for review and approval prior to construction. The approved CRMP will be implemented during construction and maintenance of both the Project.

Significance with Application of Mitigation

Mitigation Measures HAZ-2.1, HAZ-2.2, and HAZ-2.3 would require the implementation of a voluntary oversight agreement, site investigations, and a CRMP, which would reduce impacts from the disturbance of potentially contaminated soil, ballast, and/or groundwater during construction and maintenance. In addition, SJVAPCD Regulation VIII would require implementation of fugitive dust controls. These measures would mitigate impacts from the disturbance of potentially contaminated soil, ballast, and/or groundwater during construction and maintenance to a less-than-significant level.

Comparison of the Proposed Livingston Station and the Atwater Station Alternative

The potential to encounter contaminated media exists under both the Atwater Station Alternative and the proposed Livingston Station. Implementation of the Atwater Station Alternative instead of the proposed Livingston Station would not result in greater construction or maintenance impacts associated with foreseeable upset conditions or the disturbance of existing hazardous materials. Both would result in a less than significant impact with mitigation.

Impact HAZ-3	Construction, operation, and maintenance of the Proposed Project could create a potentially significant hazard for children by emitting hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.
Level of Impact	<p>Potentially significant impact <u>Proposed Project</u> Ceres to Merced Extension Alignment Livingston Station</p> <p>No impact <u>Proposed Project</u> Turlock Station Merced Layover & Maintenance Facility Merced Station</p> <p><u>Alternative Analyzed at an Equal Level of Detail</u> Atwater Station Alternative</p>
Mitigation Measures	HAZ-2.3: Implement construction risk management plan AQ-2.1: Implement advanced emissions controls for off-road equipment AQ-2.2: Implement advanced emissions controls for locomotives used for construction
Level of Impact after Mitigation	Less than significant impact

Impact Details

Proposed Project

The handling or emission of hazardous or acutely hazardous materials near schools must consider potential health effects on children, who are considered sensitive receptors. There are no schools located within 0.25 mile of the Turlock Station, Merced Layover & Maintenance Facility, and Merced Station. Thus, construction and operations of the Turlock Station, Merced Layover & Maintenance Facility, and Merced Station would not create a potentially significant hazard for children at nearby schools from emissions or handling of hazardous or acutely hazardous materials.

There are 15 schools in the study area for the Ceres to Merced Extension Alignment. One of these 15 schools is also in the study area for the Livingston Station (Selma Herndon Elementary). The primary exposure pathway of concern for children at nearby schools is through the inhalation of air contaminants, such as particulate matter. As discussed under Impact HAZ-1, hazardous materials used during construction and operation of the Proposed Project would be managed in accordance with applicable laws and regulations and would not be expected to create a hazard to human health. As discussed under Impact HAZ-2, construction and maintenance that disturb contaminated soil and/or ballast contamination could generate dust and pose a health risk to the public, which includes nearby schools. This is a potentially significant impact.

As discussed in Section 3.3, *Air Quality*, sources of hazardous emissions during construction and operation of the Proposed Project would include diesel particulate matter (DPM) from the exhaust of construction equipment and new passenger rail service. Emissions of DPM from construction equipment could pose health risks to nearby sensitive receptors. Based on a qualitative air dispersion and health risk analyses, it was determined that emissions of DPM from construction

equipment could pose health risks to nearby sensitive receptors prior to the implementation of mitigation (see Impact AQ-3a in Section 3.3, *Air Quality*). This is a potentially significant impact. In addition, it was determined that emissions of DPM from operation of new ACE passenger rail service along the Ceres to Merced Extension Alignment and the Livingston Station would not pose health risks to nearby sensitive receptors, such as schools (see Impact AQ-3c, AQ-3d, AQ-3e, AQ-3f, and AQ-3g in Section 3.3, *Air Quality*). This would be a less than significant impact.

Atwater Station Alternative

There are no schools within a 0.25-mile radius of the Atwater Station Alternative. Thus, there would be no impacts.

Mitigation Measures

The following mitigation measure would apply to the Ceres to Merced Extension Alignment and Livingston Station for construction and maintenance activities that could result in the disturbance of potentially contaminated soil, ballast, and/or groundwater.

Mitigation Measure HAZ-2.3: Implement construction risk management plan

Refer to measure description under Impact HAZ-2.

Mitigation Measure AQ-2.1: Implement advanced emissions controls for off-road equipment

Refer to measure description in Section 3.3, *Air Quality*.

Mitigation Measure AQ-2.2: Implement advanced emissions controls for locomotives used for construction

Refer to measure description in Section 3.3, *Air Quality*.

Significance with Application of Mitigation

Mitigation Measures HAZ-2.3 would require air quality monitoring during excavation in areas with elevated contaminants of concern. SJVAPCD Regulation VIII would require implementation of fugitive dust controls. Mitigation Measure AQ-2.1 would require advanced emissions controls for off-road equipment, which would help reduce DPM emissions. Mitigation Measure AQ-2.2 would require advanced emissions controls for locomotives, which would reduce DPM emissions. These measures would mitigate potential generation of contaminated dust and DPM from construction and maintenance activities of the Proposed Project (due to the Ceres to Merced Extension Alignment and Livingston Station) on school children to a less-than-significant level.

Comparison of the Proposed Livingston Station and the Atwater Station Alternative

Construction and maintenance activities associated with the proposed Livingston Station could generate DPM and dust from the disturbance of potentially contaminated soil and/or ballast that could have a potentially significant impact on the health of children at nearby schools. There are no schools within a 0.25-mile radius of the Atwater Station Alternative. Thus, the Livingston Station could result in greater construction and maintenance related impacts associated with hazardous

- 1 emissions and handling contaminated material within 0.25 mile of an existing or proposed school
2 (less than significant with mitigation) compared to the Atwater Station Alternative (no impact).

Impact HAZ-4	The Proposed Project is located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment
Level of Impact	Potentially significant impact <u>Proposed Project</u> Merced Extension Alignment No impact <u>Proposed Project</u> Turlock Station Livingston Station Merced Layover & Maintenance Facility Merced Station <u>Alternative Analyzed at an Equal Level of Detail</u> Atwater Station Alternative
Mitigation Measures	HAZ-2.1: Implement voluntary oversight agreement HAZ-2.2: Conduct site investigations HAZ-2.3: Implement construction risk management plan
Level of Impact after Mitigation	Less than significant impact

3 **Impact Details**

4 **Proposed Project**

5 Review of records from the State Water Board's GeoTracker database and DTSC's EnviroStor
6 database identified three hazardous materials release sites of concern in the footprint of the Ceres to
7 Merced Extension Alignment. These releases sites may have contaminated the soil and groundwater
8 beneath portions of the Ceres to Merced Extension Alignment. As discussed under Impact HAZ-2,
9 construction and maintenance that disturb existing soil and/or groundwater contamination from
10 hazardous materials release sites or other sources, could pose a health risk to construction workers,
11 maintenance workers, the public, and/or the environment if not characterized, handled, and
12 disposed of properly. This is a potentially significant impact.

13 No hazardous materials release sites of concern have been documented in the footprint of the
14 Turlock Station, Livingston Station, Merced Station, and Merced Layover & Maintenance Facility.³
15 Thus, construction and maintenance activities associated with the Turlock Station, Livingston
16 Station, Merced Station, and Merced Layover & Maintenance Facility would not be located on a site,
17 which is included on a list of hazardous materials sites. There would be no impact from the Turlock
18 Station, Livingston Station, Merced Station, and Merced Layover & Maintenance Facility.

³ Within the Livingston Station footprint, there is one site that has received closure by the applicable oversight agency. Within the Merced Layover & Maintenance Facility footprint, there is also one site that has received closure by the applicable oversight agency.

Atwater Station Alternative

No hazardous materials release sites of concern have been documented in the footprint of the Atwater Station Alternative.⁴ Thus, there would be no impacts. As neither the proposed Livingston Station nor the Atwater Station Alternative are located a site, which is included on a list of hazardous materials sites, there would be no difference in impact between the Livingston Station and the Atwater Station Alternative. Both would result in no impact.

Mitigation Measures

The following mitigation measures would apply to the Ceres to Merced Extension Alignment for impacts related to being located in the footprint of a hazardous materials sites.

Mitigation Measure HAZ-2.1: Implement voluntary oversight agreement

Refer to measure description under Impact HAZ-2.

Mitigation Measure HAZ-2.2: Conduct site investigations

Refer to measure description under Impact HAZ-2.

Mitigation Measure HAZ-2.3: Implement construction risk management plan

Refer to measure description under Impact HAZ-2.

Significance with Application of Mitigation

Mitigation Measures HAZ-2.1, HAZ-2.2, and HAZ-2.3 would require the implementation of a voluntary oversight agreement, site investigations, and a CRMP, which would reduce impacts from the disturbance of potentially contaminated soil, ballast, and/or groundwater during construction and maintenance activities of the Proposed Project (due to the Ceres to Merced Extension Alignment). In addition, SJVAPCD Regulation VIII would require implementation of fugitive dust controls. These measures would mitigate potential impacts associated with the Proposed Project being located on hazardous materials sites and creating a hazard to the public or the environment to a less-than-significant level.

3.9.4.4 Overall Comparison of the Proposed Livingston Station and Atwater Station Alternative

The Atwater Station Alternative and the proposed Livingston Station would have similar impacts on hazardous materials. The only meaningful difference between the Atwater Station Alternative and the proposed Livingston Station is their proximity to schools. The Atwater Station Alternative is not located near any schools, but the proposed Livingston Station is located within 0.25 mile of one school. As such, the Livingston Station could result in greater construction and maintenance related impacts associated with hazardous emissions and handling contaminated material within 0.25 mile of an existing or proposed school (less than significant with mitigation) compared to the Atwater Station Alternative (no impact).

Overall, the proposed Livingston Station would have a slightly greater impact on hazardous materials compared to the Atwater Station Alternative.

⁴ Within the Atwater Station Alternative footprint, there is one site that has received closure by the applicable oversight agency.