2.2.3 Hazardous Materials/Wastes

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, and they are characterized as being toxic, corrosive, flammable, reactive, an irritant, or a strong sensitizer. The term "hazardous substances" encompasses chemicals regulated by United States Department of Transportation (DOT) "hazardous materials" regulations and EPA "hazardous waste" regulations, including emergency response. Hazardous wastes require special handling and disposal due to their potential to damage public health and the environment. A designation of "acutely" or "extremely" hazardous refers to specific listed chemicals and quantities.

Activities and operations that use or manage hazardous or potentially hazardous substances could create a harmful situation if release of these substances occurred. Individual circumstances, including the type of substance, quantity used or managed, and the nature of the activities and operations, affect the probable frequency and severity of consequences from a hazardous release or exposure. Federal, state, and local laws regulate the use and management of hazardous or potentially hazardous substances.

This section discusses human health hazards due to exposure to existing and potential future sources of hazardous materials and wastes due to project construction and operation.

2.2.3.1 Regulatory Setting

Hazardous materials and hazardous wastes are regulated by state and federal laws. These include not only specific statutes governing hazardous waste, but also a variety of laws regulating air and water quality, human health, and land use.

The primary federal laws regulating hazardous wastes/materials are the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). The purpose of CERCLA, often referred to as Superfund, is to clean up contaminated sites so that public health and welfare are not compromised. RCRA provides for "cradle to grave" regulation of hazardous wastes. Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- CWA
- Clean Air Act (CAA)
- Safe Drinking Water Act
- Occupational Safety & Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

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

Hazardous waste in California is regulated primarily under the authority of RCRA, and the California Health and Safety Code. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if it is disturbed during project construction.

2.2.3.2 Affected Environment

Evaluation Criteria

The proposed project may result in an adverse effect, if it would:

- Create a significant hazard to the public or environment through the routine transport, storage, use, or disposal of hazardous materials
- Create a significant hazard to the public through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment
- Be located within 0.25-mi (0.4-km) of a site that emits hazardous emissions or handles hazardous or acutely hazardous materials, substances, or wastes
- Be located on a site that is known to contain hazardous materials and, as a result, could create a significant hazard to the public or the environment

An ISA of the Gerald Desmond Bridge and adjacent areas (Diaz Yourman & Associates, 2008) was performed using guidelines of the

American Society for Testing and Materials (ASTM) Designation E 1527, "Standard Practice for Environmental Project Site Assessments: Phase I Environmental Property Assessment Process" and the Caltrans Project Development Procedures Manual. The scope of the ISA included site reconnaissance; historical research related to use, storage, disposal, or release of hazardous materials or petroleum hydrocarbons; review of property records, public records, aerial photographs, and interviews; review of environmental databases and regulatory agency information available to the public for the property and neighboring properties; and report of findings.

Subsequent to preparation of the ISA, groundwater documentation was reviewed to assess the extent of a benzene plume in the vicinity of the proposed project. This groundwater documentation was a literature review that compiled relevant analyses that had been performed in the vicinity of the project; it is included as Appendix B of the ISA. The environmental setting described herein is based on the findings of the ISA and the groundwater documentation.

Surrounding Uses

Activities in the area are dominated by storage and transportation of cargo. Areas beyond the project consist of marine piers, ship building and maintenance, ship fueling, and cargo transfer. The project area is described in more detail below.

North Side of Ocean Boulevard, West of the Gerald Desmond Bridge. The below-sea-level LBGS property, which is a power-generating facility, is located north of the project near the bridge. An aboveground storage tank (AST) petroleum tank farm operated by Pacific Pipeline Systems is adjacent to the west side of the power plant. There are approximately 15 active oil wells operating on or adjacent to the north side of the project between the bridge and the power plant. A railroad ROW is located adjacent to the north side of the project alignment, adjacent to the Ocean Boulevard/Seaside Boulevard interchange, which crosses under the elevated Ocean Boulevard structure and curves south to serve the container terminal on the south side of the project (Pier T). Northwest of the project, there is a large area recently filled and graded that is currently under construction as a container terminal (Pier S).

North Side of Ocean Boulevard, East of the Gerald Desmond Bridge. There are industrial facilities north of the project corridor within the area between the bridge and Harbor Scenic Drive. The areas nearest the project corridor consist primarily of asphalt-paved yards, which extend beneath the Ocean Boulevard support structure and are utilized by the Port and Tidelands Oil Production Company. There is one active oil well adjacent to the WB ramp from SB Pico Avenue. A truck fueling station, truck maintenance shop, truck scales, and a petroleum pump station are on Pico Avenue north of Ocean Boulevard. The Union Pacific Railroad (UPRR) ROW crosses beneath Ocean Boulevard east of Pico Avenue, and an oil field (Pacific Energy Resources) occupies a narrow strip of land between the railroad and the Los Angeles River levee.

South Side of Ocean Boulevard, West of the Gerald Desmond Bridge. The area adjacent to the south side of the project corridor west of the roadway ramps consists of a strip of vacant land within approximately 200 ft (30 m) of pavement. The southern margin of the strip is occupied by oil well operations. Seaside Boulevard and interchange access ramps for Ocean Boulevard are adjacent to the south side of Ocean Boulevard and the bridge. The entire area south of Seaside Boulevard and the oil well operations (Pier T, formerly part of LBNSY) has been developed into the concrete paved TTI container storage and transfer facilities. The area beneath the elevated Ocean Boulevard roadway is occupied by vacant land, access roads to the north, and the railroad crossing, except near the bridge. Near the bridge, an asphalt concrete paved yard, used by Weyerhaeuser Company for building materials storage, occupies the area beneath the elevated roadway and extends several hundred feet to the south. A small oil field facility is beneath the bridge between the Weyerhaeuser Company yard and the Back Channel. A water pumping station facility is also adjacent to the west end of the Weyerhaeuser yard beneath the south side of the bridge.

South Side of Ocean Boulevard, East of the Gerald Desmond Bridge. The entire area south of the project corridor, between the east side of the bridge and Pico Avenue, is occupied by a container storage facility, California United Terminals, at Piers D and E. The east side of Pico Avenue is occupied by the International Seafarer's Center, a clinic, and a commercial building that is currently being used by the Harbor Police. There is a railroad parallel to the east side of Harbor Scenic Drive and oil wells east of the railroad next to the Los Angeles River levee.

West End of the Project. Ocean Boulevard extends west of the project. The Intersection of Ocean Boulevard with SR 47 is located outside of the project limits to the west.

East End of the Project. The Los Angeles River and levees are located at the east end of the project.

Environmental Data Base Review

The purpose of the environmental database review is to obtain and review public records to identify activities at the project site or surrounding properties that could indicate significant potential for recognized environmental conditions (RECs) impacting the project. Environmental Data Resources, Inc. (EDR), completed the database search for the study area.

The database study area extends 0.25-mi (0.4-km) around the outer margin of the project area. Sites beyond this distance are considered unlikely to have the potential to impact the project.

Hazardous Waste Site Facilities Located within 0.25-mi (0.4-km) of the Proposed Project Site

Federal NPL, CORRACTS, ROD, CERCLIS, and CERCLIS-NFRAP Sites

The National Priority List (NPL) is the EPA database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program. Facilities that have had a release of hazardous waste or constituents to the environment, for which EPA is requiring corrective action, are tracked in the Corrective Action Tracking System (CORRACTS) database. Record of Decision (ROD) documents mandate a permanent remedy at NPL (Superfund) sites and contain technical and health information to aid the cleanup. The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) list contains sites that either are proposed to be or are on the NPL and sites that are in the screening and assessment phase for possible inclusion on the NPL. No Further Remedial Action Planned (NFRAP) sites included under the CERCLIS listing may be sites where following an initial investigation, no contamination was found; contamination was removed quickly; or the contamination was not serious enough to require federal Superfund action or NPL consideration.

No NPL or CORRACTS sites were listed in the database within 0.25-mi (0.4-km) of the project at the time that the ISA was prepared.

Two identical CERCLIS and ROD listings were identified within the study radius of 0.25-mi (0.4-km) of the project. Both sites are located within the Former LBNSY. One site is listed as U.S. Navy Naval Station Long Beach, located adjacent to the south side of the western end of the project. The former federal facility is described in the database as CERCLIS Remedial Investigation/Feasibility Study (RI/FS) and ROD completed in September 2002. The second site is listed as Naval Shipyard Long Beach, located south of the project beyond Seaside Boulevard. The Naval Shipyard Long Beach was assigned a ROD status under CERCLIS completed June 30, 2005.

Four CERCLIS-NFRAP sites were listed on the database within the study radius. All four of these sites are at locations that do not have the potential to impact the project due to hydrologic conditions.

Federal RCRIS, TSD, and RCRIS Generator

Regulated hazardous waste activity is tracked under the Resource Conservation and Recovery Information System (RCRIS). Facilities that treat, store, or dispose of (TSD) hazardous waste are listed in the RCRIS-TSD database. Facilities that generate at least 1,000 kilograms per month (kg/mo) of nonacutely hazardous waste, or 1 kg/mo of acutely hazardous waste, are tracked in the RCRIS-LgGen (large generator) database, while those that generate less than 1,000 kg/mo of nonacutely hazardous waste are tracked in the RCRIS-SmGen (small generator) database.

One TSD facility was identified within the 0.25-mi (0.4-km) study radius. The facility is the LBGS power plant facility. The facility received three RCRA TSD notices of violation that were reported as corrected in 1995. The proposed project encroaches upon the facility; therefore, soils within the facility could contain hazardous materials constituents.

Eight sites within the 0.25-mi (0.4-km) search radius were identified in the RCRIS-LgGen database as large-quantity hazardous waste generators. Five of these sites are at locations that do not have the potential to impact the project. Three of the sites are located adjacent to the project.

- AERA Energy, LLC, 7th Street Terminal located at 1725 Pier D Street, northeast of the Gerald Desmond Bridge.
- LBGS, currently a peaker plant, located at 2655 West Seaside Boulevard, north of the western end of the project.
- Pacific Pipeline Systems, LLC, tank farm adjacent to the west side of LBGS at 2865 Seaside Boulevard.

No RCRA violations were listed for these sites; therefore, they are not considered an environmental concern to the project.

Thirty-two (32) sites within the 0.25-mi (0.4-km) search radius were identified in the RCRIS-SmGen database as small-quantity hazardous waste generators. Twenty-five (25) of these sites are not located within or adjacent to the project site and are not considered potential environmental concerns. Seven of the sites are located adjacent to or within the project limits north of Ocean Boulevard on Pico Avenue, West Broadway, and Pier D Avenue. The remaining site is at the LBGS. All sites, except for the LBGS, are listed as no violations found and are not a REC to the project due to RCRA SmGen listing. The LBGS site did have three notices of violation reported as corrected in 1995. The project encroaches upon the facility; therefore, soils within the facility could contain hazardous material constituents.

Federal ERNS Incidents

The Emergency Response and Notification System (ERNS) is a national database containing records of oil and hazardous substance releases to the air, water, and ground reported to EPA, USCG, the National Response Center, and DOT since 1986. The California Hazardous Material Incident Reporting System (CHMIRS) contains information on reported hazardous materials incidents, such as accidental spills or releases, provided by California Office of Emergency Services. Releases of hazardous substances to the air, water, and ground reported as ERNS and CHMIRS incidents are generally temporary events that are mitigated as much as possible at the time of the event. More serious events requiring investigation and cleanup beyond the initial emergency response commonly become sites listed on other investigation and cleanup databases.

One hundred sixty-five (154) ERNS incidents and 59 CHMIRS incidents were identified on the databases within the 0.25-mi (0.4-km) study radius. Numerous ERNS and CHMIRS sites are at locations adjacent to or within the proposed project area north and south of Ocean Boulevard. Some incidents are on the east side of the Port Back Channel in the vicinity of Pico Avenue, West Broadway, and Pier D Avenue, and others are located on the west side in relation to the LBGS, the Pacific Pipelines Systems tank farm, and oil pipeline facilities in that area.

Generally, these areas are considered “potential recognized environmental conditions” due to past oil field and marine terminal operations activities.

State ENVIROSTOR, SLIC and CORTESE Databases

The California Environmental Protection Agency, Department of Toxic Substance Control (DTSC), maintains the Site Mitigation and Brownfield Reuse Program (ENVIROSTOR) database of sites that have known contamination or sites for which there may be reasons to investigate further. California RWQCB maintains a Cal-Sites list of sites previously investigated or currently under investigation that could be actually or potentially contaminated and present a possible threat to human health and the environment. The State Office of Environmental Protection, Office of Hazardous Materials, produces the CORTESE Hazardous Waste and Substances Site List (CORTESE) database of hazardous substance release sites compiled from various other state agencies.

Seven Spills, Leaks, Investigation, and Cleanup (SLIC) sites were identified in the database within the 0.25-mi (0.4-km) study radius. Of these, two sites are located near the project: Tideland Oil Production Company facilities at 606 Pico Avenue and 696 South Pico Avenue. The database indicates there have been releases of total petroleum hydrocarbons (TPH) related to oil production. The site at 606 Pico Avenue pertains to the oil well field east of Harbor Scenic Drive north of Ocean Boulevard, and the site at 696 South Pico Avenue is located at the Tidelands Oil facility 0.25-mi (0.4-km) southwest of the project. The site at 606 Pico Avenue has been cleaned up. The site at 696 South Pico Avenue is listed as remediation underway. Neither of these cases appears to have the potential to impact the project; however, TPH from oil production has the potential to impact soil throughout the general project area.

Two ENVIROSTOR sites were identified in the 0.25-mi (0.4-km) study radius. Neither has the potential to impact the project due to locations nearly 0.25-mile beyond the western end of the project area.

Fourteen (14) CORTESE sites within 0.25-mi (0.4-km) of the project were identified by the database search. All of the CORTESE sites are listed due to leaking underground storage tank (LUST) cases described below.

State UST, LUST, and AST Sites

The state underground storage tank (UST) database is an inventory of regulated USTs, and the AST database is a listing of ASTs. The LUST database is a listing of confirmed or suspected releases from regulated USTs that have been reported to the SWRCB. The SWRCB California

Facility Index Database (CA FID) contains active and inactive UST locations. In addition, the Historic UST (HIST UST) list and the Statewide Evaluation and Environmental Planning System (SWEEPS) UST lists of historical UST records are provided by EDR.

Seventy-two (72) USTs were listed in the database within approximately 0.25-mi (0.4-km) of the project. Registered USTs that have not reported a release are generally not considered an environmental concern unless they are immediately adjacent to an excavation area for the project; however, based on addresses given in the databases, the following UST, historic USTs and SWEEPS locations were evaluated for their potential to be affected by the project.

- International Seafarer's Center 120 Pico Avenue – One 6,000 gallon fuel UST was installed in 1969. No further information was available. Phase II investigations should include determination of the disposition of this reported UST as it is within or adjacent to the proposed South-Side Alignment Alternative.
- Shell Beta Pump Station, 170 Pico Avenue (currently Pacific Energy) – The former UST was removed in 1991 and was reported as not having contamination.
- POLB Maintenance, 1400 W. Broadway – A Business Emergency Plan (BEP) in the Long Beach Fire Department (LBFD) file indicates that the facility retains a 5,000-gallon gasoline UST and one 2,000-gallon diesel fuel UST within the central area of the facility. A previous BEP from 1994 and 2000 also refers to a 1,500- or 2,000-gallon diesel fuel UST at an unidentified location.
- Forest Terminals, 180 N. Pico Avenue (currently Quick Stop Commercial Oil Lube) – Records for this facility indicate that two previous 2,000-gallon USTs installed in 1984 were removed in 1991, with soil sampling indicating no evidence of contamination.
- POLB, 100 Alpine (assumed to be part of POLB) – LBFD files had no record of this address. The address appears to coincide with the POLB Maintenance facility at 1400 W. Broadway, which was previously discussed.
- "Not Reported" 1900 Water Street (previous name of Pier D Street, POLB) – LBFD records indicate that a permit was issued to remove two fuel USTs in 1968. The permit was signed off by a fire department inspector, but there was no further information in the file regarding removal of these USTs.
- SCE Generating Station, 2665 West Seaside Boulevard – This UST is addressed below as a LUST case.
- "Gas and Oil" auto service station indicated on historic Sanborn maps at 1100 Third Street – Located on the southwest corner of the intersection of Pico Avenue and Third Street, one block north of Broadway. The LBFD had no record of this address. The site is currently a paved parking lot used by the nearby truck scale business. Phase II investigations should include determination of the disposition of this reported UST as it is within the proposed northern alignment alternative.

Four AST sites were identified in the database at the following locations:

- Shell Beta Pump Station, 170 Pico Avenue – Located just northwest of the intersection of Harbor Scenic Drive and Ocean Boulevard.
- Long Beach Pump Station, 2665 Seaside Boulevard (the same address as former SCE LBGS power plant).
- GP Gypsum, Inc. – Located on the north side of Pier D Street, outside of the project impact area.
- Marine Terminal 1, 300 Pier T Avenue – Located south of the Weyerhaeuser storage yard west of the Back Channel and outside of the project impact area.
- Pacific Pipeline Systems, LLC – A large AST tank farm north of the western portion of the project area adjacent to the LBGS. All of these large ASTs are north of the western portion of the project at a much lower elevation, and they are not likely to be an environmental concern.

Sixteen (16) LUSTs were listed in the database within approximately 0.25-mi (0.4-km) of the project. Nine of these sites are at locations that do not have the potential to impact the project due to the distances from the project and hydrologic conditions. Regarding the other seven sites, hazardous materials files for the LUST addresses listed on the database were reviewed at the LBFD, Fire Prevention Bureau. Table 2.2.3-1 describes LUST sites identified in the database and results of the LBFD file review.

Table 2.2.3-1
Leaking Underground Storage Tanks within 0.25-Mile of the Project Site

Site Name and Address	Location	Discussion
Tidelands Oil Production Co. 696 South Pico Avenue Long Beach, CA	Approximately 300 ft (100 m) west of northern end of project	Database case type listed as "soil only" and status as "leak being confirmed." LBFD file review indicated that the case was erroneously identified as a UST site and is actually an AST site; no further UST action is required.
Tidelands Oil Production Co. 705 South Pico Avenue Long Beach, CA	Approximately 300 ft (100 m) west of northern end of project	Database case type listed as "soil only" and status as "signed off, with remediation complete or unnecessary." LBFD file review indicated that the case has low potential for project impact.
Connolly-Pacific Co. 1925 West Pier D Street Long Beach, CA	Approximately 200 ft (60 m) north of Ocean Boulevard, 600 ft (180 m) east of the Gerald Desmond Bridge	Database listed as diesel tank, groundwater impacted, and pollution characterization in 2000. The LBFD file indicates that two USTs were removed in 1998, and samples indicated that petroleum hydrocarbons were not detected in soil beneath the USTs and trace concentrations of methyl tributyl ethylene (MTBE) were detected in groundwater. The case has low potential to impact the project due to the low localized concentrations and distance from the project.
Power Systems Associates 1125 Pier E Street West Long Beach, CA	Approximately 600 ft (180 m) south of Ocean Boulevard near Pico Avenue	The database lists the case as "oil and grease, soil only from a UST, removed in 1993." There is no record of USTs in the LBFD file, and the site is indicated as vacant and out of business. There is low potential for project impact due to distance and soil-only status.
Hampton Tedder Electric 1120 Pier E Street West Long Beach, CA	Approximately 600 ft (180 m) south of Ocean Boulevard near Pico Avenue	The database lists the case as "soil only, pollution characterization in 1987, with no current information." There was no LBFD file available. There is low potential for project impact due to distance and soil-only status.
California United Terminals Mechanical Building C 1200 Pier D, Suite C Long Beach, CA	Adjacent to ROW south side, west of SR 710, one block east of Oak Street	The database indicates the case status as "signed off, remediation complete or unnecessary," and case closed in 1986. LBFD file review did not provide any additional information. The case has low potential for project impact due to the age and the closed status.
LBGS 2665 Seaside Boulevard Long Beach, CA	Central area of the power plant, north of Ocean Boulevard, west of Gerald Desmond Bridge	The database indicates the case status as "groundwater impacted by gasoline, and remediation plan developed in 2000." The LBFD file indicates that fuel hydrocarbons were detected in the groundwater during removal of a 1,000-gallon UST in 1999. The case has low potential to impact the project due to the below-sea-level elevation of the power plant and low groundwater elevation relative to the project.

Source: Diaz Yourman & Associates, 2008.

State Toxic Pits and Landfill Sites

The Solid Waste and Landfill (SWLF) database is a collection of known regulated and unregulated landfill, transfer, or incinerator facilities. The toxic pits database is a list of sites identified by SWRCB as pond cleanup sites.

No SWLF or toxic pits sites were identified within 0.25-mi (0.4-km) of the project.

ASTM Supplemental Lists

The environmental database report includes several proprietary databases and additional non-ASTM California databases that may contain sites that impact the project. These databases include California DTSC DEED Restrictions, Los Angeles County Site Mitigation, manufactured gas plants (MGPs), dry cleaners, historic auto stations, and voluntary cleanup program (VCP) sites.

One site, the LBGS, was reported on the DTSC DEED Restrictions database for land-use restrictions used to protect the public from unsafe exposures to hazardous substances and waste.

The existence and location of MGP or "Coal Gas" are provided by the environmental database report. One former MGP site was identified within the search radius of 0.25-mi (0.4-km), identified as "West Ocean and Seaside" located southeast of Ocean Boulevard and Harbor Scenic Drive. Based on an environmental report regarding this site, the MGP does not appear to have the potential to impact the project.

Site Reconnaissance

Visual Observation

A visual reconnaissance of the project site was conducted on November 5, 2007, and on March 14, 2008. The area beneath the elevated portion of Ocean Boulevard west of the bridge was a vacant paved area, a building materials storage area for Weyerhaeuser, and an oil well facility in a small area next to the west side of the Back Channel. Seaside Boulevard is located adjacent to the south side of Ocean Boulevard, and a large, open, paved container terminal (Pier T) is south of Seaside Boulevard. The strip of land adjacent to the north side of Ocean Boulevard west of the bridge was approximately 20 ft (6 m) bgs of the area directly beneath Ocean Boulevard. The depressed area contains pipelines, oil wells, ASTs, and the LBGS power plant. A large, recently filled and graded, unpaved pad under construction for a proposed marine terminal is to the northwest of the western portion of the project area.

The land area adjacent to the eastern portion of the project between the bridge and Pico Avenue on the south side consists of a large paved shipping container storage facility with Pier D Avenue crossing beneath the bridge near the Back Channel. The International Seafarer's Center and a clinic are on the east side of Pico Avenue, south of Ocean Boulevard. A railroad, Harbor Scenic Drive, a narrow strip of land with oil wells, and the levee of the Los Angeles River channel are east of the buildings.

West Broadway Avenue, Pier D Avenue, and paved yards for industrial facilities are adjacent to the north side of Ocean Boulevard east of the bridge. Several active pumping oil wells were observed adjacent to the north side of Ocean Boulevard. A petroleum pumping station with an AST, the railroad tracks, Harbor Scenic Drive, and a narrow strip of land with oil wells and the levee of the Los Angeles River channel are east of the buildings.

UST and AST

A group of fuel USTs with approximately six pump dispenser islands is located at Port Petroleum Inc., east of Pico Avenue and north of Ocean Boulevard. One AST was observed within the project ROW identified as the Shell Beta Pump Station located northwest of the intersection of Harbor Scenic Drive and Ocean Boulevard. Two ASTs were observed within the Pacific Energy Resources oil field, adjacent to the Los Angeles River levee, immediately north of the Ocean Boulevard bridge over the river. At least six ASTs were observed within the Pacific Pipeline System tank farm located adjacent to the east side of the LBGS, north of Ocean Boulevard on the west side of the Back Channel.

Hazardous Materials

During the site reconnaissance, areas in close proximity to the project corridor that were visually observed to be storing aboveground hazardous materials consisted mainly of the industrial facilities north of Ocean Boulevard between the Gerald Desmond Bridge and Harbor Scenic Drive.

- Fire Boat Station #20
- Connolly Pacific
- Port Maintenance Yard
- Tidelands Oil Production Co. (Topko Yard)
- COLB Harbor Department
- THUMS Long Beach Co.
- Quick Stop Oil and Lube

Additionally, a truck maintenance service and the Shell Beta Pump Station, located on the east side of Pico Avenue, northwest of the intersection of Harbor Scenic Drive and Ocean Boulevard, had hazardous materials placards. The truck maintenance facility also had a storage shed containing ASTs for vehicle maintenance fluid products and waste oil.

Also, LBGS stores RCRA hazardous materials and has had LUSTs (Table 2.2.3-1). The entire LBGS facility is approximately 10 to 16 ft (3 to 5 m) below sea level and is continuously dewatered, causing inward flow of groundwater towards the facility; therefore, it is hydraulically downgradient and has low potential to impact the project.

There was no evidence of obvious environmental concerns associated with these hazardous materials storage areas observed from public access viewpoints.

PCB-Containing Equipment

Older electrical transformers may contain oil with PCBs. Some overhead pole-mounted transformers were observed. The pole-mounted transformers are owned and maintained by the local power company and were not considered an environmental concern for the project. There were pad-mounted transformers observed at the Shell Beta Pump Station, 170 Pico Avenue, northwest of the intersection of Harbor Scenic Drive and Ocean Boulevard and at a water pump station located adjacent to the east end of the Weyerhaeuser storage yard. Pad-mounted transformers were observed on the east side of Pier D Avenue immediately south of the street underpass beneath the bridge. No evidence of leaks was observed at these transformer locations. The LBGS power plant is located adjacent to the project north of Ocean Boulevard and west of the bridge. Power plants are commonly associated with potential PCB contamination from transformer oil. Soil and groundwater within the LBGS facility may contain PCBs.

Preliminary ACM and LBP Evaluation

The bridge and appurtenances may have ACM in the form of expansion joint compound. According to Port officials, the bridge structure is likely to have LBP coatings that would be disturbed by demolition.

Building and bridge structures within the project corridor may contain ACM and/or LBP. All buildings and bridge structures should be screened for ACM and LBP prior to demolition.

Existing yellow striping on pavement may contain lead or other heavy metals. Removal of this yellow pavement marking may produce debris containing heavy metals.

Prior Use History

Prior uses of the project area were investigated as part of the ISA. Oil wells (see Section 2.1.4 [Utilities and Service Systems]) and one area of REC related to previous soil and groundwater contamination (see following groundwater documentation) appear to have the potential to directly impact the project. Groundwater in the western end of the project beneath the Seaside Boulevard interchange has been impacted by VOCs, primarily benzene, from the former LBNSY installation restoration (IR) Site 9, south of the project area (see Exhibit 2.2.1-1 in Section 2.2.1 [Water Resources and Hydrology]). Based on the LBNSY environmental report for IR Site 9, groundwater is expected at approximately 17 ft (5 m) below MLLW. The lithologic description of water-bearing units beneath the area indicates a lens of the upper Gaspur aquifer (as described by DWR Bulletin 104) was encountered at an elevation of approximately 60 ft (18 m) below MLLW, and it extends to more than 120 ft (36 m) below MLLW. A sample from that water-bearing zone reportedly contained a benzene concentration of 1,400 μg/L at the time of the investigation (Bechtel, 1997b).

Generally, the project corridor and Terminal Island in its entirety have a history as an oil field since the 1930s. Since the early 1900s, dredged fill has been placed in the project area to raise the ground elevation. Due to the oil field history and gradual buildup of earth fill, it is likely that localized zones of soil impacted by former oil field activities may be encountered. As indicated by the state oil field map of Terminal Island, it is possible that abandoned oil wells could be encountered during construction for the project.

Other than the former LBNSY IR Site 9 in the southwestern area of the project, laboratory analysis of groundwater samples for hazardous constituents taken from various investigations throughout the project corridor have not detected substantial groundwater contamination; however, due to the history of the area as an oil field, industrial facilities, and the former LBNSY, shallow groundwater anywhere along the project may have localized concentrations of chemical constituents that would prohibit uncontrolled discharge of groundwater extracted for construction into the surrounding drainage features.

Surface soil adjacent to paved areas within the project corridor may contain aerially deposited lead (ADL) from vehicle exhaust. The bridge and appurtenances may have ACMs in the form of expansion joint compound.

LBP coating has been previously identified on the bridge to the extent that the entire bridge was scheduled for removal of LBP and repainting prior to acceptance of the bridge by Caltrans; however, the LBP replacement plans were discontinued when plans to replace the bridge were developed (POLB, 2002). Based on this information, LBP is likely to be present on the bridge.

Groundwater Documentation

Groundwater documentation was prepared to supplement the ISA and assess the extent of the benzene plume in the vicinity of the proposed project. This literature search compiled and analyzed relevant studies that had been

performed in the vicinity of the project (see detailed groundwater discussion in Section 2.2.1) (Parsons-HNTB, 2006).

Several groundwater studies have been performed at the LBNSY IR Site 9 location. Bechtel performed studies in 1997, 1998, and 2001. Woodward-Clyde and HLA performed studies in 1998 and 2000, respectively. Based on the studies, the full vertical and lateral extent of the plume was never determined. Benzene was detected in several locations that could potentially be affected by the proposed project. These locations are shown on Exhibit 2.2.3-1.

ISA Conclusions and Recommendations

Extensive soil and groundwater investigations have been performed at the LBNSY IR Site 9, and they are documented in the reviewed reports (see Section 2.2.1). Although benzene has impacted the shallow and lower water-bearing intervals in the immediate vicinity of Site 9, located approximately 300 ft (91 m) south of West Seaside Boulevard and 600 ft (183 m) west of the intersection of Weaver Street and Corvette Street, there were no benzene detections in the zone between these intervals (identified as the "fine-grained, water-bearing interval"). After all of these investigations, the source of the benzene plume is still being disputed by the potential responsible parties.

In the immediate vicinity of the Gerald Desmond Bridge, benzene impacts to groundwater have been reported. It should be noted that these data were developed in 1997 and potentially do not represent current groundwater conditions in the immediate vicinity of the Gerald Desmond Bridge; however, it is likely that benzene is still a contaminant of concern.

If it is determined that workers may be exposed to contaminated groundwater or there is a potential for cross-contamination, then a risk assessment to assess potential health impacts to workers during bridge construction activities may be required. The risk assessment would need to consider how construction would impact the water-bearing intervals and if workers may potentially be exposed to impacted water. In addition, construction activities would need to include mitigation measures to ensure that cross-contamination between the water-bearing intervals does not occur.

If groundwater is encountered during excavation activities and dewatering would be necessary, then all dewatering activities would be in compliance with Los Angeles RWQCB regulatory requirements. Any dewatering activities, including those that may contact contaminated groundwater, shall be treated to remove pollutants to meet Los Angeles RWQCB discharge requirements, or hauled offsite and properly disposed of. Additionally, where applicable, bridge pile installation would be conducted by driving piles in lieu of pre-drilling to avoid or minimize the need for additional dewatering (see Section 2.2.1 [Water Resources and Hydrology] for more detail).

2.2.3.3 Environmental Consequences

Evaluation Criteria

The proposed project may result in adverse effects if it would:

- Create a significant hazard to the public or environment through the routine transport, storage, use, or disposal of hazardous materials
- Create a significant hazard to the public through reasonably foreseeable upset and accident considerations involving the release of hazardous materials into the environment
- Be located within 0.25-mi (0.4-km) of a site that emits hazardous emissions or handles hazardous or acutely hazardous materials, substances, or wastes
- Be located on a site that is known to contain hazardous materials and, as a result, could create a significant hazard to the public or the environment.

No Action Alternative

Under the No Action Alternative, the Gerald Desmond Bridge would continue to be used until it is replaced. The lack of shoulders and bridge capacity would result in congestion and increased response times to reach spills within the project limits. The No Action Alternative would result in increased future congestion resulting in greater spill response times. The No Action Alternative would have an adverse effect on releases of hazardous materials resulting from traffic-related accidents.

Under the No Action Alternative, there would be no disturbance of ACM or LBP on the bridge or potentially contaminated areas adjacent to the Gerald Desmond Bridge; therefore, the No Action Alternative would have no effect on existing hazardous waste/materials within the project area.

Construction and Demolition Impacts

North-side Alignment Alternative

The following impact assessment is based on the results of the ISA conducted for this project (Diaz Yourman & Associates, 2008) and the Groundwater Documentation (Parsons-HNTB, 2006). During final design, a Phase II Site Investigation would be performed to assess potential soil and groundwater contamination in areas proposed for construction. Construction areas where excavation exceeds 5 ft (1.5 m) bgs would have excavated soil screened for VOC vapors using a photoionization detector (PID) meter. At the discretion of the sampler, vapor readings above background may be (1) further screened for benzene vapors using dragger tubes and/or (2) soil samples may be obtained and submitted to a fix laboratory for VOC analysis. Additionally, groundwater samples would be obtained in areas where groundwater may be encountered and submitted for analysis. The site investigation must be completed prior to any acquisition of ROW and initiation of construction.

USTs. As discussed in Section 2.2.3.2, USTs are currently located within areas that would be affected by construction. Prior to construction, the tanks would be removed under permit from the LBFD. Subsequent to removal, soil and groundwater sampling would be completed in accordance with state, county, and city requirements for tank removal and closure. If contaminated soil or groundwater exists, then the site would be classified as a LUST and would require cleanup prior to closure.

Additionally, USTs were permitted for three locations (Seafarer's Union, 1900 Water Street [also known as Pier D Street], and 1100 Third Street), but no final records were found indicating a "clean" site. It is likely these former USTs have been removed; however, since there are no records of "clean" removal, follow-up Phase II soil testing at the suspected UST locations to check for tanks/ contamination would be completed. If tanks or contaminated soil and/or groundwater are present, then the Port would consult the LBFD, regarding reporting, removal, and closure requirements.

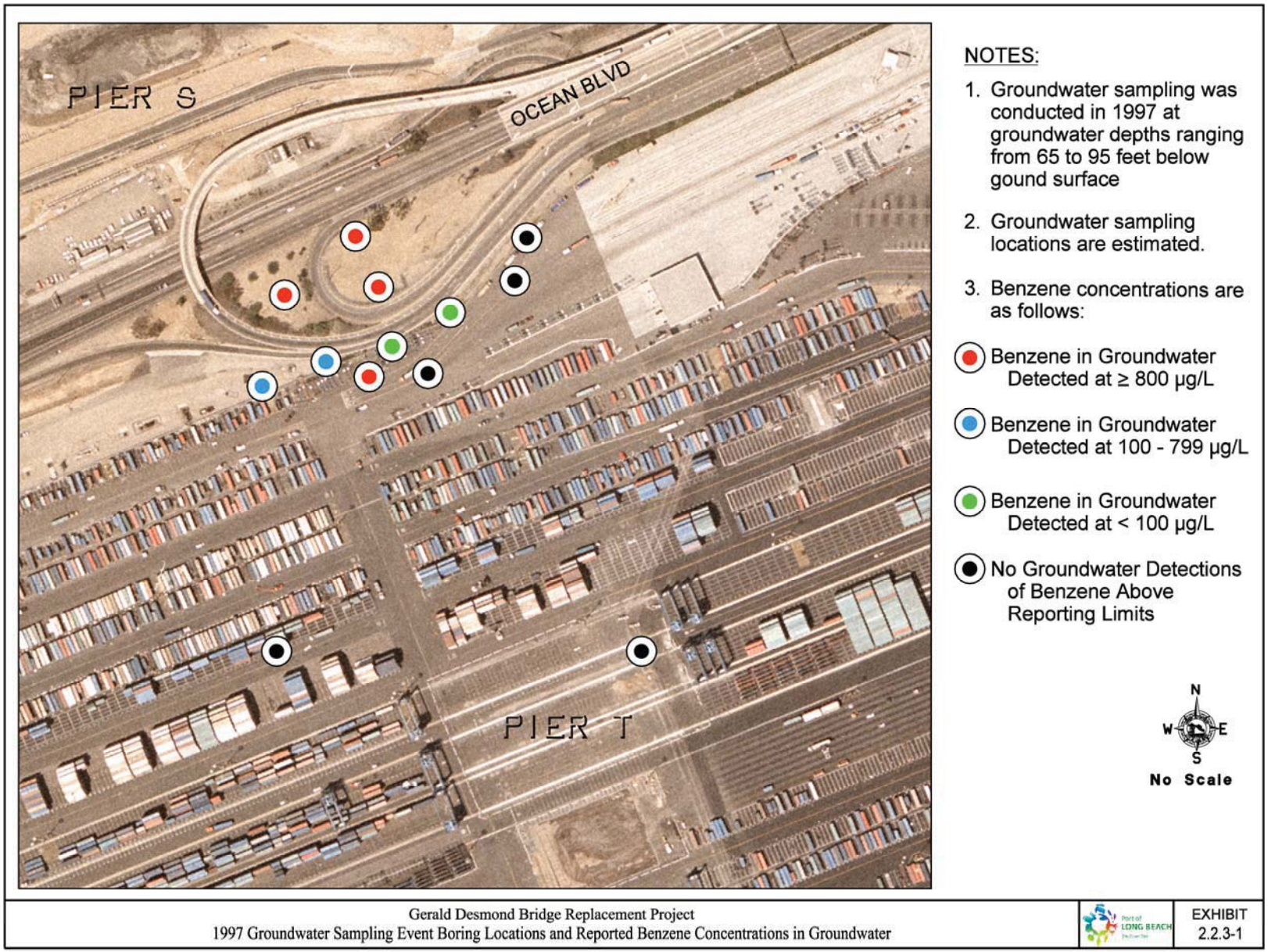
If unknown USTs are discovered during construction, then work in this location would be stopped and the POLB would consult with the LBFD regarding appropriate reporting and closure requirements.

Groundwater Contamination at LBNSY IR Site 9. According to the ISA, groundwater beneath the Seaside Boulevard interchange has been impacted by benzene and possibly other VOCs as a result of the activities at the former LBNSY IR Site 9, located approximately 300 ft (91 m) south of West Seaside Boulevard and 600 ft (183 m) west of the intersection of Weaver Street and Corvette Street (see also Section 2.2.1 [Water Resources and Hydrology]). Contaminated groundwater could potentially be affected if deep excavation penetrates multiple water-bearing intervals and allows for cross-contamination between these intervals during construction. Contaminated groundwater could also potentially be affected if dewatering is required. Currently, excavation of the magnitude required to facilitate the cross contamination has not been identified. If dewatering is required, then appropriate dewatering measures will be used to prevent impacts on construction activities and to ensure that polluted runoff does not leave the site. Disposal of the excess water shall comply with the applicable NPDES permit and water quality standards. Potential project impacts associated with the contaminated groundwater are discussed in detail in Section 2.2.1 (Water Resources and Hydrology).

Oil Wells. Due to the oil field history and gradual buildup of earth fill, it is likely that localized zones of soil impacted by former oil field activities may be encountered at unpredictable depths when excavating. Prior to project construction, an oil well abandonment plan, as applicable, would be coordinated with DOGGR. All excavation of contaminated soils would be handled and disposed of in accordance with federal and state laws. The potential for contaminated soils and abandoned oil wells would not result in an adverse effect on human health or the environment during construction of the proposed project.

ADL. Surface soil adjacent to paved areas within the project corridor may contain ADL from vehicle exhaust. Areas within the proposed project corridor where soil may be disturbed during construction will be tested for ADL in accordance with a hazardous waste management plan that will be developed for this project based on the findings of the Phase II Site Investigation referenced above. Potential for ADL would not result in an adverse effect on human health or the environment.

ACM and LBP Coatings. The buildings and bridge and appurtenances may contain ACM and LBP coatings. ACM, if it exists, is likely to be nonfriable. During demolition, if ACM fibers are airborne, then bridge/building demolition could potentially adversely affect humans due to inhalation hazard; however, potential adverse



Gerald Desmond Bridge Replacement Project
1997 Groundwater Sampling Event Boring Locations and Reported Benzene Concentrations in Groundwater

EXHIBIT 2.2.3-1

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effects of ACM during demolition would be minimized by completing ACM and LBP surveys and removal prior to demolition activities. Additionally, the contractor would comply with SCAQMD Rule 1403 notification and removal processes and RWQCB disposal requirements. Human heath effects would be less than adverse with screening, removal prior to demolition, and Rule 1403 and RWQCB disposal requirement compliance.

To prevent potential introduction of LBP into receiving waters, the contractor would take appropriate measures to eliminate LBP from reaching receiving waters. It is likely that paint from the bridge would be chemically removed at a suitable offsite location. If LBP removal is necessary during the bridge demolition process, then the contractor will comply with all applicable laws and regulations relative to this process. LBP removed from the bridge would be handled and disposed of in accordance with all applicable laws and regulation. Adverse effects are not anticipated.

South-side Alignment Alternative

Construction and demolition effects under the South-side Alignment Alternative would be the same as those described under the North-side Alignment Alternative.

Rehabilitation Alternative

During final design, a Phase II Site Investigation would be performed to assess potential soil and groundwater contamination in areas proposed for rehabilitation/retrofit activities. Construction areas where excavation exceeds 5 ft (1.5 m) bgs would have excavated soil screened for VOC vapors using a PID meter. At the discretion of the sampler, vapor readings above background may be (1) further screened for benzene vapors using dragger tubes and/or (2) soil samples may be obtained and submitted to a fix laboratory for VOC analysis. Additionally, groundwater samples would be obtained in areas where groundwater may be encountered and submitted for analysis. The site investigation must be completed prior to initiation of construction activities.

This alternative would require improvements to the bridge that have the potential to disturb ACM. The ACM in the bridge, if it exists, is likely to be nonfriable. During rehabilitation of the bridge, if ACM fibers are airborne, ACM fibers could potentially adversely affect humans due to inhalation hazard; however, potential adverse effects of ACM bridge rehabilitation activities would be minimized by requiring the contractor to comply with SCAQMD Rule 1403 notification and removal processes and RWQCB disposal requirements. Human heath effects would be less than adverse with Rule 1403 compliance and RWQCB disposal requirements.

Also, the Rehabilitation Alternative would require the removal of LBP and repainting of the steel structure. The contractor would be responsible to ensure that LBP removal is completed in accordance with all federal and state laws to prevent releases to the environment. The contractor would prepare a Lead Compliance Plan in accordance with CCR Title 8 Section 1532.1. Potential measures the contractor could use to avoid release to the environment include but are not limited to the following:

- Erect shrouds around working areas and suspending nets and tarps below the bridge to catch debris from abrasive removal of old paint, where wind conditions permit.
- Anchor tarps to barges below and enclose the bridge above to confine debris, where the bridge deck is not too far above water level.
- Use barges and booms to capture fugitive floating paint chips and custom-built enclosures to confine and capture the abrasives, old paint chips, and paint.
- Use vacuum or suction shrouds on blast heads to capture grit and old paint.

Operational Impacts

North-side Alignment Alternative

Once the new bridge is constructed and the old bridge is demolished, impacts to the environment or general public due to hazardous materials releases or spills associated with bridge operation could occur from traffic-related accidents involving hazardous material carriers. Responses to hazardous material releases would be provided by the City of Long Beach and City of Los Angeles Fire Departments. The impact to the environment and general public due to hazardous materials releases or spills is expected to be reduced under the North-side Alignment Alternative compared to the No Action Alternative and the Rehabilitation Alternative. This is due to the fact that the new bridge would provide more and wider traffic lanes and shoulders, thus enhancing safety to the commuters and truck drivers using this transportation route.

No adverse effects associated with hazardous materials/wastes would occur due to operation of the proposed project. Releases of hazardous materials resulting from traffic-related accidents during project operation are unavoidable and would occur under all alternatives. These releases would

be cleaned up as part of the emergency/hazardous materials response to each vehicle crash.

South-side Alignment Alternative

Operational Effects under the South-side Alignment Alternative would be the same as those described under the North-side Alignment Alternative.

Rehabilitation Alternative

Subsequent to bridge rehabilitation, impacts to the environment or general public due to hazardous materials releases or spills associated with bridge operation could occur from traffic-related accidents involving hazardous material carriers. Responses to hazardous material releases would be provided by the City of Long Beach and City of Los Angeles Fire Departments. The impact to the environment and general public due to potential hazardous materials releases or spills would be similar to the No Action Alternative. The Rehabilitation Alternative would not include more or wider traffic lanes and shoulders; therefore, it would not enhance safety for commuters and truck drivers using this transportation route.

No adverse effects associated with hazardous materials/wastes would occur due to operation of the proposed project. Releases of hazardous materials resulting from traffic-related accidents during project operation are unavoidable and would occur under all alternatives. These releases would be cleaned up as part of the emergency/hazardous materials response to each vehicle crash.

2.2.3.4 Avoidance, Minimization and/or Mitigation Measures

Temporary Measures

HM-1 A Phase II Site Investigation shall be performed in construction areas where excavation will exceed 5 ft (1.5 m) bgs, where groundwater may be encountered and in areas where USTs were removed without closure. The results of the Phase II investigation would be incorporated into the Safety Plan to protect construction workers against known contamination in construction areas. A Hazardous Waste Management Plan based on the results of the Phase II investigation will also be incorporated into the Final Design to ensure proper disposal of contaminated materials and contaminated groundwater found in the construction areas.

HM-2 A risk assessment shall be performed prior to construction to determine how construction activities will impact the water-bearing levels and, as applicable, to determine health risks to construction workers.

HM-3 To minimize cross contamination of the water-bearing zones, the construction contractor shall employ construction techniques to minimize the need for dewatering.

HM-4 The Port shall conduct a survey to screen for ACM and LBP in all affected buildings and the bridge prior to any demolition activities. Identification of locations of buildings or structures containing ACMs and LBP will be clearly identified on the construction plans and incorporated into the project safety plan and hazardous waste management plan. Any disturbance/ demolition to structures containing ACM or LBP will be completed in accordance with the contract specifications and all federal, state, and local laws and regulations.

HM-5 Prior to construction, the Port shall test areas within the proposed project corridor where soil may be disturbed for ADL. If ADL levels meet or exceed the action level set forth by the hazardous waste management plan for the project, then ADL-contaminated soils shall be removed in accordance with federal, state, and local regulations.

HM-6 A Safety Plan will be required to address any exposure to hazardous materials. The Safety Plan will include proper personal protective equipment (PPE) work requirements, soil and air space monitoring requirements, documentation and reporting requirements, and action levels.

HM-7 The contractor shall prepare a Lead Compliance Plan in accordance with CCR Title 8 Section 1532.1. The Lead Compliance Plan shall be approved by an Industrial Hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene

HM-8 If it is determined that the project would require the removal or disturbance of any existing yellow thermoplastic traffic lane striping in the project area, then Caltrans standard measures shall be implemented to ensure the proper removal, storage, and disposal of the material, as applicable.

Permanent Measures

No measures are required.