

2.2.5 Hazardous Waste/Materials

This section evaluates potential human health hazards due to exposure to existing and possible future sources of hazardous materials and wastes that could result from the operation of the Tier I Corridor Alternatives and Tier II Auxiliary Lane Alternative. Impacts that could occur during project construction are discussed in Section 2.4, and cumulative impacts are discussed in Section 2.5.

Hazardous materials are generally substances that, by their nature and reactivity, have the capacity for causing harm or health hazards during normal exposure or an accidental release or mishap. They are characterized as being toxic, corrosive, flammable, reactive, an irritant, or a strong sensitizer. The term “hazardous substances” encompasses chemicals regulated by U.S. Department of Transportation “hazardous materials” regulations and U.S. Environmental Protection Agency’s “hazardous waste” regulations, including emergency response. Hazardous wastes require special handling and disposal because of their potential to damage public health and the environment.

Regulatory Setting

Hazardous materials, including hazardous substances and wastes, are regulated by many state and federal laws. Statutes govern the generation, treatment, storage, and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health, and land use.

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act of 1980 and the Resource Conservation and Recovery Act of 1976. The purpose of the Comprehensive Environmental Response, Compensation and Liability Act, often referred to as “Superfund,” is to identify and clean up abandoned contaminated sites so that public health and welfare are not compromised. The Resource Conservation and Recovery Act provides “cradle to grave” regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act
- Atomic Energy Act
- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act

In addition to the acts listed above, Executive Order 12088, *Federal Compliance with Pollution Control Standards*, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the California Health and Safety Code and is also authorized by the federal government to implement the Resource Conservation and Recovery Act in the state laws that affect hazardous waste handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and cleanup of contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous materials is vital if they are encountered, disturbed, or generated during project construction.

Affected Environment

The information in this section is derived from the proposed project's *Initial Site Assessment*, including the results of site investigations conducted in 2006 and 2007, which were updated in 2010, and an updated environmental database search conducted in January 2013 (ISA, 2014).

Tier I Corridor Alternatives

The Preliminary Initial Site Assessment was conducted in general accordance with the guidelines of the American Society for Testing and Materials Standard E 1527-05, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process." The scope of the Initial Site Assessment included site reconnaissance; historical research related to use, storage, disposal, or release of hazardous materials or petroleum hydrocarbons; review of environmental databases; and report of findings. Following the Initial Site Assessment, a site investigation covering the proposed project area was conducted and the findings are presented below.

Review of TrackInfo Services Environmental FirstSearch Report

The environmental database search consisted of a review of federal and state regulatory agencies that are responsible for recording incidents of spills, soil and groundwater contamination, and transfer, storage, or disposal facilities that handle hazardous materials.

This database search, conducted by TrackInfo Services, LLC, was prepared in March 2010 and updated in January 2013. The results are shown in Table 2.2.5-1.

Table 2.2.5-1: Summary of Environmental Database Search Results

Database Searched	Number of Individual Sites Listed
Comprehensive Environmental Response, Compensation, and Liability Information System – No Further Remedial Action Planned	1
Resource Conservation Recovery Act – Small Quantity Generators	26
Leaking Underground Storage Tanks	78
Spills, Leaks, Investigations, and Cleanups	1
Underground Storage Tanks	19
Certified Unified Program Agencies Listings	104
Aboveground Storage Tanks	9
Voluntary Cleanup Program	1
Total	239

Source: ISA, 2014.

As shown in Table 2.2.5-1, there are 239 individual sites within the search distances of 1 mile from the Tier I and Tier II corridors that have been identified in the environmental databases. These sites are included in the environmental databases because they have a history of hazardous wastes spills, are sites with soil or ground water contamination, or facilities that transfer, store, or dispose of hazardous materials or wastes. A one-mile search distance is intended to identify all sites that may have an effect on the project. Although several sites are listed in multiple databases, there are 239 individual sites.

Of the 239 sites within the 1-mile search radius, 18 were identified as Recognized Environmental Conditions for the Tier I and Tier II project area. A Recognized Environmental Condition means “the presence or likely presence of hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.”

Only those sites within the Tier II project limits were evaluated for meeting the criteria of a Recognized Environmental Condition. As future Tier II projects are implemented, new environmental database searches will be conducted, new Recognized Environmental Conditions will be determined, and updated ISAs will be developed. However, the following four general Recognized Environmental Conditions identified in the Initial Site Assessment apply to both of the Tier 1 Corridor Alternatives:

- Wooden utility poles along the roadside may be coated with creosote.
- Asbestos-containing materials are suspected to be present in joint compound materials within Route 1 bridges and railroad undercrossing structures.
- Paint used on existing Route 1 interchange structures, bridges and railroad undercrossings, yellow traffic striping, and pavement marking materials may contain lead-based paint or other hazardous materials and may exceed hazardous waste criteria under *California Code of Regulations* Title 22.
- Aerially deposited lead may be present along the shoulders and median of Route 1.

Review of Historical Aerial Photographs

Compilation of historical aerial photographs of the project area from 1931 to 2001 was performed for the *Initial Site Assessment* (ISA, 2014). Approximately 35 aerial photographs encompassing the project area were examined.

Based on a review of these historical aerial photographs, it appears that the project area and vicinity was largely agricultural in historical times, with residential and commercial uses dating from 1931 to the present.

The increase in commercial and residential development in surrounding areas from 1931 to present is similar to the increase in commercial and residential development in the project area and immediate vicinity.

Site Reconnaissance

Site reconnaissance was performed in November 2006 and again in April 2010. Site reconnaissance confirmed the presence of surrounding land uses that by their nature could be sources of hazardous wastes. These land uses include gas stations, a dry-cleaning facility, commercial storage yards, commercial maintenance/construction yards, railroad tracks, aboveground storage tank sites, a U.S. Post Office, a California Highway Patrol station, Pacific Gas and Electric substations, and auto repair facilities.

Tier II Auxiliary Lane Alternative

Database Results

The general Recognized Environmental Conditions listed above for the Tier I Corridor Alternatives also apply to the Tier II Auxiliary Lane Alternative. In addition, the following 14 Recognized Environmental Conditions apply to the Tier II Auxiliary Lane Alternative:

- The ARCO station, located at 2407 Porter Street in Soquel, released gasoline that contaminated groundwater. The case was closed in 1997. The term “case closed” in these instances means the site was cleaned up of all hazardous materials, and no further remedial action is necessary. This site is adjacent to the project footprint.

- Redtree Properties, located at 1650 Commercial Way in Santa Cruz, discharged gasoline, and only soil was contaminated. The case was closed in 1988. This site is located adjacent to the project footprint.
- Chevron Station 9-2231, located at 1524 Commercial Way in Santa Cruz, discharged gasoline and contaminated soil and groundwater. The case was closed in 1995. This site is located adjacent to the project footprint.
- Service Station No. 88, located at 2700 41st Avenue in Soquel, discharged gasoline and contaminated soil and groundwater. The case was closed in 2002. This site is adjacent to the project footprint.
- The former Exxon 7-0281 facility, located at 2501 Main Street in Soquel, discharged gasoline and contaminated soil and groundwater. The case was closed in 2011. This site is adjacent to the project footprint.
- The former Exxon 7-3604 facility (also listed as Pit Stop Service, Inc.), located at 836 Bay Avenue in Capitola, discharged gasoline and contaminated soil and groundwater. Groundwater monitoring continues. This site is located adjacent to the project footprint to the south.
- Redtree Properties, located at 819 Bay Avenue in Capitola, discharged gasoline and contaminated soil and groundwater. Groundwater monitoring continues. This site is located adjacent to the project footprint to the south.
- Unocal Station No. 6193, located at 1500 Soquel Drive in Santa Cruz, discharged gasoline and diesel and contaminated soil and groundwater. Groundwater monitoring continues. This site is located adjacent to the project footprint to the north.
- The BP 11240 facility, located at 2178 41st Avenue in Capitola, discharged gasoline and contaminated soil and groundwater. Groundwater monitoring continues. This site is located adjacent to the project footprint to the south.
- San Lorenzo Lumber Company, located at 2435 41st Avenue in Santa Cruz, discharged gasoline, and only soil was contaminated. The case was closed in 1991. This site is located adjacent to the project footprint.
- Tosco Service Station 30757 (also listed as Union Oil Service Station No. 4902), located at 2255 41st Avenue in Santa Cruz, discharged gasoline, waste oil, motor oil, lubricating oil, and hydraulic fluid. Only soil was contaminated. The case was closed in 2004. This site is located adjacent to the project footprint.
- Krafts Body Shop (also listed as Santa Cruz Distribution Facility), located at 6100 Soquel Avenue in Santa Cruz, discharged diesel, and only soil was contaminated. The case was closed in 1991. This site is located adjacent to the project footprint.

- The Chevron Station, located at 5998 Soquel Avenue in Santa Cruz, discharged gasoline, and only soil was contaminated. The case was closed in 1985. This site is located adjacent to the project footprint.
- The Pacific Bell facility, located at 7070 Soquel Avenue in Santa Cruz, discharged gasoline and contaminated soil and groundwater. The case was closed in 2001. This site is located adjacent to the project footprint.

Historical Aerial Photographs and Topographic Map Reviews

No Recognized Environmental Conditions were identified as a result of reviewing topographic maps and aerial photographs of the project location.

Site Reconnaissance

Site reconnaissance of the project location was conducted in November 2006 and April 2010. The site reconnaissance confirmed the presence of the database results listed above.

Environmental Consequences

Tier I Corridor Alternatives

The most prevalent potential environmental risks under the Tier I Corridor Alternatives are associated with four general Recognized Environmental Conditions: asbestos-containing material, lead-based paint coatings, creosote, and aerially deposited lead, described above in the Affected Environment section.

Although detailed information regarding construction of the Tier I alternatives is not yet available and will be considered during environmental review of future Tier II projects, construction of the Tier I Corridor alternatives would involve excavation activities within the project limits and therefore has the potential to disturb soils adjacent to paved areas within the project limits. Soils in these areas may contain aerially deposited lead generated by motor vehicle exhaust. Existing or acquired structures may have joint compound materials made of asbestos-containing materials. They may also contain lead-based paint or other hazardous materials and may exceed hazardous water criteria under *California Code of Regulations* Title 22 and require disposal in a Class I disposal site. These Recognized Environmental Conditions have the potential to result in the accidental release of hazardous waste and/or hazardous materials during construction of the project. Soil sampling would be conducted during the design phase of future tiered projects under either of the Tier I Corridor Alternatives to determine the presence and concentration of aerially deposited lead in soils along and within the median of Route 1. Construction phase avoidance, minimization and/or mitigation measures are identified in Section 2.4.10 Tier II Corridor Auxiliary Lane Alternative.

Tier II Auxiliary Lane Alternative

Ten of the Recognized Environmental Conditions sites described in the Affected Environment section sites are identified as “case closed”, meaning that these site have been cleaned up of all hazardous materials, and no further remedial action is necessary. Four of the sites continue to be considered open cases, and therefore during project construction, there is a potential for an accidental release of hazardous waste and/or hazardous materials identified at sites that are considered open cases (described above in the Affected Environment section), which may potentially affect the area of project construction. Mitigation measures to address this potential impact are required and are identified in Section 2.4.10.

No Build Alternative.

There would be no construction or operational impacts associated with hazardous materials under the No Build Alternatives for the Tier I and Tier II projects.

Avoidance, Minimization, and/or Mitigation Measures

Tier I Corridor Alternatives

Long-term operational impacts were not identified, and therefore no avoidance, minimization and/or mitigation measures related to project operations are required. Avoidance, minimization and/or mitigation measures for temporary impacts that may occur during project construction are provided in Section 2.4.10.

Tier II Auxiliary Lane Alternative

Following selection of the preferred alternative, and prior to the acquisition of properties required for construction of the Tier II Auxiliary Lane Alternative, coordination with regulatory agencies and property owners would be conducted to determine the presence of hazardous substances, soil and groundwater contaminants, and the status of any applicable site assessments and monitoring activities.

Remediation monitoring would be conducted at the following Recognized Environmental Conditions sites. These sites are adjacent to the project area and would not be acquired for the project. All other sites require no remedial action.

- Former Exxon 7-3604 facility (also listed as Pit Stop Service, Inc.), located at 836 Bay Avenue in Capitola;
- Redtree Properties, located at 819 Bay Avenue in Capitola;
- Unocal Station No. 6193, located at 1500 Soquel Drive in Santa Cruz; and
- BP 11240 facility, located at 2178 41st Avenue in Capitola.

In addition, the following measures will be implemented prior to construction for the Tier II Auxiliary Lane Alternative and are anticipated to be required for future tiered construction projects under either of the Tier I Corridor Alternatives:

1. During the final design phase, an asbestos-containing materials investigation will be performed by an inspector certified in accordance with Asbestos Hazardous Emergency Response Act under Toxic Substance Control Act Title II and by California Occupational Safety and Health Administration under State of California rules and regulations (California Code of Regulations, Section 1529). Residential and commercial structures being acquired should be tested for asbestos-containing materials and lead-based paint prior to demolition. Asbestos-containing materials will be abated by using a contractor certified to perform such work. Asbestos-containing materials that may be disturbed during construction activities will be managed according to California Occupational Safety and Health Administration regulations (Title 8, *California Code of Regulations*, Section 1529). The contractor will be required to be certified to perform this work and will comply with all applicable local and state requirements for the removal and disposal of such materials, thus mitigating the impacts.
2. Those sites meeting the definition of a Recognized Environmental Condition will require soil and groundwater sampling for petroleum products and heavy metals, as applicable, along the sites' borders with the project area during the design phase. Final design specifications will require the proper management, removal and disposal of wooden utility poles along the roadside containing creosote.
3. Soil sampling will be conducted for aerially deposited lead in areas along the shoulders and median of Route 1. In addition to testing for the presence of aerially deposited lead, the contractor would be required to manage all excavated soils in accordance with all pertinent laws and regulations.
4. Soil and groundwater sampling will be conducted within the project area for petroleum products.
5. During the final design phase, surveys for lead-based paint will be conducted to plan for demolition of existing structures within the right-of-way. Lead-based paint will be abated by using a contractor certified to perform such work.
6. During the final design phase, a work plan for investigation of aerially deposited lead will be prepared for characterizing the extent of aerially deposited lead, and investigative sampling work will be performed according to the approved Worker Health and Safety Plan.

All measures listed above will be completed during the design phase of the project. Please see Section 2.4.9 Hazardous Wastes/Materials for measures to be implemented in the event that hazardous wastes/materials are encountered during construction.