

1 **4.9 Hazardous Materials**

2 **4.9.1 Introduction**

3 This section describes the regulatory and environmental setting for hazardous materials in the
4 vicinity of the Altamont Corridor Express (ACE) Extension. It also describes the impacts from
5 hazardous materials that would result from implementation of the ACE Extension and mitigation
6 measures that would reduce significant impacts, where feasible and appropriate.

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

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

20 Public safety concerns discussed in this section include the management of hazardous materials and
21 the disturbance of existing hazardous materials in soil, ballast, groundwater, and building materials
22 within the environmental footprint for ACE Extension improvements during construction and
23 operation. Section 4.16, *Safety and Security*, discusses the potential for hazards, including freight
24 accidents involving hazardous materials, and emergency response. Cumulative impacts from
25 hazardous materials, in combination with planned, approved, and reasonably foreseeable projects,
26 are discussed in Chapter 5, *Other CEQA-Required Analysis*.

27 **4.9.2 Regulatory Setting**

28 This section summarizes federal, state, regional, and local regulations related to hazardous materials
29 and applicable to the ACE Extension.

30 **4.9.2.1 Federal and State**

31 Section 4.16 presents a discussion of federal regulations related to hazardous material cargo carried
32 by freight. That section includes a discussion of applicable Federal Railroad Administration (FRA)
33 rules and other federal requirements relative to the carrying of hazardous materials by freight rail
34 operators.

1 **Hazardous Materials Management**

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

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

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

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

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

- 36 ● Hazardous Waste Generator and Tiered Permitting Program (Health & Saf. Code Chapter 6.5)
- 37 ● Underground Storage Tank Program (Health & Saf. Code Chapter 6.7)
- 38 ● Aboveground Petroleum Storage Tank Program (Health & Saf. Code Chapter 6.67)
- 39 ● California Accidental Release Prevention Program (Health & Saf. Code Chapter 6.95)
- 40 ● Hazardous Materials Release Response Plan and Inventory Program (Health & Saf. Code Chapter
41 6.95)

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

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

11 **Worker Health and Safety**

12 The Occupational Safety and Health Administration (OSHA) is the federal agency responsible for
13 enforcing and implementing federal laws and regulations pertaining to worker health and safety.
14 OSHA's Hazardous Waste Operations and Emergency Response regulations require training and
15 medical supervision for workers at hazardous waste sites (29 Code of Federal Regulations [C.F.R.]
16 1910.120). Additional regulations have been developed regarding exposure to lead (29 C.F.R.
17 1926.62) and asbestos (29 C.F.R. 1926.1101) to protect construction workers.

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

25 **Hazardous Building Materials**

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

30 **Asbestos-Containing Materials**

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

1 **Lead-Based Paint**

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

15 Prior to 1997, the California Department of Transportation (Caltrans) also used LBP for yellow
16 traffic stripes and pavement markings along roadways (California Department of Transportation
17 2012). The residue that may be produced from the yellow thermoplastic and yellow paint during
18 road improvement activities may contain lead and chromium. The debris produced during the
19 removal of yellow thermoplastic and yellow paint may need to be disposed of as a state or federal
20 hazardous waste if the concentrations of lead or chromium exceed applicable hazardous waste
21 thresholds.

22 **Universal Wastes**

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

32 **Treated-Wood Waste**

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

1 **Hazardous Materials Release Sites**

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

9 **Hazardous Materials Transportation**

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

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

22 **Petroleum Pipelines**

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

28 **4.9.2.2 Regional and Local**

29 The San Joaquin Regional Rail Commission (SJRRC), a state joint powers agency, proposes
30 improvements located within and outside of the Union Pacific Railroad (UPRR) right-of-way (ROW).
31 The Interstate Commerce Commission Termination Act (ICCTA) affords railroads engaged in
32 interstate commerce¹ considerable flexibility in making necessary improvements and modifications
33 to rail infrastructure, subject to the requirements of the Surface Transportation Board. ICCTA
34 broadly preempts state and local regulation of railroads and this preemption extends to the
35 construction and operation of rail lines. As such, activities within the UPRR ROW are clearly exempt
36 from local building and zoning codes and other land use ordinances. ACE Extension improvements
37 outside of the UPRR ROW, however, would be subject to regional and local plans and regulations.
38 Though ICCTA does broadly preempt state and local regulation of railroads, SJRRC intends to obtain
39 local agency permits for construction of facilities that fall outside of the UPRR ROW even though

¹ 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.

1 SJRRC has not determined that such permits are legally necessary and such permits may not be
2 required.

3 Appendix G, *Regional Plans and Local General Plans*, provides a list of applicable goals, policies, and
4 objectives from regional and local plans of the jurisdictions in which ACE Extension improvements
5 are proposed. Section 15125(d) of the CEQA Guidelines requires an environmental impact report to
6 discuss “any inconsistencies between the proposed project and applicable general plans, specific
7 plans, and regional plans.” These plans were considered during the preparation of this analysis and
8 were reviewed to assess whether the ACE Extension would be consistent² with the plans of relevant
9 jurisdictions. The ACE Extension would be generally consistent with the applicable goals, policies,
10 and objectives related to hazards and hazardous waste identified in Appendix G.

11 **4.9.3 Environmental Setting**

12 This section describes the environmental setting related to hazardous materials by geographic
13 segment for ACE Extension improvements. For the purposes of this analysis, the study area for
14 hazardous materials consists of the following.

- 15 • Potential sources of hazardous materials located within the environmental footprint of ACE
16 Extension improvements
- 17 • Potential sources of groundwater contamination within 0.25 mile of the ACE Extension
18 improvement environmental footprint
- 19 • Schools within 0.25 mile of the ACE Extension improvement environmental footprints

20 Figures 4.9-1 through 4.9-6 depict the study area and locations of hazardous materials of concern in
21 the vicinity of ACE Extension improvements. The principle data resources reviewed to describe
22 existing hazardous materials concerns within the study area are listed as follows.

- 23 • Existing railroad and major roadway corridors mapped by Caltrans (2015).
- 24 • Naturally occurring asbestos (NOA) mapped by the U.S. Geological Survey (USGS) (Van Gosen
25 and Clinkenbeard 2011).
- 26 • Existing agricultural land mapped by the California Department of Conservation (2012 and
27 2014) Farmland Mapping and Monitoring Program.
- 28 • Petroleum pipelines mapped by the federal Pipeline and Hazardous Materials Safety
29 Administration (PHMSA) (2016).
- 30 • Environmental records of hazardous materials release sites from the State Water Board’s
31 (2016a) GeoTracker database and the DTSC’s (2016) EnviroStor database.
- 32 • Ambient groundwater levels from observation wells reported in the California Department of
33 Water Resources’ (2016) *Groundwater Information Center* database and monitoring wells
34 reported in the State Water Board’s (2016b) *Groundwater Ambient Monitoring and Assessment*
35 database.

36 Pertinent hazardous materials information to the ACE Extension was geocoded and imported into a
37 geographic information system to identify the potential sources of hazardous materials within 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.

1 study area for each geographic segment. This section begins with an overview of potential
2 hazardous materials sources and existing schools within the study area, followed by a detailed
3 description of potential sources of hazardous materials in each geographic segment.

4 **4.9.3.1 Overview of Potential Hazardous Materials Sources**

5 **Hazardous Building Materials from Building, Bridge, Roadway, and Railroad** 6 **Structures**

7 As described in Section 4.9.2, *Regulatory Setting*, hazardous building materials could pose a health
8 risk to construction workers, maintenance workers, and the public if not handled and disposed of
9 properly. Existing building, bridge/overhead, roadway, and railroad structures located within the
10 study area may contain hazardous building materials. Any building or bridge/overhead structures
11 constructed before 1981 could potentially contain ACMs. Any residential building structures
12 constructed before 1979 and any commercial or industrial building or bridge/overhead structures
13 (regardless of construction date) could potentially contain LBP. All yellow traffic stripes and
14 pavement markings applied to roadways before 1997 could also contain LBP. All railroad ties along
15 existing railroad corridors could contain wood preservatives, such as arsenic, chromium, copper,
16 pentachlorophenol, or creosote. All building structures could also contain other common hazardous
17 materials (e.g., PCBs, diethylhexyl phthalate, mercury, and other metals) that would be considered
18 universal wastes during demolition activities.

19 **Contamination from Railroad Corridors**

20 According to the Rails-to-Trails Conservancy (2004), the most commonly reported soil
21 contamination along railroad corridors are metals and petroleum products from railroad
22 operations. For example, elevated concentrations of arsenic are common in shallow soils from
23 historical applications of inorganic herbicides and leaching from chemically preserved railroad ties
24 and/or arsenic-laced slag used as ballast material. Other sources of contaminants associated with
25 historical railroad operations may include coal ash from engines and polycyclic aromatic
26 hydrocarbons (PAH) from diesel exhaust. The risk of soil contamination is generally greater at
27 railyards and along railroad corridors that are adjacent to industrial areas, where historical loading
28 practices, leaks during material transfers or storage, and repair activities may have contaminated
29 the soil. Therefore, metals and petroleum hydrocarbons could potentially be present in shallow soil
30 and ballast materials along the existing UPRR ROW within the hazardous materials study area.

31 **Aerially Deposited Lead from Major Roadway Corridors**

32 Lead alkyl compounds were first added to gasoline in the 1920s. Beginning in 1973, USEPA ordered
33 a gradual phase-out of lead from gasoline that significantly reduced the prevalence of leaded
34 gasoline by the mid-1980s. Prior to the 1970s, USEPA estimated that vehicles emitted approximately
35 75 percent of the lead consumed in leaded gasoline as particulate matter in exhaust (Department of
36 Toxic Substances Control 2004). As a result, shallow soils in major roadway corridors, which
37 includes soils within approximately 30 feet of the pavement, have the potential to be contaminated
38 with aerially deposited lead from historical car emissions prior to the elimination of lead in gasoline
39 (Department of Toxic Substances Control 2009).

1 **Naturally Occurring Asbestos from Bedrock**

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

5 **Pesticide Residues from Existing Agricultural Land**

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

14 The approximate locations of existing agricultural lands in the study area were delineated based on
15 available mapping of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland by
16 the California Department of Conservation Farmland Mapping and Monitoring Program in 2014.
17 Based on the farmland type definitions, these lands have been used for irrigated agricultural
18 production or non-irrigated orchards and vineyards within the past 4 years prior to mapping.

19 **Petroleum from Utility Pipelines**

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

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

31 **Hazardous Materials from Release Sites**

32 The review of hazardous materials release sites reported in the GeoTracker and EnviroStor
33 databases included environmental records derived from the regulatory programs summarized in
34 Table 4.9-1. Based on a review of the environmental records, 347 hazardous materials release sites
35 were identified within 0.25 mile of the environmental footprint for ACE Extension improvements. Of
36 the 347 hazardous materials release sites identified, 58 sites are active (i.e., investigation and
37 cleanup are not complete) or have reported land-use restrictions. These release sites pose a greater
38 potential for affecting environmental conditions in the study area than a closed release site without
39 any land-use restrictions. To provide a preliminary overview of the potential hazardous materials
40 release sites of concern that could have affected the environmental footprint of ACE Extension
41 improvements, the 58 active hazardous materials release sites and/or sites with reported land-use

1 restrictions within each ACE Extension improvements are described further below in Sections
 2 4.9.3.3 and 4.9.3.4. The primary contaminants in soil and groundwater at many of the hazardous
 3 materials release sites of concern are petroleum hydrocarbons, chlorinated solvents, and metals.

4 **Table 4.9-1. 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 2016a; Department of Toxic Substances Control 2016

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

BZP = border zone property

RCRA = Resources Conservation Recovery Act

USEPA = U.S. Environmental Protection Agency

5

6 **4.9.3.2 Overview of Existing Schools**

7 Public and private schools with grades ranging from pre-kindergarten to 12th grade were identified
 8 within 0.25 mile of the environmental footprint for ACE Extension improvements based on a review
 9 of federal records from the National Center for Education Statistics (2015). The identified schools
 10 are summarized in the detailed description for each geographic segment.

1 **4.9.3.3 Lathrop to Ceres**

2 Figures 4.9-1 through 4.9-3 depicts the study area and locations of hazardous materials concern in
3 the vicinity of ACE Extension improvements in the Lathrop to Ceres segment. The following
4 discussion describes the specific hazardous materials concerns for each ACE Extension
5 improvement in this segment.

6 **Existing Lathrop/Manteca Station**

7 As shown in Figure 4.9-1, the following sources of potential hazardous materials could affect
8 existing conditions within the study area for the **Existing Lathrop/Manteca Station**.

- 9 ● Railroad corridors located within the environmental footprint.
- 10 ● Roadways with yellow pavement stripes and markings located within the environmental
11 footprint.
- 12 ● Existing agricultural land mapped within the environmental footprint.

13 There are no hazardous materials release sites of concern within 0.25 mile of the **Existing**
14 **Lathrop/Manteca Station**. A review of federal records for public and private schools indicates that
15 there are no schools within 0.25 mile of the **Existing Lathrop/Manteca Station**.

16 **Relocated Lathrop/Manteca Station Alternative**

17 As shown in Figure 4.9-1, the following sources of potential hazardous materials could affect
18 existing conditions within the study area for the **Relocated Lathrop/Manteca Station** alternative.

- 19 ● A major roadway corridor (State Route [SR] 120) and associated overhead structure located
20 within the environmental footprint.
- 21 ● Railroad corridors located within the environmental footprint.
- 22 ● Existing agricultural land mapped within the environmental footprint.

23 There are no hazardous materials release sites of concern within 0.25 mile of the **Relocated**
24 **Lathrop/Manteca Station** alternative. A review of federal records for public and private schools
25 indicates that there are no schools within 0.25 mile of the **Relocated Lathrop/Manteca Station**
26 alternative.

27 **North Lathrop Station**

28 As shown in Figure 4.9-1, the following sources of potential hazardous materials could affect
29 existing conditions within the study area for the **North Lathrop Station**.

- 30 ● Roadway overhead structure located within the environmental footprint.
- 31 ● Railroad corridors located within the environmental footprint.
- 32 ● Roadways with yellow pavement stripes and markings located within the environmental
33 footprint.
- 34 ● Approximately 1.7 miles of active petroleum pipeline (Kinder Morgan) located within the
35 environmental footprint and study area.
- 36 ● Four hazardous materials release sites of concern located within the study area.

1 The **North Lathrop Station** is located on the southwest corner of the Sharpe Army Depot, an active
 2 federal Superfund site. Groundwater at the Sharpe Army Depot is extracted and treated by air
 3 stripper systems to remove chlorinated volatile organic compounds. Table 4.9-2 lists the hazardous
 4 materials release sites of concern that could have affected soil and/or groundwater in the study area
 5 of the **North Lathrop Station**. The four hazardous materials release sites of concern are all
 6 associated with the Sharpe Army Depot, which has affected groundwater quality underlying the
 7 **North Lathrop Station**. Due to operation of the groundwater extraction wells, the depth to
 8 groundwater is about 17 feet below ground surface (bgs) at the **North Lathrop Station** (URS Group,
 9 Inc. 2016). Soil underlying the **North Lathrop Station** could be affected by two of the four
 10 hazardous materials release sites of concern.

11 A review of federal records for public and private schools indicates that there is one public school—
 12 Joseph Widmer Junior Elementary School in Lathrop—within 0.25 mile of the **North Lathrop**
 13 **Station**. Table 4.14-5 in Section 4.14, *Public Services*, provides the address for this school.

14 **Table 4.9-2. North Lathrop Station—Hazardous Materials Release Sites of Concern**

Database Site ID	Site Name	Potential Media Affected		Database
		Soil	GW	
39970002	Sharpe Army Depot	X	X	EnviroStor
T10000004420	Defense Distribution San Joaquin CA-Sharpe - Site P-1H	X	X	GeoTracker
DOD100410000	Defense Distribution San Joaquin CA-Sharpe - OU-2 - S-33/29		X	GeoTracker
DOD100410200	Defense Distribution San Joaquin CA-Sharpe - OU-2 - P-1G		X	GeoTracker

Sources: State Water Resources Control Board 2016a; Department of Toxic Substances Control 2016.
 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.

15

16 **Oakland-Fresno Subdivision Connection**

17 As shown in Figure 4.9-1, the following sources of potential hazardous materials could affect
 18 existing conditions within the study area for the **Oakland-Fresno Subdivision Connection**.

- 19 ● Railroad corridors located within the environmental footprint.
- 20 ● Existing agricultural land mapped within the environmental footprint.
- 21 ● Approximately 0.9 mile of active petroleum pipeline (Kinder Morgan) located within the study
 22 area.

23 There are no hazardous materials release sites of concern within 0.25 mile of the **Oakland-Fresno**
 24 **Subdivision Connection**. A review of federal records for public and private schools indicates that
 25 there are no schools within 0.25 mile of the **Oakland-Fresno Subdivision Connection**.

1 **Ceres Extension Alignment**

2 As shown in Figures 4.9-1 through 4.9-3, the following sources of potential hazardous materials
3 could affect existing conditions within the study area for the **Ceres Extension Alignment**.

- 4 • Bridge and roadway overhead structures located within the environmental footprint.
- 5 • A railroad corridor located within the environmental footprint.
- 6 • Roadways with yellow pavement stripes and markings located within the environmental
7 footprint.
- 8 • Major roadway corridors (SR 99, SR 120, and SR 132) located within the environmental
9 footprint.
- 10 • Existing agricultural land mapped within the environmental footprint.
- 11 • Approximately 23.5 miles of active and abandoned petroleum pipeline (Kinder Morgan) located
12 within the environmental footprint and the study area.
- 13 • 23 hazardous materials release sites of concern located within the study area.

14 Table 4.9-3 lists the hazardous materials release sites of concern that could have affected
15 groundwater in the study area of the **Ceres Extension Alignment**. The 23 hazardous materials
16 release sites of concern could have affected groundwater quality underlying the **Ceres Extension**
17 **Alignment**. The depth to groundwater along the **Ceres Extension Alignment** is about 21 feet bgs in
18 Manteca, 37 feet bgs in Ripon, 42 feet bgs in Modesto, and 43 feet bgs in Ceres (California
19 Department of Water Resources 2016). The hazardous materials release sites of concern are not
20 located within the **Ceres Extension Alignment** environmental footprint; therefore, the release sites
21 are unlikely to affect soil underlying the **Ceres Extension Alignment**.

22 A review of federal records for public and private schools indicates that there are two private (Ripon
23 Christian Schools in Ripon and Small World Christian School in Modesto) and seven public schools
24 (Manteca Community Day School and Manteca High School in Manteca, Ripon Elementary and Ripon
25 High in Ripon, Valley Charter High in Modesto, and Ceres High School and Walter White Elementary
26 School in Ceres) within 0.25 mile of the **Ceres Extension Alignment**. Table 4.14-5 in Section 4.14
27 provides the addresses for these schools.

1 **Table 4.9-3. Ceres Extension Alignment—Hazardous Materials Release Sites of Concern**

Database Site ID	Site Name	Potential Media Affected		Database
		Soil	GW	
T0607700663	Rainwater Car Wash		X	GeoTracker
L10002750478	Manteca Composting Facility		X	GeoTracker
SL185742938	FMC Corp, Modesto		X	GeoTracker
SLT5S3063342	Valley Automatic Transmission		X	GeoTracker
T10000001291	Oxychem Hughson (Salida)		X	GeoTracker
T10000008699	99 Auto Recycling (De Rose Property)		X	GeoTracker
SL0609906825	City of Modesto, Modesto Groundwater Investigation		X	GeoTracker
T0609900376	Chevron #96397		X	GeoTracker
SL205012989	Nestle USA - Beverage Division, Inc Facility		X	GeoTracker
SLT5S4883436	United Agri Products		X	GeoTracker
T10000005026	Former French Cleaners		X	GeoTracker
SLT5S2533292	Salida Radiator & Muffler (Former Fuentes Sedano Property)		X	GeoTracker
SL0607777697	Ripon Farm Service		X	GeoTracker
SL0609971275	Modesto Steam Laundry		X	GeoTracker
50720008	Modesto Groundwater Investigation		X	EnviroStor
71000010	Hammond General Hospital (J09CA0824)		X	EnviroStor
60001418	Sunshine Carpet & Drapery		X	EnviroStor
T10000000910	Ceres Cleaners		X	GeoTracker
SL0609940587	Berberian Company Property		X	GeoTracker
T10000002487	Crop Production Services, Crows Landing Rd		X	GeoTracker
SL0609902641	Gustavo's Auto Dismantlers		X	GeoTracker
T0609900404	Eagle Gas		X	GeoTracker
SLT5S2423281	Royaltone Paints		X	GeoTracker

Sources: State Water Resources Control Board 2016a; Department of Toxic Substances Control 2016

Notes:

GW = groundwater

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.

2

3 **Downtown Manteca Station**

4 As shown in Figure 4.9-1, the following sources of potential hazardous materials could affect
5 existing conditions within the study area for the **Downtown Manteca Station**.

- 6
- 7 • Approximately 0.5 mile of active petroleum pipeline (Kinder Morgan) located within the environmental footprint and study area.
 - 8 • Two hazardous materials release sites of concern located within the study area.

1 Table 4.9-4 lists the hazardous materials release sites of concern that could have affected soil and/or
 2 groundwater within the study area of the **Downtown Manteca Station**. The two hazardous
 3 materials release sites of concern could have affected groundwater quality underlying the
 4 **Downtown Manteca Station**. The depth to groundwater is about 21 feet bgs at the **Downtown**
 5 **Manteca Station** (California Department of Water Resources 2016). Soils underlying the
 6 **Downtown Manteca Station** could be affected by one of the two hazardous materials release sites
 7 of concern.

8 A review of federal records for public and private schools indicates that there is one public school
 9 (Manteca High School in Manteca) within 0.25 mile of the **Downtown Manteca Station**. Table 4.14-
 10 5 in Section 4.14 provides the address for this school.

11 **Table 4.9-4. Downtown Manteca Station—Hazardous Materials Release Sites of Concern**

Database		Potential Media Affected		
Site ID	Site Name	Soil	GW	Database
T1000008699	99 Auto Recycling (De Rose Property)	X	X	GeoTracker
SLT5S4883436	United Agri Products		X	GeoTracker

Sources: State Water Resources Control Board 2016a
 Notes:
 GW = groundwater
 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.

12

13 **Ripon Station**

14 As shown in Figure 4.9-2, the following sources of potential hazardous materials could affect
 15 existing conditions within the study area for the **Ripon Station**.

- 16 • Approximately 0.5 mile of active petroleum pipeline (Kinder Morgan) located within the study
 17 area.
- 18 • One hazardous materials release site of concern located within the study area.

19 Table 4.9-5 lists the hazardous materials release site of concern that could have affected soil and
 20 groundwater quality underlying the **Ripon Station**. The depth to groundwater is about 37 feet bgs
 21 at the **Ripon Station** (California Department of Water Resources 2016).

22 A review of federal records for public and private schools indicates that there are no schools within
 23 0.25 mile of the **Ripon Station**.

1 **Table 4.9-5. Ripon Station—Hazardous Materials Release Sites of Concern**

Database		Potential Media Affected		
Site ID	Site Name	Soil	GW	Database
SL205012989	Nestle USA - Beverage Division, Inc Facility	X	X	GeoTracker

Sources: State Water Resources Control Board 2016a
 Notes:
 GW = groundwater
 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.

2

3 **Modesto Station**

4 As shown in Figure 4.9-3, the following sources of potential hazardous materials could affect
 5 existing conditions within the study area for the **Modesto Station**.

- 6 • Roadways with yellow pavement stripes and markings located within the environmental
 7 footprint.
- 8 • Approximately 0.7 mile of abandoned petroleum pipeline (Kinder Morgan) located within the
 9 environmental footprint and study area.
- 10 • Four hazardous materials release sites of concern located within the study area.

11 Table 4.9-6 lists the hazardous materials release sites of concern that could have affected
 12 groundwater within the study area of the **Modesto Station**. The four hazardous materials release
 13 sites of concern could have affected groundwater quality underlying the **Modesto Station**. The
 14 depth to groundwater is about 42 feet bgs at the **Modesto Station** (California Department of Water
 15 Resources 2016). The hazardous materials release sites of concern are not located within the
 16 **Modesto Station** environmental footprint; therefore, the release sites are unlikely to affect soil
 17 underlying the **Modesto Station**.

18 A review of federal records for public and private schools indicates that there is one private school
 19 (Small World Christian School in Modesto) within 0.25 mile of the **Modesto Station**. Table 4.14-5 in
 20 Section 4.14 provides the address for this school.

1 **Table 4.9-6. Modesto Station – Hazardous Materials Release Sites of Concern**

Database Site ID	Site Name	Potential Media Affected		Database
		Soil	GW	
SL0609971275	Modesto Steam Laundry		X	GeoTracker
SL0609971275	Valley Automatic Transmission		X	GeoTracker
SL0609906825	City of Modesto, Modesto Groundwater Investigation		X	GeoTracker
50720008	Modesto Groundwater Investigation		X	EnviroStor

Sources: State Water Resources Control Board 2016a; Department of Toxic Substances Control 2016

Notes:
GW = groundwater
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.

2

3 **Ceres Station**

4 As shown in Figure 4.9-3, the following sources of potential hazardous materials could affect
5 existing conditions within the study area for the **Ceres Station**.

- 6
- 7 • Roadway overhead structures located within the environmental footprint.
 - 8 • Roadways with yellow pavement stripes and markings located within the environmental footprint.
 - 9 • Approximately 1.0 mile of abandoned petroleum pipeline (Kinder Morgan) located within the study area.
 - 10 • Two hazardous materials release sites of concern located within the study area.

12 Table 4.9-7 lists the hazardous materials release sites of concern that could have affected
13 groundwater within the study area of the **Ceres Station**. The depth to groundwater is about 43 feet
14 bgs at the **Ceres Station** (California Department of Water Resources 2016). The hazardous
15 materials release sites of concern are not located within the **Ceres Station** environmental footprint;
16 therefore, the release sites are unlikely to affect soil underlying the **Ceres Station**.

17 A review of federal records for public and private schools indicates that there are two public school
18 (Ceres High School and Walter White Elementary School in Ceres) within 0.25 mile of the **Ceres**
19 **Station**. Table 4.14-5 in Section 4.14 provides the addresses for these schools.

1 **Table 4.9-7. Ceres Station—Hazardous Materials Release Sites of Concern**

Database Site ID	Site Name	Potential Media Affected		Database
		Soil	GW	
T1000000910	Ceres Cleaners		X	GeoTracker
T0609900404	Eagle Gas		X	GeoTracker

Sources: State Water Resources Control Board 2016a; Department of Toxic Substances Control 2016.
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.

2

3 **Ceres Layover Facility, Variant 1 Alternative**

4 As shown in Figure 4.9-3, the following sources of potential hazardous materials could affect
5 existing conditions within the study area for the **Ceres Layover Facility, variant 1** alternative.

- 6 ● Roadways with yellow pavement stripes and markings located within the environmental
7 footprint.
- 8 ● Existing agricultural land mapped within the environmental footprint.
- 9 ● Approximately 1.0 mile of abandoned petroleum pipeline (Kinder Morgan) located within the
10 study area.

11 There are no hazardous materials release sites of concern within 0.25 mile of the **Ceres Layover**
12 **Facility, variant 1** alternative. A review of federal records for public and private schools indicates
13 that there are no schools within 0.25 mile of the **Ceres Layover Facility, variant 1** alternative.

14 **Ceres Layover Facility, Variant 2**

15 As shown in Figure 4.9-3, the following sources of potential hazardous materials could affect
16 existing conditions within the study area for the **Ceres Layover Facility, variant 2**.

- 17 ● Roadways with yellow pavement stripes and markings located within the environmental
18 footprint.
- 19 ● Existing agricultural land mapped within the environmental footprint for the improvement.
- 20 ● Approximately 1.0 mile of active petroleum pipeline (Pacific Gas and Electric Company [PG&E])
21 located within the study area.

22 There are no hazardous materials release sites of concern within 0.25 mile of the **Ceres Layover**
23 **Facility, variant 2**. A review of federal records for public and private schools indicates that there
24 are no schools within 0.25 mile of the **Ceres Layover Facility, variant 2**.

25 **4.9.3.4 Ceres to Merced**

26 Figures 4.9-3 through 4.9-6 depict the study area and locations of hazardous materials concern in
27 the vicinity of ACE Extension improvements in the Ceres to Merced segment. The following
28 discussion describes the specific hazardous materials concerns for each ACE Extension
29 improvement in this segment.

1 There are no physical improvements associated with the **Turlock, Livingston, and Atwater Bus**
 2 **Stops** because these locations would use existing bus transit facilities and passenger amenities, and
 3 there are no specific hazardous materials concerns for these improvements.

4 **Merced Extension Alignment**

5 As shown in Figures 4.9-3 through 4.9-6, the following sources of potential hazardous materials
 6 could have affected existing conditions within the study area for the **Merced Extension Alignment**.

- 7 • Roadway overhead and bridge structures located within the environmental footprint.
- 8 • Roadways with potential yellow pavement stripes and markings located within the
 9 environmental footprint.
- 10 • A railroad corridor located within the environmental footprint.
- 11 • Major roadway corridors (SR 99 and SR 59) located within the environmental footprint.
- 12 • Existing agricultural land mapped within the environmental footprint.
- 13 • Approximately 35 miles of active and abandoned petroleum pipelines (Kinder Morgan and
 14 PG&E) located within the environmental footprint and study area.
- 15 • 33 hazardous materials release sites of concern located within the study area.

16 Table 4.9-8 lists the hazardous materials release sites of concern that could have affected soil and/or
 17 groundwater within the study area of the **Merced Extension Alignment**. The 33 hazardous
 18 materials release sites of concern could have affected groundwater quality underlying the **Merced**
 19 **Extension Alignment**. The depth to groundwater along the **Merced Extension Alignment** is about
 20 55 feet bgs in Turlock, 75 feet bgs in Livingston, 88 feet bgs in Atwater, and 77 feet bgs in Merced
 21 (California Department of Water Resources 2016). Soils underlying the **Merced Extension**
 22 **Alignment** could be affected by 3 of the 33 hazardous materials release sites of concern.

23 A review of federal records for public and private schools indicates that there is one private school
 24 (Stanislaus Academy in Turlock) and six public schools (Livingston Stepping Stones Preschool,
 25 Selma Herndon Elementary School, and Campus Park Elementary School in Livingston; Aileen
 26 Colburn Elementary School in Atwater; Schendel Elementary School in Delhi; and Yosemite &
 27 Independence High School in Merced) within 0.25 mile of the **Merced Extension Alignment**. Table
 28 4.14-5 in Section 4.14 provides the addresses for these schools.

29 **Table 4.9-8. Merced Extension Alignment—Hazardous Materials Release Sites of Concern**

Database	Site ID	Site Name	Potential Media Affected		Database
			Soil	GW	
	T0604728432	Bartlett Petroleum		X	GeoTracker
	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

Database Site ID	Site Name	Potential Media Affected		
		Soil	GW	Database
SLT5S1293169	City of Turlock Dry Cleaners - Du-Rite Cleaners		X	GeoTracker
T0604701828	Bank of America		X	GeoTracker
T0604762455	Smothers Deluxe Shell		X	GeoTracker
T0604700029	Unocal Bulk Plant #0420		X	GeoTracker
T0604700090	PG&E Service Center, Merced		X	GeoTracker
T10000004310	Silveira Petroleum, Inc.		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
T0609900145	Unocal Bulk Plant No. 0796 (FMR)		X	GeoTracker
SL0604775501	Merced PCE Sites - Merced PCE- Sunshine Cleaners		X	GeoTracker
SLT5S0023054	Valley Wood Preserving, Inc.		X	GeoTracker
T0604700206	Unocal #5179		X	GeoTracker
T0609900165	Fernandes Speed Shop		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
SL0604764750	PG&E Merced Property		X	GeoTracker
T0604714455	Merced Center Parking Garage		X	GeoTracker
50240001	Valley Wood Preserving, Inc.		X	EnviroStor
24490020	PG&E Manufactured Gas Plant SQ-VO-MER		X	EnviroStor
50490006	So Cal Gas/Turlock MGP	X	X	EnviroStor

Source: State Water Resources Control Board 2016a; Department of Toxic Substances Control 2016

GW = groundwater

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.

1 **Turlock Station**

2 As shown in Figure 4.9-4, the following sources of potential hazardous materials could have affected
3 existing conditions within the study area for the **Turlock Station**.

- 4 ● Roadways with potential yellow pavement stripes and markings located within the
5 environmental footprint.
- 6 ● Approximately 0.6 mile of active petroleum pipeline (PG&E) located within the environmental
7 footprint and study area.

8 There are no hazardous materials release sites of concern within 0.25 mile of the **Turlock Station**. A
9 review of federal records for public and private schools indicates that there are no schools within
10 0.25 mile of the **Turlock Station**.

11 **Livingston Station**

12 As shown in Figure 4.9-5, the following sources of potential hazardous materials could have affected
13 existing conditions within the study area for the **Livingston Station**.

- 14 ● Building structures located within the environmental footprint.
- 15 ● Roadways with potential yellow pavement stripes and markings located within the
16 environmental footprint.
- 17 ● Approximately 0.6 mile of active and abandoned petroleum pipelines (Kinder Morgan and
18 PG&E) located within the study area.

19 There are no hazardous materials release sites of concern within 0.25 mile of the **Livingston**
20 **Station**. A review of federal records for public and private schools indicates that there is one public
21 school (Livingston Stepping Stones Preschool) within 0.25 mile of the **Livingston Station**. Table
22 4.14-5 in Section 4.14 provides the address for this school.

23 **Atwater Station**

24 As shown in Figure 4.9-6, the following sources of potential hazardous materials could have affected
25 existing conditions within the study area for the **Atwater Station**.

- 26 ● Building structures located within the environmental footprint.
- 27 ● Roadways with potential yellow pavement stripes and markings located within the
28 environmental footprint.
- 29 ● Approximately 0.8 mile of abandoned petroleum pipelines (Kinder Morgan) located within the
30 study area.
- 31 ● Two hazardous materials release sites of concern located within the study area.

32 Table 4.9-9 lists the hazardous materials release sites of concern that could have affected
33 groundwater within the study area of the **Atwater Station**. The two hazardous materials release
34 sites of concern could have affected groundwater quality underlying the **Atwater Station**. The depth
35 to groundwater is about 88 feet bgs at the **Atwater Station**. The hazardous materials release sites of
36 concern are not located within the **Atwater Station** environmental footprint; therefore, the release
37 sites are unlikely to affect soil underlying **Atwater Station**.

1 A review of federal records for public and private schools indicates that there are no schools within
2 0.25 mile of the **Atwater Station**.

3 **Table 4.9-9. Atwater Station—Hazardous Materials Release Sites of Concern**

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

Source: State Water Resources Control Board 2016a

GW = groundwater

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.

4

5 **Merced Layover Facility**

6 As shown in Figure 4.9-6, the following sources of potential hazardous materials could have affected
7 existing conditions within the study area for the **Merced Layover Facility**.

- 8 ● Roadway overhead and bridge structures located within the environmental footprint.
- 9 ● Roadways with potential yellow pavement stripes and markings located within the
10 environmental footprint.
- 11 ● Existing agricultural land mapped within the environmental footprint.
- 12 ● A major roadway corridor (SR 99) located within the environmental footprint.
- 13 ● Approximately 1.6 miles of petroleum pipelines located within the study area.

14 There are no hazardous materials release sites of concern within 0.25 mile of the **Merced Layover**
15 **Facility**. A review of federal records for public and private schools indicates that there are no
16 schools within 0.25 mile of the **Merced Layover Facility**.

17 **Merced Bus Stop**

18 As shown in Figure 4.9-6, the following sources of potential hazardous materials could have affected
19 existing conditions within the study area for the **Merced Bus Stop**.

- 20 ● Roadways with potential yellow pavement stripes and markings located within the
21 environmental footprint.
- 22 ● Approximately 0.6 mile of petroleum pipeline located within the study area.
- 23 ● Eight hazardous materials release sites of concern located within the study area.

24 Table 4.9-10 lists the hazardous materials release sites of concern that could have affected
25 groundwater within the study area of the **Merced Bus Stop**. The eight hazardous materials release
26 sites of concern could have affected groundwater quality underlying the **Merced Bus Stop**. The
27 depth to groundwater is about 77 feet bgs at the **Merced Bus Stop**. The hazardous materials release
28 sites of concern are not located within the **Merced Bus Stop** environmental footprint; therefore, the
29 release sites are unlikely to affect soil underlying **Merced Bus Stop**.

1 A review of federal records for public and private schools indicates that there are no schools within
2 0.25 mile of the **Merced Bus Stop**.

3 **Table 4.9-10. Merced Bus Stop—Hazardous Materials Release Sites of Concern**

Database Site ID	Site Name	Potential Media Affected		Database
		Soil	GW	
SL0604743220	Merced PCE Sites - Merced PCE- Bel Air Cleaners		X	GeoTracker
T0604714455	Merced Center Parking Garage		X	GeoTracker
T0604701828	Bank of America		X	GeoTracker
SL0604784191	Merced PCE Sites - Merced Redevelopment Agency- Simpson's Cleaners		X	GeoTracker
SL0604764750	PG&E Merced Property		X	GeoTracker
SLT5FT534528	PG&E - Merced MGP		X	GeoTracker
T0604700090	PG&E Service Center, Merced		X	GeoTracker
24490020	PG&E Manufactured Gas Plant SQ-VO-MER		X	EnviroStor

Source: State Water Resources Control Board 2016a

GW = groundwater

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.

4

5 **Merced Station**

6 As shown in Figure 4.9-6, the following sources of potential hazardous materials could have affected
7 existing conditions within the study area for the **Merced Station**.

- 8 • Building structures located within the environmental footprint.
- 9 • Roadways with potential yellow pavement stripes and markings located within the
10 environmental footprint.
- 11 • Approximately 0.6 mile of petroleum pipeline located within the study area.
- 12 • Eight hazardous materials release sites of concern located within the study area.

13 Table 4.9-11 lists the hazardous materials release sites of concern that could have affected
14 groundwater within the study area of the **Merced Station**. The eight hazardous materials release
15 sites of concern could have affected groundwater quality underlying the **Merced Station**. The depth
16 to groundwater is about 77 feet bgs at the **Merced Station**. The hazardous materials release sites of
17 concern are not located within the **Merced Station** environmental footprint; therefore, the release
18 sites are unlikely to affect soil underlying **Merced Station**.

19 A review of federal records for public and private schools indicates that there are no public school
20 within 0.25 mile of the **Merced Station**.

1 **Table 4.9-11. Merced Station—Hazardous Materials Release Sites of Concern**

Database Site ID	Site Name	Potential Media Affected		Database
		Soil	GW	
T0604700090	PG&E Service Center, Merced		X	GeoTracker
SL0604744142	Merced PCE Sites - Merced PCE- Merced Cleaners		X	GeoTracker
SL0604764750	PG&E Merced Property		X	GeoTracker
SL0604784191	Merced PCE Sites - Merced Redevelopment Agency- Simpson's Cleaners		X	GeoTracker
SLT5FT534528	PG&E-Merced MGP		X	GeoTracker
T0604762455	Smothers Deluxe Shell		X	GeoTracker
T0604714455	Merced Center Parking Garage		X	GeoTracker
24490020	PG&E Manufactured Gas Plant SQ-VO-MER		X	EnviroStor

Source: State Water Resources Control Board 2016a

GW = groundwater

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.

2

3 **4.9.4 Impact Analysis**

4 This section describes the environmental impacts of the ACE Extension related to hazardous
5 materials. It describes the methods used to evaluate the impacts and the thresholds used to
6 determine whether an impact would be significant. Measures to mitigate significant impacts are
7 provided, where appropriate.

8 **4.9.4.1 Methods of Analysis**

9 The method for analyzing impacts related to hazardous materials is generally the same for both
10 Phase I and Phase II improvements.

11 As described in Section 4.9.2, the use, transport, and disposal of hazardous materials is subject to
12 numerous laws and regulations. In most cases, the laws and regulations pertaining to hazardous
13 materials management minimize risks to human health and the environment. The impact analysis
14 identifies areas in which impacts related to the use, transport, and disposal of hazardous materials
15 during construction and operation of Phase I and Phase II improvements would be subject to
16 applicable laws and regulations.

17 To assess the potential for construction activities associated with Phase I and Phase II
18 improvements to create a significant hazard to the public or environment as a result of disturbing
19 hazardous materials within the study area, the impact analysis considers the potential sources of
20 hazardous materials described in Section 4.9.3, *Environmental Setting*. Table 4.9-12 summarizes the
21 potential sources of hazardous materials identified within the study area and the primary hazardous
22 materials of concern (that could have affected soil, ballast, groundwater, and building materials)
23 within the Phase I and Phase II improvement study area.

1 **Table 4.9-12. Potential Sources of Hazardous Materials and Primary Hazardous Materials of**
2 **Concern within the Study Area**

Potential Source of Hazardous Materials	Primary Hazardous Materials of Concern	Defined Study Area	Potential Media Affected within 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
OCPs = organochlorine pesticides
ACM = asbestos-containing material
PCB = polychlorinated biphenyl.

Note: No naturally occurring asbestos was identified within the study area for the Phase I and Phase II improvements.

^a Petroleum pipelines and hazardous materials release sites located outside the Phase I and Phase II improvement footprint would not be expected to affect the chemical quality of soil within the footprint.

3
4 **4.9.4.2 Thresholds of Significance**

5 The State CEQA Guidelines Appendix G (14 Cal. Code Regs. 15000 et seq.) identifies significance
6 criteria to be considered for determining whether a project could have significant impacts related to
7 hazardous materials. Section 4.16 presents significance thresholds for and a discussion of potential
8 impacts related to hazards.

9 An impact would be considered significant if construction or operation of the Phase I or Phase II
10 improvements would have any of the following consequences.

- 11 ● Create a significant hazard to the public or the environment through the routine transport, use,
12 or disposal of hazardous materials.

- 1 ● Create a significant hazard to the public or the environment through reasonably foreseeable
2 upset and accident conditions involving the release of hazardous materials into the
3 environment.
- 4 ● Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or
5 waste within 0.25 mile of an existing or proposed school.
- 6 ● Be located on a site that is included on a list of hazardous materials sites and, as a result, would
7 create a significant hazard to the public or the environment.

8 **4.9.4.3 Phase I Improvements Impacts and Mitigation Measures**
9

Impact HAZ-1	Construction, operation, and maintenance of the Phase I improvements could 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

10

11 **Impact Characterization and Significance Conclusion**

12 **Construction**

13 Construction activities associated with the Phase I improvements are expected to involve the
14 routine transport, use, and disposal of hazardous materials (e.g., fuels, paints, and lubricants) that
15 could pose a significant threat to human health or the environment if not properly managed. The
16 transport, use, and disposal of hazardous materials during construction is regulated and enforced by
17 federal and state agencies.

18 Workers who handle hazardous materials are required to adhere to OSHA and the Cal/OSHA health
19 and safety requirements. During construction, hazardous materials must be transported in
20 accordance with the RCRA and the USDOT regulations, stored in accordance with the Unified
21 Program enforced by local CUPAs, and disposed of in accordance with RCRA and Cal. Code Regs. at a
22 facility permitted to accept the waste.

23 In accordance with the State Water Board, a stormwater pollution prevention plan (SWPPP) must be
24 prepared and implemented during construction for coverage under the Construction General
25 Permit. As detailed in Section 4.10, *Hydrology and Water Quality*, the SWPPP requires
26 implementation of best management practices for hazardous materials storage and soil stockpiles,
27 inspections, maintenance, training of employees, and containment of releases to prevent runoff into
28 existing stormwater collection systems or waterways.

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

1 **Operation and Maintenance**

2 Phase I operation and maintenance activities are expected to involve the routine use of diesel to
3 power locomotives and pesticides to clear vegetation from track areas. Similar to current
4 operations, common activities such as fueling and pesticide applications could result in the exposure
5 of workers, the public, and/or the environment to hazardous materials if the materials are not
6 properly managed or are accidentally released. The transport, use, and disposal of hazardous
7 materials during operation is regulated and enforced by federal and state agencies.

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

14 As described in Impact SAF-4 in Section 4.16, the potential increases in accident conditions resulting
15 from Phase I operations of passenger trains include the accidental release of hazardous materials.
16 However, based on historic FRA accident/incident data, these occurrences are rare and travel by rail
17 remains one of the safest modes of transportation. Phase I operations would comply with stringent
18 federal and state protocols and regulations intended to reduce the likelihood of accident conditions.
19 Accident conditions, including the accidental release of hazardous materials, are not expected to
20 increase with Phase I operations.

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

Impact HAZ-2	Construction, operation, and maintenance of the Phase I improvements 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
Mitigation Measures	AQ-2.5: Implement fugitive dust controls 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

30

1 **Impact Characterization**

2 Construction and maintenance of Phase I improvements is expected to involve the disturbance of
3 hazardous materials in soil; ballast; groundwater; and bridge/overhead, roadway, and railroad
4 structures. Table 4.9-12 summarizes the potential sources of hazardous materials identified within
5 the study area that could have affected existing conditions within the environmental footprint of
6 each improvement. NOA was not identified within the Phase I improvement environmental
7 footprints.

8 Table 4.9-13 presents the specific sources of hazardous materials that could have affected existing
9 conditions within the environmental footprint of Phase I improvement. There are no physical
10 improvements associated with the **Turlock, Livingston, and Atwater Bus Stops** and thus no
11 construction and operational impacts related to hazardous materials are expected.

12 Construction and maintenance of the **Existing Lathrop/Manteca Station; Relocated**
13 **Lathrop/Manteca Station** alternative; **North Lathrop Station; Oakland-Fresno Subdivision**
14 **Connection; Ceres Extension Alignment; Modesto Station; Ceres Station; Ceres Layover**
15 **Facility, variants 1 and 2;** and **Merced Bus Stop** could disturb potentially hazardous building
16 materials associated with bridge/overhead, roadway, and/or railroad. These structures located
17 within the Phase I improvement environmental footprints could potentially contain hazardous
18 building materials, such as ACM, LBP, universal wastes (e.g., PCBs, diethylhexyl phthalate, mercury,
19 and other metals) and wood preservatives (e.g., arsenic, chromium, copper, pentachlorophenol, or
20 creosote). The disturbance of hazardous building materials could pose a health risk to construction
21 workers, maintenance workers, the public, and/or the environment if not handled and disposed of
22 properly. The removal of hazardous building materials prior to demolition is governed by federal
23 and state laws and regulations. Workers who conduct hazardous materials abatement and
24 demolition activities must be trained in accordance with OSHA and Cal/OSHA requirements.
25 Hazardous building materials removed during construction must be transported in accordance with
26 USDOT regulations and disposed of in accordance with RCRA, Cal. Code Regs., and/or the California
27 Universal Waste Rule at a facility permitted to accept the wastes. Treated-wood waste, such as
28 railroad ties on existing bridge structures, may also be disposed of in accordance with the
29 Alternative Management Standards adopted by DTSC under Cal. Code Regs. Title 22, Chapter 34. No
30 building structures with hazardous building materials are located within the Phase I improvements
31 environmental footprints.

32 Sources of potential soil, ballast, and/or groundwater contamination within the Phase I
33 improvement footprints include existing railroad corridors, major roadway corridors, agricultural
34 land, petroleum pipelines, and hazardous materials release sites. Phase I improvements that could
35 encounter potential soil, ballast, and/or groundwater contamination through at least one of these
36 sources include the **Existing Lathrop/Manteca Station; Relocated Lathrop/Manteca Station**
37 **alternative; North Lathrop Station; Oakland-Fresno Subdivision Connection; Ceres Extension**
38 **Alignment; Downtown Manteca Station; Ripon Station; Modesto Station; Ceres Station; Ceres**
39 **Layover Facility, variants 1 and 2;** and the **Merced Bus Stop**.

40 Construction of the **Existing Lathrop/Manteca Station; Relocated Lathrop/Manteca Station**
41 **alternative; North Lathrop Station; Oakland-Fresno Subdivision Connection;** and **Ceres**
42 **Extension Alignment** could include the disturbance of soil and ballast potentially contaminated
43 from operation of the existing railroad corridors. Soil underlying the **Relocated Lathrop/Manteca**
44 **Station** alternative; **North Lathrop Station; Ceres Extension Alignment;** and **Ceres Station** could

1 potentially be contaminated with aerially deposited lead from major roadway corridors. Soil
 2 underlying the **Existing Lathrop/Manteca Station; Relocated Lathrop/Manteca Station**
 3 **alternative; Oakland-Fresno Subdivision Connection; Ceres Extension Alignment; and Ceres**
 4 **Layover Facility, variants 1 and 2** could be contaminated with pesticide residues from historical
 5 agriculture operations. Soil and/or groundwater underlying the **North Lathrop Station; Oakland-**
 6 **Fresno Subdivision Connection; Ceres Extension Alignment; Downtown Manteca Station;**
 7 **Ripon Station; Modesto Station; Ceres Station; Ceres Layover Facility, variants 1 and 2;** and the
 8 **Merced Bus Stop** could be contaminated from undocumented releases of petroleum (if any) from
 9 petroleum pipelines. Groundwater underlying the **North Lathrop Station; Ceres Extension**
 10 **Alignment; Downtown Manteca Station; Ripon Station; Modesto Station; Ceres Station;** and
 11 **Merced Bus Stop** could be contaminated from nearby hazardous materials release sites. In addition,
 12 soil underlying the **North Lathrop Station; Downtown Manteca Station;** and **Ripon Station** could
 13 be contaminated from hazardous materials release sites located within the environmental footprint.

14 Construction and maintenance activities that could disturb hazardous materials in soil and ballast
 15 would include earthwork activities (e.g., excavation, grading, and stockpiling) and off-road trips,
 16 which could generate fugitive dust emissions or place materials in an area that results in a direct-
 17 exposure scenario for workers, the public, or environmental receptors. Construction and
 18 maintenance activities that could disturb hazardous materials in groundwater would primarily be
 19 from dewatering of pile shafts, trenches, or excavation pits. The chemical quality of soil, ballast, and
 20 groundwater that may be encountered during construction and maintenance activities has not been
 21 assessed for the Phase I improvements. Therefore, the disturbance of potential hazardous materials
 22 in soil, ballast, and groundwater during construction of the Phase I improvements could pose a
 23 health risk to construction workers, maintenance workers, the public, and/or the environment if not
 24 characterized, handled, and disposed of properly. This is a potentially significant impact.

25 **Table 4.9-13. Phase I Improvements—Hazardous Materials Sources with Potential to Affect**
 26 **Existing Conditions**

Phase I Improvement	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
Lathrop to Ceres									
Existing Lathrop/Manteca Station	5	--	--	BM	BM, S, B	--	S	--	--
Relocated Lathrop/Manteca Station alternative	5	--	BM	--	BM, S, B	S	S	--	--
North Lathrop Station	5	--	BM	BM	BM, S, B	S	--	S, GW	S, GW
Oakland-Fresno Subdivision Connection	5	--	BM	--	BM, S, B	--	S	GW	--

Phase I Improvement	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 Extension Alignment	5	--	BM	BM	BM, S, B	S	S	S, GW	GW
Downtown Manteca Station	5	--	--	--	--	--	--	S, GW	S, GW
Ripon Station	5	--	--	--	--	--	--	GW	S, GW
Modesto Station	5	--	--	BM	--	--	--	S, GW	GW
Ceres Station	5	--	--	BM	--	S	--	GW	GW
Ceres Layover Facility, variant 1 alternative	5	--	--	BM	--	--	S	GW	--
Ceres Layover Facility, variant 2	5	--	--	BM	--	--	S	GW	--
Ceres to Merced									
Turlock Bus Stop ^a	5	--	--	--	--	--	--	--	--
Livingston Bus Stop ^a	5	--	--	--	--	--	--	--	--
Atwater Bus Stop ^a	5	--	--	--	--	--	--	--	--
Merced Bus Stop	5	--	--	BM	--	--	--	GW	GW

BM = building materials

S = soil

B = ballast

GW = groundwater

Note: The maximum depth of excavation is approximate.

^a Because no physical improvements are identified for the **Turlock, Livingston, and Atwater Bus Stops**, no potential effects were identified.

1

2 **Significance Conclusion and Mitigation Measures**

3 **Significance Prior to Mitigation**

4 Construction and maintenance of certain Phase I improvements (the **Existing Lathrop/Manteca**
 5 **Station; Relocated Lathrop/Manteca Station** alternative; **North Lathrop Station; Oakland-**
 6 **Fresno Subdivision Connection; Ceres Extension Alignment; Modesto Station; Ceres Station;**
 7 **Ceres Layover Facility, variants 1 and 2; and Merced Bus Stop**) could result in the disturbance of
 8 hazardous building materials associated with bridge/overhead, roadway, and/or railroad
 9 structures, which could pose a health risk to construction workers, maintenance workers, the public,
 10 and/or the environment if not handled and disposed of properly. Adherence to federal and state
 11 laws and regulations reduces the risk of exposure to and improper disposal of hazardous building
 12 materials. Compliance with existing laws and regulations is mandatory; therefore, the disturbance of
 13 hazardous building materials during construction and maintenance of Phase I improvements is not

1 expected to create a hazard to construction workers, maintenance workers, the public, and/or the
2 environment. As a result, impacts related to the disturbance of hazardous building materials during
3 construction and maintenance of the Phase I improvements would be less than significant.

4 However, construction and maintenance of the Phase I improvements could result in the
5 disturbance of potentially contaminated soil, ballast, and/or groundwater that could have a
6 potentially significant impact on the health of construction workers, maintenance workers, the
7 public, and/or the environment. Phase I improvements that could encounter potential soil, ballast,
8 and/or groundwater contamination through existing railroad corridors, major roadway corridors,
9 agricultural land, petroleum pipelines, and hazardous materials release sites sources include the
10 **Existing Lathrop/Manteca Station; Relocated Lathrop/Manteca Station** alternative; **North**
11 **Lathrop Station; Oakland-Fresno Subdivision Connection; Ceres Extension Alignment;**
12 **Downtown Manteca Station; Ripon Station; Modesto Station; Ceres Station; Ceres Layover**
13 **Facility, variants 1 and 2;** and the **Merced Bus Stop**. This is a potentially significant impact.

14 **Significance with Application of Mitigation**

15 Mitigation Measures AQ-2.5, HAZ-2.1, HAZ-2.2, and HAZ-2.3 and would require the implementation
16 of fugitive dust controls, a voluntary oversight agreement, site investigations, a construction risk
17 management plan (CRMP), which would reduce impacts from the disturbance of potentially
18 contaminated soil, ballast, and/or groundwater during construction and maintenance. These
19 measures would mitigate impacts from the disturbance of potentially contaminated soil, ballast,
20 and/or groundwater during construction and maintenance to a less-than-significant level.

21 **Mitigation Measures**

22 The following mitigation measures would apply to construction and maintenance of all Phase I
23 improvements (except the **Turlock, Livingston, and Atwater Bus Stops**, for which there are no
24 physical improvements associated) which could result in the disturbance of contaminated soil,
25 ballast, and/or groundwater. The description of Mitigation Measure AQ-2.5 is presented in Section
26 4.3, *Air Quality*.

27 **Mitigation Measure AQ-2.5: Implement fugitive dust controls**

28 **Mitigation Measure HAZ-2.1: Implement voluntary oversight agreement**

29 Prior to construction, SJRRC will establish an agreement with a state regulatory agency to
30 oversee the investigation and management (described in Mitigation Measures HAZ-2.2, HAZ-2.3,
31 and AQ-2.5) of contaminated soil, ballast, and/or groundwater that would potentially be
32 disturbed by construction and maintenance of the ACE Extension improvements. Regulatory
33 agency oversight may be provided by, but is not limited to, the State Water Board under the Site
34 Cleanup Program or the DTSC under the Voluntary Cleanup Program.

35 **Mitigation Measure HAZ-2.2: Conduct site investigations**

36 Prior to construction, SJRRC will conduct a site investigation for ACE Extension improvements
37 within each geographical segment to evaluate the chemical quality of soil, ballast, and/or
38 groundwater that could be disturbed during construction and maintenance activities. A licensed
39 professional will prepare a work plan describing how representative samples of soil, ballast, and

1 groundwater will be collected and analyzed for potential contamination within each
2 geographical segment from the following potential sources of hazardous materials.

- 3 ● Railroad corridors
- 4 ● Major roadway corridors
- 5 ● Agricultural land
- 6 ● Petroleum pipelines
- 7 ● Hazardous materials release sites

8 Work plans will be submitted to the appropriate oversight agency for review and approval.

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

13 **Mitigation Measure HAZ-2.3: Implement construction and maintenance risk management** 14 **plan**

15 Prior to construction, SJRRC will prepare a CRMP for the ACE Extension improvements that
16 provides a framework for proper characterization and management of contaminated soil,
17 ballast, and groundwater that could be disturbed during construction and maintenance
18 activities. The CRMP will describe how to meet the following key objectives.

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

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

- 34 ● *Unrestricted Onsite Reuse*, in which soil and ballast excavated from the ACE Extension
35 improvement environmental footprint can be reused in any onsite area.
- 36 ● *Stations Reuse*, in which soil and ballast excavated from the ACE Extension improvement
37 environmental footprint can be reused in station areas where there is anticipated to be
38 relatively frequent potential exposure.

- 1 ● *Right-of-Way Reuse*, in which soil and ballast excavated from the ACE Extension
2 improvement environmental footprint can be reused in areas where there is anticipated to
3 be relative infrequent potential exposure along the ROW of the tracks.
- 4 ● *Encapsulation*, in which soil and ballast excavated from the ACE Extension improvement
5 environmental footprint can be reused under barriers or other structures (and covered on
6 all exposed sides by clean material).

7 To protect ecological receptors, the reuse scenarios will incorporate additional limitations, as
8 necessary, near creeks, surface waters, or other aquatic habitats based on the findings of an
9 ecological risk assessment. Soil or ballast that contains chemical constituents at levels greater
10 than the acceptable reuse scenarios will be disposed of in accordance with RCRA and Cal. Code
11 Regs. at a facility permitted to accept the waste. Imported fill materials will be characterized to
12 demonstrate they satisfy the criteria for Unrestricted Onsite Reuse established in the CRMP.

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

- 20 ● Discharge directly to receiving waters
- 21 ● Discharge to the local sanitary sewer system
- 22 ● Discharge to the storm drain system
- 23 ● Disposal/recycling at an appropriately permitted offsite facility

24 Health and safety procedures described in the CRMP will include requirements for an air quality
25 monitoring program during excavation in areas with elevated contaminants of concern to
26 ensure that fugitive dust emissions do not pose an unacceptable health risk to workers or the
27 public. The air monitoring program will identify action levels for total particulates that require
28 respiratory protection, implementation of engineering controls, and ultimately work stoppage.
29 This monitoring program will be in addition to the fugitive dust controls required under
30 Mitigation Measure AQ-2.5.

31 A licensed professional will prepare the CRMP and submit it to the appropriate oversight agency
32 for review and approval prior to construction. The approved CRMP will be implemented during
33 construction and maintenance of the ACE Extension improvements.
34

Impact HAZ-3	Construction, operation, and maintenance of the Phase I improvements could create a potentially significant hazard for children at nearby schools from emissions or handling of hazardous or acutely hazardous materials.
Level of Impact	Potentially significant
Mitigation Measures	AQ-2.5: Implement fugitive dust controls HAZ-2.3: Implement construction risk management plan
Level of Impact after Mitigation	Less than significant

1

2 **Impact Characterization**

3 The handling or emission of hazardous or acutely hazardous materials near schools must consider
4 potential health effects on children, who are considered sensitive receptors. There are no schools
5 located within 0.25 mile of the **Existing Lathrop/Manteca Station; Relocated Lathrop/Manteca**
6 **Station** alternative; **Oakland-Fresno Subdivision Connection; Ripon Station; Ceres Layover**
7 **Facility, variants 1 and 2;** and the **Merced Bus Stop**. In addition, there are no physical
8 improvements associated with the **Turlock, Livingston, and Atwater Bus Stops**. Thus, construction
9 and operations of these Phase I improvements would not create a potentially significant hazard for
10 children at nearby schools from emissions or handling of hazardous or acutely hazardous materials.

11 There is one school in the study area for the **North Lathrop Station** (Joseph Widmer Junior
12 Elementary School), nine schools in the study area for the **Ceres Extension Alignment** (Manteca
13 Community Day School, Manteca High School, Ripon Elementary, Ripon High, Ripon Christian
14 Schools, Small World Christian School, Valley Charter High, Ceres High School, and Walter White
15 Elementary School), one school in the study area for the **Downtown Manteca Station** (Manteca
16 High School), one school in the study area for the **Modesto Station** (Small World Christian School),
17 and two schools in the study area for the **Ceres Station** (Ceres High School and Walter White
18 Elementary School). The primary exposure pathway of concern for children at nearby schools is
19 inhalation of air contaminants, such as particulate matter. As discussed under Impact HAZ-1,
20 hazardous materials used during construction and operation of the Phase I improvements would be
21 managed in accordance with applicable laws and regulations and would not be expected to create a
22 hazard to human health. As discussed under Impact HAZ-2, construction and maintenance that
23 disturb contaminated soil and/or ballast contamination could generate dust and pose a health risk
24 to the public, which includes nearby schools. This is a potentially significant impact.

25 As discussed in Section 4.3, sources of hazardous emissions during construction and operation of
26 the Phase I improvements would include diesel particulate matter (DPM) from the exhaust of
27 construction equipment and new passenger rail service. Emissions of DPM from construction
28 equipment could pose health risks to nearby sensitive receptors. Based on conservative air
29 dispersion modeling and health risk analyses, it was determined that emissions of DPM from
30 construction equipment would not pose significant health risks to nearby sensitive receptors. In
31 addition, it was determined that emissions of DPM from operation of new ACE passenger rail service
32 at along the **North Lathrop Station, Ceres Extension Alignment, Downtown Manteca Station,**
33 **Modesto Station, and Ceres Station** would not pose health risks to nearby sensitive receptors, such
34 as schools.

1 **Significance Conclusion and Mitigation Measures**

2 **Significance Prior to Mitigation**

3 The **Existing Lathrop/Manteca Station; Relocated Lathrop/Manteca Station** alternative;
4 **Oakland-Fresno Subdivision Connection; Ripon Station; Ceres Layover Facility, variants 1 and**
5 **2; and Merced Bus Stop** are not located within 0.25 mile of a school. In addition, there are no
6 physical improvements associated with the **Turlock, Livingston, and Atwater Bus Stops**. Thus,
7 construction and maintenance activities associated with these Phase I improvements would not
8 create a potentially significant hazard for children at nearby schools from emissions or handling of
9 hazardous or acutely hazardous materials.

10 Construction and maintenance activities associated with the **North Lathrop Station, Ceres**
11 **Extension Alignment, Downtown Manteca Station, Modesto Station, and the Ceres Station**
12 could generate dust from the disturbance of potentially contaminated soil and/or ballast that could
13 have a potentially significant impact on the health of children at nearby schools. Construction and
14 operation of these Phase I improvements would generate DPM emissions from construction
15 equipment and new passenger rail service in the vicinity of nearby schools. As described in Section
16 4.3, construction and operational emissions would have a less-than-significant impact on the health
17 of children at nearby schools; however, ground-disturbing activities associated with construction
18 and maintenance could result in the generation of contaminated dust. This is a potentially significant
19 impact.

20 **Significance with Application of Mitigation**

21 Mitigation Measures AQ-2.5 and HAZ-2.3 would require implementation of dust control measures
22 and air quality monitoring during excavation in areas with elevated contaminants of concern. These
23 measures would mitigate potential generation of contaminated dust from construction and
24 maintenance activities at the **North Lathrop Station, Downtown Manteca Station, Ceres**
25 **Extension Alignment, Modesto Station, and the Ceres Station** on school children to a less-than-
26 significant level.

27 **Mitigation Measures**

28 The following mitigation measures would apply to the **North Lathrop Station, Ceres Extension**
29 **Alignment, Downtown Manteca Station, Modesto Station, and Ceres Station** for construction
30 and maintenance activities that could result in the disturbance of potentially contaminated soil,
31 ballast, and/or groundwater. Descriptions of Mitigation Measures AQ-2.5 and HAZ-2.3 are presented
32 in Section 4.3, and in Impact HAZ-2, respectively.

33 **Mitigation Measure AQ-2.5: Implement fugitive dust controls**

34 **Mitigation Measure HAZ-2.3: Implement construction risk management plan**

35

Impact HAZ-4	Phase I improvements are located on sites on a list of hazardous materials sites and, as a result, could create a significant hazard to the public or the environment
Level of Impact	Potentially significant
Mitigation Measures	AQ-2.5: Implement fugitive dust control 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

1

2 **Impact Characterization**

3 Review of records from the State Water Board’s GeoTracker database and DTSC’s EnviroStor
 4 database identified two hazardous materials release sites of concern within the footprint of the
 5 **North Lathrop Station**, one hazardous materials release site of concern within the footprint of the
 6 **Downtown Manteca Station**, and one hazardous materials release site of concern within the
 7 footprint of the **Ripon Station**. These release sites may have contaminated soil and groundwater
 8 beneath the station improvements. The two release sites located within the footprint of the **North**
 9 **Lathrop Station** are associated with the Sharpe Army Depot, an active federal Superfund site. As
 10 discussed under Impact HAZ-2, construction and maintenance that disturb existing soil and/or
 11 groundwater contamination from hazardous materials release sites or other sources could pose a
 12 health risk to construction workers, maintenance workers, the public, and/or the environment if not
 13 characterized, handled, and disposed of properly. This is a potentially significant impact.

14 Based on the State Water Board and DTSC databases, soil and groundwater contamination have not
 15 been documented in the footprint of the **Existing Lathrop/Manteca Station; Relocated**
 16 **Lathrop/Manteca Station** alternative; **Oakland-Fresno Subdivision Connection; Ceres**
 17 **Extension Alignment; Modesto Station; Ceres Station; Ceres Layover Facility, variants 1 and 2;**
 18 and **Merced Bus Stop**. In addition, there are no physical improvements associated with the
 19 **Turlock, Livingston, and Atwater Bus Stops**. Thus, construction and maintenance activities
 20 associated with these Phase I improvements would not disturb known soil and/or groundwater
 21 contamination and create a potentially significant impact on the health of construction workers,
 22 maintenance workers, the public, and/or the environment.

23 **Significance Conclusion and Mitigation Measures**

24 **Significance Prior to Mitigation**

25 Soil and groundwater contamination have not been documented under the **Existing**
 26 **Lathrop/Manteca Station; Relocated Lathrop/Manteca Station** alternative; **Oakland-Fresno**
 27 **Subdivision Connection; Ceres Extension Alignment; Modesto Station; Ceres Station; Ceres**
 28 **Layover Facility, variants 1 and 2;** and **Merced Bus Stop**. In addition, there are no physical
 29 improvements associated with the **Turlock, Livingston, and Atwater Bus Stops**. Therefore,
 30 construction and maintenance activities associated with these Phase I improvements would not
 31 result in a significant hazard to the public or the environment due to the disturbance of
 32 contaminated soil or groundwater from a hazardous materials release site of concern located on the
 33 improvement.

1 Construction and maintenance activities associated with the **North Lathrop Station, Downtown**
 2 **Manteca Station, and Ripon Station** could result in the disturbance of potentially contaminated soil
 3 and/or groundwater from documented hazardous materials release sites located within the
 4 environmental footprint, which could affect the health of construction workers, maintenance
 5 workers, the public, and/or the environment. This is a potentially significant impact.

6 **Significance with Application of Mitigation**

7 Mitigation Measures AQ-2.5, HAZ-2.1, HAZ-2.2, and HAZ-2.3 and would require the implementation
 8 of fugitive dust controls, a voluntary oversight agreement, site investigations, and a CRMP, which
 9 would reduce impacts from the disturbance of potentially contaminated soil and/or groundwater
 10 during construction and maintenance activities associated with the **North Lathrop Station,**
 11 **Downtown Manteca Station, and Ripon Station.** These measures would mitigate impacts related
 12 to being sited on a hazardous materials site to a less-than-significant level.

13 **Mitigation Measures**

14 The following mitigation measures would apply to the **North Lathrop Station, Downtown**
 15 **Manteca Station, and Ripon Station** for impacts related to being located on a hazardous materials
 16 site and the disturbance of contaminated soil and/or groundwater. Descriptions of Mitigation
 17 Measures AQ-2.5 and HAZ 2.1 through HAZ-2.3 are presented in Section 4.3, and in Impact HAZ-2,
 18 respectively.

19 **Mitigation Measure AQ-2.5: Implement fugitive dust controls**

20 **Mitigation Measure HAZ-2.1: Implement voluntary oversight agreement**

21 **Mitigation Measure HAZ-2.2: Conduct site investigations**

22 **Mitigation Measure HAZ-2.3: Implement construction risk management plan**

23 **4.9.4.4 Phase II Improvements Impacts and Mitigation Measures**
 24

Impact HAZ-5	Construction, operation, and maintenance of the Phase II improvements could 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

25
 26 **Impact Characterization and Significance Conclusion**

27 **Construction**

28 Construction activities associated with the Phase II improvements are expected to involve the
 29 routine transport, use, and disposal of hazardous materials (e.g., fuels, paints, and lubricants) that
 30 could pose a significant threat to human health or the environment if not properly managed. The
 31 transport, use, and disposal of hazardous materials during construction is regulated and enforced by
 32 federal and state agencies.

1 Workers who handle hazardous materials are required to adhere to OSHA and Cal/OSHA health and
2 safety requirements. During construction, hazardous materials must be transported in accordance
3 with the RCRA and USDOT regulations, stored in accordance with the Unified Program enforced by
4 local CUPAs, and disposed of in accordance with RCRA and Cal. Code Regs. at a facility permitted to
5 accept the waste.

6 In accordance with the State Water Board, a SWPPP must be prepared and implemented during
7 construction for coverage under the Construction General Permit. As detailed in Section 4.10, the
8 SWPPP requires implementation of best management practices for hazardous materials storage and
9 soil stockpiles, inspections, maintenance, training of employees, and containment of releases to
10 prevent runoff into existing stormwater collection systems or waterways.

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

18 **Operation and Maintenance**

19 Phase II operation and maintenance activities are expected to involve the routine use of diesel to
20 power locomotives and pesticides to clear vegetation from track areas. Similar to current
21 operations, common activities such as fueling and pesticide applications could result in the exposure
22 of workers, the public, and/or the environment to hazardous materials if the materials are not
23 properly managed or accidentally released. The transport, use, and disposal of hazardous materials
24 during operation is regulated and enforced by federal and state agencies.

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

31 As described in Impact SAF-8, in Section 4.16, the potential increases in accident conditions
32 resulting from Phase II operations of passenger trains include the accidental release of hazardous
33 materials. However, based on historic FRA accident/incident data, these occurrences are rare and
34 travel by rail remains one of the safest modes of transportation. Phase II operations would comply
35 with stringent federal and state protocols and regulations intended to reduce the likelihood of
36 accident conditions. Accident conditions, including the accidental release of hazardous materials, are
37 not expected to increase with Phase II operations.

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

1

Impact HAZ-6	Construction, operation, and maintenance of the Phase II improvements 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
Mitigation Measures	AQ-2.5: Implement fugitive dust controls 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

2

3 **Impact Characterization**

4 Construction and maintenance of Phase II improvements is expected to involve the disturbance of
5 hazardous materials in soil; ballast; groundwater; and building, bridge/overhead, roadway, and
6 railroad structures. Table 4.9-12 summarizes the potential sources of hazardous materials identified
7 within the study area that could have affected existing conditions within the environmental
8 footprint of each improvement. NOA was not identified within the Phase II improvement
9 environmental footprints.

10 Table 4.9-14 presents the specific sources of hazardous materials that could have affected existing
11 conditions within the environmental footprint of Phase II improvement. Construction and
12 maintenance of the **Merced Extension Alignment, Turlock Station, Livingston Station, Atwater
13 Station, Merced Layover Facility, and Merced Station** could disturb potentially hazardous
14 building materials associated with existing buildings, bridge/overhead, roadway, and/or railroad
15 structures. These structures located within the Phase II improvement environmental footprints
16 could potentially contain hazardous building materials, such as ACM, LBP, universal wastes (e.g.,
17 PCBs, diethylhexyl phthalate, mercury, and other metals) and wood preservatives (e.g., arsenic,
18 chromium, copper, pentachlorophenol, or creosote). The disturbance of hazardous building
19 materials could pose a health risk to construction workers, maintenance workers, the public, and/or
20 the environment if not handled and disposed of properly. The removal of hazardous building
21 materials prior to demolition is governed by federal and state laws and regulations. Workers who
22 conduct hazardous materials abatement and demolition activities must be trained in accordance
23 with OSHA and Cal/OSHA requirements. Hazardous building materials removed during construction
24 must be transported in accordance with USDOT regulations and disposed of in accordance with
25 RCRA, Cal. Code Regs., and/or the California Universal Waste Rule at a facility permitted to accept
26 the wastes. Treated-wood waste, such as railroad ties on existing bridge structures, may also be
27 disposed of in accordance with the Alternative Management Standards adopted by DTSC under Cal.
28 Code Regs. Title 22, Chapter 34.

29 Sources of potential soil, ballast, and/or groundwater contamination within the Phase II
30 improvement footprints include existing railroad corridors, major roadway corridors, agricultural
31 land, petroleum pipelines, and hazardous materials release sites. All Phase II improvements would
32 could encounter potential soil, ballast, and/or groundwater contamination through at least one of
33 these sources.

1 **Table 4.9-14. Phase II Improvements—Hazardous Materials Sources with Potential to Affect**
2 **Existing Conditions**

Phase II Improvement	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									
Merced Extension Alignment	5	--	BM	BM	BM, S, B	S	S	S, GW	S, GW
Turlock Station	5	--	--	BM	--	--	--	S, GW	--
Livingston Station	5	BM	--	BM	--	--	--	GW	--
Atwater Station	5	BM	--	BM	--	--	--	GW	GW
Merced Layover Facility	5	--	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.

3
4 Construction of the **Merced Extension Alignment** could include the disturbance of soil and ballast
5 potentially contaminated from operation of the existing railroad corridors. Soil underlying the
6 **Merced Extension Alignment** and **Merced Layover Facility** could potentially be contaminated
7 with aerially deposited lead from major roadway corridors and pesticide residues from historical
8 agriculture operations. Soil and/or groundwater underlying all Phase II improvements could be
9 contaminated from undocumented releases of petroleum (if any) from petroleum pipelines.
10 Groundwater underlying the **Merced Extension Alignment**, **Atwater Station**, and **Merced Station**
11 could be contaminated from nearby hazardous materials release sites. In addition, soil underlying
12 the **Merced Extension Alignment** could be contaminated from hazardous materials release sites
13 located within the environmental footprint.

14 Construction and maintenance activities that could disturb hazardous materials in soil and ballast
15 would include earthwork activities (e.g., excavation, grading, and stockpiling) and off-road trips,
16 which could generate fugitive dust emissions or place materials in an area that results in a direct-
17 exposure scenario for workers, the public, or environmental receptors. Construction and
18 maintenance activities that could disturb hazardous materials in groundwater would primarily be
19 from dewatering of pile shafts, trenches, or excavation pits. The chemical quality of soil, ballast, and
20 groundwater that may be encountered during construction and maintenance activities has not been
21 assessed for the Phase II improvements. Therefore, the disturbance of potential hazardous materials
22 in soil, ballast, and groundwater during construction of the Phase II improvements could pose a
23 health risk to construction workers, maintenance workers, the public, and/or the environment if not
24 characterized, handled, and disposed of properly. This is a potentially significant impact.

1 **Significance Conclusion and Mitigation Measures**

2 **Significance Prior to Mitigation**

3 Construction and maintenance of all Phase II improvements could result in the disturbance of
4 hazardous building materials associated with building, bridge/overhead, roadway, and/or railroad
5 structures, which could pose a health risk to construction workers, maintenance workers, the public,
6 and/or the environment if not handled and disposed of properly. Adherence to federal and state
7 laws and regulations reduces the risk of exposure to and improper disposal of hazardous building
8 materials. Compliance with existing laws and regulations is mandatory; therefore, the disturbance of
9 hazardous building materials during construction and maintenance of Phase II improvements is not
10 expected to create a hazard to construction workers, maintenance workers, the public, and/or the
11 environment. As a result, impacts related to the disturbance of hazardous building materials during
12 construction and maintenance of the Phase II improvements would be less than significant.

13 However, construction and maintenance of Phase II improvements could result in the disturbance of
14 potentially contaminated soil, ballast, and/or groundwater that could have a potentially significant
15 impact on the health of construction workers, maintenance workers, the public, and/or the
16 environment. All the Phase II improvements could encounter soil, ballast, and/or groundwater
17 contamination from existing railroad corridors, major roadway corridors, agricultural land,
18 petroleum pipelines, and/or hazardous materials release sites sources. This is a potentially
19 significant impact.

20 **Significance with Application of Mitigation**

21 Mitigation Measures AQ-2.5, HAZ-2.1, HAZ-2.2, and HAZ-2.3 and would require the implementation
22 of fugitive dust controls, a voluntary oversight agreement, site investigations, and a CRMP, which
23 would reduce impacts from the disturbance of potentially contaminated soil, ballast, and/or
24 groundwater during construction and maintenance. These measures would mitigate impacts from
25 the disturbance of potentially contaminated soil, ballast, and/or groundwater during construction
26 and maintenance to a less-than-significant level.

27 **Mitigation Measures**

28 The following mitigation measures would apply to construction and maintenance of all Phase II
29 improvements that could result in the disturbance of contaminated soil, ballast, and/or
30 groundwater. Descriptions of Mitigation Measures AQ-2.5 and HAZ 2.1 through HAZ-2.3 are
31 presented in Section 4.3, and in Impact HAZ-2, respectively.

32 **Mitigation Measure AQ-2.5: Implement fugitive dust controls**

33 **Mitigation Measure HAZ-2.1: Implement voluntary oversight agreement**

34 **Mitigation Measure HAZ-2.2: Conduct site investigations**

35 **Mitigation Measure HAZ-2.3: Implement construction and maintenance risk management** 36 **plan**

37

Impact HAZ-7	Construction, operation, and maintenance of the Phase II improvements could create a potentially significant hazard for children at nearby schools from emissions or handling of hazardous or acutely hazardous materials.
Level of Impact	Potentially significant
Mitigation Measures	AQ-2.5: Implement fugitive dust controls HAZ-2.3: Implement construction risk management plan
Level of Impact after Mitigation	Less than significant

1

2 **Impact Characterization**

3 The handling or emission of hazardous or acutely hazardous materials near schools must consider
 4 potential health effects on children, who are considered sensitive receptors. There are no schools
 5 located within 0.25 mile of the **Turlock Station, Atwater Station, Merced Layover Facility,** and
 6 the **Merced Station**. Thus, construction and operations of these Phase II improvements would not
 7 create a potentially significant hazard for children at nearby schools from emissions or handling of
 8 hazardous or acutely hazardous materials.

9 There are seven schools in the study area for the **Merced Extension Alignment** (Stanislaus
 10 Academy in Turlock; Livingston Stepping Stones Preschool, Selma Herndon Elementary School, and
 11 Campus Park Elementary School in Livingston; Aileen Colburn Elementary School in Atwater;
 12 Schendel Elementary School in Delhi; and Yosemite & Independence High School in Merced) and one
 13 school in the study area for the **Livingston Station** (Livingston Stepping Stones Preschool). The
 14 primary exposure pathway of concern for children at nearby schools is through the inhalation of air
 15 contaminants, such as particulate matter. As discussed under Impact HAZ-5, hazardous materials
 16 used during construction and operation of the Phase II improvements would be managed in
 17 accordance with applicable laws and regulations and would not be expected to create a hazard to
 18 human health. As discussed under Impact HAZ-6, construction and maintenance that disturb
 19 contaminated soil and/or ballast contamination could generate dust and pose a health risk to the
 20 public, which includes nearby schools. This is a potentially significant impact.

21 As discussed in Section 4.3, sources of hazardous emissions during construction and operation of
 22 the Phase II improvements would include DPM from the exhaust of construction equipment and new
 23 passenger rail service. Emissions of DPM from construction equipment could pose health risks to
 24 nearby sensitive receptors. Based on a qualitative air dispersion and health risk analyses, it was
 25 determined that emissions of DPM from construction equipment would not pose health risks to
 26 nearby sensitive receptors. In addition, it was determined that emissions of DPM from operation of
 27 new ACE passenger rail service along the **Merced Extension Alignment** and the **Livingston**
 28 **Station**, would not pose health risks to nearby sensitive receptors, such as schools.

29 **Significance Conclusion and Mitigation Measures**

30 **Significance Prior to Mitigation**

31 The **Turlock Station, Atwater Station, Merced Layover Facility,** and the **Merced Station** are not
 32 located within 0.25 mile of a school. Thus, construction and maintenance activities associated with
 33 these Phase II improvements would not create a potentially significant hazard for children at nearby
 34 schools from emissions or handling of hazardous or acutely hazardous materials.

1 Construction and maintenance activities associated with the **Merced Extension Alignment** and
 2 **Livingston Station** could generate dust from the disturbance of potentially contaminated soil
 3 and/or ballast that could have a potentially significant impact on the health of children at nearby
 4 schools. Construction and operation of these Phase II improvements would generate DPM emissions
 5 from construction equipment and new passenger rail service in the vicinity of nearby schools. As
 6 described in Section 4.3, construction and operational emissions would have a less-than-significant
 7 impact on the health of children at nearby schools; however, ground-disturbing activities associated
 8 with construction and maintenance could result in the generation of contaminated dust. This is a
 9 potentially significant impact.

10 **Significance with Application of Mitigation**

11 Mitigation Measures AQ-2.5 and HAZ-2.3 would require implementation of dust control measures
 12 and air quality monitoring during excavation in areas with elevated contaminants of concern. These
 13 measures would mitigate potential generation of contaminated dust from construction and
 14 maintenance activities at along the **Merced Extension Alignment** and at the **Livingston Station** on
 15 school children to a less-than-significant level.

16 **Mitigation Measures**

17 The following mitigation measures would apply to the **Merced Extension Alignment** and
 18 **Livingston Station** for construction and maintenance activities that could result in the disturbance
 19 of potentially contaminated soil, ballast, and/or groundwater. Descriptions of Mitigation Measures
 20 AQ-2.5 and HAZ-2.3 are presented in Section 4.3, and in Impact HAZ-2, respectively.

21 **Mitigation Measure AQ-2.5: Implement fugitive dust controls**

22 **Mitigation Measure HAZ-2.3: Implement construction risk management plan**

23

Impact HAZ-8	Phase II improvements are located on sites that are included on a list of hazardous materials sites and, as a result, could create a significant hazard to the public or the environment
Level of Impact	Potentially significant
Mitigation Measures	AQ-2.5: Implement fugitive dust control 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

24

25 **Impact Characterization**

26 Review of records from the State Water Board’s GeoTracker database and DTSC’s EnviroStor
 27 database identified three hazardous materials release sites of concern within the footprint of the
 28 **Merced Extension Alignment**. These releases sites may have contaminated the soil and
 29 groundwater beneath portions of the **Merced Extension Alignment**. As discussed under Impact
 30 HAZ-6, construction and maintenance that disturb existing soil and/or groundwater contamination

1 from hazardous materials release sites or other sources, could pose a health risk to construction
2 workers, maintenance workers, the public, and/or the environment if not characterized, handled,
3 and disposed of properly. This is a potentially significant impact.

4 Based on the State Water Board and DTSC databases, soil and groundwater contamination have not
5 been documented in the footprint of the **Turlock Station, Livingston Station, Atwater Station,**
6 **Merced Layover Facility, and Merced Station.** Thus, construction and maintenance activities
7 associated with these Phase II improvements would not disturb known soil and/or groundwater
8 contamination and create a potentially significant impact on the health of construction workers,
9 maintenance workers, the public, and/or the environment.

10 **Significance Conclusion and Mitigation Measures**

11 **Significance Prior to Mitigation**

12 Soil and groundwater contamination have not been documented under the **Turlock Station,**
13 **Livingston Station, Atwater Station, Merced Layover Facility, and Merced Station.** Therefore,
14 construction and maintenance activities associated with these Phase II improvements would not
15 result in a significant hazard to the public or the environment due to the disturbance of known
16 contaminated soil or groundwater from a hazardous materials release site of concern located on the
17 improvement.

18 Construction and maintenance activities associated with the **Merced Extension Alignment** could
19 result in the disturbance of potentially contaminated soil and/or groundwater from documented
20 hazardous materials release sites located within the environmental footprint, which could affect the
21 health of construction workers, maintenance workers, the public, and/or the environment. This is a
22 potentially significant impact.

23 **Significance with Application of Mitigation**

24 Mitigation Measures AQ-2.5, HAZ-2.1, HAZ-2.2, and HAZ-2.3 and would require the implementation
25 of fugitive dust controls, a voluntary oversight agreement, site investigations, and a CRMP, which
26 would reduce impacts from the disturbance of potentially contaminated soil, ballast, and/or
27 groundwater during construction and maintenance activities associated with the **Merced Extension**
28 **Alignment.** These measures would mitigate impacts related to being sited on a hazardous materials
29 site to a less-than-significant level.

30 **Mitigation Measures**

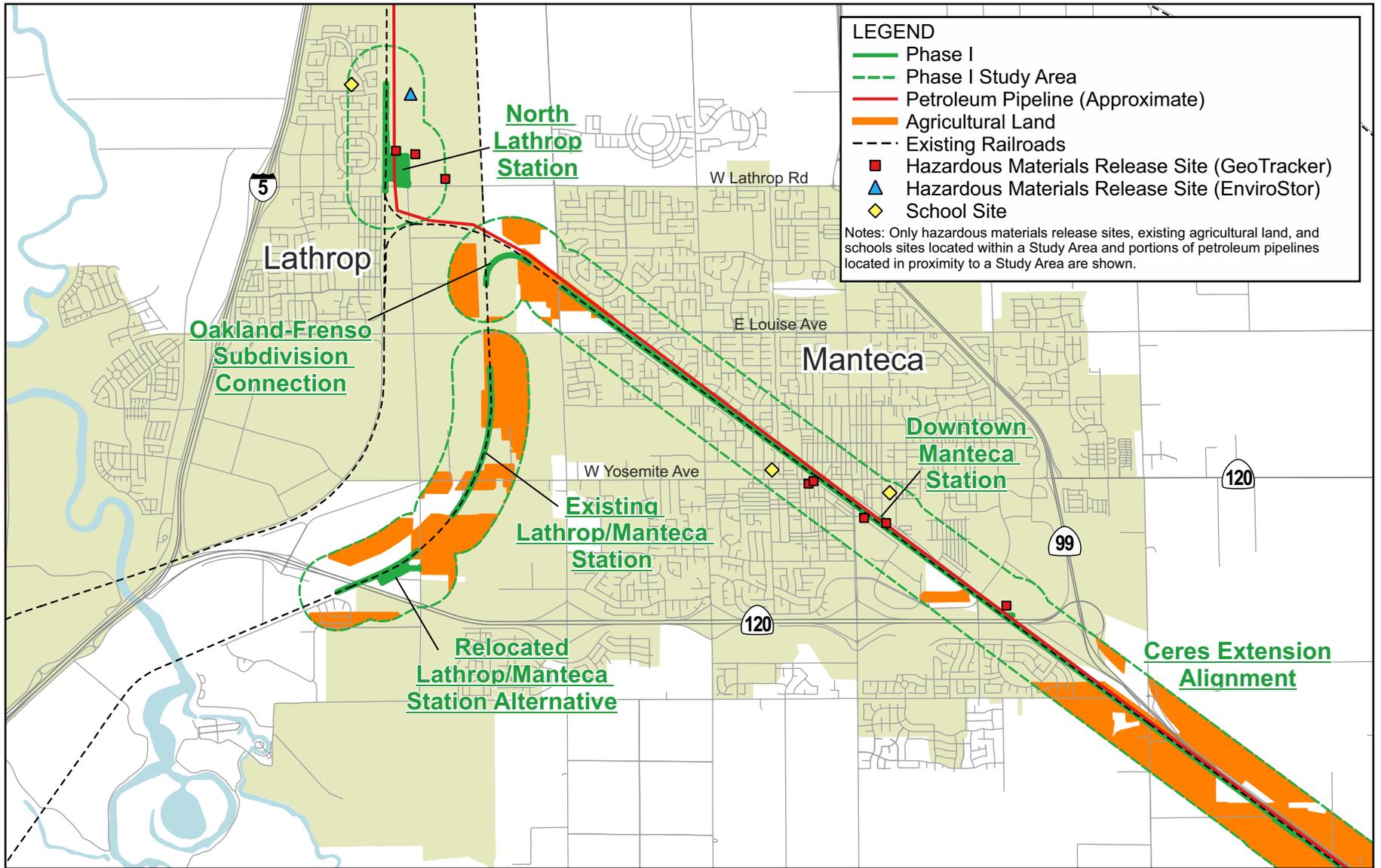
31 The following mitigation measures would apply to the **Merced Extension Alignment** for impacts
32 related to being located on a hazardous materials site and the disturbance of contaminated soil
33 and/or groundwater. Descriptions of Mitigation Measures AQ-2.5, HAZ-2.1, HAZ-2.2, and HAZ-2.3
34 are presented in Section 4.3, and in Impact HAZ-2, respectively.

35 **Mitigation Measure AQ-2.5: Implement fugitive dust controls**

36 **Mitigation Measure HAZ-2.1: Implement voluntary oversight agreement**

37 **Mitigation Measure HAZ-2.2: Conduct site investigations**

38 **Mitigation Measure HAZ-2.3: Implement construction risk management plan**



LEGEND

- Phase I
- - - Phase I Study Area
- Petroleum Pipeline (Approximate)
- Agricultural Land
- - - Existing Railroads
- Hazardous Materials Release Site (GeoTracker)
- ▲ Hazardous Materials Release Site (EnviroStor)
- ◆ School Site

Notes: Only hazardous materials release sites, existing agricultural land, and schools sites located within a Study Area and portions of petroleum pipelines located in proximity to a Study Area are shown.

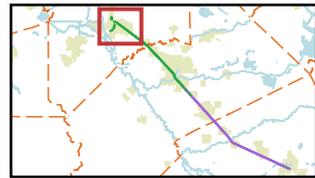
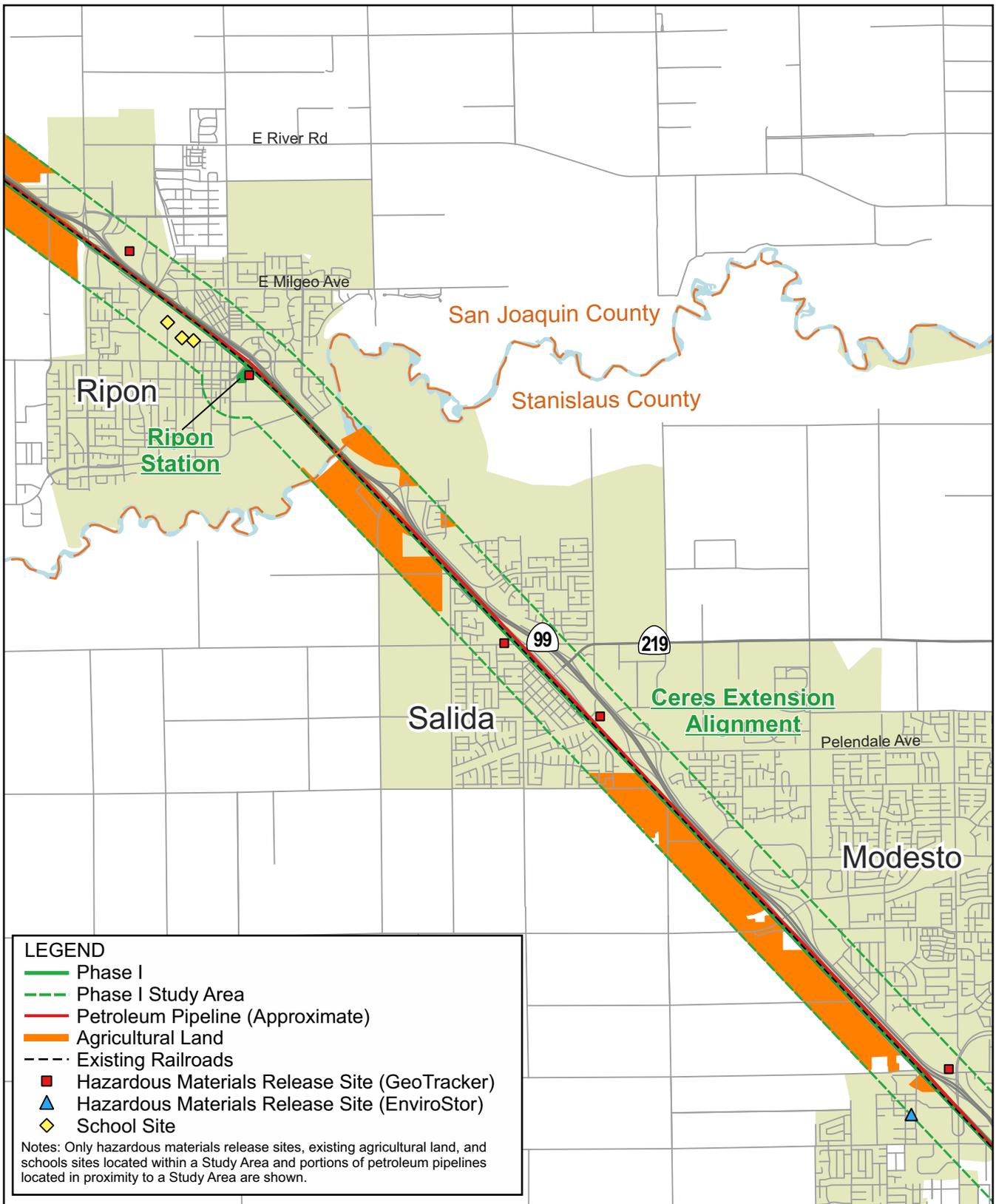


Figure 4.9-1
Lathrop to Ceres
Hazardous Materials Concerns, Sheet 1
 ACE Extension Lathrop to Ceres/Merced



LEGEND

- Phase I
- - - Phase I Study Area
- Petroleum Pipeline (Approximate)
- Agricultural Land
- Existing Railroads
- Hazardous Materials Release Site (GeoTracker)
- ▲ Hazardous Materials Release Site (EnviroStor)
- ◆ School Site

Notes: Only hazardous materials release sites, existing agricultural land, and schools sites located within a Study Area and portions of petroleum pipelines located in proximity to a Study Area are shown.

N

0 0.5 1.0 1.5

Mile

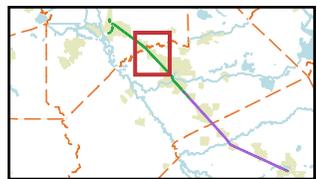


Figure 4.9-2
Lathrop to Ceres
Hazardous Materials Concerns, Sheet 2
 ACE Extension Lathrop to Ceres/Merced

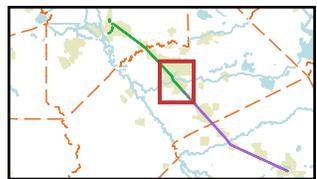
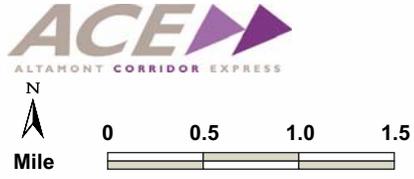
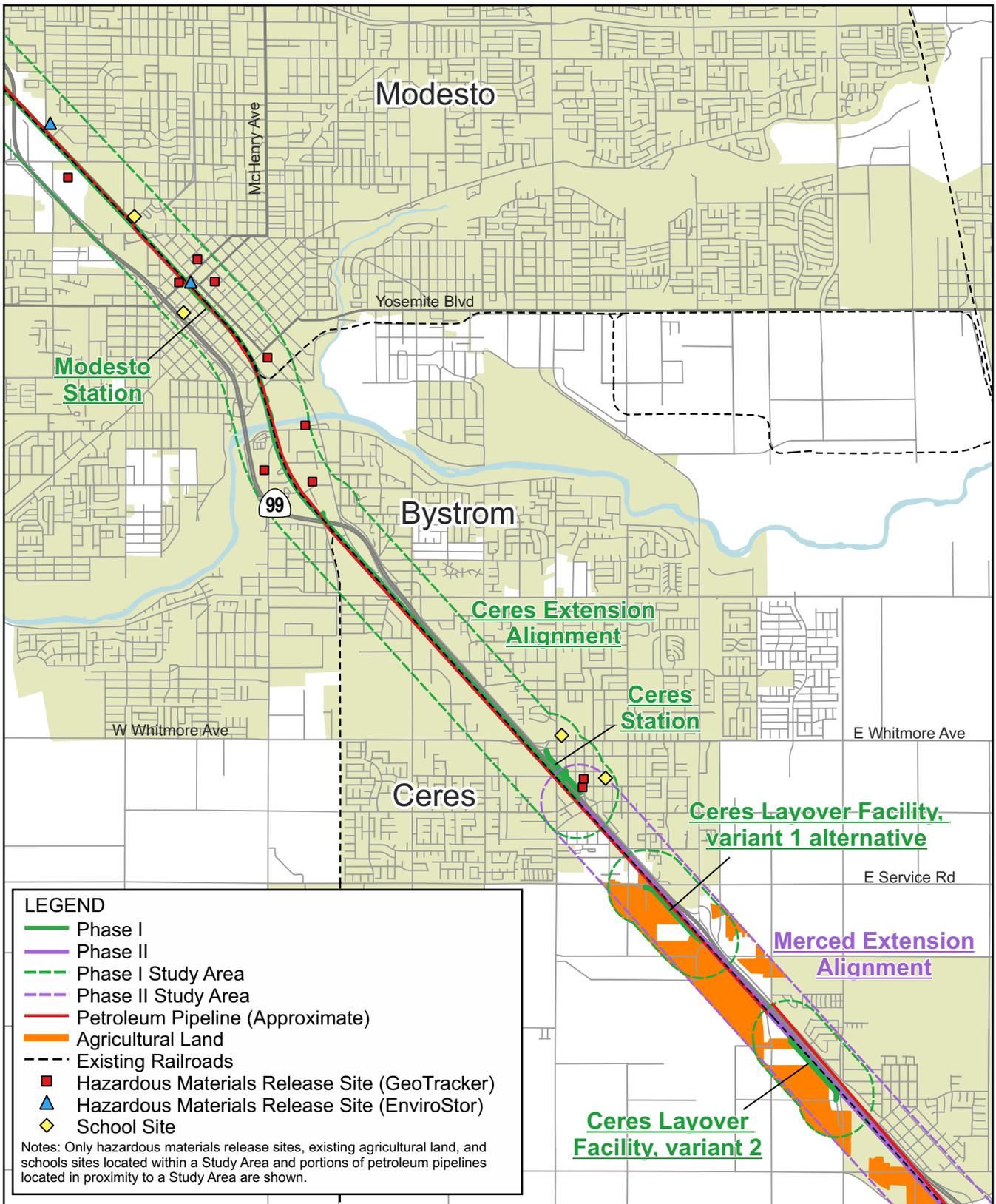


Figure 4.9-3
Lathrop to Ceres
Hazardous Materials Concerns, Sheet 3
ACE Extension Lathrop to Ceres/Merced

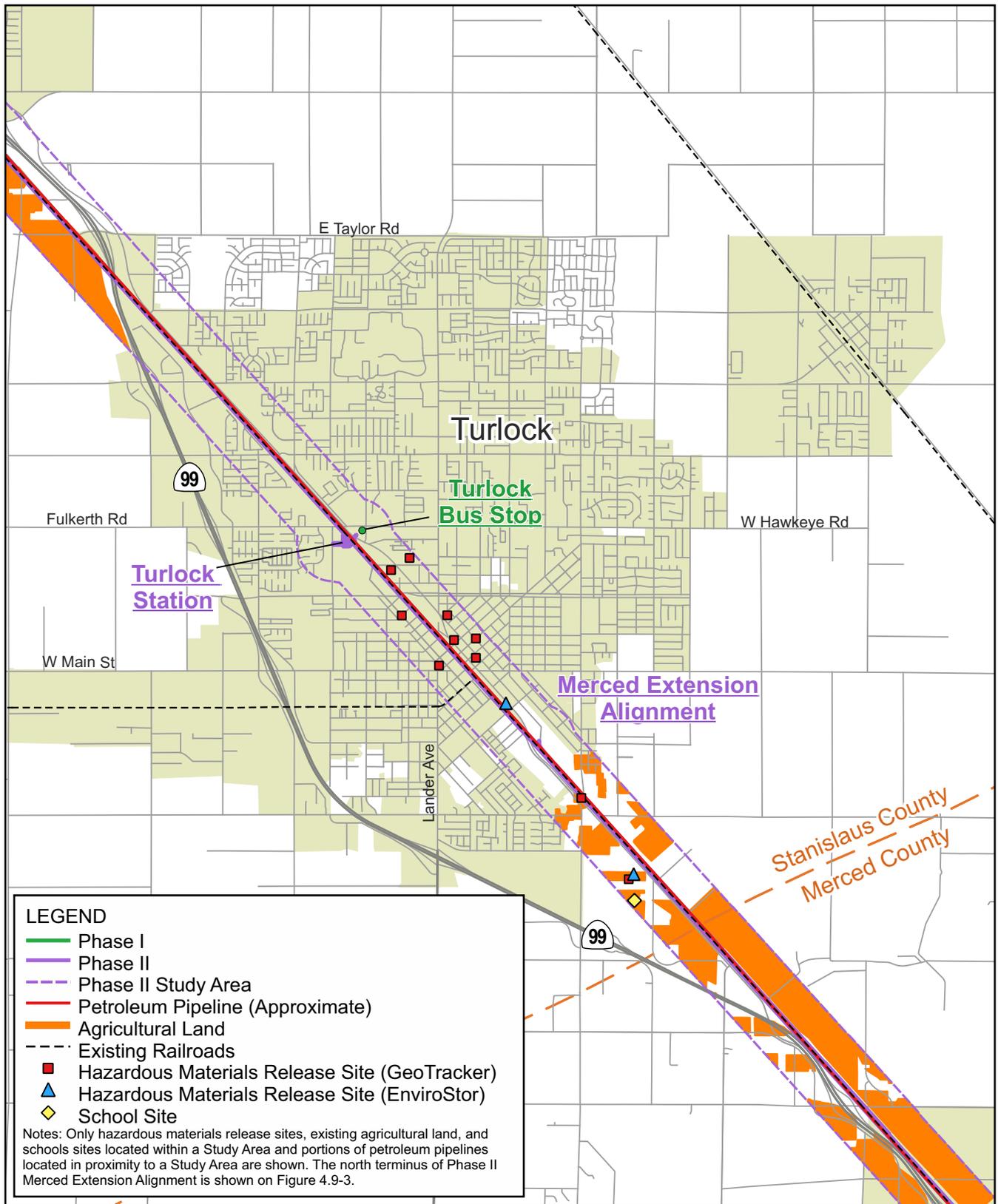


Figure 4.9-4
Ceres to Merced
Hazardous Materials Concerns, Sheet 1
ACE Extension Lathrop to Ceres/Merced

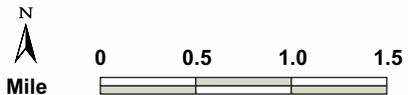
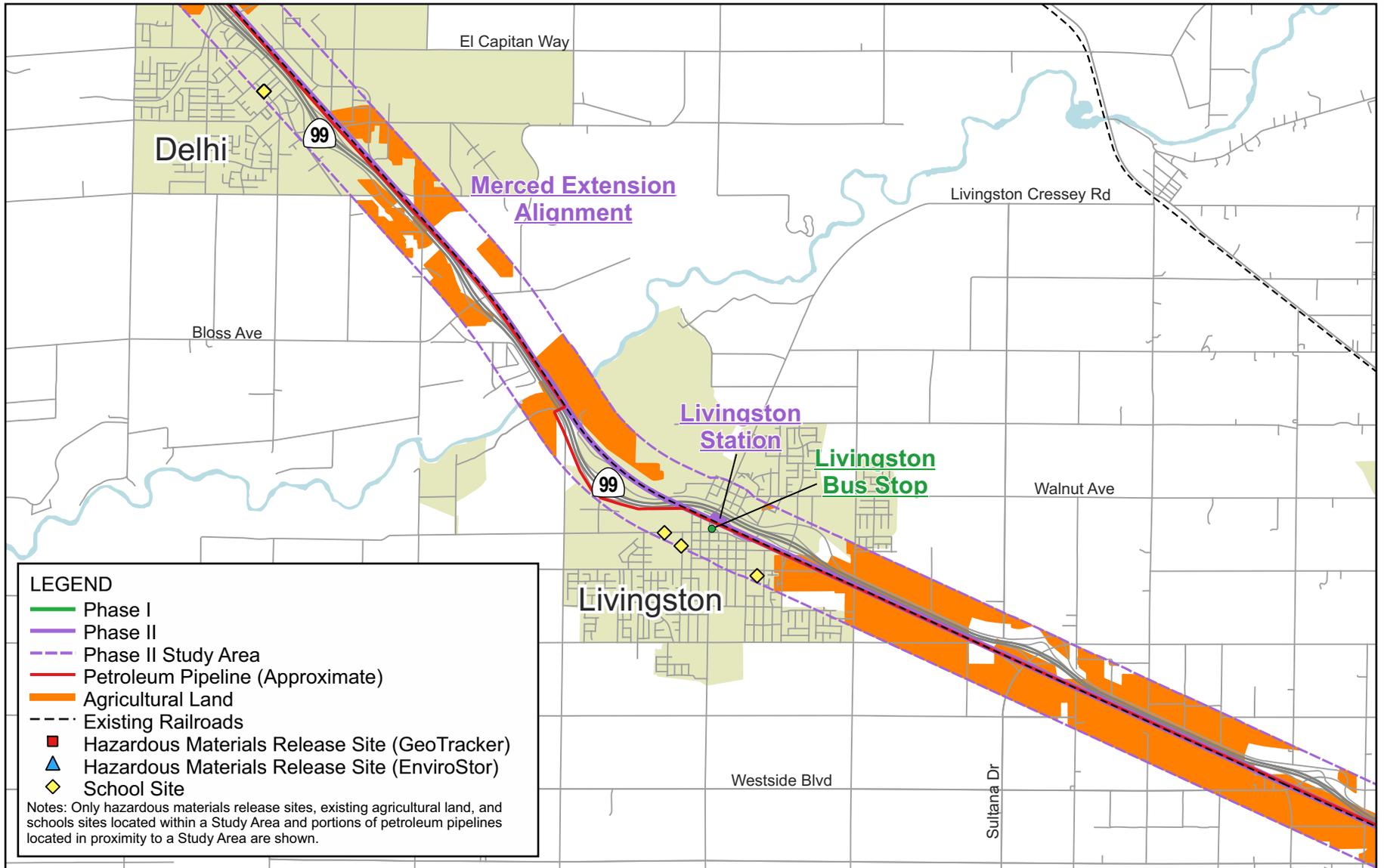
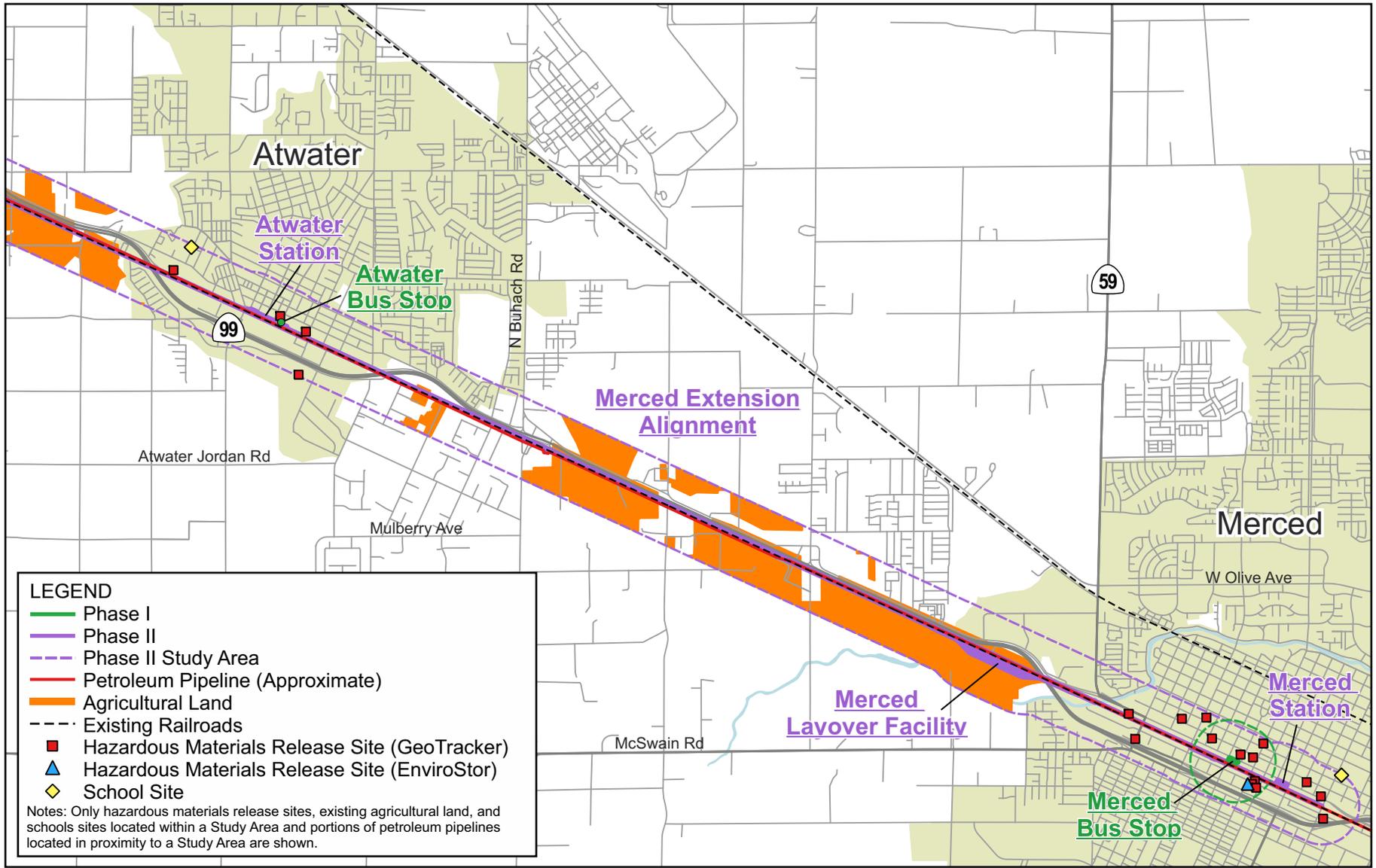


Figure 4.9-5
Ceres to Merced
Hazardous Materials Concerns, Sheet 2
 ACE Extension Lathrop to Ceres/Merced



LEGEND

- Phase I
- Phase II
- - - Phase II Study Area
- Petroleum Pipeline (Approximate)
- Agricultural Land
- - - Existing Railroads
- Hazardous Materials Release Site (GeoTracker)
- ▲ Hazardous Materials Release Site (EnviroStor)
- ◆ School Site

Notes: Only hazardous materials release sites, existing agricultural land, and schools sites located within a Study Area and portions of petroleum pipelines located in proximity to a Study Area are shown.

N

0 0.5 1.0 1.5

Mile

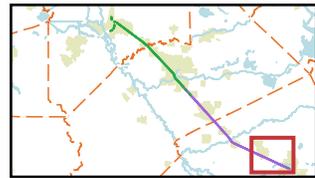


Figure 4.9-6
Ceres to Merced
Hazardous Materials Concerns, Sheet 3
 ACE Extension Lathrop to Ceres/Merced