3.6

GROUNDWATER AND SOILS

3.6.1 Introduction

This section identifies the existing conditions of groundwater and soils within the proposed Project area, including soil and groundwater contamination, and evaluates the impact of these conditions on proposed Project development. The environmental setting is based on a review of published reports, as well as review of previous consulting reports completed in the Port area.

3.6.2 Environmental Setting

The proposed Project's area is predominantly underlain by a shallow unconfined aquifer, which is present at a depth ranging from 3 to 14 feet below ground surface (Montgomery Watson 1994a, Hart Crowser 1995, TRC 2002). Spills of petroleum products and hazardous substances, due to long-term industrial land use, have resulted in contamination of some onshore soils and shallow groundwater.

3.6.2.1 Groundwater

Four major aquifers – the Silverado, Lynwood, Gage, and Gaspur – are present within the Los Angeles Basin and are used for industrial and municipal water supply outside of the harbor area. The two major water-bearing zones that occur beneath the proposed Project area are the Gaspur and Gage aquifers (URS Consultants 1991). Both of the aquifers are composed of fine- to medium-grained sand and silty sand. Shallow groundwater beneath the site is saline, not currently considered potable water, and would not likely be considered a potable or beneficial water source in the future. Drinking water is provided to the area by the City of Los Angeles Department of Water and Power (CH2M Hill 2000).

Groundwater is highly variable beneath Berths 136-147. Perched groundwater, which receives very limited recharge in the Port area due to the abundance of impermeable paving, occurs as shallow as 3 feet at Berths 148-150 (TRC 2002). However, in the vicinity of Berths 136-139, this shallow perched aquifer is absent and shallow unconfined groundwater is present at a depth of approximately 40 to 60 feet (LAHD

1993a). Groundwater flow in the shallow perched unconfined aquifer is generally toward the center of the West Basin; however, tidal influences are also prevalent (Montgomery Watson 1994a; Earth Tech 2002; ARCADIS G&M, Inc. 2004). Other groundwater influences are also locally present. In the vicinity of Berths 136-139, where the shallow unconfined aquifer is absent, groundwater flow is influenced by the Dominguez Channel and seawater intrusion. Leakage from Dominguez Channel, in combination with groundwater injection activities designed to abate seawater intrusion, has caused the groundwater to flow to the northwest, in contrast to the regional flow direction to the south (LAHD 1993a, URS Consultants 1991). In the vicinity of Berths 142-147, the north-south-trending concrete bulkhead reduces the tidal cycling fluctuations in the shallow unconfined aquifer (Montgomery Watson 1994a).

Locally, beneath Berths 142-143, a 1- to 5-foot-thick, relatively impermeable layer of soil (i.e., an aquiclude) and an underlying confined aquifer are present at a depth of approximately 17 to 28 feet (Montgomery Watson 1994a; URS Consultants 2002). Other investigators believe this aquiclude is as thick as 40 or more feet (Hart Crowser 1996a; Earth Tech 2004a). At nearby Berths 148-150, this shallow aquiclude is not present, but a slighter deeper aquiclude is present at a depth of 40 to 50 feet below ground surface (RETEC 1997a). No aquicludes are present in the vicinity of Berths 136-139 (LAHD 1993a).

Total dissolved solids (TDS) and specific gravity analyses of groundwater samples collected from the shallow and deep aquifers beneath Berths 142-143 and 148-151 suggest considerable saltwater intrusion (Montgomery Watson 1994a; RETEC 1997a; Earth Tech 2004a).

3.6.2.2 Soil Conditions

Prior to development of the Los Angeles Harbor, extensive estuarine deposits were present at the mouth of Bixby Slough, Dominguez Channel, and the Los Angeles River. The organic tidal muds were dredged extensively and mostly covered with artificial fill. Underlying the surface soils of the West Basin are subsurface soils consisting of dredged fill material, underlain by naturally deposited alluvial soils that overlay the Malaga mudstone of the Miocene Monterey Formation. Dredge fill and natural alluvial soils represent a mix of soil types, predominantly unconsolidated layers of soft-to-hard clays and silts, with sandy soils present in some areas to depths of 40 feet.

3.6.2.3 Soil and Groundwater Investigations

3.6.2.3.1 TraPac Container Terminal Area

The following section summarizes the environmental setting for individual properties located within the proposed TraPac Container Terminal proposed Project boundary. Site conditions including any on-site contamination, impacts to soil and groundwater, and remediation activities are provided from a Phase I Environmental Site Assessment for Harry Bridges Boulevard, Transpacific Terminals, and Pier A Street Rail Yard (Tetra Tech 2007), provided in Appendix K. Present site conditions described in this Phase I ESA, including documented spills of hazardous materials

and petroleum products and soil and groundwater contamination is representative of 2003 CEQA baseline conditions. The Phase I ESA documents known spills and contamination occurring prior to 2003, but which have not been remediated.

3.6.2.3.1.1 Berths 136-143

Berths 136 to 139 were occupied by a ship building facility during the early 1940s. Break-bulk cargo sheds were built on these berths in the 1960s. By 1987, these cargo sheds had been removed and the existing TraPac container terminal was constructed. Based on the results of a Phase I environmental site assessment, a Phase II site investigation has not been recommended for these berths, based on a lack of indicators of prior spills of hazardous materials or petroleum products (Tetra Tech 2007, Appendix K).

A portion of Berth 142 was initially used as a concrete and wood treatment facility, which began operation in approximately 1925 and ceased operations in the mid-1950s. The primary activities associated with the facility included the manufacture of asphaltum concrete piles and the treatment of wood pilings, poles, etc. The preservatives used in treatment likely included creosote as well as oil-borne preservatives (containing pentachlorophenol) or water-borne preservatives (containing metallic salts of arsenic, copper, chromium, and zinc). The facility was abandoned and covered with roughly 5 to 6 feet of fill material in 1959 (Earth Tech 2004a, Appendix K).

Subsequent to the concrete and wood treatment facility, Berth 142 was used by the Union Ice Company and Westway Feed Products Company (the Westway site). A Phase I completed on the Union Ice Company site revealed no evidence of current or historical recognized environmental contamination in connection with the property (Tetra Tech 2007, Appendix K). See 3.6.2.3.1.5 - Water Street (below) for more information pertaining to the Westway site.

Examination of historic aerial photographs and discussion with LAHD personnel indicate that Berths 143-144 were used historically for docking and storage of bulk cargo. Ships used the area just offshore of the site for docking as early as 1931 and open storage of bulk cargo occurred as early as 1936. By 1945, the site had been paved to within several feet of the water's edge and piers had been installed. Since 1945 the site has been used primarily for bulk storage of cargo.

Several site assessments have been completed on portions of Berths 142 and 143 (vicinity of former wood treatment facility). The following summary of soil and groundwater conditions in the vicinity of the former wood treatment facility is based on information provided by Hart Crowser (1995), Earth Tech (2004a), Tetra Tech (2007), and Essentia (2007) (see Appendix K).

Impacted Soil. Soil beneath Berths 142 and 143 have been impacted with chemicals associated with operations conducted at the former creosote facility. Organic compounds present at the site include semi-volatile organic compounds (SVOCs), polynuclear aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), and fuel range petroleum hydrocarbons. Dioxin concentrations have also been detected in soil in shallow electrical conduit trenches. Inorganic constituents include arsenic, chromium, hexavalent chromium, copper, lead, and zinc. Arsenic concentrations up to

70 milligrams per kilogram (mg/kg) and lead concentrations up to 101 mg/kg have been locally detected in soil samples from the site.

The highest concentrations of PAHs and phenols in soils have been found beneath and in the immediate vicinity of the former creosote facility. PAH and total petroleum hydrocarbon (TPH) impacted soils are generally present below depths of 5 to 12 feet (1.5 to 3.7 meters) below ground surface. The thickness of impacted soils ranges from as little as 1 foot around the perimeter of the site to as thick as approximately 20 feet (6 meters) beneath the facility.

Total fuel hydrocarbons in soil (as diesel) have been encountered in concentrations up to 52,000 mg/kg, between a depth of 5 and 8 feet below ground surface. Fuel hydrocarbon concentrations in soil are highest in the vicinity of the former fuel oil tanks and the former asphalt-heating tank. Concentrations of VOCs were also detected in this area. VOCs present in this area include ethylbenzene, methylene chloride, xylenes, and 1,1,1-trichloroethane (1,1,1-TCA).

Impacted Shallow Groundwater. The shallow groundwater beneath Berths 142 and 143 has been impacted with the same compounds found in soil. The highest concentrations of PAHs were found in the vicinity of the liquid creosote plume centered beneath the former creosote facility. The PAH consistently detected at the highest concentration in groundwater samples is naphthalene. Creosote is also present in shallow groundwater in the form of dense non-aqueous phase liquid (DNAPL), up to 6.2 feet (1.9 m) thick. The total phenol plume is also centered on the former facility and is directly associated with the extent of liquid creosote. The estimated total area encompassed by the dissolved phenol is 4.5 acres (1.8 hectares).

The fuel hydrocarbon plume in the shallow groundwater is similar in lateral extent to that found in soil. Hydrocarbon compounds detected include benzene, ethylbenzene, styrene, toluene, and xylenes.

Dissolved metals found in the shallow groundwater include arsenic, chromium, copper, lead, and zinc.

Quarterly groundwater monitoring and environmental investigations are under the oversight of the Los Angeles Regional Water Quality Control Board, SLIC program, SLIC No. 788. The LAHD has a Voluntary Cleanup Agreement with the RWQCB.

Impacted Deep Groundwater. Hart Crowser (1995) and McLaren/Hart (1999) reported the presence of DNAPL creosote in the deeper water-bearing zone (see Appendix K).

PAH concentrations have been detected in the deeper aquifer and no VOCs were detected in the deep wells in March 1995. With regard to metals, only zinc was found in the deep wells.

3.6.2.3.1.2 Berths 144-146

Berth 144 began service as a ship berthing site in 1931, followed by open storage of bulk cargo in 1936. Pier installation and paving was completed by 1945 with tank cars and drums routinely located on site. The existing transit shed was completed in 1960.

Impacted Soil. A limited site characterization indicated no reportable concentrations of metals. TPHs were detected in the kerosene/diesel range (19 mg/kg to 1,720 mg/kg) and in the motor/heavy oil range (20 mg/kg to 1,290 mg/kg). Naphthalene was detected at a concentration of 200 µg/kg in one location and SVOCs up to 16,400 µg/kg were also detected (Hart Crowser 1996b, Appendix K).

In March 2004, construction of an electrical substation near a subsurface pipeline corridor encountered free hydrocarbon product floating on groundwater in the eastern portion of the Berth 144 backland area. Subsequent environmental investigations (Earth Tech 2004b, Appendix K) determined that groundwater beneath the area was impacted by degraded gasoline, diesel and crude oil. The report of the investigations was sent to ConocoPhillips by POLA Property Management in June 2005, a potential responsible party for the release. A Phase I environmental site assessment (Tetra Tech 2007, Appendix K) did not identify Berths 145-146 as an area of potential contamination, presumably because there are no indications that spills or releases of petroleum products or hazardous substances has occurred. Minor petroleum hydrocarbon contamination may locally be present in this area; however, emphasis has been given to contamination problems at Berths 142-144 because of the severity of the problem.

3.6.2.3.1.3 Berth 147

Berth 147 is the location of the former United Fruit Company Terminal, which operated a portion of their banana import business at Berth 147 from 1936 to 1990. This area was used for off-loading of bananas directly from the ship holds, using a conveyor belt system (San Buenaventura Research Associates 1992). The United Fruit Company Terminal (Banana Terminal) and associated structures were demolished in 2000. Abandoned oil pipelines extend across Berth 147 from the adjacent Berth 148, in an east-west direction. In addition, active pipelines run parallel to Neptune Avenue along the eastern boundary of Berth 147.

A Phase I Hazardous Materials Site Assessment (ERCE 1991, Appendix K) indicated that releases of hazardous substances have not been documented at the site, no underground storage tanks were present, and no operating or abandoned oil wells were present. Areas of potential contamination include creosote-treated planking and pilings along the wharf, randomly spaced stained soil in the vicinity of the wharf, oil pipelines, and stained soil between and beneath the conveyor belt buildings. Several Phase II Site Characterizations (i.e., Hart Crowser 1996b; RETEC 1999; Earth Tech 2000) have been conducted at Berth 147 indicating a trend of predominantly petroleum hydrocarbons and lead contamination in soils and groundwater. Additionally trace amounts of VOCs and SVOCs have been detected (see Appendix K).

Impacted Soil. Initial subsurface site characterization indicated that approximately 200 cubic yards of lead- and petroleum hydrocarbon-contaminated soil were present at the site (LAHD 1992a, Appendix K). The contamination was generally limited to the upper 5 to 10 feet (1.5 to 3 meters) of soil in the vicinity of the active pipelines, located along the eastern property boundary, and stained surfaces near the conveyors. Hazardous concentrations of lead were detected in soil samples, to a depth of 5 feet (1.5 meters), in the vicinity of the conveyors. A subsequent site investigation determined that lead concentrations were locally present across the site. Analytical data suggested that soil with lead concentrations exceeding the regulatory limits only

extended to a depth of approximately 5 feet below ground surface (bgs) along the waterfront and 1 foot bgs in the backland portions of the site (RETEC 1999, Appendix K). The estimated volume of soils requiring management offsite as a California hazardous waste was increased to 2,515 cubic yards. A site characterization targeting subsurface utility corridors and conveyor belt structures was conducted in 2000, confirming the presence of metals and organic constituents. Lead concentrations were found above risk based action levels (i.e., 2,340 mg/kg). Analytical results identified TPH concentrations of approximately 1,000 mg/kg but no significant impact from VOCs, SVOCs, and PCBs (Earth Tech November 2000, Appendix K).

The areas with lead contaminated soil previously identified by RETEC (1999) were subject to a removal action to remove the soil characterized as a California hazardous waste, as part of the demolition project (see Appendix K). Over 2000 tons of lead contaminated soil were excavated and removed from the site and properly disposed. The area was subsequently developed as part of the present TraPac terminal (personal communication, Chris Foley 2007, LAHD Environmental Affairs Officer, Environmental Management Division).

Impacted Shallow Groundwater. Groundwater was present at a depth of 6 to 9 feet (1.8 to 2.7 meters) below ground surface. Floating, free-phase hydrocarbons were present in one of the groundwater monitoring wells, located adjacent to the active pipelines along the eastern boundary of Berth 147. The site characterization conducted in 2000 focused on the existence of petroleum hydrocarbons and metals in the subsurface and confirmed the presence of total chromium, copper, and lead. Total chromium was detected in samples below State and Federal maximum contaminations limits MCLs (0.5 and 0.10 mg/l, respectively) and instantaneous maximum California Ocean Plan Numerical Water Quality Objective (0.02 mg/l), with one exceedance at 0.051 mg/l. Copper was detected in concentrations below State and Federal MCLs (1.3 mg/l each) but exceeded the California Ocean Plan Numerical Water Quality Objective (0.012 mg/l). Lead was detected in concentrations exceeding the State and Federal MCLs (0.015 mg/l each) and California Ocean Plan Numerical Water Quality Objective (0.02 mg/l) (Earth Tech November 2000, Appendix K). The groundwater results indicated no significant contaminations from organic compounds.

3.6.2.3.1.4 Pier A Rail Yard

The Phase I Environmental Site Assessment completed by Tetra Tech (2007) incorporated the results of a prior Phase I Environmental Site Assessment completed by Remediation Technologies, Inc. (RETEC), in evaluating the Pier A rail yard (RETEC 1997b) (see Appendix K). A review of topographic maps and aerial photographs indicated numerous aboveground storage tanks (ASTs). Review of oil and gas maps (Wilmington Oil Field, Division of Oil and Gas and Geothermal Resources) did not indicate oil and gas wells on the property. However, a non-producing well was drilled in 1940 by the Superior Oil Company. This well was capped and determined abandoned by an inspector that same year. This Phase I report indicates that numerous train maintenance pits were present at the rail yard and heavy surface staining of creosote was evident. Potential spills of petroleum products and/or hazardous materials at these pits during train maintenance, in addition to other

potential spills throughout the rail yard, has likely resulted in soil and/or groundwater contaminated with TPH, metals, oil and grease, and benzene.

Impacted Soils. The Phase I Environmental Site Assessment completed by Tetra Tech (2007) also incorporated the results of a prior Phase II Environmental Site Assessment completed by Geraghty & Miller, Inc. (1997) (see Appendix K). This report indicates that shallow soils, between 1.5 and 5 feet (0.4 and 1.5 m), are impacted with petroleum constituents. VOCs, PAHs, and metals were all detected above EPA Preliminary Remediation Goals (PRGs), including some lead contamination. Documented spills of hazardous materials and petroleum products (i.e., soil and groundwater contamination) is representative of 2003 CEQA baseline conditions, as these spills occurred prior to 2003, but have not been remediated and are generally in the same condition as in 2003.

Impacted Groundwater. Geraghty & Miller, Inc. (1997) indicated that elevated benzene and TPH concentrations are present in on-site soils. This groundwater contamination appeared to be related to elevated concentrations of petroleum hydrocarbons in on-site soils (see Appendix K).

3.6.2.3.1.5 Proposed PHL Rail Yard Area (near Berth 200)

Environmental site assessments have not been completed for this site, which is currently used as a rail yard. Near surface soils in rail yards are typically contaminated with petroleum hydrocarbons, metals, and various other substances. Site assessments completed for the property located immediately to the south (former Koppers Facility at 210 South Avalon Boulevard) indicate that the soils and groundwater have been impacted with metals, volatile organic compounds, semi-volatile organic compounds, and total petroleum hydrocarbons (as diesel fuel) (Komex 2005, Appendix K).

3.6.2.3.1.6 Water Street

400 West Water Street. The property was leased from the POLA by Westway Feed Products Company (Westway). The lease included approximately 1.3 acres of backland and 3,150 square feet of surface pipeline right of way extending to Berth 142. The site contained a pump house building, office building, and numerous ASTs and distribution pipelines. Markers indicate the presence of a petroleum transmission pipeline situated along the north side of the site within the Water Street easement (CHM Environmental Group 2006, Appendix K).

Westway's lease with the POLA has expired and subsequently Westway has decommissioned and removed their site facilities. A Phase I Environmental Site Assessment was conducted prior to decommissioning and several areas of concern were identified, including surface stains in various areas of the site, a petroleum fuel pipeline, and suspected lead-based paint on ASTs and pipelines. A pre-demolition site survey was conducted to determine the extent of suspected lead-based paint and prepare a limited Phase II Environmental Site Investigation and Analysis Plan (SAP) to characterize the environmental conditions in soil and groundwater at the site (CHM Environmental Group 2006, Appendix K).

*Impacted Soil***.** Pre-demolition soil sampling showed one sample contained hazardous concentrations of lead. Metals detected in site soils during the post-demolition sampling effort included arsenic, which ranged from 1.0 to 40 mg/kg, as well as nonhazardous concentrations of lead and mercury. Total recoverable petroleum hydrocarbons (TRPH) and TPH were detected in soils from several on-site areas, at concentrations below the Los Angeles Regional Water Quality Control Board (LARWQCB) soil screening levels. VOCs detected in soils included only toluene at 0.404 mg/kg. Nitrite was detected on site at a concentration of 6.8 mg/kg. Nitrate and phosphate were detected in several areas on the site. The surfactant indicator methylene blue active substance (MBAS) was detected in very low concentrations in soil near the former sewer drain on the north end of the site (CHM Environmental Group 2006, Appendix K).

A limited post-demolition Phase II assessment indicated the presence of hazardous concentrations of lead and mercury in shallow soil samples (CHM Environmental Group 2006, Appendix K). Additional assessment will be required. Westway Feed Products is preparing a work plan for the additional assessment (personal communication, Neil Irish 2007, The Source Group, Inc.).

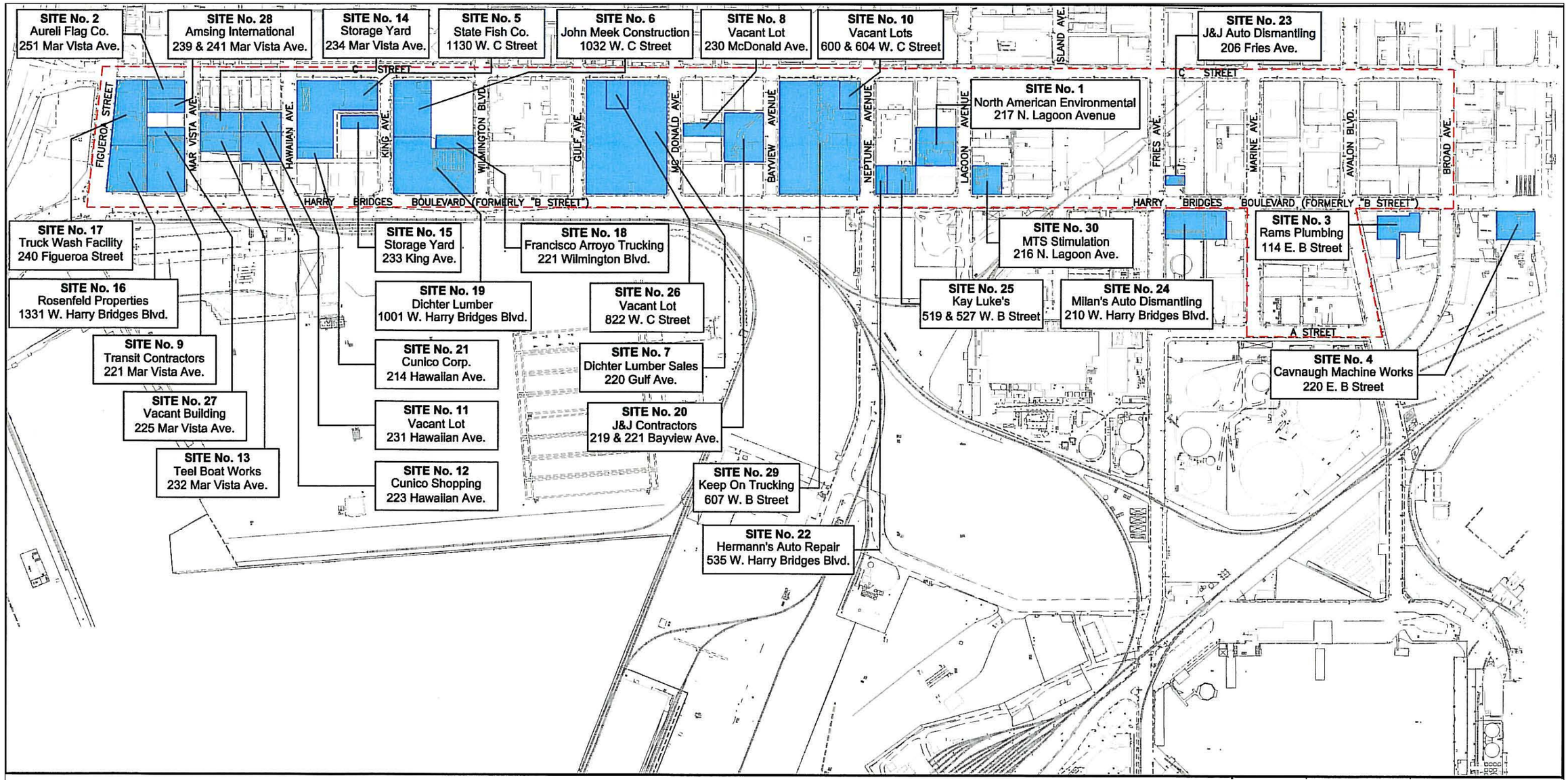
Documented spills of hazardous materials and petroleum products (i.e., soil contamination) is representative of 2003 CEQA baseline conditions, as these spills occurred prior to 2003, but have not been remediated and are generally in the same condition as in 2003.

Impacted Shallow Groundwater. TRPH and/or TPH as gasoline (C06-C10 range) were not detected in groundwater. TPH as diesel (C10-C22 range) and TPH as motor oil (C22-C36 range) were detected in one groundwater sample at very low concentrations (i.e., just above laboratory reporting limits). Nitrite was not detected in any groundwater samples. Nitrate was detected in groundwater collected from several areas. Nitrate concentrations found in groundwater as high as 7.8 mg/l were below the EPA MCL of 10 mg/l. Phosphate was detected in groundwater collected from several areas including one sample concentration at 15.82 mg/l. No VOCs were detected in groundwater samples from the site. MBAS was detected in very low concentrations in soil near the former sewer drain on the north end of the site. None of the contaminants detected above were considered a concern by this investigation (CMH Environmental Group 2006, Appendix K).

Documented spills of hazardous materials and petroleum products (i.e., groundwater contamination) is representative of 2003 CEQA baseline conditions, as these spills occurred prior to 2003, but have not been remediated and are generally in the same condition as in 2003.

3.6.2.3.2 Harry Bridges Boulevard Buffer Area

The following section summarizes the environmental setting for individual properties located within the proposed Harry Bridges Boulevard Buffer Area (the buffer area). This area is currently vacant land; all prior structures have been demolished and removed from the site. Properties with completed Phase I and/or Phase II investigations are summarized on Figure 3.6-1. In 2006, POLA directed additional environmental assessment of the buffer area in preparation for future development. This work was completed after all surface structures had been removed from the land and included geophysical surveys of



Source: The Source Group, Inc.

Figure 3.6-1. Map Showing Sites With Available Environmental Assessment Data

the subsurface, exploratory excavations at identified geophysical anomalies, and extensive soil, soil vapor, and groundwater sampling (The Source Group, Inc. 2007, report in preparation).

Site conditions including any on-site contamination, impacts to soil and groundwater, and remediation activities are provided from prior Phase I Environmental Site Assessments and Phase II Site Investigations, attached as Appendix K. Documented spills of hazardous materials and petroleum products (i.e., soil and groundwater contamination) in these reports is representative of 2003 CEQA baseline conditions, as these spills occurred prior to 2003, but have not been remediated and are generally in the same condition as in 2003.

Numerous oil wells were formerly present in the buffer area. All of these wells have been abandoned in accordance with California Division of Oil and Gas and Geothermal Resources specifications. In addition, many of the pipelines associated with the oil field have been removed from the project area. Additional pipelines may be removed in association with proposed Project construction. Contaminants typically encountered in the subsurface in existing and former oil fields include heavy petroleum hydrocarbons, VOCs, SVOCs, and inorganic compounds such as Title 22 metals.

Impacted Shallow Groundwater. The 2006 investigation of the buffer area (The Source Group, Inc. 2007, report in preparation) determined that a local petroleum hydrocarbon was present in the underlying groundwater. This primarily dissolved phase groundwater plume is present from Block 5 of the buffer area (the block bounded by Wilmington Avenue on the west and Gulf Avenue on the east) and extends eastward to at least Broad Avenue. Extensive testing of the properties that comprise the buffer area indicate that the source lies south of the buffer area, likely in a pipeline corridor that extends east-west along the east-bound lane of Harry Bridges Boulevard. Figure 3.6-2 depicts the local groundwater hydrocarbon plume that was identified during the 2006 investigation.

3.6.2.3.2.1 Harry Bridges / B Street

519 and 527 West B Street. A Phase I Environmental Site Assessment of the Kaye Luke Antique Store property shows a history that includes an antique store, welding, machining, and woodworking operations dating back to 1950. A subsurface structure filled with a liquid was located on the eastern portion of the property although the purpose and contents of the feature were unknown. A 550-gallon UST was reported abandoned in place by filling in 1964 (Woodward-Clyde 1996a, Appendix K). A geophysical survey of the site in 2006 did not detect the presence of this UST and thus it is suspected to have been removed (personal communication, Neil Irish 2007, The Source Group, Inc.).

535 West Harry Bridges Boulevard / B Street. A Phase I Environmental Site Assessment indicated a commercial history of the property, including an automobile repair shop (Woodward-Clyde 1996b, Appendix K). A Phase II Site Investigation confirmed the property contained features generally associated with an auto shop. Additionally, a potential UST and pipes were identified during a geophysical survey conducted at the site (Woodward-Clyde 1996c, Appendix K). However, a follow-up geophysical survey in 2006 did not confirm the presence of these structures.

Groundwater was not sampled during the investigation in 1996, but 2006 groundwater sampling showed the presence of dissolved-phase petroleum hydrocarbons in the underlying groundwater (personal communication, Neil Irish 2007, The Source Group, Inc.).

Impacted Soils. VOCs, including carbon disulfide, methylene chloride, toluene, and o-xylene, were detected in soils up to 10 feet bgs. Detectable toluene concentrations ranged from 0.5 to 14 µg/kg and o-xylene was detected at 21 µg/kg. Reported VOC concentrations are below the EPA PRGs for residential and industrial scenarios. TPH concentrations ranged from 11 mg/kg to 4,140 mg/kg. Approximately 300 cubic yards of soils are estimated to be impacted with petroleum hydrocarbons. Metal concentrations measured in the soil samples were below Total Threshold Limit Concentrations (TTLC) values (Woodward-Clyde 1996c, Appendix K), and therefore considered nonhazardous. Organic lead was not detected in soil samples from the property.

607 Harry Bridges Boulevard. A Phase I Environmental Site Assessment of the Keep On Trucking Company showed that several hazardous materials assessments studies have been conducted on site, including a preliminary site assessment, a groundwater investigation, and a leak detections program report (Woodward-Clyde 1996d, Appendix K). Drums of various sizes had been used to store oil and cleaning solvent on site. Two ASTs were located on the property in 1958. The property included a fuel dispenser and associated USTs for fueling trucks onsite, an underground clarifier, and a truck wash area. A geophysical survey indicated that additional USTs and/or sumps may have been previously present on the property.

Impacted Soils. Subsurface leaks from these facilities have resulted in petroleum hydrocarbon soil and groundwater contamination. Approximately 280 cubic yards of petroleum hydrocarbon impacted soil was removed from the vicinity of the former fuel dispenser and USTs (Woodward-Clyde 1996d, Appendix K). Soil samples collected in June 2000 reportedly contained hazardous concentrations of chromium, lead, and copper (personal communication, Neil Irish 2007, The Source Group, Inc.).

Impacted Shallow Groundwater. Four monitoring wells were installed in 1991 to monitor groundwater quality and flow direction beneath the site, which possibly flows off-site to the west-southwest. No site assessment activity occurred from 1991 to 1999 Additional wells were installed to further delineate groundwater contamination and flow conditions, in accordance with a September 2000 work plan, prepared for the RWQCB (CH2M Hill 2000, Appendix K). Remedial efforts succeeded at reducing the concentration of petroleum concentrations in soil and groundwater. Site closure was subsequently granted, indicating that no additional site assessment or remediation is required. All groundwater wells have been removed from the site (personal communication, Neil Irish 2007, The Source Group, Inc., and Chris Foley 2007, LAHD Environmental Affairs Officer, Environmental Management Division).

831 West Harry Bridges Boulevard. Near-surface soil sampling in 2006 was reported to contain lead (320 mg/kg) above the 150-mg/kg Residential PRG (personal communication, Neil Irish 2007, The Source Group, Inc.).

Source: The Source Group, Inc.

Figure 3.6-2. Distribution of GRO in Groundwater Plume Map

921 West Harry Bridges Boulevard. Near-surface soil sampling in 2006 was reported to contain arsenic (35 mg/kg) above background levels and PRGs. Groundwater sampling on this site showed the presence of phase-separated hydrocarbons (free product) in the extreme southeast corner of the lot. Additional borings on the property confirmed that the source was off-site (personal communication, Neil Irish 2007, The Source Group, Inc.).

927 West Harry Bridges Boulevard. Near-surface soil sampling in 2006 was reported to contain arsenic (57 mg/kg) above background levels and PRGs (personal communication, Neil Irish 2007, The Source Group, Inc.).

1001 West Harry Bridges Boulevard. No oil or gas wells were identified on the former Wilmington Oil Field property. A review of building permit records indicated that a gas station was located at the southeastern corner of the property in 1925 and again between 1939 and 1948. Previous property tenants were reported in the Phase I Environmental Site Assessment as Blaesing Granite Company who utilized the property for granite and steel assembly, and Dichter Lumber Sales who used the site for container storage and repair (Woodward-Clyde 1996e, Appendix K).

Impacted Soils. A Phase II Site Investigation was conducted in order to characterize potential impacts to the site. Soil sampling was conducted to a depth of 10 feet bgs and groundwater was not sampled during the investigation. TPH concentrations in soils were detected up to 2,597 mg/kg. Metals were detected at background concentrations and no VOCs were detected on the property (Woodward-Clyde 1996f, Appendix K).

1113 West Harry Bridges Boulevard. Near-surface soil sampling in 2006 was reported to contain lead (420 mg/kg) above the 150-mg/kg Residential PRG (personal communication, Neil Irish 2007, The Source Group, Inc.).**1127 West B Street.** A Phase I Environmental Site Assessment indicated that about 15 empty 55-gallon drums were located on the property in 1990 (Woodward-Clyde 1996h, Appendix K).

1231 West Harry Bridges Boulevard. Near-surface soil sampling in 2006 was reported to contain arsenic (22 mg/kg) above background levels and PRGs and chromium (420 mg/kg) above the 210-mg/kg Residential PRG (personal communication, Neil Irish 2007, The Source Group, Inc.).

1331 West Harry Bridges Boulevard. A Phase I Environmental Site Assessment was conducted for the property and determined it was occupied by Shipwreck Joey's Cabaret. The property was previously occupied by Bay View Café (Woodward-Clyde 1996i, Appendix K).

Impacted Soils. A limited Phase II Site Investigation was conducted at 1331 West Harry Bridges Blvd. The investigation was limited to obtaining shallow (i.e., less than 15 feet bgs) soil samples. Groundwater was not sampled during the investigation. VOCs, gasoline range hydrocarbons, and hazardous concentrations of metals were not detected on the property (Woodward-Clyde 1996j, Appendix K).

3.6.2.3.2.2 "C" Street

600 and 604 West "C" Street. A Phase I Environmental Site Assessment indicated that two oil wells had been plugged and abandoned on the site. An additional oil well existed at the time of the Phase I report and the property was cited for spilling injection water into a storm drain in November 1991. The property contained several ASTs and pipelines (Woodward-Clyde 1996l, Appendix K). A Phase II Site Investigation was conducted in September, 1996 to evaluate the subsurface soil in areas where chemicals and/or wastes were potentially stored and/or released on the property (Woodward-Clyde 1996k, Appendix K).

Impacted Soils. Soil samples were collected in the vicinity of oil well heads, an oil pipeline, former crude oil ASTs, and a metal standpipe. TPHs of 38 to 292 mg/kg were detected in soil samples collected about 5 feet bgs in the vicinity of the oil pipeline and oil well heads. Groundwater was not sampled during the investigation (Woodward-Clyde 1996l, Appendix K).

822 West "C" Street. A Phase I Environmental Site Assessment indicated that the property has historically been either vacant or used as a parking lot. Review of Sanborn Fire Insurance maps indicated the presence of three historic oil wells and three oil tanks at various locations on the property. Examination of historical aerial photographs indicated an apparent AST on the property in 1973 and subsequent removal by 1979. Half buried pipes/pipelines were observed at two locations on the property. Additionally, a concrete vault containing pipelines and valves was located on the property behind a fence marked with a GATX sign. Various ASTs and drums were located in the vicinity of the vault (Woodward-Clyde 1995, Appendix K).

A Phase II Site Investigation was conducted on the property to determine impacts to soils in the vicinity of existing ASTs, former ASTs, former oil wells, an oil pipeline vault, and drum storage area. Soil samples were collected at depths of 5 feet bgs in the vicinity of the ASTs and 15 feet bgs at other locations (Woodward-Clyde 1996n, Appendix K).

Impacted Soils. VOCs including acetone, ethylbenzene, methyl isobutyl ketone (MIBK), toluene, and xylenes, were detected in soils collected in the vicinity of the AST and drum storage areas, at concentrations less than Industrial and Residential PRGs. TPHs were detected in soils at concentrations of 1,800 mg/kg and 8,180 mg/kg in the AST and drum storage areas, respectively. The Phase II report estimates 1,100 cubic yards of soil are impacted with petroleum hydrocarbons. Nonhazardous concentrations of metals were detected (Woodward-Clyde 1996n, Appendix K).

1032 West "C" Street. A Phase I Environmental Site Assessment indicated the commercial/industrial site had a history of oil wells and ASTs on the property. A 1,000-gallon UST was formerly located on the property but had been removed by 1991. Industrial chemicals were also stored on the property and asbestos-containing material was identified during the assessment (Woodward-Clyde 1996o, Appendix K). A Phase II Site Investigation was conducted on the property to determine impacts to soils in the vicinity of the former UST and dispenser area, drum and chemical storage areas, and an equipment storage area (Woodward-Clyde 1996p, Appendix K).

Impacted Soils. No VOCs or SVOCs were detected in soil samples analyzed. TPHs were detected at concentrations ranging from non-detectable levels to 218 mg/kg. Metal concentrations were nonhazardous. Based on the results of the Phase II Site Characterization, it was recommended that future soil activities be monitored and evaluated for petroleum hydrocarbons during building demolition and/or excavations to evaluate the extent of impacted conditions (Woodward-Clyde 1996p, Appendix K).

1130 West "C" Street. A Phase I Environmental Site Assessment indicated the property (State Fish Company) was used for cleaning, processing, and packaging of raw fish. The property is identified as a small quantity waste generator. Waste oil from equipment servicing and various other chemicals are used and stored on site. Approximately 135 gallons of ammonia were released to the storm drain from a refrigeration compressor leak that occurred in December, 1988 (Woodward-Clyde 1996q, Appendix K).

Impacted Soils. Perchloroethylene (PCE) was detected in soil samples at concentrations below Industrial and Residential PRGs. TPHs were detected in soils at various locations on the property. The highest concentration of TPH was 609 mg/kg. Metal concentrations were detected at nonhazardous levels (Woodward-Clyde 1996r, Appendix K).

3.6.2.3.2.3 Figueroa Street

240 Figueroa Street. A Phase I Environmental Assessment indicate that the property has been used for commercial/industrial uses, including a truck wash facility, weigh station, and vehicle repair and maintenance facility, since approximately 1957. Several ASTs and an UST were located at the property in 1996 (Woodward-Clyde 1996v, Appendix K).

Impacted Soils. Soil samples collected from a boring along "C" Street, northwest of the property, did not detect VOCs, petroleum hydrocarbons, or metals (Woodward-Clyde 1996v, Appendix K).

Impacted Shallow Groundwater. A site investigation associated with an underground pressurized pipeline, along the planned realignment of Harry Bridges Boulevard, was conducted by URS Consultants (May 1991) (see Appendix K). VOCs including perchloroethylene, at 16 micrograms/liter (µg/l), and 1,1,1-trichloroethane, at 6 µg/L, were found in a monitoring well located at the corner of Mar Vista and "C" Street. Petroleum hydrocarbons and metals were not detected in groundwater samples.

3.6.2.3.2.4 Mar Vista Avenue

221 Mar Vista Avenue. A Phase I Environmental Site Assessment indicated that the property was used for vehicle repair and maintenance, as of 1990. The property included several USTs, which were reported to contain gasoline, a fuel dispensing island, a bermed vehicle wash area, and a hazardous materials storage yard. The latter included three ASTs and numerous 55-gallon drums. The property has had three Los Angeles County Department of Health Services (LACDHS) violations for improper management of hazardous waste (Woodward-Clyde 1996x; see Appendix K).

Impacted Soils. During a Phase II Site Investigation (Woodward-Clyde 1997a), TPH concentrations, ranging from 52 mg/kg to 360 mg/kg, were detected in soil samples collected from vehicle wash area borings. The following VOCs were detected in concentrations below EPA's PRGs: acetone, methyl ethyl ketone, carbon disulfide, ethylbenzene, methylene chloride, xylenes, and methyl isobutyl ketone. An SVOC (diethyl phthalate), was detected in borings completed in the hazardous materials storage area, at a concentration of 497µg/kg. Title 22 metals were detected at nonhazardous concentrations. Organic lead was not detected using the California LUFT Method.

225 Mar Vista Avenue. A Phase I Environmental Site Assessment indicated that the property was occupied by SGS Control Services, Inc., who performed laboratory analyses of petroleum and agricultural products. This tenant was registered as a RCRA-large quantity generator of hazardous waste (Woodward-Clyde 1996y, Appendix K).

Impacted Soils. Analytical results of the limited Phase II subsurface investigation (Woodward-Clyde 1997b, Appendix K) reported detectable concentrations (10 to 389 mg/kg) of TPH in the vicinity of the flammable liquids and chemicals storage area, hazardous waste and waste oil AST area, and other areas. VOCs were not detected any soil samples. Title 22 metals concentrations were nonhazardous and were within the range of background concentrations. Organochlorine pesticides 4,4'-DDD (0.6 to 5 micrograms per kilogram [ug/kg]), 4,4'-DDE (0.5 to 2 ug/kg), 4,4'-DDT (3 to 6 ug/kg), and dieldrin (2 to 10 ug/kg) were detected.

232 Mar Vista Avenue. A Phase I Environmental Site Assessment completed for Teel's Boat Works, Inc. (Woodward-Clyde 1996z, Appendix K) indicated that the property was mostly vacant since 1928 and that the building was involved in boat repair and maintenance and used resin, catalyst, and solvents. Review of LAFD records indicates that polyester resin and acetone was stored in drums, barrels, and carboys (Woodward-Clyde 1996z, Appendix K).

239 and 241 Mar Vista Avenue. Phase I Environmental Site Assessments (Woodward-Clyde 1996ac, 1997c, Appendix K) indicated that the building at 239 Mar Vista Avenue was occupied by Virlab Developmental Corporation and L.A. Bunker Services, a petroleum testing laboratory that stored and used hazardous materials (Harmsworth Associates 1990). L.A. Bunker Services was identified in the GNRTR database and was registered as a RCRA small generator of hazardous waste. The building at 241 Mar Vista Avenue was formerly occupied by a clothing manufacturing company and did not handle hazardous materials.

Impacted Soils. Analytical results of a limited Phase II subsurface investigation (Woodward-Clyde 1997c, Appendix K) reported TPH in 20 samples collected in five areas of the property, including a former petroleum testing laboratory, toluene drum storage area, former waste oil AST, and various warehouse locations. TPH concentrations ranged from 10 to 856 mg/kg. VOCs were not detected in any soil samples. Also, analytical data in one sample indicated potentially hazardous concentrations of lead (1,740 mg/kg).

251 Mar Vista Avenue. A Phase I Environmental Site Assessment (Woodward-Clyde 1996ad, Appendix K) indicated that historical uses included vehicle parking, automobile maintenance and repair, chemicals manufacturing/use/storage, and flag

and banner manufacturing. The building contained a 4-stage clarifier, which was observed to be stained and to contain free-standing liquids. Historical uses may have generated wastes containing oil, stripped paint, heavy metals (chromium and zinc), textile inks, retardant, catalyst oil, lacquer thinners, petroleum distillates, naphtha, and trichloroethane. Records also indicated that chemicals, flammable substances, and hazardous waste were stored on the property.

Impacted Soils. TPH was detected in soil near the former clarifier and piping, painting booth, former hazardous materials storage area, and outside concrete pad during the Phase II site investigation (Woodward-Clyde 1996ae, Appendix K). A TPH concentration of 5,170 mg/kg was found beneath the paint booth, and other soil samples revealed concentrations ranging from non-detectable to 89 mg/kg. One VOC, carbon disulfide, was detected in a soil sample at a concentration of 2 µg/kg, which is below EPA's PRGs. Title 22 metals were detected at nonhazardous concentrations. No SVOCs were detected.

3.6.2.3.2.5 Hawaiian Avenue

231 Hawaiian Avenue. A Phase I Environmental Site Assessment (Woodward-Clyde 1996ah, Appendix K) indicated this property had an active oil well with minor staining around the well head. The report also indicated that the property was used for automobile parking, storage of scrap metal, drums, and 5-gallon containers of oil. The report identified surficial soil contamination from possible waste oil dumping at the residences adjacent and north of the property. Review of the oil and gas maps and previous reports had indicated the presence of three oil wells. Aerial photographs show four ASTs at the southeastern corner, in 1958.

Impacted Soils. Analytical results of a limited Phase II subsurface investigation (Woodward-Clyde 1996ai, Appendix K) in the automobile servicing area indicated levels below industrial and residential PRG and MCL values of VOCs; PCE (5 ug/kg), toluene (3 to 81 ug/kg), ethylbenzene (2 to 3 ug/kg), xylenes (2 to 10 ug/kg), and 4-methyl-2-pentanone (10 ug/kg) 15 feet bgs samples collected. TPH concentrations ranged from 34 to 7,218 mg/kg. TPHs were not detected in samples collected from borings advanced in the vicinity of the former oil wells and oil ASTs. Title 22 metals were detected at nonhazardous levels.

214 Hawaiian Avenue/223 King Avenue. A Phase I Environmental Site Assessment completed for the combined properties (Woodward-Clyde 1996aj, Appendix K) indicated the properties belonged to the Cunico Corporation, although several businesses were known to have occupied the property in the past, including Cooney Pipe and Copper Works (1969 to 1973) and Stanley Supply Division. Storage of several 55-gallon drums, and heavy ground surface staining were observed on the property.

An oil well and oil tanks were formerly located north of the buildings located at 223 King Avenue. The property appeared to be a manufacturing facility for metal fittings, flanges, and metal parts. Use and storage of chlorinated solvents, non-chlorinated mixed solvents, oils, acids, and welding gases were indicated on the property. The property was listed on the City of Los Angeles Fire Department hazardous materials

database (1987 and 1988). The property was listed in the TRIS database because of a release of copper and nickel.

At the time of the Phase I report (Woodward-Clyde 1996aj, Appendix K) the status of the industrial wastewater discharge permit was not known, however previous reports indicated that the property was a permitted industrial wastewater discharge facility in 1989. Effluents generated were from metal cleaning, degreasing, tumbling, and equipment testing operations and were discharged to the sewer through a wastewater clarifier (ERCE 1990, Appendix K).

3.6.2.3.2.6 King Avenue

228 King Avenue. Near-surface soil sampling was reported to contain lead at the 150-mg/kg Residential PRG, benzo(a)pyrene (0.50 mg/kg) above the 0.062-mg/kg Residential PRG, and benzo(k)fluoranthene (0.98 mg/kg) above the 0.38-mg/kg Residential PRG (personal communication, Neil Irish 2007, The Source Group, Inc.).

233 King Avenue. Phase I and Phase II Environmental Site Assessments indicated that the southeastern corner of the site was occupied by two ASTs, from 1957 to 1973. Several vacuum trucks, roll-off bins, metal containers, 55-gallon drums, and parked semi-trucks, as well as a 500-gallon AST, hoses, and equipment were observed on the property (Woodward-Clyde 1996ak, Appendix K).

There is a plugged and abandoned oil well on-site, previously operated by Exxon. A 3-inch diameter Exxon pipeline is indicated on substructure utility maps as entering the property from the eastern boundary and it is not known if this subsurface pipeline was abandoned or removed.

Impacted Soils. Analytical results of a limited Phase II site characterization (Woodward-Clyde 1996al, Appendix K) indicated low levels (less than industrial and residential PRG and MCL values) of VOCs, PCE (2 to 13 ug/kg) and xylenes (0.6 to 2 ug/kg). Results also showed elevated concentrations (greater than 1,000 mg/kg) of TPH, with the highest concentration detected at 13,190 mg/kg. TPHs were detected in samples in the vicinity of the oil pipeline, former oil wells, former oil ASTs, and miscellaneous storage areas. Also, analytical data indicated potentially hazardous concentrations of nickel (2,160 mg/kg) in one sample. Subsequent near-surface soil sampling in 2006 was reported to contain lead (420 mg/kg) above the 150-mg/kg Residential PRG (personal communication, Neil Irish 2007, The Source Group, Inc.).

3.6.2.3.2.7 Wilmington Blvd.

221 Wilmington Boulevard. The property is part of the former Wilmington Oil Field and two plugged and abandoned oil wells were identified on the property (Woodward-Clyde 1996am, Appendix K). A review of aerial photographs and topographic maps showed various structures, fencing, and ASTs. These facilities were removed between 1973 and 1979. A previous preliminary site assessment conducted on adjacent properties, by Applied Geosciences, Inc. in 1992, revealed property features that included an oil well, truck parking, a maintenance facility, and an exterior storage yard.

Impacted Soils. TPHs were detected in soils to a depth of 10 feet bgs. The highest concentrations, ranging from 1,099 mg/kg to 10,620 mg/kg, were located in the vicinity of the former oil well and associated oil tanks. VOCs, including ethylbenzene and xylenes, were detected in the vicinity of the former oil tanks area. VOC concentrations were measured below EPAs PRGs for industrial and residential scenarios. Title 22 metals were detected at nonhazardous concentrations. Approximately 600 cubic yards of soil in the vicinity of the former oil well area and 100 cubic yards in the vicinity of the former oil tanks area are impacted with petroleum hydrocarbons in excess of 1,000 mg/kg (Woodward-Clyde 1996an, Appendix K).

224 Wilmington Boulevard. Near-surface soil sampling in 2006 was reported to contain lead (240 mg/kg) above the 150-mg/kg Residential PRG (personal communication, Neil Irish 2007, The Source Group, Inc.).

233 Wilmington Boulevard. Near-surface soil sampling in 2006 was reported to contain benzo(a)anthracene (0.88 mg/kg) above the 0.62-mg/kg Residential PRG, benzo(a)pyrene (0.76 mg/kg) above the 0.062-mg/kg Residential PRG, benzo(b)fluoranthene at the 0.62-mg/kg Residential PRG, and benzo(k)fluoranthene (0.89 mg/kg) above the 0.38-mg/kg Residential PRG (personal communication, Neil Irish 2007, The Source Group, Inc.).

3.6.2.3.2.8 Gulf Avenue

220 Gulf Avenue. A Phase I Environmental Site Assessment (Woodward-Clyde 1996ao, Appendix K) indicated that the property had been used primarily for truck and container storage. Los Angeles Fire Department (LAFD) records indicate the presence of USTs, between 1954 and 1958. In addition, two ASTs appear in the 1973 aerial photograph. A hazardous materials inventory of the property listed storage of gasoline, diesel, gear oil, and motor oil, as well as oxygen and acetylene, by CRC Maintenance & Repair, Inc. (Applied Geosciences 1992). Also located within the property were subsurface pipelines, oil tanks, and oil wells. LACDHS records indicate that the property was served a Notice of Violation in July 1990 for improper storage and disposal of waste oil. The issue was reportedly resolved with the removal of waste oil and contaminated soil (Applied Geosciences 1992).

221 Gulf Avenue. A Phase I Environmental Site Assessment (Woodward-Clyde 1996ao, Appendix K) indicated that property was being used for truck and vehicle parking, as well as freight container storage. Historical uses additionally include lumber storage. No permanent structures or ASTs were apparent in any of the maps or aerial photographs of the property between 1894 and 1993 (Woodward-Clyde 1996ap, Appendix K), nor do records indicate that the property had any USTs (Applied Geosciences 1992, Appendix K). In a review of previous reports, the ESA noted that there are various "dark oily stains" throughout the property (Applied Geosciences 1992, Appendix K).

3.6.2.3.2.9 McDonald Avenue

214 and 220 McDonald Avenue. A Phase I Environmental Site Assessment (Woodward-Clyde 1996aq, Appendix K) indicated that the western portion of the property was used for truck and truck-trailer parking while the eastern portion

contained business operations and parking. Previous tenants include D.E. Truck Services and Gonzales Ornamental Iron, at 214 MacDonald, and Shimizu Automotive, plus an oil and industrial supplies company and a cabinet shop. Suspected illegal solvent storage and suspected dumping of chemical was noted. A 1991 audit also located a UST that had been abandoned in place in a parking area adjacent to the Keep On Trucking property.

Impacted Soils. A subsurface investigation conducted in the vicinity of the UST found that no gross contamination of subsurface soil exists in the areas investigated (Woodward-Clyde 1996aq, Appendix K); however, a 1991 study indicated the presence of petroleum hydrocarbons in soils. TPH concentrations ranged from 80 to 650 mg/kg in the gasoline/light naphtha range and acetone was detected at 13µg/kg (URS Consultants 1991, Appendix K). The results indicate the possibility of on-site contamination migration from the abandoned UST located on the adjacent property.

222-226 McDonald Avenue (Northern Half). A Phase I Environmental Site Assessment (Woodward-Clyde 1996as, Appendix K) indicated that two oil wells were present in the eastern portion of the property in 1969. A review of aerial photographs also showed ASTs located on the western corner of the property.

222-226 McDonald Avenue (Southern Half). A Phase I Environmental Site Assessment (Woodward-Clyde 1996at, Appendix K) indicated that two petroleum ASTs were present in the western portion of the property in 1969. This was corroborated by aerial photographs also showing ASTs located on the southwestern corner of the property. The ASTs were removed sometime before 1979.

230 McDonald Avenue. Woodward-Clyde performed a limited Phase II Site Investigation on the property located at 230 McDonald Ave (Woodward-Clyde 1996au, Appendix K). No historic background on the property was provided.

Impacted Soils. Soil borings were conducted around the vicinity of former oil wells, a former oil pipeline, and potential former piping located between ASTs and oil wells. TPHs were detected in the vicinity of the former oil pipeline, at a depth of 5 feet bgs, at a concentration of 374 mg/kg. No TPHs were detected in either the former oil well or AST areas. Phase II recommendations were to monitor and evaluate the site for petroleum hydrocarbons during demolition, to monitor air quality with respect for worker safety, and to evaluate the extent of impacted conditions (Woodward-Clyde November 1996au, Appendix K).

3.6.2.3.2.10 Bayview Avenue

219 and 221 Bayview Avenue. Based on a Phase I Environmental Site Assessment (Woodward-Clyde 1996aw, Appendix K), the property has historically been occupied by industrial facilities, including a metal shop, a boat manufacturing company, and an asbestos products storage yard. A 1,000-gallon UST was abandoned by filling in place in 1965.

Impacted Soil. A limited Phase II Site Characterization indicated that soils beneath the property have been impacted with chemicals associated with chemical storage. Six soil borings were drilled within the property boundary in order to characterize a drum storage

area, 1,000-gallon UST, and other contingency locations (Woodward-Clyde 1996ax, Appendix K). Soil samples were collected up to 5 feet bgs in the vicinity of the drum storage area and contingency locations and 10 feet bgs in the vicinity of the UST. TPHs were detected in soils in the vicinity of the UST, ranging from 22 to 88 mg/kg. VOCs were detected in soils collected from borings associated with the UST and contingency locations. Carbon disulfide (3 to 23 µg/kg), ethylbenzene (0.6 to 1 µg/kg), o-xylene (0.9 to 2 µg/kg) and m/p-xylene (3 to 5 µg/kg) were detected in concentrations below the EPAs Preliminary Remediation Goals for industrial and residential scenarios. Metal elements detected were below total threshold limit concentrations.

3.6.2.3.2.11 Lagoon Avenue

215 Lagoon Avenue. Near-surface soil sampling in 2006 was reported to contain lead at the 150-mg/kg Residential PRG, vanadium (210 mg/kg) above the 78-mg/kg Residential PRG, benzo(a)anthracene (11 mg/kg) above the 0.62-mg/kg Residential PRG, benzo(a)pyrene (1.0 mg/kg) above the 0.062-mg/kg Residential PRG, benzo(b)fluoranthene (6.7 mg/kg) above the 0.62-mg/kg Residential PRG, benzo(k)fluoranthene (9.6 mg/kg) above the 0.38-mg/kg Residential PRG, and chrysene (19 mg/kg) above the 3.8-mg/kg Residential PRG (personal communication, Neil Irish 2007, The Source Group, Inc.).

217 Lagoon Avenue. North American Environmental, Inc. (NAE) formerly used the property located at 217 North Lagoon Avenue to store and transport waste polychlorinated biphenyl (PCB) oils. NAE vacated the property prior to having completed site closure (i.e., completed remediation of contaminated soil and/or groundwater), as required by the California Department of Toxic Substance Control (DTSC). Therefore, the Port, as property owner, completed several phases of site characterization and remediation activities at the NAE site, under jurisdiction of the DTSC. An initial closure plan was completed in 1994 in association with remediation of PCB contaminated soils and containment structures caused by past site operations. Addendums to this closure plan were submitted in 1995 and 1996 (POLA 1999, Appendix K).

Impacted Soil. Subsequently, a UST was discovered in 1997. Approximately 50 cubic yards of petroleum hydrocarbon contaminated soil was removed during UST removal. Select confirmation soil samples contained lead at concentrations slightly above background levels, but well below risk-based PRGs established for the site (POLA 1999, Appendix K).

Impacted Shallow Groundwater. Benzene is the only constituent detected in the groundwater above action levels (PRGs and California maximum contaminant levels). Since benzene typically undergoes natural attenuation and the groundwater is not considered potable water, the Port has recommended to the DTSC that clean closure status be granted with respected to onsite groundwater (POLA 1999, Appendix K). Site closure was subsequently granted for the site, indicating that no additional site assessment or remediation is required (personal communication, Chris Foley 2007, LAHD Environmental Affairs Officer, Environmental Management Division.

3.6.2.4 Potential Site Contamination

3.6.2.4.1 TraPac Container Terminal Area

Based on the site assessment reports discussed above, the following is a summary of soil and groundwater contamination in the TraPac Terminal area. These sites, as well as others sites within the TraPac site boundary, are also summarized in Table 3.6-1.

- Soil beneath Berths 142, 143, and 144 have been impacted with chemicals associated with operations conducted at a former creosote facility. Organic compounds present at the site include SVOCs, PAHs, VOCs, and fuel range petroleum hydrocarbons. Dioxin concentrations have also been detected in soil in shallow electrical conduit trenches. Inorganic constituents include arsenic, chromium, hexavalent chromium, copper, lead, and zinc. Dissolved and liquid phase creosote plumes have also been identified in groundwater at the former wood treatment facility.
- Petroleum hydrocarbons may be present in the subsurface at Berth 144, due to a pipeline leak.
- Approximately 2,515 cubic yards of lead and petroleum hydrocarbon contaminated soil, extending to 5 feet bgs along the waterfront and 1 foot bgs in the backland areas. Free-phase petroleum hydrocarbons were detected in groundwater along the eastern property boundary. Lead is present in groundwater in excess of State and Federal maximum contaminant levels.
- TPH, metals, oil and grease, and benzene may be present in soil and/or groundwater in the vicinity of train maintenance facilities at the Pier A rail yard.
- TPH, VOCs, and SVOCs may be present in soil and/or groundwater in the vicinity of an oil well at the Pier A rail yard.
- Site assessments completed for the property located immediately to the south of the proposed PHL rail yard site indicate that the soils and groundwater have been impacted with metals, volatile organic compounds, semi-volatile organic compounds, and total petroleum hydrocarbons (as diesel fuel).
- Soil sampling at a West Water Street facility indicate the presence of lead in soils at or above the hazardous waste screening threshold. Presence of TPH in diesel and oil ranges was detected in very low concentrations in soil and groundwater. Nitrates, nitrites, and phosphates have been encountered in soils and groundwater in low concentrations. Toluene may also be present in soils at the site.

3.6.2.4.2 Harry Bridges Boulevard Buffer Area

Based on the site assessment and remediation reports discussed above, the following is a summary of soil and groundwater contamination in the buffer area. These sites, as well as others sites within the TraPac site boundary, are also summarized in Table 3.6-1.

Table 3.6-1. Known On-site Soil Contamination

Proposed Project Area Requiring Remediation	*Identified Contamination*
Berth 142-144	SVOCs, PAHs, VOCs, fuel range petroleum hydrocarbons, dioxin, arsenic, chromium, copper, lead, and zinc, associated with former creosote facility.
Berth 144	Petroleum hydrocarbons due to pipeline leak, currently under investigation.
Berth 147	Lead concentrations in soil above risk-based action levels. Approximately 2,515 cubic yards of petroleum hydrocarbon contaminated soil, extending to 5 feet bgs along the waterfront and 1 foot bgs in the backland areas.
Pier A Rail Yard	Possible TPH, metals, oil and grease, and benzene in the vicinity of train maintenance facilities.
Pier A Rail Yard	Possible TPH, VOCs, and SVOCs in the vicinity of oil well.
Proposed PHL Rail Y ard	Possible metals, volatile organic compounds, semi-volatile organic compounds, and total petroleum hydrocarbons (as diesel fuel) in soil and groundwater.
West Water Street	Potentially hazardous concentration of lead.
535 West Harry Bridges Blvd.	Approximately 300 cubic yards of petroleum hydrocarbon contaminated soil, associated with pipeline and storage infrastructure.
831 W Harry Bridges Blvd.	Lead (320 mg/kg) reported above the Residential PRG.
921 W Harry Bridges Blvd.	Arsenic (35 mg/kg) above background levels and PRGs.
927 W Harry Bridges Blvd.	Arsenic (57 mg/kg) above background levels and PRGs.
1001 West Harry Bridges Blvd.	Petroleum hydrocarbons to depth of 10 feet.
1113 W Harry Bridges Blvd.	Lead (420 mg/kg) reported above the Residential PRG.
1231 W Harry Bridges Blvd.	Arsenic (22 mg/kg) above background levels and PRGs, and chromium (420 mg/kg) above the Residential PRG.
600-604 West "C" Street	Petroleum hydrocarbons to depth of 5 feet.
822 West "C" Street	Approximately 1,100 cubic yards of petroleum hydrocarbons to depth of 10 feet.
1032 and 1130 West "C" Street	Petroleum hydrocarbons at various locations.
225 Mar Vista Avenue	Petroleum hydrocarbons and pesticides.
239-241 Mar Vista Avenue	Petroleum hydrocarbons and potentially hazardous concentrations of lead.
251 Mar Vista Avenue	Approximately 60 cubic yards of petroleum hydrocarbon impacted soil.
231 Hawaiian Avenue	Petroleum hydrocarbons to a depth of 15 feet.
214 and 223 King Avenue	Release of copper and nickel.
228 King Ave.	Lead (150 mg/kg) reported at the Residential PRG, and two PAHs reported above the Residential PRGs.
233 King Avenue	Potentially hazardous concentration of nickel, elevated petroleum hydrocarbons, limited VOCs, and lead above residential PRGs.
221 Wilmington Avenue	Approximately 700 cubic yards of petroleum hydrocarbon impacted soil, to a depth of 10 feet.
224 Wilmington Blvd.	Lead (240 mg/kg) reported above the Residential PRG.
233 Wilmington Blvd.	Four PAHs reported above at or above the Residential PRGs.
214 and 220 McDonald Avenue	Petroleum hydrocarbons, possibly from UST on adjacent property.
222-226 McDonald Avenue	Petroleum hydrocarbons associated with two abandoned oil wells and associated former ASTs
230 McDonald Avenue	Petroleum hydrocarbons, to a depth of 5 feet.
215 Lagoon Ave.	Lead (150 mg/kg), vanadium (210 mg/kg), and five PAHs reported above at or above the Residential PRGs.

- Soils at 535 West Harry Bridges Blvd. contain TPH levels of 4,140 mg/kg in association with pipeline and storage infrastructure. The contamination volume is estimated at approximately 300 cubic yards of soil.
- Approximately 280 cubic yards of soil impacted with TPHs was removed from the vicinity of a UST and fuel dispenser in a previous remediation action at 607 West Harry Bridges Blvd. Site closure was granted.
- Approximately 20 cubic yards of lead-impacted soil will be removed from 831 W. Harry Bridges Boulevard.
- Approximately 10 cubic yards of arsenic-impacted soil will be removed from 921 W. Harry Bridges Boulevard.
- Approximately 10 cubic yards of arsenic-impacted soil will be removed from 927 W. Harry Bridges Boulevard.
- Approximately 40 cubic yards of lead-impacted soil will be removed from 1113 W. Harry Bridges Boulevard.
- Approximately 50 cubic yards of arsenic and chromium-impacted soil will be removed from 1231 W. Harry Bridges Boulevard.
- Petroleum hydrocarbons are present to a depth of 5 feet in the vicinity of former oil wells and pipelines at 600/604 West "C" Street.
- An estimated 1,100 cubic yards of soils may be impacted with petroleum hydrocarbons at 822 West "C" Street.
- Petroleum hydrocarbons were detected at various locations at 1032 and 1130 West "C" Street.
- A groundwater well at 240 Figueroa Street detected low concentrations of perchloroethylene and 1,1,1-trichloroethane in a groundwater monitoring well.
- Low levels of TPH, VOCs, and SVOCs are present in soils at 221 Mar Vista Avenue.
- Petroleum hydrocarbons, pesticides, and nonhazardous concentrations of metals are present at 225 Mar Vista Avenue.
- Soils at the combined properties of 239 and 241 Mar Vista Avenue contain petroleum hydrocarbons and potentially hazardous concentrations of lead.
- Approximately 60 cubic yards of soil are impacted with petroleum hydrocarbons, at concentrations up to 5,170 mg/kg, on the property located at 251 Mar Vista Avenue.
- Contaminants found in soil samples at 231 Hawaiian Avenue include petroleum hydrocarbons, up to 7,218 mg/kg, to a depth of 15 feet bgs.
- A release of copper and nickel was reported at 214 Hawaiian and 223 King avenues.
- Approximately 50 cubic yards of lead and PAH-impacted soil will be removed from 228 King Avenue.
- Potentially hazardous concentrations of nickel, lead, and elevated levels (up to 13,190 mg/kg) of petroleum hydrocarbons, as well as limited VOCs, were detected throughout the property at 233 King Avenue.

- Approximately 700 cubic yards of soil are estimated to be impacted to 10 feet bgs with elevated concentrations (up to 10,620 mg/kg) of petroleum hydrocarbons, at 221 Wilmington Avenue.
- Approximately 30 cubic yards of metal-impacted soil will be removed from 224 Wilmington Avenue.
- Approximately 20 cubic yards of PAH-impacted soil will be removed from 233 Wilmington Avenue.
- Petroleum hydrocarbons concentrations, up to 650 mg/kg, are present in soil at 214 and 220 McDonald Avenue.
- Petroleum hydrocarbons may be present in soils at 222-226 McDonald due to the presence of two abandoned oil wells and associated former ASTs.
- Soils at 230 McDonald Avenue have been impacted by petroleum hydrocarbons, up to 374 mg/kg, to 5 feet bgs.
- Low concentrations of petroleum hydrocarbons and VOCs were found at 219 and 221 Bayview Avenue, at depths of 5 and 10 feet bgs.
- Approximately 50 cubic yards of metal-impacted soil will be removed from 215 Lagoon Avenue.
- At 217 Lagoon Avenue, PCB-contaminated soil was remediated and closure plans were submitted to the DTSC. Approximately 50 cubic yards of soil was excavated during a UST removal due to impacts from petroleum hydrocarbons. Benzene was detected in groundwater above PRGs; however, site closure has been granted based on non-potable groundwater.

3.6.2.4.3 Pier A Rail Yard

Based on the site assessment and remediation reports discussed above, the following is a summary of soil and groundwater contamination in the Pier A rail yard. This site, as well as others sites within the TraPac site boundary, are also summarized in Table 3.6-1.

- Shallow soils are impacted with petroleum constituents. VOCs, PAHs, and metals were all detected above EPA PRGs, including some lead contamination.

3.6.2.4.4 Proposed PHL Rail Yard (near Berth 200)

Based on the site assessment and remediation reports discussed above, the following is a summary of soil and groundwater contamination in the proposed PHL rail yard (near Berth 200). This site, as well as others sites within the TraPac site boundary, are also summarized in Table 3.6-1.

- Shallow soils and groundwater may have been impacted with metals, volatile organic compounds, semi-volatile organic compounds, and total petroleum hydrocarbons (as diesel fuel).

3.6.3 Applicable Regulations

Applicable federal, state, and local laws each contain lists of hazardous materials or hazardous substances that may require special handling if encountered in soil or

groundwater during construction of the proposed Project. These include "hazardous substances" under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and the state Hazardous Substances Account Act (Health and Safety Code Section 25300, et seq.); "hazardous materials" under Health and Safety Code Section 25501, California Labor Code Section 6380 and California Code of Regulations (CCR) Title 8, Section 339; "hazardous substances" under 40 CFR Part 116; and, priority toxic pollutants under CFR Part 122. In addition, "hazardous materials" are frequently defined under local hazardous materials ordinances, such as the Uniform Fire Code.

Generally speaking, "hazardous materials" means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials that are commonly found in soil and groundwater include petroleum products, fuel additives, heavy metals, and volatile organic compounds. Hazardous substances are defined by State and Federal regulations as substances that must be regulated in order to protect the public health and the environment. Hazardous materials are characterized by certain chemical, physical, or infectious properties. CCR Title 22, Chapter 11, Article 2, Section 66261 defines a hazardous material as a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either: (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed of or otherwise managed.

According to Title 22 (Chapter 11, Article 3, CCR), substances having a characteristic of toxicity, ignitability, corrosivity, or reactivity are considered hazardous. Hazardous wastes are hazardous substances that no longer have a practical use, such as material that has been abandoned, discarded, spilled, or contaminated, or which is being stored prior to disposal.

Depending on the type and degree of contamination that is present in soil and groundwater, any of several governmental agencies may have jurisdiction over the proposed Project's site. Generally, the agency with the most direct statutory authority over the affected media is designated as the lead agency for purposes of overseeing any necessary investigation or remediation. Typically, sites that are nominally contaminated with hazardous materials remain within the jurisdiction of local hazardous materials agencies, such as the Los Angeles Fire Department. Sites that have more heavily contaminated soils are more likely to fall under the jurisdiction of the State Department of Toxic Substances Control (DTSC), which is authorized to administer the federal hazardous waste program under the Resource Conservation and Recovery Act and is also responsible for administering the State Superfund Program, under the Hazardous Substance Account Act.

Sites that have contaminated groundwater fall within the jurisdiction of the Los Angeles Regional Water Quality Control Board (RWQCB) and are subject to the requirements of the Porter-Cologne Water Quality Control Act. Contaminated groundwater that is proposed to be discharged to surface waters or to a publicly owned treatment works would be subject to the applicable provisions of the CWA,

including permitting and possibly pretreatment requirements. A NPDES permit is required to discharge pumped groundwater to surface waters, including local storm drains, in accordance with California Water Code Section 13260. Additional restrictions may be imposed upon discharges to water bodies that are listed as "impaired" under Section 303(d) of the CWA, including San Pedro Bay.

In July 2002, USEPA amended the Oil Pollution Prevention regulation at Title 40 of the Code of Federal Regulations, Part 112 (40 CFR 112). The regulation incorporated revisions proposed in 1991, 1993, and 1997. Subparts A through C of the Oil Pollution Prevention regulation are often referred to as the "SPCC Rule" because they describe the requirements for certain facilities to prepare, amend, and implement Spill Prevention, Control, and Countermeasure (SPCC) Plans. These plans ensure that facilities include containment and other countermeasures that would prevent oil spills that could reach navigable waters. In addition, oil spill contingency plans are required as part of this legislation to address spill cleanup measures after a spill has occurred.

3.6.4 Impacts and Mitigation Measures

3.6.4.1 Methodology

Groundwater and onshore soils impacts have been evaluated with respect to several general parameters, including groundwater quality, groundwater quantity, and soil contaminants. The impact of the proposed Project on each of these parameters has been evaluated with respect to the significance criteria listed below.

The assessment of impacts is also based on regulatory controls and on the assumptions that the proposed Project would include the following:

- An individual NPDES permit for storm water discharges or coverage under the General Construction Activity Storm Water Permit would be obtained for the proposed Project.
- The contractor would prepare a Spill Prevention, Control, and Countermeasure (SPCC) Plan and an Oil Spill Contingency Plan (OSCP), which would be reviewed and approved by the California Department of Fish and Game Office of Spill Prevention and Response, in consultation with other responsible agencies. The SPCC Plan would detail and implement spill prevention and control measures to prevent oil spills from reaching navigable waters. The OSCP would identify and plan as necessary for contingency measures that would minimize damage to water quality and provide for restoration to pre-spill conditions.
- All contaminated soil and groundwater occurring as a result of oil spills related to the proposed Project would be remediated, in accordance with LAHD lease conditions and all federal, state, and local regulations.
- In accordance with standard LAHD lease conditions, the Terminal operator would implement a source control program, which provides for the inspection, control, and cleanup of leaks from aboveground tank and pipeline sources, as well as requirements related to groundwater and soil remediation.

Potential impacts to surface water and marine water quality are addressed in Section 3.13, Water Quality Sediments, and Oceanography.

3.6.4.1.1 CEQA Baseline

Section 15125 of the CEQA Guidelines requires EIRs to include a description of the physical environmental conditions in the vicinity of a project that exist at the time of the NOP. These environmental conditions would normally constitute the baseline physical conditions by which the CEQA lead agency determines whether an impact is significant. For purposes of this Draft EIS/EIR, the CEQA Baseline for determining the significance of potential impacts under CEQA is December 2003. CEQA Baseline conditions are described in Table 2-2 of Section 2.4.

The CEQA Baseline represents the setting at a fixed point in time, with no project growth over time, and differs from the "No Project" Alternative (discussed in Section 2.5.1) in that the No Project Alternative addresses what is likely to happen at the site over time, starting from the baseline conditions. The No Project Alternative allows for growth at the proposed Project site that would occur without any required additional approvals.

3.6.4.1.2 No Federal Action/NEPA Baseline

For purposes of this Draft EIS/EIR, the evaluation of significance under NEPA is defined by comparing the proposed Project or other alternative to the No Federal Action scenario. The No Federal Action/NEPA Baseline condition for determining significance of impacts coincides with the "No Federal Action" condition, which is defined by examining the full range of construction and operational activities the applicant could implement and is likely to implement absent permits from the USACE. Therefore, the No Federal Action/NEPA Baseline would not include any dredging, filling of the Northwest Slip, wharf construction or upgrades, or crane replacement. The No Federal Action/NEPA Baseline would include construction and operation of all upland elements (existing lands) for backlands or other purposes. The upland elements are assumed to include:

- Additional backland container operations of up to 57 acres;
- New lighting on additional backlands acreage;
- Relocation of Pier A rail yard and the construction of the new on-dock rail yard;
- Widening of Harry Bridges Boulevard;
- Development of the Harry Bridges Buffer Area (buffer area);
- Removal of the existing administration building, and construction of a new LEED-certified building; and
- Construction of a new 500-space parking lot for ILWU workers.

Unlike the CEQA Baseline, which is defined by conditions at a point in time, the No Federal Action/NEPA Baseline is not bound by statute to a "flat" or "no growth" scenario; therefore, the USACE may project increases in operations over the life of a project to properly analyze the No Federal Action/NEPA Baseline condition. Normally, any ultimate permit decision would focus on direct impacts to the aquatic environment, as well as indirect and cumulative impacts in the uplands determined to

be within the scope of federal control and responsibility. Significance of the proposed Project or alternative is defined by comparing the proposed Project or alternative to the No Federal Action/NEPA Baseline (i.e., the increment). The No Federal Action/NEPA Baseline conditions are described in Table 2-2 of Section 2.4.

The No Federal Action/NEPA Baseline also differs from the "No Project" Alternative, where the Port would take no further action to construct and develop additional backlands (other than the 176 acres that currently exist). Under this alternative, no construction impacts would occur. However, forecasted increases in cargo throughput would still occur as greater operational efficiencies are made.

3.6.4.2 Threshold of Significance

Significance criteria used in this assessment are based on the *Los Angeles City CEQA Threshold Guide* (City of Los Angeles 2006), Port criteria, and the scientific judgment of the report preparers. The effects of a project on groundwater and soils resources are considered to be significant if the project would result in any of the following:

GW-1 Exposure of soils containing toxic substances and petroleum hydrocarbons, associated with prior operations, which would be deleterious to humans, based on regulatory standards established by the lead agency for the site.

GW-2 Changes in the rate or direction of movement of existing contaminants; expansion of the area affected by contaminants; or increased level of groundwater contamination, which would increase risk of harm to humans.

GW-3 Change in potable water levels sufficient to:

- Reduce the ability of a water utility to use the groundwater basin for public water supplies, conjunctive use purposes, storage of imported water, summer/winter peaking, or to respond to emergencies and drought;
- Reduce yields of adjacent wells or well fields (public or private); or
- Adversely change the rate or direction of groundwater flow.

GW-4 Demonstrable and sustained reduction in potable groundwater recharge capacity.

GW-5 Violation of regulatory water quality standards at an existing production well, as defined in the California Code of Regulations (CCR), Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act.

3.6.4.3 Impacts and Mitigation

3.6.4.3.1 Proposed Project

3.6.4.3.1.1 Construction Impacts

Soil and Groundwater Quality

Impact GW-1a: Construction activities may encounter toxic substances or other contaminants associated with historical uses of the Port, resulting in short-term exposure (duration of construction) to construction/operations personnel and/or long-term exposure to future site occupants.

Soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and the proposed buffer area, have been impacted by hazardous substances and petroleum products, as a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation, as described above. All existing Port tenants have contractually agreed to complete restoration of the premises, including clean-up of any hazardous materials contamination on or arising from the premises, before the expiration or earlier termination of each tenant agreement. The LAHD will mitigate contaminated soil and groundwater in the buffer area as required by **Mitigation Measure GW-1.**

CEQA Impact Determination

Grading and construction (e.g., excavations for utilities and foundations) in backland areas could potentially expose construction personnel, existing operations personnel, and future occupants of the site to contaminated soil. Similarly, grading in the proposed buffer area could expose construction personnel and future recreational users to contaminated soil. Human health and safety impacts would be significant pursuant to exposure levels established by Cal/EPA's Office of Environmental Health Hazard Assessment (OEHHA).

Mitigation Measures

GW-1: Site Remediation. Unless otherwise authorized by the lead regulatory agency for any given site, the LAHD shall remediate all contaminated soils within proposed Project boundaries prior to or during demolition and grading activities. Remediation shall occur in compliance with local, state, and federal regulations, as described in Section 3.6.3, and as directed by the Los Angeles Fire Department, DTSC, and/or RWQCB.

Soil remediation shall be completed such that contamination levels are below health screening levels established by OEHHA and/or applicable action levels established by the lead regulatory agency with jurisdiction over the site. Soil contamination waivers may be acceptable as a result of encapsulation (i.e., paving) in backland areas and/or risk-based soil assessments, but would be subject to the discretion of the lead regulatory agency.

Existing groundwater contamination throughout the proposed Project boundary shall continue to be monitored and remediated, simultaneous and/or subsequent to site redevelopment, in accordance with direction provided by the RWQCB.

Unless otherwise authorized by the lead regulatory agency for any given site, areas of soil contamination that shall be remediated prior to, or in conjunction with, project demolition, grading, and construction would include, but not be limited to, the proposed Project areas listed in Table 3.6-1 and summarized on the attached Figure 3.6-3.

GW-2: Contamination Contingency Plan. The following contingency plan shall be implemented to address previously unknown contamination during demolition, grading, and construction:

a) All trench excavation and filling operations shall be observed for the presence of free petroleum products, chemicals, or contaminated soil. Deeply discolored soil or suspected contaminated soil shall be segregated from light colored soil. In the event unexpected suspected chemically impacted material (soil or water) is encountered during construction, the contractor shall notify the Los Angeles Harbor Department's Chief Harbor Engineer, Director of Environmental Management, and Risk Management's Industrial Hygienist. The Port shall confirm the presence of the suspect material and direct the contractor to remove, stockpile or contain, and characterize the suspect material(s) identified within the boundaries of the construction area. Continued work at a contaminated site shall require the approval of the Chief Harbor Engineer.

b) A photoionization detector (or other similar devices) shall be present during grading and excavation of suspected chemically impacted soil.

c) Excavation of VOC-impacted soil will require obtaining and complying with a South Coast Air Quality Management District Rule 1166 permit.

d) The remedial option(s) selected shall be dependent upon a number of criteria (including but not limited to types of chemical constituents, concentration of the chemicals, health and safety issues, time constraints, cost, etc.) and shall be determined on a site-specific basis. Both off-site and on-site remedial options shall be evaluated.

e) The extent of removal actions shall be determined on a site-specific basis. At a minimum, the chemically impacted area(s) within the boundaries of the construction area shall be remediated to the satisfaction of the lead regulatory agency for the site. The Port Project Manager overseeing removal actions shall inform the contractor when the removal action is complete.

f) Copies of hazardous waste manifests or other documents indicating the amount, nature, and disposition of such materials shall be submitted to the Chief Harbor Engineer within 30 days of project completion.

g) In the event that contaminated soil is encountered, all on-site personnel handling or working in the vicinity of the contaminated material shall be trained in accordance with Occupational Safety and Health and Administration (OSHA) regulations for hazardous waste operations. These regulations are based on CFR 1910.120 (e) and 8 CCR 5192, which states that “general site workers” shall receive a minimum of 40 hours of classroom training and a minimum of three days of field training. This training

provides precautions and protective measures to reduce or eliminate hazardous materials/waste hazards at the work place.

h) In cases where potential chemically impacted soil is encountered, a real-time aerosol monitor shall be placed on the prevailing downwind side of the impacted soil area to monitor for airborne particulate emissions during soil excavation and handling activities.

i) All excavations shall be filled with structurally suitable fill material which is free from contamination.

Residual Impacts

Soil and groundwater remediation of known contaminated areas, as outlined in **Mitigation Measure GW-1**, as well as implementation of a contingency plan for potentially encountering unknown soil contamination, as outlined in **Mitigation Measure GW-2,** would reduce health and safety impacts to on-site personnel in backland areas, as well as construction personnel and recreational users of the buffer area, such that residual impacts would be less than significant.

NEPA Impact Determination

The proposed Project would include new wharf construction and other in-water construction activities that would not be part of the No Federal Action Baseline. Excavations completed for new wharf construction could encounter previously unknown soil and/or groundwater contamination. Such discoveries could result in adverse impacts to construction and operations personnel. Impacts would be significant.

Mitigation Measures

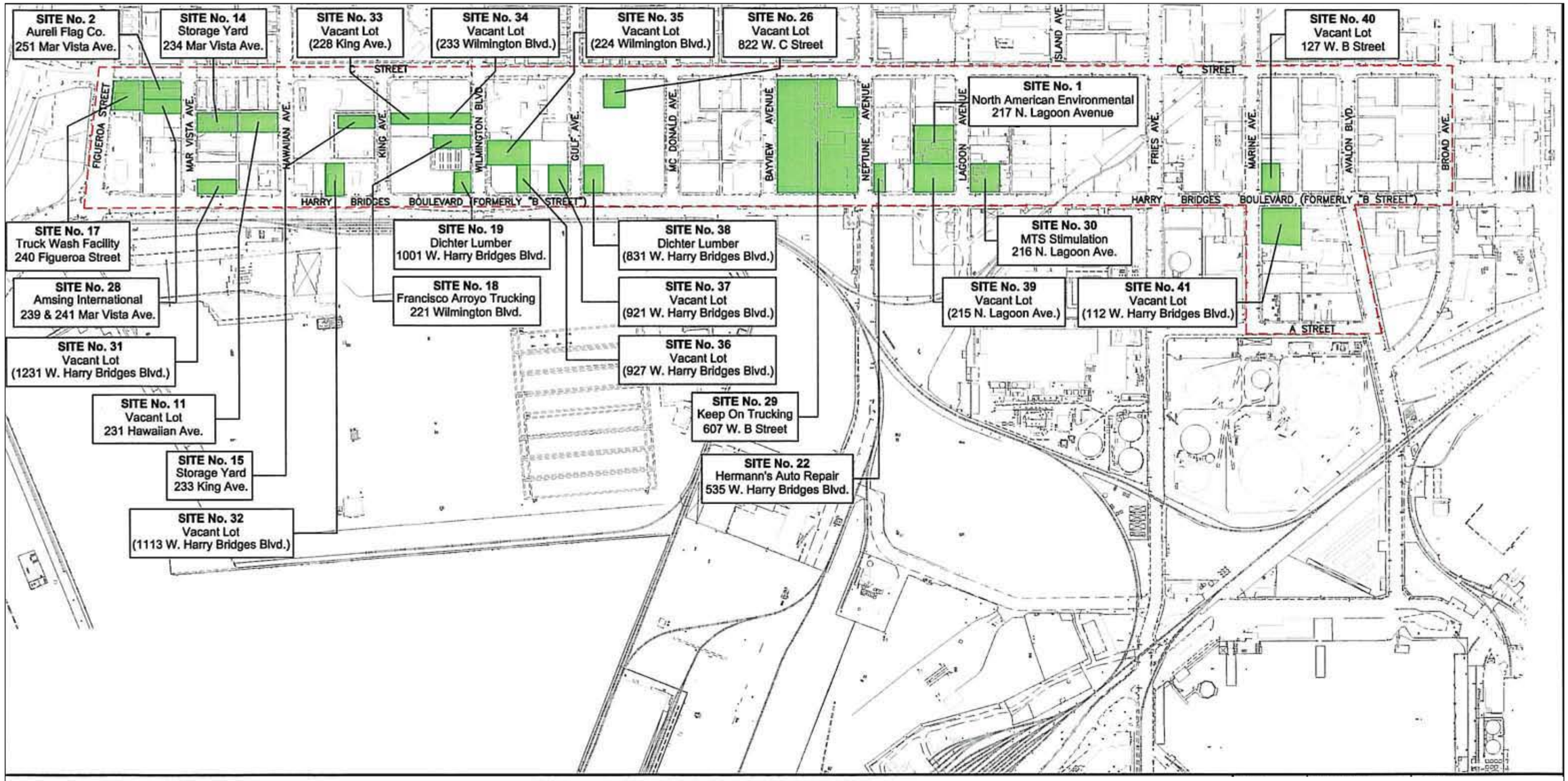
Mitigation Measure GW-2 would be implemented to address previously unknown contamination encountered during new wharf construction.

Residual Impacts

Implementation of a contingency plan for potentially encountering unknown soil contamination, as outlined in **Mitigation Measure GW-2,** would reduce health and safety impacts to on-site personnel, such that residual impacts would be less than significant.

Impact GW-2a: Proposed Project construction would potentially result in expansion of the area affected by contaminants.

As discussed for **Impact GW-1**, soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and the proposed buffer area, have been impacted by hazardous substances and petroleum products, as a result of spills during historic industrial land uses. Excavation and grading in contaminated soils could result in inadvertent spreading of such contamination to areas that were previously unaffected by spills of petroleum products or hazardous substances.



Source: The Source Group, Inc.

Figure 3.6-3. Summary of Pending Areas of Concern

CEQA Impact Determination

Grading and construction (e.g., excavations for utilities and foundations) in backland areas could inadvertently spread contaminated soil to non-contaminated areas, thus potentially exposing construction personnel, existing operations personnel, and future occupants of the site to contaminants. Similarly, grading in the proposed buffer area could potentially spread contaminated soil to non-contaminated areas, thus potentially exposing construction personnel and future recreational users to contaminated soil. Human health and safety impacts would be significant pursuant to exposure levels established by OEHHA.

Mitigation Measures

Mitigation Measures GW-1 and **GW-2** shall be implemented to reduce potential health and safety impacts associated with **Impact GW-2.**

Residual Impacts

Soil and groundwater remediation of known contaminated areas, as outlined in **Mitigation Measure GW-1**, as well as implementation of a contingency plan for potentially encountering unknown soil contamination, as outlined in **Mitigation Measure GW-2,** would reduce health and safety impacts to on-site personnel in backland areas, as well as construction personnel and recreational users of the buffer area, such that residual impacts would be less than significant.

NEPA Impact Determination

The proposed Project would include new wharf construction and other in-water construction activities that would not be part of the No Federal Action/NEPA Baseline. Excavations completed for new wharf construction could encounter previously unknown soil and/or groundwater contamination, which could be inadvertently spread to non-contaminated areas. Such discoveries could result in adverse impacts to construction and operations personnel. Impacts would be significant.

Mitigation Measures

Mitigation Measure GW-2 would be implemented to address previously unknown contamination during new wharf construction.

Residual Impacts

Implementation of a contingency plan for potentially encountering unknown soil contamination, as outlined in **Mitigation Measure GW-2**, would reduce health and safety impacts to on-site personnel, such that residual impacts would be less than significant.

Potable Water Supplies

Impact GW-3a: Proposed Project construction would not result in a change to potable water levels.

Drinking water is provided to the area where the proposed Project would be located by the City of Los Angeles Department of Water and Power. Although shallow groundwater may be locally extracted during construction dewatering operations (e.g., for utility line and foundation excavations), this perched groundwater is highly saline and non-potable. Localized groundwater withdrawal would have no impact on potential underlying potable water supplies.

CEQA Impact Determination

As drinking water is provided to the area where the proposed Project would be located by the City of Los Angeles Department of Water and Power, no impacts would occur under CEQA with respect to changes in potable water levels beneath the site.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

In-water construction activities would have no impact on potential underlying potable water supplies. Impacts would be similar to those described under CEQA and no impacts under NEPA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-4a: Proposed Project construction would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.

Most of the proposed Project area is currently paved and impermeable to groundwater recharge. Construction activities at the proposed Project site would result in removal of pavement in select areas prior to repaving, thus resulting in a temporary increase in groundwater recharge at the site. The proposed Project area is underlain by highly saline, non-potable groundwater, such that any temporary increase in recharge would be inconsequential.

CEQA Impact Determination

Although proposed Project construction would result in a temporary increase in groundwater recharge, the proposed Project site is underlain by saline, non-potable groundwater. Because the water is non-potable, the amount of recharge is irrelevant

with respect to potential utilization of the perched aquifer as a drinking water source. Therefore, any temporary increase in recharge would be inconsequential and no impacts would occur under CEQA with respect to potable groundwater recharge.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

In-water construction activities would have no impact with respect to potential loss of potable groundwater recharge because the proposed Project area is underlain by highly saline, non-potable groundwater. No impacts under NEPA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-5a: Proposed Project construction would not result in violation of regulatory water quality standards at an existing production well.

Drinking water is provided to the proposed Project area by the City of Los Angeles Department of Water and Power. No existing production wells are located in the vicinity of the proposed Project site.

CEQA Impact Determination

As no existing production wells are located in the vicinity of the proposed Project site, no impacts would occur under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As no existing production wells are located in the vicinity of the proposed Project site, no impacts would occur under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

3.6.4.3.1.2 Operations Impacts

Soil and Groundwater Quality

Impact GW-1b: Proposed Project operations would not result in uncovering of toxic substances or other contaminants associated with historical uses of the Port that might result in exposure to operations personnel.

Soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and the buffer area, have been impacted by hazardous substances and petroleum products, as a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation, as described above. Implementation of **Mitigation Measures GW-1** and **GW-2** prior to or during proposed Project demolition, grading, and construction, would reduce on-site contamination to levels acceptable by the applicable lead regulatory agency prior to project operations. In addition, no excavations that might encounter contaminated soil would be completed as part of proposed Project operations.

CEQA Impact Determination

Mitigation Measures GW-1 and **GW-2** would reduce on-site contamination to levels acceptable by the applicable lead regulatory agency. In addition, no excavations that might encounter contaminated soil and/or groundwater would be completed as part of proposed Project operations. Therefore, health and safety impacts associated with contaminated soil and groundwater would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be less than significant residual impacts under CEQA.

NEPA Impact Determination

Mitigation Measures GW-1 and GW-2 would reduce on-site contamination to levels acceptable by the applicable lead regulatory agency, prior to proposed Project operations. In addition, no excavations that might encounter contaminated soil and/or groundwater would be completed as part of proposed Project operations. Therefore,

health and safety impacts associated with contaminated soil and groundwater would be less than significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be less than significant residual impacts under NEPA.

Impact GW-2b: Proposed Project operations would not result in expansion of the area affected by contaminants.

As discussed for **Impact GW-1**, soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and the buffer area, have been impacted by hazardous substances and petroleum products, as a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation, as described above. Implementation of **Mitigation Measures GW-1** and **GW-2** prior to or during proposed Project demolition, grading, and construction, would reduce on-site contamination to levels acceptable by the applicable lead regulatory agency prior to project operations. In addition, no excavations that might encounter contaminated soil, which could be inadvertently spread to non-contaminated areas, would be completed as part of proposed Project operations.

CEQA Impact Determination

Mitigation Measures GW-1 and **GW-2** would reduce on-site contamination to levels acceptable by the applicable lead regulatory agency, prior to proposed Project operations. In addition, no excavations that might encounter contaminated soil, which could be inadvertently spread to non-contaminated areas, would be completed as part of proposed Project operations. Therefore, health and safety impacts associated with contaminated soil and groundwater would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be less than significant residual impacts under CEQA.

NEPA Impact Determination

Mitigation Measures GW-1 and **GW-2** would reduce on-site contamination to levels acceptable by the applicable lead regulatory agency, prior to proposed Project operations. In addition, no excavations that might encounter contaminated soil and/or groundwater would be completed as part of proposed Project operations. Therefore, health and safety

impacts associated with inadvertently spreading contaminated soil to non-contaminated areas would be less than significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be less than significant residual impacts under NEPA.

Potable Water Supplies

Impact GW-3b: The proposed Project operations would not result in a change to potable water levels.

Drinking water is provided to the area where the proposed Project would be located by the City of Los Angeles Department of Water and Power.

CEQA Impact Determination

As drinking water is provided to the area where the proposed Project would be located by the City of Los Angeles Department of Water and Power, no impacts would occur under CEQA with respect to changes in potable water levels beneath the site.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

In-water construction activities would have no impact on potential underlying potable water supplies. Impacts would be similar to those described under CEQA, and no impacts under NEPA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-4b: The proposed Project operations would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.

Most of the proposed Project area is currently paved and impermeable to groundwater recharge. The proposed Project site would similarly be paved subsequent to construction, resulting in continued denied recharge at the site. However, the proposed Project area is underlain by highly saline, non-potable groundwater, such that any denied recharge would be inconsequential.

CEQA Impact Determination

Although paving across most of the site would substantially reduce any groundwater recharge of underlying groundwater, the proposed Project site is underlain by saline, non-potable groundwater. Therefore, less than significant impacts would occur under CEQA with respect to potential loss of potable groundwater recharge.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant under CEQA.

NEPA Impact Determination

In-water construction activities would have no impact with respect to potential loss of groundwater recharge because the proposed Project area is underlain by highly saline, non-potable groundwater. No impacts under NEPA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-5b: The proposed Project operations would not result in violation of regulatory water quality standards at an existing production well.

Drinking water is provided to the proposed Project area by the City of Los Angeles Department of Water and Power. No existing production wells are located in the vicinity of the proposed Project site.

CEQA Impact Determination

As no existing production wells are located in the vicinity of the proposed Project site, no impacts would occur under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As no existing production wells are located in the vicinity of the proposed Project site, no impacts would occur under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

3.6.4.3.2 Alternatives

3.6.4.3.2.1 Alternative 1 – No Project Alternative

3.6.4.3.2.1.1 Construction Impacts

Soil and Groundwater Quality

Impact GW-1a: The No Project Alternative would not cause toxic substances or other contaminants associated with historical uses of the Port to be encountered, potentially resulting in exposure to construction/operations personnel and/or long-term exposure to future site occupants.

Soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and the proposed buffer area have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation, as described under the proposed Project Alternative (refer to Table 3.6-1). All existing Port tenants have contractually agreed to complete restoration of the premises, including clean-up of any hazardous materials contamination on or arising from the premises, before the expiration or earlier termination of each tenant agreement. The LAHD is committed to mitigating contaminated soil and groundwater in the buffer area and is currently in planning phases to implement these remedial efforts in 2007.

CEQA Impact Determination

No new construction or development associated with the No Project Alternative (Alternative 1) would occur and existing groundwater/soil quality and characteristics would remain the same. Therefore, under CEQA, no construction related impacts

associated with groundwater and soils would occur, and no toxic substances or contaminated soils would be exposed that would increase health and safety risks.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

Under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-2a: The No Project Alternative would not potentially result in expansion of the area affected by contaminants.

As discussed for **Impact GW-1a**, soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and the proposed buffer area have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses. However, as no excavation and grading would occur under this alternative, no encounters with contaminated soils would occur.

CEQA Impact Determination

Because no construction, grading, or excavations would occur in backland or other areas, inadvertent spreading of historic soil contamination to areas that were previously unaffected by spills of petroleum products or hazardous substances would not occur. Therefore, personnel and recreation users would not be exposed to contaminated soils and there would be no health and safety impacts under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

Under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Potable Water Supplies

Impact GW-3a: The No Project alternative would not result in a change to potable water levels.

Drinking water is provided to the No Project area by the City of Los Angeles Department of Water and Power. No construction or dewatering operations would occur under this alterative.

CEQA Impact Determination

As drinking water is provided to the No Project area by the City of Los Angeles Department of Water and Power, and no construction would take place under this alternative, no impacts would occur under CEQA with respect to changes in potable water levels beneath the site.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

Under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction) and this alternative would not affect potable water levels. Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-4a: The No Project alternative would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.

Most of the No Project area is currently paved and impermeable to groundwater recharge. Because no construction activities would occur, no removal or addition of pavement would occur that could result in changes to groundwater recharge at the site.

CEQA Impact Determination

No changes to groundwater recharge levels would occur; therefore, no impacts would occur under CEQA with respect to potable groundwater recharge.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

Under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction) and this alternative would not affect groundwater recharge. Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-5a: The No Project alternative would not result in violation of regulatory water quality standards at an existing production well.

Drinking water is provided to the No Project area by the City of Los Angeles Department of Water and Power. No existing production wells are located in the vicinity of the No Project site.

CEQA Impact Determination

As no existing production wells are located in the vicinity of the No Project site, no impacts would occur under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

Under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction) and this alternative would not affect existing production wells. Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

3.6.4.3.2.1.2 Operations Impacts

Soil and Groundwater Quality

Impact GW-1b: No Project operations would not result in uncovering of toxic substances or other contaminants associated with historical uses of the Port that might result in exposure to operations personnel or recreational users.

Soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and buffer area, have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation, as described for the proposed Project.

CEQA Impact Determination

Because no excavations that might encounter contaminated soil/or groundwater would occur as part of No Project Alternative operations, there would be no health and safety impacts under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

Under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-2b: No Project operations would not result in expansion of the area affected by contaminants.

As discussed for Impact **GW-1b**, soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and the buffer area have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation, as described under the proposed Project in Section 3.6.4.3.1.2.

CEQA Impact Determination

No excavations that might encounter contaminated soil, which could be inadvertently spread to non-contaminated areas, would be completed as part of No Project operations. Therefore, there would be no health and safety impacts associated with contaminated soil and groundwater under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

Under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf

construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Potable Water Supplies

Impact GW-3b: No Project Alternative operations would not result in a change to potable water levels.

Under this alternative, no new construction or development would occur; therefore potable water levels would not be affected. Drinking water would continue to be provided to the No Project area by the City of Los Angeles Department of Water and Power.

CEQA Impact Determination

Drinking water would continue to be provided to the No Project area by the City of Los Angeles Department of Water and Power. Under this alternative, no impacts would occur with respect to changes in potable water levels beneath the site under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

Under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-4b: No Project Alternative operations would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.

Most of the No Project area is currently paved and impermeable to groundwater recharge. Under this alternative, no new development would occur. Therefore, there would be no change in permeable surfaces or reduction in groundwater recharge under No Project operations. Since the project area is underlain by highly saline, non-potable groundwater, any continued denied recharge would be inconsequential.

CEQA Impact Determination

Although paving across most the site would continue to substantially reduce any recharge of underlying groundwater, no new development would occur under this alternative. Therefore, there would be no change in permeable surfaces or reduction in groundwater recharge under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

Under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-5b: No Project alternative operations would not result in violation of regulatory water quality standards at an existing production well.

Drinking water would continue to be provided to the No Project area by the City of Los Angeles Department of Water and Power. No existing production wells are located in the vicinity of the No Project site.

CEQA Impact Determination

As no existing production wells are located in the vicinity of the No Project site, no impacts would occur under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

Under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

3.6.4.3.2.2 Alternative 2 – Reduced Project: Proposed Project without the 10-Acre Fill

3.6.4.3.2.2.1 Construction Impacts

Soil and Groundwater Quality

Impact GW-1a: Alternative 2 construction activities may encounter toxic substances or other contaminants associated with historical uses of the Port, resulting in short-term exposure (duration of construction) to construction/operations personnel and/or long-term exposure to future site occupants.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.1, grading and construction (e.g., excavations for utilities and foundations) in backland areas would occur for the Reduced Project Alternative (Alternative 2), as well as grading in the proposed buffer area. Construction impacts would be similar but less than those identified for the proposed Project because the 400-foot Berth 136 wharf extension would not be constructed and the 10-acre (4.0-ha) Northwest Slip would not be filled. In all other respects, **Impact GW-1a** would be the same as the proposed Project. With the potential to expose construction personnel, existing operations personnel, future occupants of the site, and

future recreational users of the Harry Bridges Blvd. Buffer area to contaminated soil during or following grading and excavations, health and safety impacts would be significant under CEQA.

Mitigation Measures

Mitigation Measures GW-1*:* Site Remediation and GW-2: Contamination Contingency Plan (as described under the proposed Project) shall be implemented to reduce potential health and safety impacts.

Residual Impacts

Soil and groundwater remediation of known contaminated areas, as outlined in **Mitigation Measure GW-1**, as well as implementation of a contingency plan for potentially encountering unknown soil contamination, as outlined in **Mitigation Measure GW-2,** would reduce health and safety impacts to on-site personnel in backland areas, as well as construction personnel and recreational users of the buffer area. Residual impacts would be less than significant.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.1, excavations completed for new wharf construction under this alternative could encounter previously unknown soil and/or groundwater contamination. Impacts would be similar to, but slightly less than those described for the proposed Project under the NEPA analysis for **Impact GW-1a,** due to the elimination of some in-water construction activities (i.e., 10-acre [4-ha] fill). Even so, discoveries of unknown soil and/or groundwater contamination could result in adverse impacts to construction and operations personnel. Health and safety impacts would be significant under NEPA.

Mitigation Measures

Mitigation Measure GW-2 would be implemented to address previously unknown contamination encountered during new wharf construction.

Residual Impacts

Implementation of a contingency plan for potentially encountering unknown soil contamination, as outlined in **Mitigation Measure GW-2,** would reduce health and safety impacts to on-site personnel, such that residual impacts would be less than significant.

Impact GW-2a: Alternative 2 construction would potentially result in expansion of the area affected by contaminants.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.1, and as discussed for **Impact GW-1a**, soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and the proposed buffer area have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses. Excavation and

grading as part of Alternative 2 in contaminated backlands soils and grading in the proposed buffer area could result in inadvertent spreading of such contamination to areas that were previously unaffected by spills of petroleum products or hazardous substances. Construction impacts would be less than under the proposed Project as the 10-acre (4.0-ha) fill and 400-foot (122 m) Berth 136 wharf extension would not occur. However, in all other respects, **Impacts GW-2a** would be similar. Because of the potential to expose construction and existing operations personnel, future occupants of the site, and recreational users to contaminated soils, during or following grading and excavations, health and safety impacts would be significant under CEQA.

Mitigation Measures

Mitigation Measures GW-1 and **GW-2** shall be implemented to reduce potential health and safety impacts associated with **Impact GW-2a.**

Residual Impacts

Soil and groundwater remediation of known contaminated areas, as outlined in **Mitigation Measure GW-1**, as well as implementation of a contingency plan for potentially encountering unknown soil contamination, as outlined in **Mitigation Measure GW-2,** would reduce health and safety impacts to on-site personnel in backland areas, as well as construction personnel and recreational users of the buffer area, such that residual impacts would be less than significant.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.1, Alternative 2 would include new wharf construction and other in-water construction activities that would not be part of the No Federal Action/NEPA Baseline. Construction impacts would be less than under the proposed Project as the 10-acre (4.0-ha) fill and 400-foot (122 m) Berth 136 wharf extension would not occur, but in all other respects, **Impact GW-2a** would be the same as the proposed Project. Excavations completed for new wharf construction and wharf renovations could encounter previously unknown soil and/or groundwater contamination, which could be inadvertently spread to non-contaminated areas. Such discoveries could result in adverse impacts to construction and operations personnel. Therefore, health and safety impacts would be significant under NEPA.

Mitigation Measures

Mitigation Measure GW-2 would be implemented to address previously unknown contamination discovered during construction.

Residual Impacts

Implementation of a contingency plan for potentially encountering unknown soil contamination, as outlined in **Mitigation Measure GW-2**, would reduce health and safety impacts to on-site personnel, such that residual impacts would be less than significant.

Potable Water Supplies

Impact GW-3a: Alternative 2 construction would not result in a change to potable water levels.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.1, drinking water is provided to the Alternative 2 area by the City of Los Angeles Department of Water and Power. Although shallow groundwater may be locally extracted during construction dewatering operations (e.g., for utility line and foundation excavations), this perched groundwater is highly saline and non-potable. Localized groundwater withdrawal would have no impact on potential underlying potable water supplies. **Impact GW-3a** would be the same as the proposed Project. No impacts would occur under CEQA with respect to changes in potable water levels beneath the site.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.1, in-water construction activities would have no impact on potential underlying potable water supplies. Impacts would be similar to those described under CEQA, and no impacts under NEPA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-4a: Alternative 2 construction would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.1, most of the Alternative 2 area is currently paved and impermeable to groundwater recharge. Construction activities at the Alternative 2 site would result in removal of pavement in select areas prior to repaving, thus resulting in a temporary increase in groundwater recharge, followed by continued denied groundwater recharge following repaving. However, the Alternative 2 area is underlain by highly saline, non-potable groundwater, such that any changes in recharge would be inconsequential. **Impact GW-4a** would be the same as the

proposed Project, and no impacts would occur under CEQA with respect to potential potable groundwater recharge.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.1, in-water construction activities would have no impact with respect to potential loss of groundwater recharge because the Alternative 2 area is underlain by highly saline, non-potable groundwater. No impacts under NEPA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-5a: Alternative 2 construction would not result in violation of regulatory water quality standards at an existing production well.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.1, drinking water is provided to the Alternative 2 area by the City of Los Angeles Department of Water and Power. **Impact GW-5a** would be the same as described for the proposed Project, as no existing production wells are located in the vicinity of the Alternative 2 site. No impacts would occur under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.1, no existing production wells are located in the vicinity of the Alternative 2 site; therefore, no impacts would occur under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

3.6.4.3.2.2.2 Operations Impacts

Soil and Groundwater Quality

Impact GW-1b: Alternative 2 operations would not result in uncovering toxic substances or other contaminants associated with historical uses of the Port that might result in exposure to operations personnel or recreational users.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.2, soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and the buffer area have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation, as described for the proposed Project. Implementation of **Mitigation Measures GW-1** and **GW-2** prior to or during Alternative 2 demolition, grading, and construction, would reduce on-site contamination to levels acceptable by the applicable lead regulatory agency prior to project operations. In addition, no excavations that might encounter contaminated soil would be completed as part of Alternative 2 operations. Therefore, **Impact GW-1b** would be the same as the proposed Project, and health and safety impacts associated with contaminated soil and groundwater would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be less than significant residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.2, and as described for CEQA, implementation of **Mitigation Measures GW-1** and **GW-2** prior to or during proposed Alternative 2 demolition, grading, and construction, would reduce on-site contamination to levels acceptable by the applicable lead regulatory agency prior to project operations. In addition, no excavations that might encounter contaminated soil and/or groundwater would be completed as part of operations. Therefore, health and safety impacts associated with contaminated soil and groundwater would be less than significant under NEPA for Alternative 2.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be less than significant residual impacts under NEPA.

Impact GW-2b: Alternative 2 operations would not result in expansion of the area affected by contaminants.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.2, and as discussed for Impact **GW-1b**, soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and the buffer area have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation, as described for the proposed Project. Implementation of **Mitigation Measures GW-1** and **GW-2** prior to or during proposed Alternative 2 demolition, grading, and construction, would reduce on-site contamination to levels acceptable by the applicable lead regulatory agency prior to project operations. In addition, no excavations that might encounter contaminated soil, which could be inadvertently spread to non-contaminated areas, would be completed as part of Alternative 2 operations. Therefore, **Impact GW-2b** would be the same as the proposed Project, and health and safety impacts associated with contaminated soil and groundwater would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.2, **Mitigation Measures GW-1** and **GW-2** would reduce on-site contamination to levels acceptable by the applicable lead regulatory agency, prior to Alternative 2 operations. In addition, no excavations that might encounter contaminated soil and/or groundwater would be completed as part of Alternative 2 operations. Therefore, health and safety impacts associated with inadvertently spreading contaminated soil to non-contaminated areas would be less than significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Potable Water Supplies

Impact GW-3b: The Alternative 2 operations would not result in a change to potable water levels.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.2, drinking water is provided to the Alternative 2 area by the City of Los Angeles Department of Water and Power. **Impact GW-3b** would be the same as the proposed Project. Therefore, there would be no impacts under CEQA with respect to changes in potable water levels beneath the site.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.2, in-water construction activities would have no impact on potential underlying potable water supplies. Impacts would be similar to those described under CEQA, and no impacts under NEPA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-4b: Alternative 2 operations would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.2, most of the Alternative 2 area is currently paved and impermeable to groundwater recharge. The Alternative 2 site would similarly be paved subsequent to construction, resulting in continued denied recharge at the site. However, the Alternative 2 area is underlain by highly saline, non-potable groundwater, such that any denied recharge would be inconsequential. Therefore, as for the proposed Project, **Impact GW-4b** would be less than significant under CEQA with respect to potential loss of potable groundwater recharge.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.2, in-water construction activities would have no impact with respect to potential loss of potable groundwater recharge because the Alternative 2 area is underlain by highly saline, non-potable groundwater. No impacts under NEPA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-5b: Alternative 2 operations would not result in violation of regulatory water quality standards at an existing production well.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.2, drinking water is provided to the Alternative 2 area by the City of Los Angeles Department of Water and Power. No existing production wells are located in the vicinity of Alternative 2 site. **Impact GW-5b** would be the same as the proposed Project, and there would be no impacts under CEQA to existing production wells.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.2, no existing production wells are located in the vicinity of the Alternative 2 site; therefore, no impacts would occur under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

3.6.4.3.2.3 Alternative 3 – Reduced Wharf

3.6.4.3.2.3.1 Construction Impacts

Soil and Groundwater Quality

Impact GW-1a: Alternative 3 construction activities may encounter toxic substances or other contaminants associated with historical uses of the Port, resulting in short-term exposure (duration of construction) to construction/operations personnel and/or long-term exposure to future site occupants.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.1, soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and the proposed buffer area have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses. These backland areas are in various stages of contaminant site characterization and remediation, as described for the proposed Project. All existing Port tenants have contractually agreed to complete restoration of the premises, including clean-up of any hazardous materials contamination on or arising from the premises, before the expiration or earlier termination of each tenant agreement. The LAHD is committed to mitigate contaminated soil and groundwater in the buffer area and is currently in planning phases to implement these remedial efforts in 2007.

Grading and construction (e.g., excavations for utilities and foundations) in backland areas would occur as part of the Reduced Wharf Alternative (Alternative 3) construction as well as grading in the proposed buffer area. Construction impacts of this alternative would be similar but less than those identified for the proposed Project because the 400-foot Berth 136 wharf extension and 705-foot new wharf at Berths 145-147 would not be constructed and the 10-acre (4.0-ha) Northwest Slip would not be filled. In all other respects, **Impact GW-1a** would be the same as the proposed Project. Therefore, with the potential to expose construction and existing operations personnel, future occupants of the site, and future recreational users to contaminated soil, health and safety impacts would be significant under CEQA.

Mitigation Measures

Mitigation Measures GW-1: Site Remediation and GW-2: Contamination Contingency Plan (as described under the proposed Project) would be implemented to reduce potential health and safety impacts.

Residual Impacts

Soil and groundwater remediation of known contaminated areas, as outlined in **Mitigation Measure GW-1**, as well as implementation of a contingency plan for

potentially encountering unknown soil contamination, as outlined in **Mitigation Measure GW-2**, will reduce health and safety impacts to on-site personnel in backland areas, as well as construction personnel and recreational users of the buffer area. Residual impacts would be less than significant.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.1, the Reduced Wharf Alternative would include minimal in-water construction activities (i.e., deepening navigation channels and wharf seismic improvements) that are not part of the No Federal Action/NEPA Baseline. Excavations completed for new wharf construction could encounter previously unknown soil and/or groundwater contamination. Such discoveries could result in adverse impacts to construction and operations personnel. Alternative 3 impacts would be significant under NEPA.

Mitigation Measures

Mitigation Measure GW-2 would be implemented to address previously unknown contamination during new wharf construction.

Residual Impacts

Implementation of a contingency plan for potentially encountering unknown soil contamination, as outlined in **Mitigation Measure GW-2,** will reduce health and safety impacts to on-site personnel, such that residual impacts would be less than significant.

Impact GW-2a: Alternative 3 construction would potentially result in expansion of the area affected by contaminants.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.1, and as discussed for **Impact GW-1a**, soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and the proposed buffer area have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses. Grading and construction (e.g., excavations for utilities and foundations) in backland areas as well as grading in the proposed buffer area could inadvertently spread contaminated soil to non-contaminated areas. Construction impacts of this alternative would be similar but less than those identified for the proposed Project because the 400-foot Berth 136 wharf extension and 705-foot new wharf at Berths 145-147 would not be constructed and the 10-acre (4.0 ha) Northwest Slip would not be filled. In all other respects, **Impact GW-2a** would be the same as the proposed Project. With the potential to expose construction and existing operations personnel, future occupants of the site, and future recreational users to contaminated soil, health and safety impacts would be significant under CEQA.

Mitigation Measures

Mitigation Measures GW-1 and **GW-2** shall be implemented to reduce potential health and safety impacts associated with **Impact GW-2a.**

Residual Impacts

Soil and groundwater remediation of known contaminated areas, as outlined in **Mitigation Measure GW-1**, as well as implementation of a contingency plan for potentially encountering unknown soil contamination, as outlined in **Mitigation Measure GW-2,** will reduce health and safety impacts to on-site personnel in backland areas, as well as construction personnel and recreational users of the buffer area, such that residual impacts would be less than significant.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.1, Alternative 3 would include some in-water construction activities that would not be part of the No Federal Action/NEPA Baseline. Excavations completed for wharf renovation could encounter previously unknown soil and/or groundwater contamination, which could be inadvertently spread to non-contaminated areas. Such discoveries could result in adverse impacts to construction and operations personnel, similar to the proposed Project. Therefore, health and safety impacts would be significant under NEPA.

Mitigation Measures

Mitigation Measure GW-2 would be implemented to address previously unknown contamination during wharf renovation.

Residual Impacts

Implementation of a contingency plan for potentially encountering unknown soil contamination, as outlined in **Mitigation Measure GW-2**, will reduce health and safety impacts to on-site personnel, such that residual impacts would be less than significant.

Potable Water Supplies

Impact GW-3a: Alternative 3 construction would not result in a change to potable water levels.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.1, drinking water is provided to the Alternative 3 area by the City of Los Angeles Department of Water and Power. Although shallow groundwater may be locally extracted during construction dewatering operations (e.g., for utility line and foundation excavations), this perched groundwater is highly saline and non-potable. Localized groundwater withdrawal would have no impact on potential underlying potable water supplies. Therefore **Impact GW-3a** would be the same as the proposed Project, and no impacts would occur under CEQA with respect to changes in potable water levels beneath the site.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.1, in-water construction activities would have no impact on potential underlying potable water supplies. Impacts would be similar to those described under CEQA, and no impacts under NEPA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-4a: Alternative 3 construction would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.1, most of the Alternative 3 area is currently paved and impermeable to groundwater recharge. Construction activities at the Alternative 3 site would result in removal of pavement in select area prior to repaving, thus resulting in a temporary increase in groundwater recharge, followed by continued denied recharge following repaving. The Alternative 3 area is underlain by highly saline, non-potable groundwater, such that any changes in recharge would be inconsequential. Therefore **Impact GW-4a** would be similar to the proposed Project, and no impacts would occur under CEQA with respect to potable groundwater recharge.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.1, in-water construction activities would have no impact with respect to potential loss of potable groundwater recharge because the Alternative 3 area is underlain by highly saline, non-potable groundwater. No impacts under NEPA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-5a: Alternative 3 construction would not result in violation of regulatory water quality standards at an existing production well.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.1, drinking water would be provided to the Alternative 3 area by the City of Los Angeles Department of Water and Power. No existing production wells are located in the vicinity of the Alternative 3 site, and as for the proposed Project, no impacts would occur under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.1, no existing production wells are located in the vicinity of the Alternative 3 site; therefore, no impacts would occur under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

3.6.4.3.2.3.2 Operations Impacts

Soil and Groundwater Quality

Impact GW-1b: Alternative 3 operations would not result in uncovering of toxic substances or other contaminants associated with historical uses of the Port that might result in exposure to operations personnel.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.2, soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and the buffer area, have been impacted by

hazardous substances and petroleum products, as a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation, as described for the proposed Project. As indicated in Section 3.6.4.3.1.2, implementation of **Mitigation Measures GW-1** and **GW-2** prior to or during proposed Project demolition, grading, and construction, would reduce on-site contamination to levels acceptable by the applicable lead regulatory agency prior to Alternative 3 operations. Operations impacts of this alternative would be similar but less than those identified for the proposed Project because the 400-foot Berth 136 wharf extension and 705-foot wharf at Berths 145-147 would not be constructed and the 10-acre (4.0 ha) Northwest Slip would not be filled. In all other respects, **Impact GW-1b** would be the same as the proposed Project. In addition, no excavations that might encounter contaminated soil and/or groundwater would be completed as part of Alternative 3 operations. Therefore, health and safety impacts associated with contaminated soil and groundwater would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be less than significant residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.2, **Mitigation Measures GW-1** and **GW-2** would reduce on-site contamination to levels acceptable by the applicable lead regulatory agency, prior to Alternative 3 operations. In addition, no excavations that might encounter contaminated soil and/or groundwater would be completed as part of Alternative 3 operations. Therefore, health and safety impacts associated with contaminated soil and groundwater would be less than significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be less than significant residual impacts under NEPA.

Impact GW-2b: Alternative 3 operations would not result in expansion of the area affected by contaminants.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.2, and as discussed for Impact **GW-1b**, soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and the buffer area, have been impacted by hazardous substances and petroleum products, as

a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation, as described above. As indicated in Section 3.6.4.3.1.2, implementation of **Mitigation Measures GW-1** and **GW-2** prior to or during proposed Project demolition, grading, and construction, would reduce on-site contamination to levels acceptable by the applicable lead regulatory agency prior to Alternative 3 operations. Impacts as a result of operations of this alternative would be similar but less than those identified for the proposed Project because the 400-foot Berth 136 wharf extension and 705-foot wharf at Berths 145-147 would not be constructed and the 10-acre (4.0 ha) Northwest Slip would not be filled. In all other respects, **Impact GW-2b** would be the same as the proposed Project. In addition, no excavations that might encounter contaminated soil, which could be inadvertently spread to non-contaminated areas, would be completed as part of Alternative 3 operations. Therefore, health and safety impacts associated with contaminated soil and groundwater would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be less than significant residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.2, **Mitigation Measures GW-1** and **GW-2** would reduce on-site contamination to levels acceptable by the applicable lead regulatory agency, prior to Alternative 3 operations. In addition, no excavations that might encounter contaminated soil and/or groundwater would be completed as part of Alternative 3 operations. Therefore, health and safety impacts associated with inadvertently spreading contaminated soil to non-contaminated areas would be less than significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be less than significant residual impacts under NEPA.

Potable Water Supplies

Impact GW-3b: Alternative 3 operations would not result in a change to potable water levels.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.2, drinking water is provided to the Alternative 3 area by the City of Los Angeles Department of Water and Power. Therefore, **Impact GW-3b** would be the same as the proposed Project and no impacts would occur under CEQA with respect to changes in potable water levels beneath the site.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.2, in-water construction activities would have no impact on potential underlying potable water supplies. Impacts would be similar to those described under CEQA, and no impacts under NEPA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-4b: Alternative 3 operations would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.2, most of the Alternative 3 area is currently paved and impermeable to groundwater recharge. The Alternative 3 site would similarly be paved subsequent to construction, resulting in continued denied recharge at the site. However, the Alternative 3 area is underlain by highly saline, non-potable groundwater, such that any continued denied recharge would be inconsequential. **Impact GW-4b** would be the same as for the proposed Project and less than significant impacts would occur under CEQA with respect to potable groundwater recharge.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.2, in-water construction activities would have no impact with respect to potential loss of potable groundwater recharge because the Alternative 3 area is underlain by highly saline, non-potable groundwater. No impacts under NEPA would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-5b: Alternative 3 operations would not result in violation of regulatory water quality standards at an existing production well.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.2, drinking water is provided to the Alternative 3 area by the City of Los Angeles Department of Water and Power. No existing production wells are located in the vicinity of Alternative 3 site. **Impact GW-5b** would be the same as the proposed Project, and no impacts would occur under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.2, no existing production wells are located in the vicinity of the Alternative 3 site; therefore, no impacts would occur under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

3.6.4.3.2.4 Alternative 4 – Omni Terminal

3.6.4.3.2.4.1 Construction Impacts

Soil and Groundwater Quality

Impact GW-1a: Alternative 4 construction activities may encounter toxic substances or other contaminants associated with historical uses of the Port, resulting in short-term exposure (duration of construction) to construction/operations personnel and/or long-term exposure to future site occupants.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.1, soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and the proposed buffer area have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation, as described under the proposed Project. All existing Port tenants have contractually agreed to complete restoration of the premises, including clean-up of any hazardous materials contamination on or arising from the premises, before the expiration or earlier termination of each tenant agreement. The LAHD is committed to mitigate contaminated soil and groundwater in the buffer area and is currently in planning phases to implement these remedial efforts in 2007.

Grading and construction (e.g., excavations for utilities and foundations) in backland areas and grading in the proposed buffer area would occur as part of the Omni Terminal (Alternative 4) construction. Impacts of this alternative would be similar but less than those identified for the proposed Project, as no new rail yard, 10-acre (4-ha) fill, wharf construction, and associated dredging would occur. In all other respects, **Impact GW-1a** would be the same as the proposed Project. Because of the potential to expose construction and existing operations personnel, future occupants of the site, and future recreational users to contaminated soil following grading and excavations, health and safety impacts would be significant.

Mitigation Measures

Mitigation Measures GW-1: Site Remediation and GW-2: Contamination Contingency Plan (as described under the proposed Project) would be implemented to reduce potential health and safety impacts.

Residual Impacts

Soil and groundwater remediation of known contaminated areas, as outlined in **Mitigation Measure GW-1**, as well as implementation of a contingency plan for potentially encountering unknown soil contamination, as outlined in **Mitigation Measure GW-2**, will reduce health and safety impacts to on-site personnel in backland areas, as well as construction personnel and recreational users of the buffer area. Similar to the proposed Project, residual impacts would be less than significant.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.1, under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no residual impacts under NEPA.

Impact GW-2a: Alternative 4 construction would potentially result in expansion of the area affected by contaminants.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.1, and as discussed for **Impact GW-1a**, soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and the proposed buffer area have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses. Grading and construction (e.g., excavations for utilities and foundations) in backland areas and grading in the proposed buffer area could inadvertently spread contaminated soil to areas that were previously unaffected by spills of petroleum products or hazardous substances. Under this alternative, no new rail yard, 10-acre (4-ha) fill, wharf construction and associated dredging would occur. In all other respects, **Impact GW-2a** would be the same as the proposed Project. With the potential to expose construction and existing operations personnel, future occupants of the site, and future recreational users to contaminated soils following grading and excavations, health and safety impacts would be significant under CEQA.

Mitigation Measures

Mitigation Measures GW-1 and **GW-2** shall be implemented to reduce potential health and safety impacts associated with **Impact GW-2a.**

Residual Impacts

Soil and groundwater remediation of known contaminated areas, as outlined in **Mitigation Measure GW-1**, as well as implementation of a contingency plan for potentially encountering unknown soil contamination, as outlined in **Mitigation Measure GW-2,** will reduce health and safety impacts to on-site personnel in backland areas, as well as construction personnel and recreational users of the buffer area, such that residual impacts would be less than significant.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.1, under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Potable Water Supplies

Impact GW-3a: Alternative 4 construction would not result in a change to potable water levels.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.1, drinking water is provided to the Alternative 4 area by the City of Los Angeles Department of Water and Power. Although shallow groundwater may be locally extracted during construction dewatering operations (e.g., for utility line and foundation excavations), this perched groundwater is highly saline and non-potable. Localized groundwater withdrawal would have no impact on potential underlying potable water supplies. **Impact GW-3a** would be the same as for the proposed Project, and no impacts would occur under CEQA with respect to changes in potable water levels beneath the site.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.1, under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-4a: Alternative 4 construction would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.1, most of the Alternative 4 area is currently paved and impermeable to groundwater recharge. Construction activities at the Alternative 4 site would result in removal of pavement in select areas prior to repaving, thus resulting in a temporary increase in groundwater recharge, followed by continued denied groundwater recharge following repaving. The Alternative 4 area is underlain by highly saline, non-potable groundwater, such that any changes in recharge would be inconsequential. Therefore, **Impact GW-4a** is the same as for the proposed Project, and no impacts would occur under CEQA with respect to potable groundwater recharge.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.1, under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-5a: Alternative 4 construction would not result in violation of regulatory water quality standards at an existing production well.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.1, drinking water is provided to the Alternative 4 area by the City of Los Angeles Department of Water and Power. No existing

production wells are located in the vicinity of the Alternative 4 site. **Impact GW-5a** would be the same as for the proposed Project, and no impacts would occur under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.1, under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

3.6.4.3.2.4.2 Operations Impacts

Soil and Groundwater Quality

Impact GW-1b: Alternative 4 operations would not result in uncovering toxic substances or other contaminants associated with historical uses of the Port that might result in exposure to operations personnel.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.2, soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and buffer area, have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation, as described for the proposed Project. Implementation of **Mitigation Measures GW-1** and **GW-2** prior to or during proposed Project demolition, grading, and construction, would reduce on-site contamination to levels acceptable by the applicable lead regulatory agency prior to Alternative 4 operations. Operations impacts of this alternative would be similar but less than those identified for the proposed Project because the 400-foot Berth 136 wharf extension and 705-foot wharf at Berths 145-147 would not be constructed and the 10-acre (4.0 ha) Northwest Slip would not be filled. In all other respects, **Impact GW-1b** would be the same as the proposed Project. Because no excavations that

might encounter contaminated soil/or groundwater would occur as part of the Alternative 4 operations, health and safety impacts would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be less than significant residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.2, under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-2b: The Alternative 4 operations would not result in expansion of the area affected by contaminants.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.2, and as discussed for **Impact GW-1b**, soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and the buffer area have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation, as described under the proposed Project. Implementation of **Mitigation Measures GW-1** and **GW-2** prior to or during proposed Project demolition, grading, and construction, would reduce on-site contamination to levels acceptable by the applicable lead regulatory agency prior to Alternative 4 operations. Impacts as a result of operations of this alternative would be similar but less than those identified for the proposed Project because the 400-foot Berth 136 wharf extension and 705-foot wharf at Berths 145-147 would not be constructed and the 10-acre (4.0 ha) Northwest Slip would not be filled. In all other respects, **Impact GW-2b** would be the same as the proposed Project. In addition, no excavations that might encounter contaminated soil, which could be inadvertently spread to non-contaminated areas, would be completed as part of Alternative 4 operations. Therefore, health and safety impacts associated with contaminated soil and groundwater would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be less than significant residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.2, under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Potable Water Supplies

Impact GW-3b: Alternative 4 operations would not result in a change to potable water levels.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.2, drinking water would continue to be provided to the Alternative 4 area by the City of Los Angeles Department of Water and Power. **Impact GW-3b** would be the same as for the proposed Project and no impacts would occur under CEQA with respect to changes in potable water levels beneath the site.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.2, under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under

NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-4b: The Alternative 4 operations would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.2, most of the Alternative 4 area is currently paved and impermeable to groundwater recharge. The project site would similarly be paved subsequent to construction resulting in continued denied groundwater recharge under Alternative 4 operations. Since the project area is underlain by highly saline, non-potable groundwater, any continued denied recharge would be inconsequential. Similar to the proposed Project, **Impacts GW-4b** would be less than significant under CEQA with respect to potable groundwater recharge.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be less than significant residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.2, under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-5b: Alternative 4 operations would not result in violation of regulatory water quality standards at an existing production well.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.2, drinking water would continue to be provided to the Alternative 4 area by the City of Los Angeles Department of Water and Power. No existing production wells are located in the vicinity of the Alternative 4 site. **Impact GW-5b** would be the same as for the proposed Project and no impacts would occur under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

Under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

3.6.4.3.2.5 Alternative 5 – Landside Terminal Improvements

3.6.4.3.2.5.1 Construction Impacts

Soil and Groundwater Quality

Impact GW-1a: Alternative 5 construction activities may encounter toxic substances or other contaminants associated with historical uses of the Port, resulting in short-term exposure (duration of construction) to construction/operations personnel and/or long-term exposure to future site occupants.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.1, soil and groundwater in the Berths 142-147 backland areas, including the Pier A rail yard, have been impacted by hazardous substances and petroleum products, as a result of spills during historic industrial land

uses. These backland areas are in various stages of contaminant site characterization and remediation, as described for the proposed Project. All existing Port tenants have contractually agreed to complete restoration of the premises, including clean-up of any hazardous materials contamination on or arising from the premises, before the expiration or earlier termination of each tenant agreement. The LAHD is committed to mitigate contaminated soil and groundwater in the buffer area and is currently in planning phases to implement these remedial efforts in 2007.Grading and construction (e.g., excavations for utilities and foundations) in backland areas and grading in the proposed buffer area would occur as part of the Landside Terminal Improvements Alternative (Alternative 5) construction. Under this alternative, no new wharf construction, associated dredging, or 10-acre (4-ha) fill would occur, thus resulting in less impacts than the proposed Project. In all other respects, **Impact GW-1a** would be the same as the proposed Project. With the potential to expose construction and existing operations personnel, future occupants of the site, and future recreational users to contaminated soil following grading and excavations, health and safety impacts would be significant under CEQA.

Mitigation Measures

Mitigation Measures GW-1: Site Remediation and GW-2: Contamination Contingency Plan (as described under the proposed Project) would be implemented to reduce potential health and safety impacts.

Residual Impacts

Soil and groundwater remediation of known contaminated areas, as outlined in **Mitigation Measure GW-1**, as well as implementation of a contingency plan for potentially encountering unknown soil contamination, as outlined in **Mitigation Measure GW-2,** will reduce health and safety impacts to on-site personnel in backland areas, as well as construction personnel and recreational users of the buffer area. Similar to the proposed Project, residual impacts would be less than significant.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.1, under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-2a: Alternative 5 construction would potentially result in expansion of the area affected by contaminants.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.1, and as discussed for **Impact GW-1a**, soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and the proposed buffer area have been impacted by hazardous substances and petroleum products, as a result of spills during historic industrial land uses. Grading and construction (e.g., excavations for utilities and foundations) in backland areas and grading in the proposed buffer area could inadvertently spread contaminated soil to non-contaminated areas. Under this alternative, no new wharf construction, associated dredging, or 10-acre (4.0 ha) fill would occur; therefore there would be less impacts than the proposed Project; in all other respects **Impact GW-2a** would be the same. With the potential to expose construction and existing operations personnel, future occupants of the site, and future recreational users to soil contamination following grading and excavation, health and safety impacts would be significant under CEQA.

Mitigation Measures

Mitigation Measures GW-1 and **GW-2** shall be implemented to reduce potential health and safety impacts associated with **Impact GW-2a.**

Residual Impacts

Soil and groundwater remediation of known contaminated areas, as outlined in **Mitigation Measure GW-1**, as well as implementation of a contingency plan for potentially encountering unknown soil contamination, as outlined in **Mitigation Measure GW-2,** will reduce health and safety impacts to on-site personnel in backland areas, as well as construction personnel and recreational users of the buffer area, such that residual impacts would be less than significant.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.1, under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Potable Water Supplies

Impact GW-3a: Alternative 5 would not result in a change to potable water levels.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.1, drinking water is provided to the Alternative 5 area by the City of Los Angeles Department of Water and Power. Although shallow groundwater may be locally extracted during construction dewatering operations (e.g., for utility line and foundation excavations), this perched groundwater is highly saline and non-potable. Localized groundwater withdrawal would have no impact on potential underlying potable water supplies. **Impact GW-3a** would be the same as for the proposed Project, and no impacts would occur under CEQA with respect to changes in potable water levels beneath the site.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.1, under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-4a: Alternative 5 would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.1, most of the Alternative 5 area is currently paved and impermeable to groundwater recharge. Construction activities at the Alternative 5 site would result in removal of pavement in select areas prior to repaving, thus resulting in a temporary increase in groundwater recharge, followed by continued denied groundwater recharge following repaving. However, the Alternative 5 area is underlain by highly saline, non-potable groundwater, such that any changes in recharge would be inconsequential. **Impact GW-4a** would be the same as for the proposed Project and no impacts would occur under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.1, under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-5a: Alternative 5 would not result in violation of regulatory water quality standards at an existing production well.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.1, drinking water is provided to the Alternative 5 area by the City of Los Angeles Department of Water and Power. No existing production wells are located in the vicinity of the Alternative 5 site. **Impact GW-5a** would be the same as for the proposed Project and no impacts would occur under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.1, under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

3.6.4.3.2.5.2 Operations Impacts

Soil and Groundwater Quality

Impact GW-1b: Alternative 5 operations would not result in uncovering toxic substances or other contaminants associated with historical uses of the Port that might result in exposure to operations personnel.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.2, soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and buffer area, have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation, as described for the proposed Project. Implementation of **Mitigation Measures GW-1** and **GW-2** prior to or during proposed Project demolition, grading, and construction, would reduce on-site contamination to levels acceptable by the applicable lead regulatory agency prior to Alternative 5 operations. Under this alternative, no new wharf construction, associated dredging, or 10-acre (4-ha) fill would occur, thus operations impacts would be less than the proposed Project. In all other respects, **Impact GW-1b** would be the same as the proposed Project. Because no excavations that might encounter contaminated soil/or groundwater would occur as part of Alternative 5 operations, there would be no health and safety impacts. Therefore, impacts would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would less than significant residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.2, under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-2b: The Alternative 5 operations would not result in expansion of the area affected by contaminants.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.2, and as discussed for **Impact GW-1b**, soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and the buffer area have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation, as described under the proposed Project. Implementation of **Mitigation Measures GW-1** and **GW-2** prior to or during proposed Project demolition, grading, and construction, would reduce on-site contamination to levels acceptable by the applicable lead regulatory agency prior to Alternative 5 operations. No new wharf construction and associated dredging or 10-acre (4-ha) fill would occur under this alternative. In all other respects, **Impact GW-2b** would be the same as the proposed Project. In addition, no excavations that might encounter contaminated soil, which could be inadvertently spread to non-contaminated areas, would be completed as part of Alternative 5 operations. Therefore, health and safety impacts associated with spread of contaminated soil and groundwater would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be less than significant residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.2, under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under

NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Potable Water Supplies

Impact GW-3b: Alternative 5 operations would not result in a change to potable water levels.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.2, drinking water is provided to the Alternative 5 area by the City of Los Angeles Department of Water and Power. **Impact GW-3b** would be the same as for the proposed Project and no impacts would occur under CEQA with respect to changes in potable water levels beneath the site.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.2, under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-4b: Alternative 5 operations would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.2, most of the Alternative 5 area is currently paved and impermeable to groundwater recharge. The project site would similarly be paved subsequent to construction resulting in continued denied recharge under Alternative 5. However, the Alternative 5 project area is underlain by highly saline, non-potable groundwater, such that any denied recharge would be inconsequential. Similar to the proposed Project, **Impact GW-4b** would be less than significant under CEQA with respect to potable groundwater recharge.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be less than significant residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.2, under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

Impact GW-5b: Alternative 5 operations would not result in violation of regulatory water quality standards at an existing production well.

CEQA Impact Determination

As indicated in Section 3.6.4.3.1.2, drinking water would continue to be provided to the Alternative 5 area by the City of Los Angeles Department of Water and Power. No existing production wells are located in the vicinity of the Alternative 5 site. **Impact GW-5b** would be the same as for the proposed Project, and no impacts would occur under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under CEQA.

NEPA Impact Determination

As indicated in Section 3.6.4.3.1.2, under this alternative, no new construction or development would occur within the in-water project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction), therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, there would be no residual impacts under NEPA.

3.6.4.3.3 Summary of Impact determinations

Table 3.6-2 summarizes the CEQA and NEPA impact determinations of the proposed Project and its alternatives related to Groundwater and Soils, as described in the detailed discussion in Sections 3.6.4.3.1 and 3.6.4.3.2. This table is meant to allow easy comparison between the potential impacts of the Project and its alternatives with respect to this resource. Identified potential impacts may be based on Federal, State, or City of Los Angeles significance criteria, Port criteria, and the scientific judgment of the report preparers.

For each type of potential impact, the table describes the impact, notes the CEQA and NEPA impact determinations, describes any applicable mitigation measures, and notes the residual impacts (i.e.: the impact remaining after mitigation). All impacts, whether significant or not, are included in this table. Note that impact descriptions for each of the alternatives are the same as for the Project, unless otherwise noted.

3.6.4.4 Mitigation Monitoring

- As outlined under the proposed Project construction impacts for groundwater quality, mitigation measures to reduce effects of potentially exposing construction and operations personnel and future recreation users to contaminated soils that may be uncovered during site grading and excavation include: Soil and groundwater remediation of known contaminated areas shall be carried out under **Mitigation Measure GW-1.**

- A contingency plan for potentially encountering unknown soil contamination shall be implemented, as outlined in **Mitigation Measure GW-2.**

These measures would contribute to reducing potential health and safety impacts to on-site personnel in backland areas, as well as construction personnel and recreational users of the buffer area. See section 3.6.4.3.1.1 for details of these measures.

3.6.5 Significant Unavoidable Impacts

The proposed Project and alternatives would have no significant unavoidable impacts.

Table 3.6-2: Summary Matrix of Potential Impacts and Mitigation Measures for Groundwater and Soils Associated with the Proposed Project and Alternatives

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Residual Impacts after Mitigation*
		3.6 Groundwater and Soils		
Proposed Project	**GW-1a:** Proposed Project construction activities may encounter toxic substances or other contaminants associated with historical uses of the Port, resulting in short-term exposure (duration of construction) to construction /operations personnel and/or long-term exposure to future site occupants. l.	CEQA: **Significant** impact NEPA: **Significant** impact	**GW-1,** Site Remediation and **GW-2,** Contingency Plan **GW-2**	CEQA: Less than significant impact NEPA: Less than significant impact
	GW-2a: Proposed Project construction would potentially result in expansion of the area affected by contaminants.	CEQA: **Significant** impact NEPA: **Significant** impact	**GW-1** and **GW-2** **GW-2**	CEQA: Less than significant impact NEPA: Less than significant impact
	GW-3a: Proposed Project construction would not result in a change to potable water levels	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
	GW-4a: Proposed Project construction would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
	GW-5a: Proposed Project Proposed Project construction would not result in violation of regulatory water quality standards at an existing production well.	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
	GW-1b: Proposed Project operations would not result in uncovering toxic substances or other contaminants associated with historical uses that might result in exposure to personnel.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant NEPA: Less than significant
	GW-2b: Proposed Project operations would not result in expansion of the area affected by contaminants.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant NEPA: Less than significant

Table 3.6-2: Summary Matrix of Potential Impacts and Mitigation Measures for Groundwater and Soils Associated with the Proposed Project and Alternatives (continued)

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Residual Impacts after Mitigation*
3.6 Groundwater and Soils (continued)				
Proposed Project (continued)	**GW-3b:** Proposed Project operations would not result in a change to potable water levels.	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
	GW-4b: Proposed Project operations would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.	CEQA: Less than significant impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: No impact
	GW-5b: Proposed Project would not result in violation of regulatory water quality standards at an existing production well.	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
Alternative 1 (No Project)	**GW-1a:** The No Project Alternative would not cause toxic substances or other contaminants associated with historical uses of the Port to be encountered, potentially resulting in exposure to construction/operations personnel and/or long-term exposure to future site occupants	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
	GW-2a: The No Project Alternative would not potentially result in expansion of the area affected by contaminants.	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
	GW-3a: The No Project Alternative would not result in a change to potable water levels	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
	GW-4a: The No Project Alternative would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
	GW-5a: The No Project Alternative would not result in violation of regulatory water quality standards at an existing production well.	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable

Table 3.6-2: Summary Matrix of Potential Impacts and Mitigation Measures for Groundwater and Soils Associated with the Proposed Project and Alternatives (continued)

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Residual Impacts after Mitigation*
3.6 Groundwater and Soils (continued)				
Alternative 1 (continued)	**GW-1b:** No Project Alternative operations would not result in uncovering toxic substances or other contaminants associated with historical uses that might result in exposure to operations personnel or recreational users.	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
	GW-2b: No Project Alternative operations would not result in expansion of the area affected by contaminants.	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
	GW-3b: No Project Alternative operations would not result in a change to potable water levels.	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
	GW-4b: No Project Alternative operations would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
	GW-5b: No Project Alternative operations would not result in violation of regulatory water quality standards at an existing production well.	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
Alternative 2	**GW-1a:** Alternative 2construction activities may encounter toxic substances or other contaminants associated with historical uses of the Port, resulting in short-term exposure (duration of construction) to construction /operations personnel and/or long-term exposure to future site occupants.	CEQA: **Significant** impact NEPA: **Significant** impact	**GW-1** and **GW-2** **GW-2**	CEQA: Less than significant impact NEPA: Less than significant impact
	GW-2a: Alternative 2 construction would potentially result in expansion of the area affected by contaminants.	CEQA: **Significant** impact NEPA: **Significant** impact	**GW-1** and **GW-2** **GW-2**	CEQA: Less than significant impact NEPA: Less than significant impact
	GW-3a: Alternative 2 construction would not result in a change to potable water levels	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
	GW-4a: Alternative 2 construction would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact

Table 3.6-2: Summary Matrix of Potential Impacts and Mitigation Measures for Groundwater and Soils Associated with the Proposed Project and Alternatives (continued)

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Residual Impacts after Mitigation*
3.6 Groundwater and Soils (continued)				
Alternative 2 (continued)	**GW-5a:** Alternative 2 construction would not result in violation of regulatory water quality standards at an existing production well.	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
	GW-1b: Alternative 2 operations would not result in uncovering toxic substances or other contaminants associated with historical uses that might result in exposure to operations personnel or recreational users.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	GW-2b: Alternative 2 operations would not result in expansion of the area affected by contaminants.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	GW-3b: Alternative 2 operations would not result in a change to potable water levels.	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
	GW-4b: Alternative 2 operations would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.	CEQA: Less than significant impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: No impact
	GW-5b: Alternative 2 operations would not result in violation of regulatory water quality standards at an existing production well.	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
Alternative 3	**GW-1a:** Alternative 3 construction activities may encounter toxic substances or other contaminants associated with historical uses of the Port, resulting in short-term exposure (duration of construction) to construction /operations personnel and/or long-term exposure to future site occupants.	CEQA: **Significant** impact NEPA: **Significant** impact	**GW-1** and **GW-2** **GW-2**	CEQA: Less than significant impact NEPA: Less than significant impact
	GW-2a: Alternative 3 construction would potentially result in expansion of the area affected by contaminants.	CEQA: **Significant** impact NEPA: **Significant** impact	**GW-1** and **GW-2** **GW-2**	CEQA: Less than significant impact NEPA: Less than significant impact

Table 3.6-2: Summary Matrix of Potential Impacts and Mitigation Measures for Groundwater and Soils Associated with the Proposed Project and Alternatives (continued)

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Residual Impacts after Mitigation*
3.6 Groundwater and Soils (continued)				
Alternative 3 (continued)	**GW-3a:** Alternative 3 construction would not result in a change to potable water levels	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact	Mitigation not required	NEPA: No impact
	GW-4a: Alternative 3 construction would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact	Mitigation not required	NEPA: No impact
	GW-5a: Alternative 3 construction would not result in violation of regulatory water quality standards at an existing production well.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact	Mitigation not required	NEPA: No impact
	GW-1b: Alternative 3 operations would not result in uncovering toxic substances or other contaminants associated with historical uses that might result in exposure to operations personnel or recreational users.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
		NEPA: Less than significant impact	Mitigation not required	NEPA: Less than significant impact
	GW-2b: Alternative 3 operations would not result in expansion of the area affected by contaminants.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
		NEPA: Less than significant impact	Mitigation not required	NEPA: Less than significant impact
	GW-3b: Alternative 3 operations would not result in a change to potable water levels.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact	Mitigation not required	NEPA: No impact
	GW-4b: Alternative 3 operations would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
		NEPA: No impact	Mitigation not required	NEPA: No impact
	GW-5b: Alternative 3 operations would not result in violation of regulatory water quality standards at an existing production well.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact	Mitigation not required	NEPA: No impact

Table 3.6-2: Summary Matrix of Potential Impacts and Mitigation Measures for Groundwater and Soils Associated with the Proposed Project and Alternatives (continued)

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Residual Impacts after Mitigation*
3.6 Groundwater and Soils (continued)				
Alternative 4	**GW-1a:** Construction 4 activities may encounter toxic substances or other contaminants associated with historical uses of the Port, resulting in short-term exposure (duration of construction) to construction /operations personnel and/or long-term exposure to future site occupants.	CEQA: **Significant** impact NEPA: Not applicable	**GW-1** and **GW-2** Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	GW-2a: Alternative 4 construction would potentially result in expansion of the area affected by contaminants.	CEQA: **Significant** impact NEPA: Not applicable	**GW-1** and **GW-2** Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	GW-3a: Alternative 4 construction would not result in a change to potable water levels	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
	GW-4a: Alternative 4 construction would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
	GW-5a: Alternative 4 construction would not result in violation of regulatory water quality standards at an existing production well.	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
	GW-1b: Alternative 4 operations would not result in uncovering toxic substances or other contaminants associated with historical uses that might result in exposure to operations personnel or recreational users.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	GW-2b: Alternative 4 operations would not result in expansion of the area affected by contaminants.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	GW-3b: Alternative 4 operations would not result in a change to potable water levels.	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable

Table 3.6-2: Summary Matrix of Potential Impacts and Mitigation Measures for Groundwater and Soils Associated with the Proposed Project and Alternatives (continued)

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Residual Impacts after Mitigation*
3.6 Groundwater and Soils (continued)				
Alternative 4 (continued)	**GW-4b:** Alternative 4 operations would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	GW-5b: Alternative 4 operations would not result in violation of regulatory water quality standards at an existing production well.	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
Alternative 5	**GW-1a:** Alternative 5 construction activities may encounter toxic substances or other contaminants associated with historical uses of the Port, resulting in short-term exposure (duration of construction) to construction /operations personnel and/or long-term exposure to future site occupants.	CEQA: **Significant** impact NEPA: Not applicable	**GW-1** and **GW-2** Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	GW-2a: Alternative 5 construction would potentially result in expansion of the area affected by contaminants.	CEQA: **Significant** impact NEPA: Not applicable	**GW-1** and **GW-2** Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	GW-3a: Alternative 5 construction would not result in a change to potable water levels	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
	GW-4a: Alternative 5 construction would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
	GW-5a: Alternative 5 construction would not result in violation of regulatory water quality standards at an existing production well.	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
	GW-1b: Alternative 5 operations would not result in uncovering toxic substances or other contaminants associated with historical uses that might result in exposure to operations personnel or recreational users.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable

Table 3.6-2: Summary Matrix of Potential Impacts and Mitigation Measures for Groundwater and Soils Associated with the Proposed Project and Alternatives (continued)

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Residual Impacts after Mitigation*
3.6 Groundwater and Soils (continued)				
Alternative 5 (continued)	**GW-2b:** Alternative 5 operations would not result in expansion of the area affected by contaminants.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	GW-3b: Alternative 5 operations would not result in a change to potable water levels.	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
	GW-4b: Alternative 5 operations would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	GW-5b: Alternative 5 operations would not result in violation of regulatory water quality standards at an existing production well.	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
* Unless otherwise noted, all impact descriptions for each of the Alternatives are the same as those described for the proposed Project.				