Section 3.15
Water Quality, Sediments, and Oceanography

SECTION SUMMARY

This section identifies the existing water quality, sediment conditions, and oceanographic conditions in the area of the proposed Project and alternatives and addresses potential impacts that could result from implementing the proposed Project or an alternative. The primary features of the proposed Project and alternatives that could affect these resources include the following: dredging of approximately 21,000 cubic yards at Berths 214–216 and 6,000 cubic yards at Berths 217–220; installation of sheet piles and king piles; backlands improvements; and operation of the terminal until 2026.

Section 3.15, Water Quality, Sediments, and Oceanography, provides the following:

- a description of the existing water and sediment quality in the Los Angeles-Long Beach Harbor (LA/LB Harbor);
- a description of the existing oceanographic parameters in the LA/LB Harbor;
- a description of applicable local, state, and federal regulations and policies regarding water quality and sediment quality;
- a discussion on the methodology used to determine whether the proposed Project or alternatives would adversely affect water quality, sediment quality, or circulation in the proposed project area;
- an impact analysis of both the proposed Project and alternatives; and
- a description of any mitigation measures proposed to reduce any potential impacts, as applicable.

Key Points of Section 3.15:

The proposed Project would improve an existing container terminal, and its operations would be consistent with other uses and container terminals in the proposed project area. The alternatives evaluated included the No Project Alternative, the No Federal Action Alternative, and a Reduced Project Alternative. Construction activities with the potential to impact water quality include dredging and installation of sheet piles and king piles. Potential impacts on water quality from construction include runoff and accidental spills. Potential water quality impacts from operational activities include runoff, vessel spills, illegal discharges, and contaminant escape (leaching). The analysis determined potential impacts were less than significant, and no mitigation was required.

3.15.1 Introduction

This section addresses the potential impacts on water quality, sediments, and circulation that would result from implementing the proposed Project or any alternatives. This section also addresses surface water hydrology and potential for flooding impacts. Potential impacts on groundwater are discussed in Section 3.8, Groundwater and Soils.

3.15.2 Environmental Setting

3.15.2.1 Regional Setting

The proposed Project is located in the Dominguez Watershed, which drains approximately 132 square miles (342 square kilometers). The Dominguez Watershed drains to the Los Angeles/Long Beach Harbor (LA/LB Harbor) which, for water quality regulatory purposes, is considered the receiving water area for the watershed. Los Angeles Harbor (the Harbor) has been physically modified through previous dredging and filling projects, as well as construction of breakwaters, fills, and other structures.

The proposed project site is located on Terminal Island, within an industrial area near the East Basin and Turning Basin in the Harbor. Areas of Los Angeles Harbor have been designated as either Inner or Outer Harbor Habitat, based on biological surveys of LA/LB Harbor, with Outer Harbor areas representing more valuable, biologically productive habitat. Inner Harbor habitat occurs mostly north of the Vincent Thomas Bridge, but is also found in Fish Harbor, at Cabrillo Marina, in the East Channel, and in a few relatively small blind slip areas off the Main Channel (refer to Figures 2-1 and 2-2). In the proposed project area, waters off Berths 214–221 at the YTI Terminal are considered Inner Harbor habitat, while the waters off Berths 222–224 are considered Outer Harbor habitat (LAHD 2004). Both the Los Angeles Harbor and the Long Beach Harbor function oceanographically as one unit due to a connection via Cerritos Channel and because they share Outer Harbor waters. In addition, there is an opening in the Pier 400 causeway designed to enhance tidal circulation.

The LA/LB Harbor oceanographic unit has two major hydrologic divisions: marine and freshwater. The marine hydrologic division is primarily influenced by the Southern California coastal marine environment known as the Southern California Bight. The main freshwater influx into the Harbor is through Dominguez Channel. Another freshwater contributor to the Harbor is the discharge of effluent from the Terminal Island Water Reclamation Plant (TIWRP) into the Outer Harbor. Sheet runoff, storm drain discharges from several large City and County drains, and spillover from the Lake Machado weir also add freshwater to the Harbor during and after storm events.

The waters of LA/LB Harbor are governed by the Los Angeles Regional Water Quality Control Board (RWQCB) Basin Plan and applicable statewide plans, which serve as the state Water Quality Management Plan. The existing beneficial uses of the waters of Inner Los Angeles Harbor, as identified in the *Water Quality Control Plan: Los Angeles Region Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan), include: industrial service supply, navigation, noncontact water recreation, commercial and sportfishing, marine habitat, and preservation of rare and endangered species (Los Angeles RWQCB 1994). Section 303(d) of the Clean Water Act (CWA) requires states (as well as territories and authorized tribes) to develop lists of “impaired waters,” or those that fail to meet applicable water quality standards. The CWA also requires the establishment of total maximum daily loads (TMDLs) for impaired water bodies. TMDLs and allocations for these types of pollutants are normally set in terms of long-term mass loading levels, and the state and U.S. Environmental Protection Agency (EPA) work with stakeholders to weigh many factors in setting waste load and load allocations. A TMDL is defined as "the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background"(40 CFR Section 130.2) such that the capacity of the water body to assimilate pollutant loadings is not exceeded. Upon establishment of TMDLs, the state is required to incorporate the TMDLs along with appropriate implementation measures into the state Water Quality Management Plan (40 CFR Sections 130.6(c)(1), 130.7). TMDLs are divided among existing (and potentially future) loading sources through an allocation process.

Water quality data for the Dominguez Channel and LA/LB Harbor have been evaluated by the Los Angeles RWQCB and EPA as part of the assessment of impaired water bodies of the nation under CWA Section 303(d). Consequently, the 2010 Section 303(d) List identified numerous toxicants as pollutants or stressors to the Harbor's waters. California listing policy allows for the inclusion of pollutants not yet identified by listing designated use impairments such as sediment toxicity, beach closures, and benthic community effects. The Los Angeles/Long Beach Inner Harbor waters (which includes the waters in the proposed project area) were listed for: beach closures, sediment toxicity, and benthic community effects; the pesticide DDT and polychlorinated biphenyls (PCBs) in fish tissue; the polynuclear aromatic hydrocarbons (PAHs) benzo(a)pyrene and chrysene in sediments; and the metals copper and zinc in sediments (SWRCB 2010).

The Los Angeles RWQCB previously amended the Basin Plan (Resolution No. 2004-011) to incorporate a TMDL for bacteria at Los Angeles Harbor, including Inner Cabrillo Beach and the Main Ship Channel (effective 2005). The Basin Plan was also amended (Resolution No. R11-008) to incorporate the TMDL for toxic pollutants in Dominguez Channel and the LA/LB Harbor; this TMDL became effective on March 23, 2012.

The water and sediment quality parameters that could be affected directly by the proposed Project and alternatives include dissolved oxygen (DO), hydrogen ion concentration (or acidity/alkalinity [pH]), turbidity/transparency, and contaminants. Water and sediment quality parameters that could be indirectly affected by the proposed Project and alternatives include nutrients and contaminants. Dredging releases and distributes nutrients and contaminants in the sediments during dredging operations, and removes nutrients and contaminants from the system when sediments are dredged. Other parameters commonly used to describe marine water quality include salinity and temperature. While the proposed Project and alternatives would not directly affect salinity and temperature, they are addressed because stormwater runoff from the proposed project site could affect these conditions in the receiving waters surrounding Berths 212–224.

3.15.2.2 Water Quality

Water quality conditions in the LA/LB Harbor and proposed project area have been summarized from the Water Resources Action Plan (WRAP) (POLA and POLB 2009), results of monthly water quality sampling conducted by the Los Angeles Harbor Department in 2012 (LAHD 2013), the 2008 San Pedro Bay biological baseline study (SAIC 2010), and other sources as cited below. Use of data from 2012 (and earlier for some parameters) to approximate conditions for the CEQA baseline is appropriate because the CEQA baseline period is January through December 2012. For some parameters, data are only collected periodically, so earlier data (e.g., from 2000 and 2008) are provided for context. Data from these studies have also been included because the reports provided analysis of spatial patterns in the Harbor. LAHD conducted monthly water quality sampling at several stations in the Harbor from January through December 2012, including in the proposed project area. These included three stations (LA 30, LA 41, and LA 47) in the channel adjacent to the YTI Terminal (Figure 3.15-1).

No natural freshwater surface features occur at the proposed project site or the remainder of Terminal Island. Surface fresh water generated at or near the proposed project site is from stormwater runoff, which occurs episodically following rain events. Runoff from the YTI Terminal is collected by a stormwater system (consisting of catch basins and drain pipes) that drains into Harbor waters. The quality of the runoff water may reflect loadings from oils, grease, hydrocarbons, dissolved metals, and particulate matter associated with the operation of vessel loading/unloading facilities, container storage and cargo handling areas, and runoff from streets immediately adjacent, which accumulate on the land surfaces during periods of dry weather.

Marine water quality in the LA/LB Harbor is primarily affected by climate, circulation (including tidal currents), and biological activity. Parameters such as salinity, pH, temperature, and transparency/turbidity are influenced primarily by large-scale oceanographic and climatic conditions, while DO and nutrients are related to both local processes and regional conditions. Results from the 2008 biological baseline study indicated that water quality characteristics within the LA/LB Harbor did not exhibit large spatial trends, and the variability of water quality parameters appeared to be related to water temperature rather than habitat types (SAIC 2010).

Dissolved Oxygen

Dissolved oxygen (DO) is a measure of the amount of oxygen dissolved in water that is available to support the marine ecosystem, and is used as a principal indicator of marine water quality. Concentrations vary in response to a variety of processes and conditions, such as:

- respiration of aquatic plants and other organisms;
- oxygen demand from waste discharges;
- surface water mixing through wave action;
- diffusion rates at the water surface;
- water depth; and
- disturbance of anaerobic bottom sediments (those with little or no oxygen).

The Basin Plan (Los Angeles RWQCB 1994) specifies that the mean annual DO concentration of inland surface waters, including bays and estuaries, in the coastal watersheds of Los Angeles and Ventura Counties, shall be 7 milligrams per liter (mg/L, equivalent to parts per million [ppm]) or greater with no event less than 5 mg/L (except when natural conditions cause lesser concentrations), and the mean annual DO concentration in the Outer Harbor area shall be 6 mg/L or higher. Current DO concentrations throughout the LA/LB Harbor generally exceed the 5-mg/L standard, with

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Source: SAIC, 2010

Figure 3.15-1
Location of Inner Harbor Habitat Areas in Los Angeles Harbor and Sampling Stations LA30, LA41, and LA47
Berths 212-224 (YTI) Container Terminal Improvements Project

average values in the 6 to 8 mg/L range, values just under 7 mg/L typical at Inner Harbor stations, and just over 7 mg/L at Outer Harbor stations (POLA and POLB 2009).

During monthly sampling events in 2012 at three stations off the YTI Terminal, DO concentrations ranged from 3.8 to 8.5 mg/L, with mean values at each station between 5.7 and 5.9 mg/L (Figure 3.15-2; LAHD 2013). Most of the lowest oxygen levels (less than 5 mg/L) were recorded in fall and winter (from August to December). The lowest value (3.8 mg/L) was recorded at a depth of one meter in October 2012 across the channel from Berth 213.

pH

Acidity or alkalinity in liquid is expressed as hydrogen ion concentration, or pH. In the ocean, pH typically remains fairly constant due to the buffering capacity of seawater (Sverdrup et al. 1942). It is affected by plant and animal metabolism, by mixing with water with different pH values from external sources and, on a small scale, by disturbances in the water column that cause redistribution of waters with varying pH levels or the resuspension of bottom sediments. In the ocean, pH levels typically range from 8.0 to 8.3.

The pH and buffering capacity at the proposed project site are similar to that of the ocean because the LA/LB Harbor is directly connected to and exchanges seawater with the Pacific Ocean. However, in general, lower pH values are usually recorded in Inner Harbor areas than in Outer Harbor areas (Lyons and Birosik 2007). The Los Angeles RWQCB has established an acceptable range of 6.5 to 8.5 with a change in tolerance level of no more than 0.2 due to discharges (e.g., proposed project impacts) in bays or estuaries (Los Angeles RWQCB 1994). During approximately monthly sampling between January and December 2012 at three stations off the YTI Terminal, mean station pH ranged narrowly from 8.17 to 8.21, with a maximum range between 7.38 and 8.91 units (LAHD 2013).

Transparency

Transparency is a measure of water clarity or the ability of light to pass through water. Transparency can be determined by evaluating turbidity and/or transmissivity, and can be measured in several ways.

- Secchi disk: a visual assessment whereby a person determines the depth in the water column that a black and white (secchi) disk can be seen from the surface;
- Transmissometer: an electronic instrument that measures light attenuation by water as a percent of light transmission;
- Turbidimeter (or nephelometer): an instrument that measures turbidity, or the muddiness or cloudiness of water expressed as a standard unit of measure (nephelometric turbidity units [NTUs]), which quantifies the diffraction of light by particles suspended in the water; and
- Total suspended solids (TSS): The measurement of the amount (mass) of suspended material, including sediments and organic solids, such as algae and detritus in water, and is measured in mg/L.

The Los Angeles Region Basin Plan prohibits turbidity (solids) from adversely affecting beneficial uses or causing nuisances, and sets allowable increases in turbidity based on ambient conditions (Los Angeles RWQCB 1994). For instance, when natural turbidity is between 0 and 50 NTUs, increases cannot exceed 20%, and when turbidity is greater than 50 NTUs, increases cannot exceed 10%. The Basin Plan also allows for exceptions during issuance of Waste Discharge Requirements (WDRs).

Increased turbidity usually results in decreased transparency. Turbidity generally increases because of one or a combination of the following conditions: fine sediment from terrestrial runoff or resuspension of fine bottom sediments by currents or disturbance; algal blooms; and dredging activities. Propeller wash from ships moving in and out of the Harbor is also a source of mixing in the water column that may temporarily disturb bottom sediments and affect transparency, especially in narrower channels in the Inner Harbor.

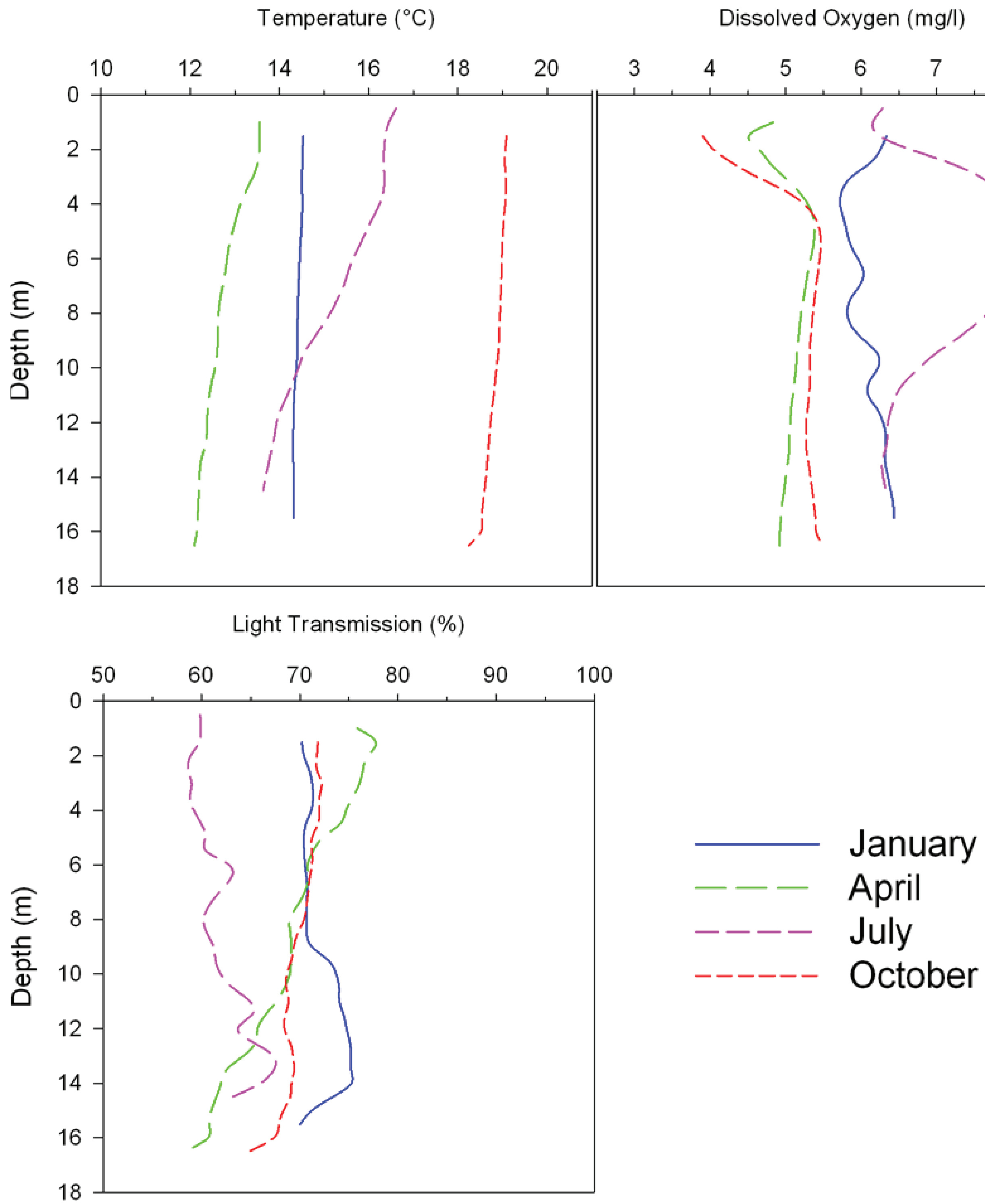
Historically, water clarity in the Harbor has varied tremendously, with secchi disk readings ranging from 0 to 40 feet (0 to 12 meters). However, water clarity has been fairly consistent for the last 40 years, with a slight increase from 1968 to 2006 (USACE and LAHD 2007, Berths 136–147 [TraPac] Container Terminal Project DEIS/DEIR). During approximately monthly sampling between January and December 2012 at three stations off the YTI Terminal, mean station light transmission ranged from 65.2% to 71.1%, with a maximum range between 25.1% and 82.8% (LAHD 2013). Light transmission varied little, with mean values among four depth strata ranging between 63.5% and 69.9% (Figure 3.15-2). Turbidity was also measured between January and December 2012. Mean turbidity at the three stations ranged between 1.3 and 1.8 NTUs, with a range throughout the water column between 0.3 and 8.7 NTUs. Highest values were recorded near the surface in April and August.

Total suspended solids—a measure of filterable solids in water—was measured monthly at two of the three stations off the YTI Terminal (Stations LA 30 and LA 47) in 2012; results ranged from 1.0 to 7.1 ppm (LAHD 2013). A Harbor-wide monitoring study of contaminant levels in Harbor waters was performed in May 2012. Grab samples were collected at the surface and at mid-depth at each station. At the three stations nearest to the YTI Terminal (Stations LA 30, LA 41, and LA 47), TSS concentrations ranged from 2.2 to 13.3 mg/L (AMEC 2012).

Chemical and Biological Contaminants

Contaminants in Harbor waters can originate from a number of sources in and outside the Harbor. Potential sources of trace metals and organics include: municipal and industrial wastewater discharges, stormwater runoff from drainage channels (e.g., Dominguez Channel) and storm drains, local surface and storm drain runoff from within the Port area, municipal wastewater treatment effluents (i.e., TIWRP), dry weather flows, leaching from antifouling paints (applied to ship hulls to prevent growth of attached organisms, such as barnacles and mussels), petroleum or waste spills, atmospheric deposition, and resuspension of bottom sediments containing legacy (i.e., historically deposited) contaminants such as DDT and PCBs. In general, operational controls required of dischargers, and both non-structural and structural controls of stormwater runoff and discharge sources have reduced the input of contaminants into the Harbor over time.

Most of the dissolved or particulate organic contaminants that enter the Harbor have a low solubility in water and adsorb onto (adhere to the surface of) particulate matter that eventually settles to the bottom and accumulates in bottom sediments. Routine



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Source: LAHD, 2013

Figure 3.15-2
Temperature, Dissolved Oxygen, and Light Transmission off the YTI Terminal (Station LA 30) in January, April, July, and October 2012
Berths 212-224 (YTI) Container Terminal Improvements Project

maintenance dredging, capital improvement dredging, and channel deepening projects in the Harbor, including the Deep Draft Navigation Improvement Program and the Port of Los Angeles Channel Deepening Project, resulted in a net removal of contaminated sediments from the Harbor (USACE and LAHD 1992; POLA and POLB 2009). In addition, some contaminated sediment areas have been covered by less contaminated sediments as part of construction of landfills or shallow water habitat (e.g., Cabrillo Shallow Water Habitat), thereby isolating contaminated sediments from exchange with the overlying water.

A study of ambient water contaminant levels in LA/LB Harbor waters was performed beginning in 2005. With the exception of copper in 5 of 253 samples from throughout the LA/LB Harbor, concentrations of dissolved metals did not exceed regulatory criteria for continuous or maximum exposure (POLA and POLB 2009). Copper was detected above California Toxics Rule (CTR) criteria in water samples from two locations in the Harbor—two in the Cabrillo Marina complex (including one sample that exceeded the higher maximum exposure criteria) and one in Fish Harbor. Concentrations of dissolved or particulate organic chemicals (including chlorinated pesticides, PCBs, PAHs, phenols, and phthalates) were consistently very low or not detected in the water column (POLA and POLB 2009). During the study of contaminants in waters throughout the LA/LB Harbor, the antifouling biocide tributyltin (TBT) was detected in 9 of 205 samples collected in the Harbor, with concentrations of TBT in seven of those samples that exceeded the published National Ambient Water Quality Criteria chronic exposure limit (7.4 mg/L; no California-specific criteria, including California Toxics Rule, exist for TBT). Those seven locations, primarily within the Inner Harbor, were in areas typified by limited water circulation. Concentrations of other organic chemicals were low when detected, and concentrations of these contaminants were not a concern in the waters of the LA/LB Harbor (POLA and POLB 2009). A recent Harbor-wide ambient water monitoring study of contaminant levels was performed in May 2012. At the three stations nearest to the YTI Terminal (Stations LA 30, LA 41, and LA 47), concentrations of dissolved metals did not exceed regulatory criteria for continuous or maximum exposure (AMEC 2012). Concentrations of organic chemicals (including chlorinated pesticides, PCBs, PAHs, phenols, pyrethroids, polybrominated diephenyl ethers [PBDEs], butyltins and phthalates) were consistently very low, and usually below detection limits.

Water quality regulations have established a set of indicator bacteria designed to be protective of human health; these include total and fecal coliform bacteria, and enterococcus. Assembly Bill 411 (AB 411) established minimum protective bacteriological standards for waters adjacent to public beaches and water-contact recreational areas. The Basin Plan also includes bacteria standards for water contact recreation with geometric mean limits for each indicator bacterium. In tests conducted during seven Harbor-wide sampling events (three wet and four dry season events) between 2006 and 2008, and during a special study in the East Basin/Consolidated Slip area in 2009, the vast majority of samples had nondetectable levels of indicator bacteria. However, bacterial concentrations in excess of AB 411 and Basin Plan criteria were recorded following storm events. With the exception of the Cabrillo Beach area adjacent to the federal breakwater in the Outer Harbor, Inner Harbor areas are more susceptible to elevated bacteria levels than the Outer Harbor, indicating that Dominguez Channel and other Inner Harbor storm drains are the likely primary source of high bacteria levels (POLA and POLB 2009). During sampling in May 2012, bacterial concentrations at three stations off the YTI Terminal were all well below AB 411 standards (AMEC 2012).

Atmospheric Deposition

Direct atmospheric deposition refers to air pollutants that settle directly on water bodies, whereas indirect atmospheric deposition occurs on upland areas where the pollutants collect and are later conveyed to water bodies during storm events.

Atmospheric Deposition of Organic Pollutants

The atmospheric deposition of pollutants—such as particulates, metals, phthalates, and PAHs—has been linked to pollutant loads in Chesapeake Bay and the Great Lakes (The Delta Institute 2000; Batiuk 2011). In response to such research, California air and water regulators have also begun to examine the role of atmospheric deposition in California waters (both fresh and marine). Still, only limited studies have been undertaken to measure the role of atmospheric deposition in pollutant transport or its contribution to pollutant loading in the LA/LB Harbor (POLA and POLB 2009). Deposition mechanisms are not understood for all potential pollutants, and the assessment of actual concentrations of such pollutants is not complete. The California Air Resources Board (CARB) and State Water Resources Control Board (SWRCB) are in the process of examining the need to regulate atmospheric deposition to protect both fresh and saltwater bodies from pollution.

Atmospheric Deposition of Metals

Indirect dry deposition of metals on land within a watershed can influence stormwater quality in urban areas and can subsequently affect the water quality in downstream water bodies. Sabin et al. (2005) determined trace metal loads from indirect dry deposition to land (not directly to the water surface) of the Los Angeles River, Dominguez Channel, and Ballona Creek watersheds were far larger than the estimated trace metal loads found in stormwater emanating from the same watersheds, which agreed with results from previous studies. Heavy metals from road dust, tire wear, and construction dust adsorb on particulates that are greater than 10 microns in diameter that settle in the watershed, and then are washed into bodies of water in storm runoff (Bishop 2006; Stolzenbach 2006; Sabin et al. 2007). Direct atmospheric deposition of vanadium and nickel as a result of marine vessels burning crude oil has been linked to concentrations observed in air and rainwater (Poor 2002). In contrast to indirect aerial deposition, direct aerial deposition of metals onto the water surface is a minor source of pollutants in the water (Sabin et al. 2005).

Aqueous Sources of Contaminants

Potential contaminants in the Harbor might be derived from sources such as permitted discharges, nonpoint source runoff, illicit dumping of wastes, and leaching of contaminants from sediments into the overlying waters. Data from the Los Angeles RWQCB indicate that permitted discharges to the Dominguez Channel and Los Angeles Harbor include: major NPDES discharge sources (industrial sources with a yearly average flow of 0.1 million gallons per day or more); a publicly owned treatment works (i.e., TIWRP); refineries; minor discharges (discharges other than major discharges); general discharges (covered by general industrial or construction permits); discharges covered under individual industrial stormwater permits; and discharges from municipal storm drains covered under the Los Angeles County municipal separate storm sewers system (MS4) permit. As described above, a number of segments of the bodies of water in the Dominguez Watershed and the LA/LB Harbor are listed under Section 303(d) of the CWA as impaired, including Inner Cabrillo Beach, Cabrillo Marina, Dominquez

Channel (estuary to Vermont), Fish Harbor, Consolidated Slip, and Inner and Outer Harbor waters.

Runoff

Runoff from the proposed project area is collected in catch basins located throughout the YTI Terminal, and is conveyed toward five separate discharge points along the wharf that discharge to the East Basin, East Basin Channel, and Cerritos Channel. All drains are equipped with smart drains to help filter runoff prior to discharge into the harbor waters. Results from stormwater runoff samples indicate the tenant has complied with the General Industrial Activities Stormwater Permit during the last two years (YTI 2012, 2013). Three stormwater samples were analyzed at the YTI Terminal during three storm events in 2011 and 2012:

- pH ranged from 6.5 to 7.2,
- Specific conductance ranged between 560 and 2900 μmho/cm,
- TSS ranged between 21 and 60 mg/L,
- Oil & grease ranged from <2 to 3.8 mg/L, and
- Total organic carbon ranged from 12 to 39 mg/L.

All pH, TSS, and oil & grease values were below benchmark values (regulatory criteria based on potential effects to aquatic life); there are no benchmark values for specific conductance and total organic carbon.

Leachate from Vessel Hulls

Antifouling coatings used on vessel hulls are another source of metals, especially copper and zinc, to waters of the LA/LB Harbor. Some antifouling paints are designed to slowly release biocides that prevent settling and growth of fouling organisms on ship hulls, which otherwise would reduce vessel speeds and increase fuel consumption. Antifouling paints containing TBT were first manufactured and used in the U.S. in the late 1960s and were found to prevent fouling on ships for approximately 5 years (International Maritime Organization 2002). Consequently, TBT has been entering the marine system for more than 40 years through the leaching of TBT from paint and because of paint removal and ship repair activities. Tributyltin is also introduced to the aquatic environment through atmospheric deposition, but actual deposition rates have not been quantified (Mearns et al. 1991). As discussed above, TBT was detected in 9 of 205 ambient samples collected in LA/LB Harbor beginning in 2005, with concentrations of TBT in seven of those samples exceeding the National Ambient Water Quality Criteria chronic exposure limit of 7.4 mg/L (no California-specific standard, including California Toxics Rule, exists for TBT).

In addition to TBT, there are a variety of other compounds found in antifouling coatings on vessels that may enter and dock at terminals. The paint coatings used are dependent on the type of material comprising the hull. TBT or biocide-free silicone-based coatings are used on aluminum hulls, while copper-based coatings are typically applied to steel, fiberglass, glass-reinforced plastic composites, and wood hulls. Copper-based coatings also contain small amounts of zinc, also used as a biocide in antifouling paints, and, as such, both metals will leach from copper coatings of vessels docking at the terminal facility. Water sampling near the YTI Terminal conducted in May 2012 as part of the Port's Enhanced Water Quality Monitoring measured copper concentrations ≤1.5

micrograms per liter (μg/L), which is below the chronic toxicity standard of 3.1 μg/L. As noted above, with the exception of copper in five samples from throughout the LA/LB Harbor, concentrations of dissolved metals did not exceed regulatory limits (POLA and POLB 2009).

Nutrients

Nutrients are necessary for primary production of organic matter by phytoplankton. Spatial and temporal variations in phosphates and nitrates change from day to day and are influenced by the local environment. Sources of nutrients to LA/LB Harbor waters include wastewater discharges, such as the TIWRP, industrial discharges, and stormwater runoff, as well as naturally occurring seasonal upwelling events. While dredging can physically remove nutrient-laden sediments, some of those nutrients can be released into the water column during dredging as well (Jones and Lee 1981). During a Harbor-wide water quality survey in May 2012, ammonia ranged from <0.02 to 0.22 ppm, nitrate concentrations ranged from <0.01 to 0.12 ppm, nitrite concentrations were below detection limits (<0.01 ppm), and phosphorus ranged from 0.049 to 0.394 ppm (AMEC 2012).

Temperature

Water temperatures in the LA/LB Harbor show seasonal and spatial variation that reflects the influence of the ocean, local climate, physical configuration of the harbors, and circulation patterns. General seasonal trends in water temperature consist of uniform, cooler temperatures throughout the water column in the winter and spring, and of stratified, warmer upper water temperatures with cooler waters at the bottom in the summer and fall. The stratified summer and fall conditions may be attributed to warmer ocean currents, local warming of surface waters through insolation, and reduced runoff into nearshore waters.

During monthly sampling between January and December 2012 at three stations off the YTI Terminal, mean station temperatures ranged from 16.1°C to 16.3°C (61°F), with a range throughout the water column from 12.0°C to 20.2°C (54°F to 68°F) (LAHD 2013). Lowest temperatures were recorded near the bottom in April 2012, while warmest temperatures were recorded near the surface in June 2012. At Station LA 30 there was little stratification during three of four seasons depicted in Figure 3.15-2. Temperatures in the inner portions of the LA/LB Harbor occasionally are slightly warmer due to limited mixing with colder, offshore water masses (MEC and Associates 2002; SAIC 2010).

Salinity

Salinity measures the amount of dissolved salts in a water body. Salinities in the LA/LB Harbor usually range from 30.0 to 34.2 parts per thousand (ppt), but salinities ranging from less than 10 ppt to greater than 39 ppt have been reported (USACE and LAHD 1984). Typical salinity for Southern California coastal waters is around 33 ppt. Higher salinity values in the LA/LB Harbor are generally associated with evaporation in warm months in the farther recesses of the harbors (areas with a reduced rate of exchange with offshore waters), while lower values are generally found near the surface as a result of freshwater input, including rainfall, stormwater and urban runoff, and waste discharges. Fresh water mixes with the seawater due to wind, vessel traffic, tidal currents, and diffusion, resulting in increasing salinity with distance from the source of the freshwater plume (AMEC 2007). During monthly sampling between January and December 2012 at three stations off the YTI Terminal, salinity values ranged between 32.4 and 33.9 practical salinity units (psu), which is essentially equivalent to ppt in Southern California (LAHD 2013).

3.15.2.3 Marine Sediments

Sediment quality in the Harbor has been investigated during numerous focused studies and monitoring efforts since the 1960s (POLA and POLB 2009). Studies have been conducted for the characterization of dredge material, during regional monitoring programs, and to locate contamination hotspots. Recent studies included: randomized sampling studies conducted in 1998, 2003, 2005, and 2006; hotspot characterizations reported in 2005, 2006, and 2007; and a data gap study reported in 2008 (POLA and POLB 2009). Data from these studies were summarized in the WRAP and are used to characterize current conditions in the Harbor. Sediment quality in the LA/LB Harbor varies widely, and there are localized areas of sediment contamination "hotspots," which have driven the 303(d) listings and creation of TMDLs for the harbors (POLB and POLA 2009). Much of the sediment contamination in the LA/LB Harbor is "legacy contamination" from historic Port activities and watershed inputs (POLA and POLB 2009). Potential sources of sediment contamination include municipal storm drains, the Dominguez Channel, industrial outfalls, stormwater runoff from Port facilities, commercial vessels (oceangoing vessels and harbor craft), recreational vessels, aerial deposition, and the redistribution into the LA/LB Harbor, by ocean currents, of sediments from outside the harbors (POLA and POLB 2009).

Marine biological communities in parts of the Inner Harbor appear to be impacted by water or sediment chemical concentrations. Results from regional sampling efforts in 2003 and 2008 indicated areas of LA/LB Harbor vary from no sediment toxicity to high toxicity (Bay et al. 2005; Bay et al. 2010). Although the proposed project area is listed as impaired pursuant to Section 303(d) of the CWA, the area is not considered a hotspot. Data from the proposed project vicinity suggests that sediments within the proposed project area are estimated to be "unimpacted" or "likely unimpacted" as determined by the integration of chemical, biological, and toxicological data conducted under the Sediment Quality Objectives evaluation process and based on data from Bay et al. (2005, 2010) and the 2008 biological baseline studies (SAIC 2010).

A sediment characterization study was performed at Berths 212–224 in 2013 to determine the suitability of sediments from the proposed dredge footprint for unconfined aquatic disposal (AMEC 2013; Appendix F, Sediment Characterization Report). Sediments were collected and tested using standard EPA/USACE protocols according to an approved Sampling and Analysis Plan (SAP). Eight core samples were collected within the proposed dredge footprint and combined into to two samples (Composite Areas A and B) (Figure 3.15-3). Area A was at Berths 214–216, and Area B was at Berths 217–220. Testing indicated that sediment contaminant levels from the dredge footprint were relatively low, with only a few minor exceedances of "Effects Range-Low" (ERL) levels, concentrations above which effects to biota could occasionally occur (Table 3.15-1). No concentrations exceeded "Effects Range-Median" (ERM) levels that represent a probable effects range within which effects to biota could frequently occur. In addition to chemical analysis, toxicity testing on sediments from the two composites showed no statistically or ecologically significant effects, while tissue bioaccumulation results were well below U.S. Food and Drug Administration (FDA) action levels and the levels of concern reported in the Environmental Residue Effects Database (ERED) (Appendix F, Sediment Characterization Report).

The majority of sediments within the Berths 212–224 footprint complied with the chemistry, toxicity, and bioaccumulation suitability requirements for ocean disposal (Title 40 CFR Parts 220–228; Appendix F). Concentrations of most metals and PCBs, when detected, were higher in Composite Area A than in Area B. After review of the results, sediments from the bottom portion of Composite Area A were tested for sediment metals, PAHs, chlorinated pesticides, pyrethroids, and PCBs. Results from this second phase of testing indicated generally lower levels of sediment contaminants, suggesting the higher levels were associated with unconsolidated surface (top-layer) sediments of Composite Area A (AMEC 2014). Therefore, the majority of dredged material (21,800 cubic yards) would be suitable for placement at the LA-2 Ocean Dredged Material Disposal Site (ODMDS), and approximately two feet of surface sediments from Composite Area A (5,200 cubic yards) would be placed within the Berth 243–245 Confined Disposal Facility (CDF) or another approved upland location.

Table 3.15-1: Sediment Chemistry Results

Sediment Parameter	Type	Units	ERL	ERM	Area A	Area A (bottom only)	Area B
Gravel	Physical Characteristic	%	-	-	ND	NT	ND
Sand	Physical Characteristic	%	-	-	2.91	NT	19.52
Silt	Physical Characteristic	%	-	-	74.20	NT	60.82
Clay	Physical Characteristic	%	-	-	22.89	NT	19.66
Median Grain Size	Physical Characteristic	mm	-	-	0.019	NT	0.033
Total Solids	General Chemistry	%	-	-	72.9	73.5	66.4
Total Organic Carbon	General Chemistry	%	-	-	0.71	NT	0.87
Total Ammonia	General Chemistry	mg/kg	-	-	7.7	NT	2.1
Total Sulfides	General Chemistry	mg/kg	-	-	41	NT	3.1
Soluble Sulfides	General Chemistry	mg/kg	-	-	ND (<0.10)	NT	ND (<0.10)
Arsenic	Metal	mg/kg	**8.2**	**70**	**8.77**	6.35	**8.44**
Cadmium	Metal	mg/kg	**1.2**	**9.6**	0.471	0.383	0.423
Chromium	Metal	mg/kg	**81**	**370**	35.2	33.7	32.9
Copper	Metal	mg/kg	**34**	**270**	**60.1**	**48.8**	**54.5**
Lead	Metal	mg/kg	**46.7**	**218**	27.7	11.1	25.7
Mercury	Metal	mg/kg	**0.15**	**0.71**	**0.217**	0.110	**0.171**
Nickel	Metal	mg/kg	**20.9**	**51.6**	**27.3**	**28.5**	**22.4**
Selenium	Metal	mg/kg	-	-	0.237	0.339	0.415
Silver	Metal	mg/kg	**1.0**	**3.7**	0.183	0.112	0.219
Zinc	Metal	mg/kg	**150**	**410**	112	85.8	112
C6–C44 TPH	TPH	mg/kg	-	-	ND (<7)	NT	24
TRPH	TRPH	mg/kg	-	-	65	NT	38

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Figure 3.15-3
Core Sampling Locations
Berths 212-224 [YTI] Container Terminal Improvements Project

Table 3.15-1: Sediment Chemistry Results

Sediment Parameter	Type	Units	ERL	ERM	Area A	Area A (bottom only)	Area B
Total Detectable PAHs	PAH	µg/kg	**4022**	**<u>44,792</u>**	749	452	657
Total Detectable DDTs	Chlorinated Pesticides	µg/kg	**1.58**	**<u>46.1</u>**	**3.1**	ND (<1.4)	**15.1**
Total Detectable PCBs	PCB Congeners	µg/kg	**22.7**	**<u>180</u>**	**38.4**	ND	0.86
Total Pyrethroids	Pyrethroids	µg/kg	-	-	4.5	0.27*	2.2
Total Phenols	Phenols	µg/kg	-	-	ND (<14)	NT	ND (<15)
Total Phthalates	Phthalates	µg/kg	-	-	232	NT	322
Total Organotins	Organotins	µg/kg	-	-	19.7	NT	25

Source: AMEC 2013
Notes:
Boldface - Value exceeds ERL guidelines
<u>Boldface and Underlined</u> – Value exceeds ERM guidelines
% - percent
mm - millimeter
mg/kg - milligrams per kilogram
µg/kg - micrograms per kilogram
* Value ≥MDL but <RL
< - less than
ND - not detected
NT – not tested
TPH - total petroleum hydrocarbons
TRPH - total recoverable petroleum hydrocarbons
PAH - polycyclic aromatic hydrocarbons
DDT - dichlorodiphenyltrichloroethane
PCB - polychlorinated biphenyl congeners

Oceanography

The LA/LB Harbor is a southern extension of the relatively flat coastal plain, bounded on the west by the Palos Verdes Hills. The Palos Verdes Hills offers protection to the bay from prevailing westerly winds and ocean currents. The LA/LB Harbor was originally an estuary that received fresh water from the Los Angeles and San Gabriel rivers. During the past 80 to 100 years, development of the LA/LB Harbor, through dredging, filling, and channelization, has completely altered the local estuarine physiography.

Tides

Tides are sea level variations that result from astronomical and meteorological forces. Tidal variations along the coast of Southern California are influenced primarily by the passage of two harmonic tide waves, one with a period of 12.5 hours and the other with a period of 25 hours. This combination of two harmonic tide waves usually produces two high and two low tides each day. The twice daily (semidiurnal) tide of 12.5 hours predominates over the daily (diurnal) tide of 25 hours in the Harbor, generating a diurnal inequality, or mixed semidiurnal tides. This causes a difference in height between successive high and low waters ("water" is commonly used in this context instead of "tide"). The result is two high waters and two low waters each day, consisting of a higher-high water (HHW), a lower-high water (LHW), a higher-low water (HLW), and a lower-low water (LLW).

The mean tidal range for the Outer Harbor, calculated by averaging the difference between all high and low waters, is 3.81 feet (1.16 meters), and the mean diurnal range, calculated by averaging the difference between all the HHW and LLW, is approximately 5.5 feet (1.68 meters) (NOAA 2013). Mean lower-low water (MLLW) is the mean of all

LLWs, equal to 2.8 feet (0.85 meter) below mean sea level (MSL), and 0.7 feet (0.23 meter) below North American Vertical Datum of 1988 in the Port. MLLW is the datum from which Southern California tides are usually measured. The extreme tidal range (between maximum high and maximum low waters) is about 10.5 feet (3.20 meters). The highest and lowest tides reported are 7.96 feet (2.43 meters) above MLLW and -2.56 feet (-0.78 meter) below MLLW, respectively (USACE and LAHD 1992). Since 2003, the highest tide measured at the Los Angeles Harbor tide station (NOAA No. 9410660) is +7.92 feet (+2.41 meters) MLLW (measured in January 2005), and the lowest was -2.34 feet (-0.71 meter) MLLW, measured in January 2009 (NOAA 2013).

Waves

Waves along the Southern California coast can be divided into three primary categories according to origin: southern hemisphere swell, northern hemisphere swell, and swells generated by local winds (USACE 1986). The LA/LB Harbor is directly exposed to ocean swells entering from two main exposure windows to the south and southeast, regardless of swell origin. The more severe waves from extratropical storms (Hawaiian storms) enter from a southerly direction. The Channel Islands, including Santa Catalina Island, provide some sheltering from these larger waves, depending on the direction of approach. Waves and seas entering the LA/LB Harbor are greatly diminished by the time they reach the Inner Harbor. Most swells from the southern hemisphere, which characteristically have low heights and long periods, arrive at Los Angeles from May through October. Typical swells rarely exceed 4 feet (1.2 meters) in height in deep water. However, with periods as long as 18 to 21 seconds, they can break at over twice their deep-water wave height. Northern hemisphere swells occur primarily from November through April. Significant, deepwater wave heights have ranged up to 20 feet (6.1 meters) but are typically less than 12 feet (3.7 meters), with wave periods generally between 12 and 18 seconds.

Local wind-generated swells are predominantly from the west and southwest. However, they can occur from all offshore directions throughout the year, as can waves generated by diurnal sea breezes. Local swells are usually less than 6 feet (1.8 meters) in height, with wave periods of less than 10 seconds.

From January 2003 through June 2013, mean wave height at the Coastal Data Information Program's (CDIP's) Buoy 92, located 5.5 nautical miles (10.2 kilometers) south of Point Fermin, was 3.3 feet (1.0 meter) (CDIP 2013). The highest significant wave heights, measured as the mean height of the largest one-third of the waves in a specified sampling period, during that same time period ranged between 13.8 feet (4.2 meters) and 15.9 feet (4.8 meters), all recorded in the months of December and January.

Circulation

To better understand circulation patterns and watershed inputs into LA/LB Harbor, LAHD and the Port of Long Beach undertook a program to develop a hydrodynamic and water quality model for the harbors to improve their predictions of the effectiveness of current and future control measures (the WRAP Model) (POLA and POLB 2009).

Circulation patterns in LA/LB Harbor are established and maintained by tidal currents. Flood tides in the LA/LB Harbor flow into the Harbor and up the channels (generally northward), while ebb tides flow down the channels and out of the Harbor (generally southward) (POLA and POLB 2009). The LA/LB Harbor is protected from incoming waves by the Federal Breakwall, which consists of three breakwaters: the San Pedro, Middle, and Long Beach Breakwaters. In addition to protecting the ports from waves, the breakwaters reduce the exchange of the water between the LA/LB Harbor and the rest of San Pedro Bay, hence creating unique tidal circulation patterns. Modeled current direction and velocity throughout the LA/LB Harbor during both ebb and flood tides are summarized in Figure 3.15-3.

Flooding

There are three primary flood hazards in the proposed project area: the tidal influence of the Pacific Ocean, flood flows in the Dominguez Channel, and shallow urban runoff and localized ponding. Tsunami and seiche are other potential sources of flooding and are caused by geologic occurrences. Tsunamis, seiches, and the potential for future sea level rise to affect the proposed project site are addressed in Section 3.5, Geology.

The YTI Terminal is primarily located in flood zones X, with portions of the site in the AE zone. The current Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) identify flooding potential in Zone AE or Zone X. It is important to note that the two flood zones identified at the proposed project site do not represent a uniform water surface at a single point in time.

The proposed project site is located primarily in Zone X, which consists of areas of 0.2% annual chance of flood (500-year flood); areas of 1% annual chance flood (100-year flood) with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood. Zone X occurs on site primarily because precipitation has the potential to create shallow flooding in these adjacent land and wharf areas until the shallow flooding is collected by storm drainage systems or until it spills over the edge of the wharf to open water. A portion of the site along the wharf and in the northwest portion of the site is within Zone AE (Base Flood Elevation determined EL 9), which is identified as a Special Flood Hazard Area (SFHA) subject to inundation by the 1% annual chance flood, also known as the base flood, which has a 1% chance of being equaled or exceeded in any given year (FEMA 2008). The tidal influence of the Pacific Ocean is the basis for Zone AE (EL 9, NAVD88), which would be generally limited to the open water areas of the LA/LB Harbor because the adjacent land and wharf elevations are several feet higher than elevation 9. This zone and predicted flood elevation extend upstream to the mouth of the Dominguez Channel, indicating that the tidal influence and channel flood flows are consistent in the proposed project area.

Waters of the Harbor near land, plus some of the landfill margins in other areas of the Harbor, are mapped within the 100-year flood zone. Adjacent areas on the landfills are generally within the 500-year flood zone.

3.15.3 Applicable Regulations

3.15.3.1 Clean Water Act of 1972

The CWA provides for the restoration and maintenance of the physical, chemical, and biological integrity of the nation's waters. Discharges of wastes to waters of the United States (e.g., surface waters) must be authorized through National Pollutant Discharge Elimination System (NPDES) permits (under Section 402 of the CWA). In California, the SWRCB and the nine RWQCBs have authority delegated by EPA to issue NPDES permits. California permits are also issued as WDRs as required under California law by the Porter-Cologne Water Quality Control Act (see below). Section 301(a) of the CWA prohibits discharges without a permit and is the basis of the NPDES permit program. Discharges from vessels were previously exempted from the CWA, but in December 2008 EPA issued the first General Permit (described below) (EPA 2008).

Section 303 of the CWA requires states to develop water quality standards for all waters and submit to EPA for approval all new or revised standards established for inland surface waters, estuaries, and ocean waters. Under Section 303(d), the state is required to list water segments that do not meet water quality standards and to develop action plans, called TMDLs, to improve water quality. The SWRCB and the RWQCBs implement sections of the CWA through the Ocean Plan, the Enclosed Bays and Estuaries Plan, the nine Water Quality Control Plans (one for each region), and permits for waste discharges.

Coordination with the agencies on dredging, permits, and dredged material disposal would be handled through the Los Angeles Regional Contaminated Sediments Task Force (CSTF), in accordance with the CSTF Long Term Management Strategy (Anchor et al. 2005). The RWQCB can issue CWA Section 401 Water Quality Certifications to certify that actions occurring in waters of the United States would not have adverse water quality impacts. Permits for the discharge of dredged or fill material in jurisdictional waters of the United States are issued by USACE under CWA Section 404. Permits typically include the following conditions to minimize water quality effects:

- USACE review and approval of sediment quality analysis prior to dredging and dredged material disposal;
- detailed pre- and post-construction monitoring plan that includes disposal site monitoring;
- return flow that is free of solid dredged material; and
- compensation for loss of waters of the United States.

Disposal of dredged material from the proposed Project (or an alternative) could occur at the approved CDF at Berths 243–245 under an existing Section 404 permit, or at the LA-2 Ocean Dredged Material Disposal Site. The Berths 243–245 CDF was previously authorized under CWA Section 404 by USACE for the Port of Los Angeles Channel Deepening Project (USACE Permit No. SPL-2008-00662-AOA). Effects from sediment disposal at LA-2 were evaluated under Section 404 of the CWA and Section 102 of the Marine Protection, Research and Sanctuaries Act during the site designation process (EPA 1988), and subsequently evaluated in consideration of higher maximum annual disposal volume (EPA and USACE 2005).

3.15.3.2 Rivers and Harbors Appropriations Act of 1899

The Rivers and Harbors Appropriations Act of 1899 authorizes USACE to exercise control over all construction projects in navigable waters of the United States. The intent of the Rivers and Harbors Appropriations Act was originally to protect navigation and navigable capacity for the purpose of maritime commerce. These objectives were later expanded to include environmental protection. Sections 9 and 10 of the act (33 U.S.C. Section 401 et seq.) regulate work and structures in navigable waters of the United States, including dredging, filling, and bridges. Section 9 relates to bridges and causeways and is administered by U.S. Coast Guard (USCG). Under Section 10, USACE evaluates impacts on navigation and navigable capacity related to work and structures in navigable waters of the United States. Work includes activities such as dredging, and structures may include piers, wharves, overwater cranes, weirs, jetties, outfalls, aids to navigation, docks, and other structures.

3.15.3.3 Marine Protection, Research, and Sanctuaries Act of 1972

Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (MPRSA) (33 U.S.C. Section 1401 *et seq.)* regulates the transportation for the purpose of ocean disposal of dredged material, prohibits ocean disposal of certain wastes without a permit, and prohibits the disposal of certain materials entirely. Prohibited materials include those that contain radiological, chemical, or biological warfare agents; high-level radiological wastes; and industrial waste. The MPRSA includes all U.S. ocean waters in and beyond the territorial sea (within 12 nautical miles of the nearest shoreline). Section 102 of the MPRSA authorizes EPA to promulgate environmental criteria for evaluation of all disposal permit actions, to retain review authority over the USACE-issued MPRSA Section 103 permits, and to designate ocean disposal sites for dredged material disposal. Disposal of dredged material at the EPA-approved LA-2 ODMDS would be conducted only if the dredged material met the permitted volume and sediment quality requirements for this site, if the disposal was separately approved by EPA, and if beneficial reuse was unavailable or impractical. Effects to water quality and sediment from disposal of dredged material at LA-2 were determined to be insignificant during an evaluation of increased disposal capacity (EPA and USACE 2005).

3.15.3.4 Vessel General Permit

EPA regulates the discharges incidental to the normal operation of commercial vessels greater than 79 feet in length, and operating as a means of transportation, through the Vessel General Permit (VGP). The VGP was first issued in 2008, and was re-issued in March 2013; it becomes effective on December 19, 2013. It applies to discharges in waters of the U.S.

The permit specifies the types of discharges that are allowed (and not allowed), who must obtain coverage under the permit, effluent limitations, corrective actions required to remedy deficiencies and violations, and the monitoring, record keeping, and reporting requirements. The VGP covers multiple discharges and waste streams from vessels. Some of the discharges that are eligible for coverage under the permit include: deck washdown and runoff, bilgewater (which accumulates in the vessel hull), ballast water, anti-fouling hull coatings and leachate, chain locker effluent, and graywater (from showers, baths, sinks, and laundry facilities). Ballast water is discussed in greater detail in Section 3.3, Biological Resources.

3.15.3.5 Coastal Nonpoint Source Pollution Control Program

This is a joint program between EPA and National Oceanic and Atmospheric Administration (NOAA). Established during reauthorization of the Coastal Zone Management Act of 1972, the program provides a more comprehensive solution to the problem of polluted runoff in coastal areas. The program sets economically achievable measures to prevent and mitigate runoff pollution problems stemming from agriculture, forestry, urban developments, marinas, hydromodification (e.g., stream channelization), and the loss of wetland and riparian areas.

3.15.3.6 Porter-Cologne Water Quality Control Act of 1972

The Porter-Cologne Water Quality Control Act (or Porter-Cologne Act—California Water Code Section 13000 *et seq*.), which is the principal law governing receiving water quality regulation in California, establishes a comprehensive program to protect water quality and the beneficial uses of state waters. Unlike the CWA, the Porter-Cologne Act covers both surface water and groundwater.[1] Since 1973, the SWRCB and the nine RWQCBs were established by this act and have been delegated the responsibility for implementing its provisions and administering permitted waste discharge into the coastal marine waters of California.

The Porter-Cologne Act also implements many provisions of the CWA, such as the NPDES permitting program. Under the Porter Cologne Act "any person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state" must file a report of the discharge with the appropriate RWQCB. The RWQCB may then prescribe WDRs that add conditions related to control of the discharge. The Porter-Cologne Act defines "waste" broadly, and the term has been applied to a diverse array of materials, including non-point source pollution. When regulating discharges that are covered under the CWA, the SWRCB and RWQCBs issue WDRs and NPDES permits as a single permitting vehicle. In April 1991, the SWRCB and other state environmental agencies were incorporated into the California Environmental Protection Agency (Cal/EPA). Section 401 of the CWA gives the SWRCB the authority to review any proposed federally permitted or federally licensed activity that may impact water quality and to certify, condition, or deny the activity if it does not comply with state water quality standards. If the SWRCB imposes a condition on its certification, those conditions (including WDRs) must be included in the federal permit or license.

Standard WDRs include conditions and requirements addressing potential impacts on the existing surface water and groundwater and sediment quality. These conditions are addressed by complying with the requirements of the applicable permit and implementing management programs. The assessment of impacts for dredging and filling is based on these regulatory controls for dredging and filling activities that contain conditions including standard WDRs. More recently, installation of pilings and other associated wharf work that does not require a Section 404 permit from USACE, has required a Section 401 water quality certification from the RWQCB to certify these installations would not violate state water quality standards.

3.15.3.7 Bays and Estuaries Plan

Under the California Bay Protection and Toxic Cleanup Act, the SWRCB is required to develop sediment quality objectives for toxic pollutants to protect the condition of enclosed bays and estuaries. The SWRCB issued Part 1 (Sediment Quality) of the *Water Quality Control Plan for Enclosed Bays and Estuaries* in August 2009. Part 1 of this document represents the first phase of the SWRCB's development of Sediment Quality Objective (SQOs). This first phase (direct effects) is focused on the protection of benthic communities in enclosed bays and estuaries as based on chemical and biological measures to determine if the sediment-dependent biota are protected or degraded from exposure to toxic substances in the sediment (SWRCB 2009). Part 2 (indirect effects) of

[1] Groundwater is discussed in Section 3.8, Groundwater and Soils.

this plan is currently under development and includes a tool for assessing whether sediment contamination at a site results in an unacceptable health risk to humans because of the consumption of contaminated fish and shellfish. This program is applicable to all enclosed bays and estuaries in the state, including the Harbor.

3.15.3.8 Water Quality Control Plan, Los Angeles Region (Basin Plan)

The Basin Plan (*Water Quality Control Plan: Los Angeles Region Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* [Los Angeles RWQCB 1994]) is designed to preserve and enhance water quality and to protect beneficial uses of regional waters (inland surface waters, groundwater, and coastal waters such as bays and estuaries). The Basin Plan designates beneficial uses of surface water and groundwater, such as contact recreation or municipal drinking water supply. The Basin Plan also establishes water quality objectives, which are defined as "the allowable limits or levels of water quality constituents or characteristics that are established for the reasonable protection of beneficial uses of water or the prevention of nuisance in a specific area."

The Basin Plan specifies water quality objectives for a number of constituents/characteristics that could be affected by the proposed Project or alternatives. These include: bioaccumulation, biostimulatory substances (those that promote excessive aquatic growth, such as algal blooms), chemical constituents, DO, oil and grease, pesticides, pH, PCBs, suspended solids, toxicity, and turbidity. With the exceptions of DO and pH, water quality objectives for most of these constituents are expressed as descriptive rather than numerical limits.

The Basin Plan also specifies water quality objectives for other constituents, including ammonia, bacteria, total chlorine residual, and radioactive substances. These are not evaluated in this Draft EIS/EIR because the proposed Project and alternatives do not include any discharges or activities that would affect the water quality objectives for these parameters.

3.15.3.9 State Water Resources Control Board Stormwater Permits

The SWRCB has issued and periodically renews a statewide General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (GCASP) and a statewide General Industrial Activities Stormwater Permit (GIASP) for projects that do not require an individual permit for these activities. The GCASP was adopted in 2009 and further revised in 2012 (Order No. 2012-0006-DWQ). All construction activities that disturb one acre or more must prepare and implement a construction Stormwater Pollution Prevention Plan (SWPPP) that specifies Best Management Practices (BMPs) to prevent pollutants from contacting stormwater. Best Management Practices are effective, practical, structural, or nonstructural methods used to prevent or reduce the movement of sediments, nutrients, and pollutants from land to surface waters. The intent of the SWPPP and BMPs is to keep all products of erosion from moving off site into receiving waters, eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the United States, and perform sampling and analysis to determine the effectiveness of BMPs in reducing or preventing pollutants (even if not visually detectable) in stormwater discharges from causing or contributing to violations of water quality objectives.

The GIASP (Order No. 97-03-DWQ) requires dischargers to develop and implement a SWPPP to reduce or prevent industrial pollutants in stormwater discharges, eliminate unauthorized non-storm discharges, and conduct visual and analytical stormwater discharge monitoring to verify the effectiveness of the SWPPP and submit an annual report. The GIASP was last issued in 1997. Efforts to update and renew this permit were initiated in 2011 and are ongoing.

3.15.3.10 Los Angeles Municipal Separate Storm Sewer System (MS4) NPDES Permit

The agencies that discharge stormwater and non-stormwater (urban runoff) to MS4s in Los Angeles County are required to obtain and comply with an NPDES permit/WDRs to meet the NPDES requirements. In Los Angeles County, all of the MS4 agencies except for City of Long Beach are permitted under a single permit issued to Los Angeles County and 84 incorporated cities. The permit is the *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, Except Those Discharges Originating from the City of Long Beach MS4* (Order No. R4-2012-0175, NPDES Permit No. CAS004001). The City of Los Angeles, Department of Public Works, Bureau of Sanitation, Watershed Protection Division (WPD) implements the MS4 inspection program of industrial/commercial “critical sources” located within the City of Los Angeles. The Port of Los Angeles does not assume any liability for General Permit compliance at facilities within the Port boundary. The current permit was issued on November 8, 2012, and became effective on December 28, 2012. It was originally issued in 2001 and was amended in 2006 to incorporate provisions of the Santa Monica Bay Beaches Dry Weather TMDL. This amendment was voided in 2011 by order of a writ of mandate; however, this amendment was included in the 2012 permit. The permit was also revised in 2007 to incorporate provisions of the Marina del Rey Harbor Mother’s Beach and Back Basins Bacterial TMDL and again in 2009 to be consistent with the Los Angeles River Watershed Trash TMDL.

The permit identifies the implementation of Watershed Management Programs as a framework for permittees to implement the requirements of the permit in an integrated and collaborative fashion to address water quality priorities on a watershed scale, including complying with TMDL provisions and by customizing certain control measures. The ultimate goal of the Watershed Management Programs is to ensure that discharges from the Los Angeles County MS4 (1) achieve applicable Water Quality Based Effluent Limitations that implement TMDLs, (2) do not cause or contribute to exceedances of receiving water limitations, and (3) for non-storm water discharges from the MS4, are not a source of pollutants to receiving waters.

Development and Construction Program

For construction activities that would result in the disturbance of one acre or more, permittees must develop, implement, and enforce a program to reduce pollutant runoff in stormwater. This includes (1) a program to prevent illicit stormwater discharges, (2) structural and non-structural BMPs to reduce pollutants in runoff from construction sites, and (3) preventing discharges from causing or contributing to violations of water quality standards. Permittees are required to review construction site plans to determine potential water quality impacts and ensure proposed controls are adequate. These include preparation and submission of an Erosion and Sediment Control Plan (ESCP) with elements of a SWPPP prior to issuance of building or grading plans. The 2012 MS4 permit requires that these two plans must now be developed by Qualified SWPPP Developers (QSDs) to ensure high quality. Permittees are required to develop a list of BMPs for a range of construction activities.

Industrial / Commercial Business Program

Industrial/commercial facilities include any facility involved and/or used in the production, manufacture, storage, transportation, distribution, exchange or sale of goods and/or commodities, and any facility involved and/or used in providing professional and non-professional services. For industrial facilities, the Industrial/Commercial Business Program identifies inspection timelines, which vary based on exposure to stormwater. Inspections include determinations of compliance with minimum BMPs and local stormwater ordinances.

TMDL Provisions

The MS4 permit requirements are consistent with the assumptions and requirements of the available WLAs assigned to MS4 discharges in 33 TMDLs, including the TMDLs in the Dominguez Channel and Los Angeles/Long Beach Harbors Watershed Management Area. The permit also includes the TMDL compliance schedules.

3.15.3.11 Standard Urban Stormwater Mitigation Plans

The Los Angeles County MS4 permit incorporates the requirements of the Standard Urban Stormwater Mitigation Plans (SUSMP) for Los Angeles County and Cities of Los Angeles County. The SUSMPs are plans that designate BMPs that must be used in specified categories of development projects. The County submitted SUSMPs, but the Regional Water Board approved the SUSMPs only after making revisions. The Los Angeles RWQCB Executive Officer issued the revised SUSMPs on March 8, 2000. On February 25, 2000, the SWRCB received a petition for review of the actions and failures to act regarding the SUSMPs. On October 5, 2000, the SWRCB held a final hearing in Sacramento. At this hearing the SWRCB approved the SUSMPs with some revisions.

Of particular relevance for the proposed Project are the SUSMP requirements of the existing MS4 permit that apply to new and redevelopment projects. The NPDES permit required that by August 1, 2002, each Permittee amend its own codes and ordinances to legally require that the SUSMP requirements listed in the permit be enforced. The SUSMP requirements state that if a new development or redevelopment project is over a certain minimum size, then BMPs must be installed on site to mitigate the negative impacts that the project could have on water quality. The BMPs installed on site must be able to infiltrate, capture and reuse, or treat all of the runoff from the design storm.

In the City of Los Angeles, the following new development or redevelopment categories require that SUSMP requirements be met (County of Los Angeles 2002). For those categories that may be applicable at the Port, a summary of the requirements that must be included is listed below.

- Single-Family Hillside Residential Developments with grading on slopes of 25% or greater of 1 acre of more.
- Housing Developments of ten or more dwelling units (including single-family tract developments).

- Industrial/Commercial Developments of 1 acre or more of impervious area.
- Automotive Service Facilities of 5,000 square feet or more of surface area.
- Retail Gasoline Outlets of 5,000 square feet or more of impervious surface area with a projected Average Daily Traffic (ADT) of 100 or more vehicles.
- Restaurants of 5,000 square feet or more of surface area.
- Parking Lots of 5,000 square feet or larger, or with 25 or more parking spaces.
- Projects located in, adjacent to, or discharging directly to a designated Environmentally Sensitive Area, which creates 2,500 square feet or more of impervious area.

A redevelopment project is defined as a "land-disturbing activity that results in the creation, addition, or replacement of 5,000 square feet or more of impervious surface area on an already developed site within the categories listed above. Existing single-family non-hillside structures are exempt from the redevelopment requirements. If a redevelopment results in an alteration to more than 50% of impervious surfaces of an existing development, then the entire project must be mitigated. If a redevelopment results in an alteration to less than 50% of the impervious surface of an existing development, and the existing development was not subject to storm water quality control requirements, then only the alteration must be mitigated."

New guidelines approved by the City of Los Angeles on July 9, 2008 require developers to give top priority to BMPs that infiltrate stormwater and lowest priority to mechanical/hydrodynamic units. The order in which BMPs should be prioritized per SUSMP is therefore:

1) infiltration systems;
2) biofiltration/retention systems;
3) stormwater capture and re-use;
4) mechanical/hydrodynamic units; or
5) combination of any of the above.

Low Impact Development (LID)

In 2011, the Los Angeles Municipal Code was amended (Ordinance No. 181899) to expand the applicability of existing SUSMP requirements by imposing rainwater Low Impact Development (LID) strategies on projects that require building permits. The LID recognizes that urbanization has led to increased impervious surface areas, resulting in increased runoff and less percolation to groundwater aquifers, and causing the transportation of pollutants to downstream areas.

The LID is intended to manage the quantity and quality of stormwater runoff by setting standards and practices to maintain or restore the hydrologic character of a development site, reduce off-site runoff, improve water quality, and provide groundwater recharge. The LID ordinance expands the SUSMP requirements by increasing the number of new and re-development conditions under which stormwater mitigation measures must be implemented. As with SUSMP requirements, the LID requirements would need to be met for a building permit to be issued. For new non-residential development or for re-development projects that result in an alteration of at least 50% or more of the impervious surfaces of an existing developed site, the entire site would need to comply with the standards and requirements of the ordinance and of the LID section of the Development BMP Handbook.

The ordinance provides that where LID requirements cannot be met, SUSMP requirements at a minimum would instead need to be met on site. For the remaining runoff that cannot be managed onsite (the difference between the amount of runoff that is managed by SUSMP requirements and the amount that was required to have been managed to meet LID requirements), either the runoff would need to be managed somewhere else in the same subwatershed, or a fee would need to be paid to the City of Los Angeles Stormwater Pollution Abatement Fund, whereby the City would allocate that fee toward stormwater mitigation projects within that subwatershed.

3.15.3.12 California Toxics Rule

This rule establishes numeric criteria for priority toxic pollutants in inland waters, as well as enclosed bays and estuaries, to protect ambient aquatic life (23 priority toxics) and human health (57 priority toxics). The numeric criteria are the same as those recommended by EPA in its CWA Section 304(a) guidance. The CTR also includes provisions for compliance schedules to be issued for new or revised NPDES permit limits when certain conditions are met.

3.15.3.13 Oil Spill Prevention and Response

The California Office of Spill Prevention and Response (OSPR) is a multi-agency effort that involves the USCG, the California State Lands Commission, and the California Department of Fish and Wildlife's Marine Safety Branch (the Marine Safety Branch is the lead agency). The OSPR requires all marine facilities and tank vessels carrying petroleum products as cargo, and all non-tank vessels over 300 gross tons, to have a California-approved oil spill contingency plan. Among OSPR's many responsibilities are: conducting spill drills for contingency plan holders and response organizations, licensing spill cleanup agents in California, and assisting local governments in preparing local OSCPs. The OSPR is also assisting in funding and implementing the Vessel Traffic System (VTS) for the LA/LB Harbor.

3.15.3.14 Water Resources Action Plan

The WRAP was prepared by the Ports of Los Angeles and Long Beach, in coordination with their cities, EPA, and the Los Angeles RWQCB (POLA and POLB 2009). The WRAP's purpose is to provide a programmatic framework to identify mechanisms for the Ports to achieve the goals and targets that will be established in the relevant TMDLs and to comply with the GCASP, GIASP, and municipal permits issued to the ports and their respective cities and tenants through the NPDES program. The WRAP identifies multiple current and potential control measures to minimize effects to water and sediment quality. These include Land Use Control Measures, On-Water Source Control Measures, Sediment Control Measures, and Watershed Control Measures. The WRAP is considered a living document, and the ports will modify it as circumstances warrant. At present, the LAHD is preparing several documents in support of the WRAP objectives, including a Vessel Guidance Manual, a Design Guidance Manual (to address SUSMP, LID and other BMPs), and a Sediment Management Strategy document.

3.15.3.15 Port Tariff No. 4

A Port Tariff is the published set of rates, charges, rules and regulations for those doing business with a port. A tariff is generally applicable to all port users, although individual tenant operating leases may set additional and/or different requirements. Port Tariffs govern a variety of activities in the two San Pedro Bay Ports, including vessel operating procedures, fees, wharf and dock usage, and the use of hazardous or polluting substances on or near the water. Each port publishes its own version of the tariff, but the two versions address largely the same issues.

Port of Los Angeles Tariff No. 4 describes the rates, charges, rules, and regulations of the Port of Los Angeles. The tariff applies to all persons making use of the navigable waters of the Harbor. Tariff No. 4 includes information about pilotage, dockage, wharfage, passengers, free time, wharf demurrage, wharf storage, space assignments, cranes, and other operational rules and regulations. Certain provisions of Tariff No. 4 are intended to ensure safe and lawful operations of vessels while in the Port and thereby function to minimize the risk of accidents that could cause impairment of water quality. Section 18 includes prohibitions related to waste oil, dumping of materials (including refuse, rubbish, and waste materials), oil discharges, regulation of ballast water discharges, and related activities that could potentially affect water quality.

3.15.4 Impacts and Mitigation Measures

3.15.4.1 Methodology

Potential impacts of the proposed Project and alternatives to water quality and sediment conditions were assessed through a combination of literature data (including applicable water quality criteria), results from past dredge and fill projects in the Port, results from previous testing of Harbor sediments, results from current testing of sediment chemistry and water quality, and scientific expertise of the preparers. For oceanographic resources and flooding, potential impacts were assessed using results from previous modeling studies for the Harbor and preparer expertise. Impacts are considered significant if any of the significance criteria listed below in Section 3.15.4.2 occur in association with construction or operation of the proposed Project or an alternative.

The assessment of impacts is based on the assumption that the proposed Project or alternative (as applicable) would adhere to the following:

- Coverage under the GCASP for the onshore portions of the proposed Project will be obtained by LAHD as the “Legally Responsible Person” that will delegate applicable responsibilities to the tenant. The associated SWPPP will contain the following measures:
  - Equipment will be inspected regularly (daily) during construction, and any leaks found will be repaired immediately.
  - Refueling of vehicles and equipment will occur in a designated, contained area.
  - Drip pans will be used under stationary equipment (e.g., diesel fuel generators), during refueling, and when equipment is maintained.

    - Drip pans that are in use will be covered during rainfall to prevent washout of pollutants.
    - Appropriate containment structures will be constructed and maintained to prevent off-site transport of pollutants from spills and construction debris.
    - Monitoring will occur to verify that the BMPs are implemented and kept in good working order.
- Other relevant standard operating procedures and BMPs for Port construction projects will be followed. This includes adherence to a SWPPP during operation of the proposed Project or alternatives as part of the GIASP.
- The LAHD will incorporate SUSMP/LID measures into the proposed project design for review and approval by the City of Los Angeles Department of Building and Safety.
- All onshore contaminated upland soils will be characterized and remediated in accordance with LAHD, Los Angeles RWQCB, Department of Toxic Substances Control, and Los Angeles County Fire Department protocol and cleanup standards.
- The tenant will obtain and implement the appropriate stormwater discharge permits for operations.
- Sediments from the proposed dredging area have been evaluated using standard EPA/USACE protocols to determine the suitability of the material for unconfined, aquatic disposal. Unsuitable dredged material will be disposed of at the Port's approved confined disposal facility at Berths 243–245. Suitable material may be disposed of at the LA-2 disposal site or at Berths 243–245.
- A Section 10 permit will be required from USACE for dredging, crane installation, and pile installation activities in waters of the United States. A previously approved Section 404 permit for the Port of Los Angeles Channel Deepening Project (Corps Permit No. SPL-2008-00662-AOA) allows for in-harbor disposal of dredged material at the Berths 243–245 CDF. An MPRSA Section 103 permit will be required for ocean transport and disposal of qualifying material at a designated ocean disposal site (LA-2).
- A CWA Section 401 Water Quality Certification from the Los Angeles RWQCB would be required for activities related to construction dredging and any in-water disposal activities that contain conditions including standard WDRs.
- A Debris Management Plan and OSCP will be prepared and implemented prior to the start of demolition, dredging, and construction activities associated with the proposed Project. The OSCP will specifically identify in-water containment and spill management in the event of an accidental spill. The plan will require that emergency cleanup equipment is available on site to respond to such accidental spills. All pollutants will be managed in accordance with all applicable laws and regulations.
- During dredging, LAHD will implement an integrated multi-parameter water quality monitoring program in conjunction with both USACE and Los Angeles RWQCB permit requirements. The objective of the monitoring program will be adaptive management of the dredging operation, whereby potential exceedances of water quality objectives can be measured and dredging operations subsequently modified. If turbidity levels exceed the threshold established in the

WDRs issued by the Los Angeles RWQCB, water chemistry analysis will be conducted and LAHD will immediately meet with the construction manager to discuss modifications of dredging operations to reduce turbidity to acceptable levels. This could include alteration of dredging methods, and/or implementation of additional BMPs such as a silt curtain.

Although BMPs, SWPPP, NPDES permit compliance, and OSCP are requirements that must be implemented and that would prevent significant water quality impacts, compliance with these requirements will be included as conditions of approval to facilitate their tracking and implementation.

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 normally would constitute the baseline physical conditions by which the CEQA lead agency determines if an impact is significant. The NOP for the proposed Project was published in April 2013. For purposes of this Draft EIS/EIR, the CEQA baseline takes into account the throughput for the 12-month calendar year preceding NOP publication (January through December 2012) in order to provide a representative characterization of activity levels throughout the complete calendar year preceding release of the NOP. In 2012, the YTI Terminal encompassed approximately 185 acres under its long-term lease, supported 14 cranes (10 operating), and handled approximately 996,109 TEUs and 162 vessel calls. The CEQA baseline conditions are also described in Section 2.7.1 and summarized in Table 2-1.

The CEQA baseline represents the setting at a fixed point in time. The CEQA baseline differs from the No Project Alternative (Alternative 1) in that the No Project Alternative addresses what is likely to happen at the proposed project site over time, starting from the existing conditions. Therefore, the No Project Alternative allows for growth at the proposed project site that could be expected to occur without additional approvals, whereas the CEQA baseline does not.

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 NEPA baseline. The NEPA baseline conditions are described in Section 2.7.2 and summarized in Table 2-1. The NEPA baseline condition for determining significance of impacts includes the full range of construction and operational activities the applicant could implement and is likely to implement absent a federal action, in this case the issuance of a USACE permit.

Unlike the CEQA baseline, which is defined by conditions at a point in time, the NEPA baseline is not bound by statute to a “flat” or “no-growth” scenario. Instead, the NEPA baseline is dynamic and includes increases in operations for each study year (2015, 2016, 2017, 2020, and 2026), which are projected to occur absent a federal permit. Federal permit decisions focus on direct impacts of the proposed Project 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 the alternatives under NEPA is defined by comparing the proposed Project or the alternatives to the NEPA baseline.

The NEPA baseline, for purposes of this Draft EIS/EIR, is the same as the No Federal Action Alternative. Under the No Federal Action Alternative (Alternative 2), no dredging, dredged material disposal, in-water pile installation, or crane installation/extension would occur. Expansion of the TICTF and extension of the crane rail would also not occur. The No Federal Action Alternative includes only backlands improvements consisting of slurry sealing, deep cold planning, asphalt concrete overlay, restriping, and removal, relocation, or modification of any underground conduits and pipes necessary to complete repairs. These activities do not change the physical or operational capacity of the existing terminal.

The NEPA baseline assumes that by 2026 the terminal would handle up to approximately 1,692,000 TEUs annually, accommodate 206 annual ship calls at two berths, and be occupied by 14 cranes (10 operating).

3.15.4.2 Thresholds of Significance

The following criteria are based on the *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) and are the basis for determining the significance of impacts associated with water quality, sediment quality, hydrology, and oceanography resulting from proposed project/alternative development.

The effects of a project or alternative on water and sediment quality, hydrology, and oceanography are considered to be significant if the proposed Project or an alternative would result in any of the following:

WQ-1: Discharges that create pollution, contamination, or a nuisance as defined in Section 13050 of the California Water Code (CWC) or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permits or Water Quality Control Plan for the receiving water body.

WQ-2: Flooding during the projected 50-year developed storm event, and/or additional flooding that could alter the expected flood limits identified in the current FEMA Flood Insurance Rate Maps that cover the proposed project site, which would have the potential to harm people or damage property or sensitive biological resources.

WQ-3: Permanent, adverse changes to the movement of surface water sufficient to produce a substantial change in the current or direction of water flow.

WQ-4: Acceleration of natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled on site.

3.15.4.3 Impact Determination

Proposed Project

Proposed project construction would include dredging and disposing of dredged material, installing piles, adding and replacing wharf cranes, extending the 100-foot gauge crane rail, improving/repairing backlands, and expanding the TICTF on-dock rail. Approximately 21,000 cubic yards of sediment would be dredged off Berths 214–216, and sheet piles and king piles would be installed over 1,400 linear feet along the berth.

Approximately 6,000 cubic yards would be dredged off Berths 217–220, and sheet piles would be installed over 1,200 linear feet along the berth.

Sediments from the proposed dredging area were tested using standard EPA/USACE protocols (according to an approved SAP) prior to dredging to determine the suitability of the material for unconfined, aquatic disposal or other disposal alternatives. The majority of sediments within the Berths 212–224 footprint complied with the chemistry, toxicity, and bioaccumulation suitability requirements for ocean disposal (Title 40 CFR Parts 220–228; Appendix F). Concentrations of most metals and PCBs, when detected, were higher in Composite Area A than in Area B. After review of the results, sediments from the bottom portion of Composite Area A were tested for sediment metals, PAHs, chlorinated pesticides, pyrethroids, and PCBs. Results from this second phase of testing indicated generally lower levels of sediment contaminants, suggesting the higher levels were associated with unconsolidated surface (top-layer) sediments of Composite Area A (AMEC 2014). Therefore, the majority of dredged material (21,800 cubic yards) would be suitable for placement at the LA-2 ODMDS, and approximately two feet of surface sediments from Composite Area A (5,200 cubic yards) would be placed within the Berths 243–245 CDF or another approved upland location.

Effects from sediment disposal at LA-2 were evaluated during the site designation process (EPA 1988) and subsequently evaluated in consideration of higher maximum annual disposal volume (EPA and USACE 2005). Potential water/sediment quality impacts due to construction and fill of the Berths 243–245 CDF were evaluated in the Final Supplemental EIS/EIR (SEIS/EIR) for the Port of Los Angeles Channel Deepening Project (USACE and LAHD 2009), and it was previously authorized under CWA Section 404 by USACE for the Port of Los Angeles Channel Deepening Project (USACE Permit No. SPL-2008-00662-AOA). The Channel Deepening SEIS/EIR included mitigation for habitat loss at the Berths 243–245 CDF. Effects from backlands runoff and from potential spills were also analyzed.

Following completion of construction activities, operation of the terminal would result in increased vessel traffic and container cargo throughput. For purposes of impact analyses, it is assumed that increased vessel calls and container throughput would increase truck traffic at the terminal, and result in a corresponding increase in the amount of pollutants in runoff from terminal surfaces, and increased potential for accidental spills of pollutants into Harbor waters. All of these could affect waters of the YTI Terminal.

Impact WQ-1: The proposed Project would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Construction

As shown in Table 2-4 (see Chapter 2, Project Description), in-water and over-water construction activities would extend over approximately 12–13 months. Phase I of construction would take approximately four months for installation of sheet piles at Berths 217–220 and approximately one month for dredging and disposal. Phase II of construction involves approximately six months for installation of king piles and sheet piles at Berths 214–216 and approximately two months for dredging and disposal.

Impacts on water quality could occur from dredging, installation of sheet piles and king piles, backland improvements, and potential construction-related spills. Impacts on water quality could result from the suspension of sediments and/or the introduction of contaminants to the water column. Suspension is the dislodgement and dispersal of sediment into the water column (where finer sediments are subject to transport and dispersion by currents). Sediment suspension can also result in the short-term release of contaminants in the water column through release of pore water (water between individual sediment particles) and by desorption, or separation, from suspended particles. The potential water quality effects from construction for each of the major proposed project components are described separately below.

They types of water quality impacts from proposed project construction could include:

- Increased turbidity (reduced water clarity and light transmittance),
- Increased sediment suspension (or suspended solids),
- Increased dissolved or particulate contaminants (that were previously bound to dredged sediments or in pore water),
- Reduced dissolved oxygen (from suspension of sediments with low oxygen),
- Reduced pH, and
- Plankton blooms (from suspension of nutrient-laden sediments)

There are no projected effects to salinity or temperature from construction and operation of the proposed Project. The biological effects on marine biota from potential water quality impacts are discussed in Section 3.3, Biological Resources.

Effects of Dredging and Pile Installation

Dredging would resuspend some bottom sediments and create localized and temporary turbidity plumes over a relatively small area. Dredging would disturb bottom sediments, and suspend sediments over a relatively small area. The extent of disturbance would depend on the method of dredging. Suspension of sediments during clamshell dredging occurs during bucket impact, penetration, and removal of the bucket from the sediment, as well as during bucket retrieval through the water column. During cutterhead dredging, suspended sediments are limited to the immediate vicinity of the dredge.

For continuous dredging operations, elevated turbidity would occur in the immediate vicinity of the dredge for periods of days to several weeks. The majority of suspended sediments settle within one hour of dredging (Palermo et al. 2008). Transport of suspended particles by tidal currents would result in some redistribution of sediment contaminants. The amount of contaminants redistributed in this manner would be small, and the distribution would be localized in the channel adjacent to the work area. Monitoring efforts associated with previous dredging projects in the Harbor have shown that resuspension followed by settling of sediments is low (generally 2% or less) (Anchor Environmental 2002).

Dredging sediments adjacent to the YTI Terminal would likely generate a relatively small turbidity plume. While sediments at Berths 212–224 are fine-grained (Appendix F), receiving water monitoring studies at other dredge sites in the Harbor and other water bodies have documented a relatively small, turbid dredge plume that dissipates rapidly with distance from dredging operations (MBC 2001a–b, 2002; USACE and LAHD 2008;

POLA 2009a–i, 2010a–d; Parish and Wiener 1987; Jones & Stokes 2007a–b). Water quality was measured during dredging at Berths 212–215 in 2001 (MBC 2001a). During dredging, light transmittance was reduced by about 15% in the bottom half of the water column 300 feet downcurrent from the dredge (MBC 2001a).

Sheet piles and king piles would be lowered through the water column, and then driven into the seafloor by both vibratory and impact driving methods. Some sediment would be suspended during this process, but over a much smaller area than during dredging, and any turbidity would be limited to waters near the seafloor.

Within areas of sediment resuspension, DO and pH could be slightly reduced. Reductions in DO concentrations, however, would be brief and are not expected to persist or cause detrimental effects to biological resources. During dredging at Berths 212–215 in 2001, there was little difference in DO and pH between Station C (300 feet downcurrent of dredging) and Station D (the control station, located at Berth 195 in East Basin) (MBC 2001a). Contaminants, including metals and organics, could be released into the water column during the dredging and pile installation. However, any increase in contaminant levels in the water is expected to be localized and of short duration. The magnitude of contaminant releases would be related to the sediment particle sizes, sediment organic content, and contaminant concentrations associated with the disturbed sediments. Sediment grain size affects the binding capacity of sediments for contaminants. The sediment testing performed in the proposed dredge footprint detected some minor elevated metal, PCBs, and dichlorodiphenyltricholoroethane (DDT), but overall the sediments are suitable for open water disposal. Therefore, contaminant concentrations associated with any potentially disturbed or resuspended sediments during dredging are not expected to result in any long-term effects in the waters near the YTI Terminal.

Nutrients could be released into the water column during the dredging and pile installation. Release of nutrients may promote nuisance growths of phytoplankton if operations occur during warm water conditions. Phytoplankton blooms have occurred during previous dredging projects, including the Deep Draft Navigation Improvement Project (USACE and LAHD 1992). However, there is no evidence that the plankton blooms observed were not a natural occurrence or that they were exacerbated by dredging activities. The Basin Plan (Los Angeles RWQCB 1994) limits on biostimulatory substances are defined as "concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses." Given the limited spatial and temporal extent of proposed project activities with the potential for releasing nutrients from bottom sediments, effects on beneficial uses of Harbor waters are not anticipated to occur in response to the proposed Project.

Effects of Backlands Improvements

Ground disturbances and construction activities related to backlands improvements could result in temporary impacts on surface water quality if uncontrolled runoff of exposed soils, asphalt leachate, concrete washwater, and other construction materials enter Harbor waters. No upland surface bodies of water currently exist within the proposed project boundaries. Thus, proposed Project-related impacts on surface water quality would be limited to potential non-stormwater discharges or discharges of stormwater runoff to Harbor waters that receive runoff from the proposed project site. Runoff from the upland portions of the proposed project site would flow into the Harbor, along with runoff from other adjacent areas of the Harbor's subwatershed. Runoff at the proposed project site is collected by the on-site storm drain system and is managed in compliance with applicable permits and ordinances (including SUSMP requirements) prior to discharge to the Harbor (to the East Basin Channel). In addition to soils, runoff from a construction site could contain a variety of contaminants, including metals and PAHs, associated with construction materials, and spills of oil or other petroleum products. Impacts on surface water quality from accidental spills are addressed below.

Backlands improvement would not directly introduce sediments to the waters off the YTI Terminal; however, stormwater runoff could carry sediments to the Harbor waters without intervention. Accidental spills could also introduce contaminants to Harbor waters.

Accidental Spills

Accidents resulting in spills of fuel, lubricants, or hydraulic fluid from equipment used during dredging, pile installation, backlands improvement, and/or disposal of dredged material, could occur during proposed project construction. Based on the history for this type of work in the Harbor, accidental leaks and spills of large volumes of hazardous materials or wastes containing contaminants during onshore construction activities have a very low probability of occurring because large volumes of these materials typically are not used or stored at construction sites (see Section 3.9, Hazards and Hazardous Materials).

Other potential operational sources of pollutants that could affect water quality in the waters off the YTI Terminal include accidental spills on land that enter storm drains, as well as accidental spills from vessels. If spilled material in upland areas were not captured prior to reaching the storm drain system, such materials could reach the East Basin Channel off the YTI Terminal. Spills or illegal discharges from vessels could also occur in the same waters, or during their transit to and from the YTI Terminal from the Harbor entrance at Angels Gate. Impacts on water and sediment quality would depend on (1) the characteristics of the material spilled, such as volatility, solubility in water, and sedimentation rate, and (2) the speed and effectiveness of the spill response and cleanup efforts. Potential releases of pollutants from a large spill on land to Harbor waters and sediments would be minimized through existing regulatory and on-site controls and are unlikely to occur during the life of the proposed Project.

Operation

Impacts on water quality during operations could occur from runoff, atmospheric (aerial) deposition of contaminants, discharges of contaminants from vessels, and accidental spills.

Runoff

Operation of the proposed project facilities would not involve any direct point source discharges of wastes or wastewaters to the Harbor. The operation of marine terminals and backland container facilities on land adds particulates and other pollutants to the site. Operations of non-electric equipment and vehicles for the proposed Project would generate air emissions containing particulate pollutants. A portion of these particulates would be deposited on the site and subject to subsequent transport by storm runoff. At the YTI Terminal, stormwater is collected in catch basins and conveyed to storm drains along the East Basin Channel. The storm drains are fitted with “Smart Drains,” which reduce the amount of sediment (and bound contaminants) in the runoff. Transport of contaminants, such as metals, by runoff from the proposed project site would contribute incrementally to changes in receiving water quality.

Deposition of Contaminants

Direct atmospheric deposition refers to air pollutants that settle directly on water bodies, whereas indirect atmospheric deposition occurs on upland areas where the pollutants collect and are later conveyed to water bodies by runoff. Atmospheric deposition related to Port operations emissions may provide an increased impact on the local watersheds. These impacts are primarily related to resuspended dust from vehicular traffic and coarse-sized, mechanically derived particles, such as zinc from tire wear and copper from brake pad wear. Fine particulates from vehicle exhaust may also contribute to the local watersheds, but to a lesser degree.

Particulates from area-wide and regional transportation sources likely dominate the metal-containing particulate matter that enters the storm drain systems because traffic volumes from freeways, commercial roads, and surface streets far outweigh the transportation volumes from the Port operations alone. These particles accumulate during dry weather conditions and are later washed off during storm events. For suspended zinc and copper pollutants from the proposed project site (tire and brake wear from equipment and trucks), direct impacts would not be expected to significantly affect water quality due to the likely limited and dispersed nature of direct deposition on Harbor waters, and because direct aerial disposition would not allow for a significant buildup of these pollutants before entering Harbor waters.

Vessel Discharges and Contaminants

The amount of vessel traffic at the proposed project site would increase by up to 44 annual ship calls (by 2026) as compared to the CEQA baseline, as a result of the proposed Project. There would not be any increase in ship calls compared to the NEPA baseline. Discharges of polluted water (such as bilge water or gray water) or ballast water directly to the Harbor are prohibited under the Port tariff and other regulations; however, discharges to the Harbor of clean ballast waters are not.

Studies by the U.S. Navy have demonstrated that the leaching of metals from vessel hull coatings contributed to overall concentrations of water column metals in harbors such as Mayport, Florida; Pearl Harbor, Hawaii; and San Diego, California; however, estimated concentrations of metals resulting from hull vessel leachates were in most cases below federal and state water quality criteria (EPA 1999). One constituent of hull coating known to cause toxic effects is TBT, which has been banned from use. Other constituents, such as copper, still pose a threat. However, concentrations of metals, such as those used in antifouling applications (copper and zinc), have been measured near or below detection limits in waters off the proposed project site.

CEQA Impact Determination

Dredging and pile installation during the construction phases of the proposed Project would not entail any direct or intentional discharges of wastes to waters off the YTI Terminal. However, in-water dredging and pile installation would disturb and resuspend bottom sediments, which would result in temporary and localized changes to water quality. Dredging off Berths 214–220 may reduce DO concentrations in the immediate vicinity of the dredge, but this decrease would generally not extend beyond the dredge area or persist following the completion of the dredging operation. Changes in pH, nutrients, and contaminant levels could also occur as a result of construction activities for the proposed Project. The extent of sediment dispersal would depend on the dredge method, the specific sediment characteristics, and the current speed and direction during dredging. Results from previous dredge receiving water monitoring studies in the Harbor indicate that turbidity and TSS concentrations would rapidly drop to levels approaching background concentrations within a few hundred meters of the dredge once dredging ceases.

Dredging for the proposed Project would require a Section 10 permit from USACE and a CWA Section 401 Water Quality Certification from the Los Angeles RWQCB. The Water Quality Certification would include monitoring requirements necessary to assure compliance with applicable effluent limitations, or any other CWA limitation, or with any State laws or regulations. Monitoring requirements typically include measurements of DO, light transmittance (turbidity), pH, and TSS at varying distances from the dredging operations. If turbidity levels exceed the threshold established in the WDRs issued by the Los Angeles RWQCB, water chemistry analysis would be conducted and the LAHD would immediately meet with the construction manager to discuss modifications of dredging operations to keep turbidity to acceptable levels. Analyses of contaminant concentrations (such as metals, DDT, PCBs, and PAHs) in waters during the dredging operations may also be required in the WDRs if turbidity levels are elevated above certain established thresholds. Monitoring data would be used by the Port dredger to demonstrate that water quality limits specified in the permit are not exceeded. This would include alteration of dredging methods, and/or implementation of additional BMPs to limit the size and extent of the dredge plume.

Sediments would be disposed of at the LA-2 ODMDS, placed at the Berths 243–245 CDF, or disposed of at another approved upland location. Sediments from the proposed dredging area were tested using standard EPA/USACE protocols (according to an approved SAP) prior to dredging to determine the suitability of the material for unconfined, aquatic disposal or other disposal alternatives. The majority of sediments within the Berths 212–224 footprint complied with the chemistry, toxicity, and bioaccumulation suitability requirements for ocean disposal (Title 40 CFR Parts 220–228; Appendix F). The majority of dredged material (21,800 cubic yards) would be suitable for placement at the LA-2 ODMDS, and approximately two feet of surface sediments from Composite Area A (5,200 cubic yards) would be placed within the Berths 243–245 CDF or another approved upland location. Potential aquatic impacts from disposal of dredged sediments would depend on the disposal method and location, but they could include increased turbidity, reduced DO concentrations, and introduction of contaminants. Potential impacts from dredged material disposal on water/sediment quality at the Berths 243–245 CDF were evaluated as part of the Port's Channel Deepening Project and were determined not to be significant.

Runoff from the proposed project site would be controlled under a construction SWPPP prepared in accordance with GCASP requirements and implemented prior to start of any construction activities. This construction SWPPP would specify BMPs to prevent and/or control releases of soils and contaminants and avoid adverse impacts on receiving water quality. One or more types of runoff control structures would be placed and maintained around the construction area to minimize loss of site soils to the storm drain system. As another standard measure, concrete truck wash water and runoff of any water that has come in contact with wet cement would be contained on site so that it does not runoff into the Harbor. These measures, combined with the low potential for erosion (see

Impact WQ-4, below), would minimize any soil and contaminant loading to the Harbor resulting from construction activities. The SWPPP would be prepared by LAHD (or consultant) with LAHD designated as the "Legally Responsible Person."

Spills associated with construction equipment, such as oil/fluid drips or gasoline/diesel spills during fueling, typically involve small volumes that can be effectively contained in the work area and cleaned up immediately (Port of Los Angeles Spill Prevention and Control Procedures [CA012]). Construction and industrial SWPPPs and standard Port BMPs (e.g., use of drip pans, contained refueling areas, regular inspections of equipment and vehicles, and immediate repairs of leaks) would reduce potentials for materials from onshore construction activities to be transported off site and enter storm drains.

Accidental or incidental spills or leaks that occur on land are expected to be contained and cleaned up before any impacts on surface water quality can occur. Accidental spills from dredges or barges could directly affect water quality in the waters off the YTI Terminal; however, the probability of an accidental spill from a construction vessel to the Harbor is low. In addition, if an accidental spill does occur, the planning effort to contain and neutralize the spill and the spill response by the dredging contractors (deployment of floating booms to contain and absorb the spill and use pumps to assist the cleanup) would likely prevent the accidental spill from causing a nuisance or from adversely affecting beneficial uses of the Harbor.

The Basin Plan (Los Angeles RWQCB 1994) water quality objective for oil and grease states, "[w]aters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses." Spill prevention and cleanup procedures for the proposed Project would be addressed in a plan that would be prepared in accordance with LAHD guidelines and implemented by the construction contractor prior to the notice to proceed with construction operations. The plan would define actions to minimize potentials for spills and provide efficient responses to spill events to minimize the magnitude of the spill and extent of impacts.

Even though the footprint of the terminal would not increase, the amount of truck traffic and yard equipment operations at the proposed project site would increase to handle up to 1,913,000 TEUs annually (from 996,109 TEUs annually under the CEQA baseline). Rail traffic would also increase at the existing on-dock railyard. This would increase the amount of particulates and chemical pollutants from normal wear of tires/train wheels and other moving parts, as well as from leaks of lubricants and hydraulic fluids that can fall on backland surfaces and subsequently be transported by stormwater runoff into the Harbor.

As noted above, runoff would be managed (consistent with applicable permit and ordinance requirements) prior to discharge into Harbor waters. Site operations would be conducted in accordance with an industrial SWPPP to minimize the generation of particulate pollutants. In addition, monitoring would be conducted under the SWPPP to observe the quality of the stormwater runoff discharged to the Harbor. This would allow the tenant and LAHD to ensure that the quality of any runoff would comply with the permit conditions and verify that any BMPs are performing as anticipated.

The design and operation of the proposed Project would comply with both the SUSMP requirements and the City of Los Angeles LID ordinance requirements. Applicable

BMPs would be incorporated into the proposed project plan that must be approved by the Bureau of Sanitation WPD prior to issuance of building and grading permits. The SUSMP requires minimization of the pollutants of concern by incorporating “a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in that runoff to the maximum extent possible.” The BMPs would include, as applicable, site design BMPs, source control BMPs, and treatment control BMPs. To the maximum extent feasible, treatment control BMPs would be selected from LID BMPs.

Given the limited footprint of the proposed Project, there may be very limited opportunity to incorporate significant site design BMPs, but these will be incorporated where possible. All applicable source control BMPs would be incorporated in the proposed project design. A list of structural control BMPs that are in use at the YTI Terminal are shown in Table 3.15-2. Feasible treatment control BMPs would be selected from for the list of treatment control categories in the guidance manual. For the backland portion of the proposed Project, BMPs would need to be designed to retain and/or treat the water quality design volume for the entire area subject to grading and resurfacing.

Table 3.15-2: Structural Control BMPs for Container Terminal Facility Activities

	Structural Control BMPs							
Facility Activity	Preventative Covering (Roof Structure/Tarp)	Preventative Covering (Building)	Secondary Containment	Flow Diversion	Vapor/Dust Control	Oil /Water Separation	On-Site Stormwater Treatment	Discharge to Sanitary Sewer
Cargo unloading, container storage area	X	X	X	X				
Container/equipment wash area	X	X	X	X		X		X
Fuel dispensing area	X	X	X	X				
Maintenance and repair, power shop, warehouse, crane maintenance, gear room, and various supply storage areas	X	X	X	X				

Source: Hunter Environmental 2008.

These BMPs must meet the specified design standards in the guidance manual to mitigate (infiltrate or treat) stormwater runoff. For the structural or treatment control BMPs included in the proposed project plan, the tenant would be required to provide verification of maintenance provisions. The controls and BMPs for runoff and storm drain discharges described above are designed to reduce impacts on water quality and would be fully implemented for the proposed Project. Tenants would be required to obtain and meet all conditions of applicable stormwater discharge permits as well as meet all Port pollution control requirements.

An LA/LB Harbor-wide water quality study in 2005 found only five instances where metal concentrations exceeded CTR criteria for chronic exposure of marine life (POLA and POLB 2009). All five instances were for dissolved copper: two samples were in Cabrillo Marina, one in Fish Harbor, and two in Long Beach Inner Harbor. Concentrations of organic chemicals (such as pesticides, PCBs, and PAHs) were very low; the exception was TBT (discussed in Section 3.15.2.2). Ambient monitoring and stormwater monitoring in Long Beach Harbor in 2010–2011 showed that pollutants, such as metals and semivolatile organic compounds, were present in harbor waters during both dry-weather surveys and storm surveys (MBC 2011). However, in one sample during the 2010 dry-weather survey, zinc exceeded the standard for marine waters; all other metals were well below regulatory standards. Mixing with the harbor receiving waters dilutes the pollutants so that the receiving water standards are usually not exceeded. It is reasonable to expect that these findings would also apply to stormwater runoff from the proposed project site, and concentrations of pollutants runoff would not cause violations of receiving water quality objectives, given compliance with SWPPP and SUSMP/LID requirements. Concentrations of monitored constituents in stormwater runoff at the YTI Terminal have been below applicable benchmark values.

Upland operations associated with the proposed Project would not result in direct discharges of wastes to Harbor waters. However, stormwater runoff from the proposed project site could contain particulate debris from operation of the proposed project facilities, including aerially deposited pollutants. Discharges of stormwater would comply with the NPDES discharge permit limits and SWPPP requirements, and they would be subject to treatment via SUSMP/LID measures prior to discharge to Harbor waters. Therefore, water quality impacts from site runoff would not be significant.

As discussed above, ambient monitoring and stormwater monitoring in Long Beach Harbor in 2010-2011 (MBC 2011) showed that pollutants, such as metals and semivolatile organic compounds, are detectable in runoff, but receiving water standards are usually not exceeded. It is reasonable to expect that these findings would also apply to stormwater runoff from the proposed project site, and runoff would not cause violations of receiving water quality objectives, given compliance with SWPPP and SUSMP/LID requirements.

In 2012, the Ports of Los Angeles and Long Beach published "Vessel Discharge Rules and Regulations," which summarizes the rules and regulations of ballast water discharge and other discharges (POLB and POLA 2012). This document, which is updated as the applicable regulations change, has been distributed to all terminal operators/shipping lines to make them aware of the regulations. With international, federal, and state regulations in place, the increased vessel traffic and terminal operations associated with the proposed Project are not anticipated to result in increased water discharge impacts from vessels.

The number or severity of illegal discharges, and corresponding changes to water and sediment quality, from increased vessel traffic cannot be accurately quantified because the rate and chemical composition of illegal discharges from commercial vessels is unknown. However, there is no evidence that illegal discharges from ships presently utilizing the Harbor are causing widespread problems in the Harbor. Over several decades, there has been a vast improvement in Harbor water quality despite an overall increase in ship traffic. In addition, the Port Police are authorized to cite any vessel that is in violation of Port tariffs, including illegal discharges. Illegal discharges resulting from operation of the proposed Project are not likely to occur.

By the 1980s, numerous studies had documented toxic effects of TBT at extremely low concentrations (parts per trillion) to non-target species (Huggett et al. 1992). Because of these studies, regulatory actions were adopted in France (1982) and the United Kingdom (1985), and in 1988 the U.S. Congress passed the Organotin Antifouling Paint Control Act. On an international level, the IMO passed the International Convention on the Control of Harmful Antifouling Systems on Ships. This prohibits or restricts the use of antifouling systems on ships that are parties to the convention, those that are more than 400 gross tonnage that are engaged in international voyages, or those greater than 24 meters in length. This convention was ratified in 2007, and became binding on those governments who ratified it on September 17, 2008. This convention was signed by the U.S. on December 12, 2002 (NOAA 2011), and the lines calling at the YTI Terminal have indicated they are compliant. Therefore, TBT is not expected to leech from vessel hulls at the proposed project site.

Even though the proposed Project would result in increased vessel traffic, and potentially an incremental increase in hull leaching (of non-TBT substances), concentrations of metals in waters near the proposed project site have been well below regulatory criteria (POLA and POLB 2009; AMEC 2012). Therefore, water quality impacts related to leaching of contaminants from hull coatings would not be significant.

As discussed in Section 3.9, Hazards and Hazardous Materials, the probability of a spill at a container terminal has been estimated at 1.14 x 10^{-6} per TEU (35 spills over 4 years [2009 to 2012] divided by 30,599,122 TEUs, which is the total throughput of the container terminals at the Port of Los Angeles over the same 4-year period [2009 to 2012]). This means that for every 874,000 TEUs, a spill is probable. Based on the projected increase in TEUs, the frequency of potential proposed Project-related spills would increase to 2.2 spills per year from 1.1 spills under the baseline, which equates to an increase in the number of annual spills by 1.1 under the proposed Project. This spill frequency would be classified as “frequent” (greater than once per year). Based on history, a slight possibility exists for injury and/or property damage to occur during one of these frequent accidents; therefore, the potential consequence of such accidents is classified as “slight,” resulting in a Risk Code of 4, which is “acceptable.” Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potential for adverse public health impacts. Therefore, under CEQA, proposed project operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of a potential accidental release (including spill from vessels) or explosion of a hazardous substance. Impacts would be less than significant under CEQA.

For the proposed Project, the terminal operator would prepare an SPCC Plan and an OSCP, which would be reviewed and approved by OSPR, 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.

Accidental spills of petroleum hydrocarbons, hazardous materials, and other pollutants from proposed Project-related upland operations are expected to be limited to small volume releases because large quantities of those substances are unlikely to be used, transported, or stored on the site.

In summary, based on the analysis above, proposed Project-related construction activities, including dredging, pile installation, and backlands improvements, and operations at the improved terminal, including increased container throughput and increased truck traffic, are not expected to create pollution, contamination, or a nuisance, or result in violations of water quality standards or permit conditions. Therefore, significant water quality impacts under CEQA are not expected to occur from construction, terminal operations, or accidental spills that could occur from implementation of the proposed Project. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Dredging and pile installation during the construction phases of the proposed Project would not entail any direct or intentional discharges of wastes to waters off the YTI Terminal. However, in-water dredging and pile installation would disturb and resuspend bottom sediments, which would result in temporary and localized changes to water quality. Dredging off Berths 214–220 may reduce DO concentrations in the immediate vicinity of the dredge, but this decrease would generally not extend beyond the dredge area or persist following the completion of the dredging operation. Changes in pH, nutrients, and contaminant levels could also occur as a result of construction activities for the proposed Project. The extent of sediment dispersal would depend on the dredge method, the specific sediment characteristics, and the current speed and direction during dredging. Results from previous dredge receiving water monitoring studies in the Harbor indicate that turbidity and TSS concentrations would rapidly drop to levels approaching background concentrations within a few hundred meters of the dredge once dredging ceases.

Dredging for the proposed Project would require a Section 10 permit from USACE and a CWA Section 401 Water Quality Certification from the Los Angeles RWQCB. The Water Quality Certification would be required to include monitoring requirements necessary to assure compliance with applicable effluent limitations, or any other Clean Water Act limitation, or with any State laws or regulations. Monitoring requirements typically include measurements of DO, light transmittance (turbidity), pH, and TSS at varying distances from the dredging operations. If turbidity levels exceed the threshold established in the WDRs issued by the Los Angeles RWQCB, water chemistry analysis would be conducted and the LAHD would immediately meet with the construction manager to discuss modifications of dredging operations to keep turbidity to acceptable levels. Analyses of contaminant concentrations (such as metals, DDT, PCBs, and PAHs) in waters during the dredging operations may also be required in the WDRs if turbidity levels are elevated above certain established thresholds. Monitoring data would be used to demonstrate that water quality limits specified in the permit are not exceeded. This would include alteration of dredging methods, and/or implementation of additional BMPs to limit the size and extent of the dredge plume.

Sediments would be disposed of at the LA-2 ODMDS, the Berths 243–245 CDF, or another approved upland location. Sediments from the proposed dredging area were tested using standard EPA/USACE protocols (according to an approved SAP) prior to dredging to determine the suitability of the material for unconfined, aquatic disposal or other disposal alternatives. The majority of sediments within the Berths 212–224 footprint complied with the chemistry, toxicity, and bioaccumulation suitability requirements for ocean disposal (Title 40 CFR Parts 220–228; Appendix F). The majority of dredged material (21,800 cubic yards) would be suitable for placement at the LA-2 ODMDS, and approximately two feet of surface sediments from Composite Area A (5,200 cubic yards) would be placed within the Berths 243–245 CDF or another approved upland location. Potential aquatic impacts from disposal of dredged sediments would depend on the disposal method and location, but they could include increased turbidity, reduced DO concentrations, and introduction of contaminants. Potential impacts from dredged material disposal on water/sediment quality at the Berths 243–245 CDF were evaluated as part of the Port's Channel Deepening Project and were determined not to be significant.

Runoff from the proposed project site would be controlled under a construction SWPPP prepared in accordance with GCASP requirements and implemented prior to start of any construction activities. This construction SWPPP would specify BMPs to prevent and/or control releases of soils and contaminants and avoid adverse impacts on receiving water quality. One or more types of runoff control structures would be placed and maintained around the construction area to minimize loss of site soils to the storm drain system. As another standard measure, concrete truck wash water and runoff of any water that has come in contact with wet cement would be contained on site so that it does not runoff into the Harbor. These measures, combined with the low potential for erosion (see Impact WQ-4, below), would minimize any soil and contaminant loading to the Harbor resulting from construction activities. The SWPPP would be prepared by LAHD (or consultant) with LAHD designated as the "Legally Responsible Person."

Spills associated with construction equipment, such as oil/fluid drips or gasoline/diesel spills during fueling, typically involve small volumes that can be effectively contained in the work area and cleaned up immediately (Port of Los Angeles Spill Prevention and Control Procedures [CA012]). Construction and industrial SWPPPs and standard Port BMPs (e.g., use of drip pans, contained refueling areas, regular inspections of equipment and vehicles, and immediate repairs of leaks) would reduce potentials for materials from onshore construction activities to be transported off site and enter storm drains.

Accidental or incidental spills or leaks that occur on land are expected to be contained and cleaned up before any impacts on surface water quality can occur. Accidental spills from dredges or barges could directly affect water quality in the waters off the YTI Terminal; however, the probability of an accidental spill from a construction vessel to the Harbor is low. In addition, if an accidental spill does occur, the planning effort to contain and neutralize the spill and the spill response by the dredging contractors (deployment of floating booms to contain and absorb the spill and use pumps to assist the cleanup) would likely prevent the accidental spill from causing a nuisance or from adversely affecting beneficial uses of the Harbor.

The Basin Plan (Los Angeles RWQCB 1994) water quality objective for oil and grease states, "[w]aters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses." Spill prevention and cleanup procedures for the proposed Project would be addressed in a plan that would be prepared in accordance with LAHD guidelines and implemented by the construction contractor prior to the notice to proceed with construction operations. The plan would define actions to minimize potentials for spills and provide efficient responses to spill events to minimize the magnitude of the spill and extent of impacts.

Even though the footprint of the terminal would not increase, the amount of truck traffic and yard equipment operations at the proposed project site would increase to handle up to 1,913,000 TEUs annually (from about 1,692,000 TEUs annually under the NEPA baseline [2026]). Rail traffic would also increase at the existing on-dock railyard. This would increase the amount of particulates and chemical pollutants from normal wear of tires/train wheels and other moving parts, as well as from leaks of lubricants and hydraulic fluids that can fall on backland surfaces and subsequently be transported by stormwater runoff into the Harbor.

As noted above, runoff would be managed (consistent with applicable permit and ordinance requirements) prior to discharge into Harbor waters. Site operations would be conducted in accordance with an industrial SWPPP to minimize the generation of particulate pollutants. In addition, monitoring would be conducted under the SWPPP to observe the quality of the stormwater runoff discharged to the Harbor. This would allow the tenant and LAHD to ensure that the quality of any runoff would comply with the permit conditions and verify that any BMPs are performing as anticipated.

The design and operation of the proposed Project would comply with both the SUSMP requirements and the City of Los Angeles LID ordinance requirements. Applicable BMPs would be incorporated into the proposed project plan that must be approved by the Bureau of Sanitation WPD prior to issuance of building and grading permits. The SUSMP requires minimization of the pollutants of concern by incorporating "a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in that runoff to the maximum extent possible." The BMPs would include, as applicable, site design BMPs, source control BMPs, and treatment control BMPs. To the maximum extent feasible, treatment control BMPs would be selected from LID BMPs.

Given the limited footprint of the proposed Project, there may be very limited opportunity to incorporate significant site design BMPs, but these will be incorporated where possible. All applicable source control BMPs would be incorporated in the proposed project design. A list of structural control BMPs that are in use at the YTI Terminal are shown in Table 3.15-2. Feasible treatment control BMPs would be selected from for the list of treatment control categories in the guidance manual. For the backland portion of the proposed Project, BMPs would need to be designed to retain and/or treat the water quality design volume for the entire area subject to grading and resurfacing.

These BMPs must meet the specified design standards in the guidance manual to mitigate (infiltrate or treat) stormwater runoff. For the structural or treatment control BMPs included in the proposed project plan, the tenant would be required to provide verification of maintenance provisions. The controls and BMPs for runoff and storm drain discharges described above are designed to reduce impacts on water quality and would be fully implemented for the proposed Project. Tenants would be required to obtain and meet all conditions of applicable stormwater discharge permits as well as meet all Port pollution control requirements.

An LA/LB Harbor-wide water quality study in 2005 found only five instances where metal concentrations exceeded CTR criteria for chronic exposure of marine life (POLA and POLB 2009). All five instances were for dissolved copper: two samples were in Cabrillo Marina, one in Fish Harbor, and two in Long Beach Inner Harbor. Concentrations of organic chemicals (such as pesticides, PCBs, and PAHs) were very low; the exception was TBT (discussed in Section 3.15.2.2). Ambient monitoring and stormwater monitoring in Long Beach Harbor in 2010–2011 showed that pollutants, such as metals and semivolatile organic compounds, were present in harbor waters during both dry-weather surveys and storm surveys (MBC 2011). However, in one sample during the 2010 dry-weather survey, zinc exceeded the standard for marine waters; all other metals were well below regulatory standards. Mixing with the harbor receiving waters dilutes the pollutants so that the receiving water standards are usually not exceeded. It is reasonable to expect that these findings would also apply to stormwater runoff from the proposed project site, and concentrations of pollutants runoff would not cause violations of receiving water quality objectives, given compliance with SWPPP and SUSMP/LID requirements. Concentrations of monitored constituents in stormwater runoff at the YTI Terminal have been below applicable benchmark values.

Upland operations associated with the proposed Project would not result in direct discharges of wastes to Harbor waters. However, stormwater runoff from the proposed project site could contain particulate debris from operation of the proposed project facilities, including aerially deposited pollutants. Discharges of stormwater would comply with the NPDES discharge permit limits and SWPPP requirements, and they would be subject to treatment via SUSMP/LID measures prior to discharge to Harbor waters. Therefore, water quality impacts from site runoff would not be significant.

As discussed above, ambient monitoring and stormwater monitoring in Long Beach Harbor in 2010–2011 (MBC 2011) showed that pollutants, such as metals and semivolatile organic compounds, but receiving water standards are usually not exceeded. It is reasonable to expect that these findings would also apply to stormwater runoff from the proposed project site, and runoff would not cause violations of receiving water quality objectives, given compliance with SWPPP and SUSMP/LID requirements.

In 2012, the Ports of Los Angeles and Long Beach published "Vessel Discharge Rules and Regulations," which summarizes the rules and regulations of vessel discharges, including ballast water and other discharges (POLB and POLA 2012). This document, which is updated as the applicable regulations change, has been distributed to all terminal operators/shipping lines to make them aware of the regulations. Vessel traffic would not increase compared to the NEPA baseline. Therefore, the proposed Project is not anticipated to result in increased discharge impacts from vessels, or hull leeching of antifouling materials. Water quality impacts related to these activities would not be significant.

As discussed in Section 3.9, Hazards and Hazardous Materials, the probability of a spill at a container terminal has been estimated at 1.14×10^{-6} per TEU (35 spills over 4 years [2009 to 2012] divided by 30,599,122 TEUs, which is the total throughput of the container terminals at the Port of Los Angeles over the same 4-year period [2009 to 2012]). This means that for every 874,000 TEUs, a spill is probable. Based on the projected increase in TEUs, the frequency of potential proposed Project-related spills would increase to 2.2 spills per year from 1.9 spills under the baseline, which equates to an increase in the number of annual spills by 0.3 under the proposed Project. This increase in spill frequency would be classified as "periodic" (between once per year and once in ten years). Based on history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents; therefore, the potential consequence of such accidents is classified as "slight," resulting in a Risk Code of 4, which is "acceptable." Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potentials for adverse public health impacts. Therefore, under NEPA, proposed project operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of a potential accidental release (including spill from vessels) or explosion of a hazardous substance. Impacts would be less than significant under NEPA.

Accidental spills of petroleum hydrocarbons, hazardous materials, and other pollutants from proposed project-related upland operations are expected to be limited to small volume releases because large quantities of those substances are unlikely to be used, transported, or stored on the site.

In summary, based on the analysis above, proposed Project-related construction activities, including dredging, pile installation, and backlands improvements, and operations at the improved terminal, including increased container throughput and increased truck traffic, are not expected to create pollution, contamination, or a nuisance, or result in violations of water quality standards or permit conditions. Therefore, significant water quality impacts under NEPA are not expected to occur from construction, terminal operations, or accidental spills that could occur from implementation of the proposed Project. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact WQ-2: The proposed Project would not result in increased flooding that would have the potential to harm people or damage property or sensitive biological resources.

Construction

The proposed project dredging is not expected to increase the flood potential in the channel, and the Zone AE mapping would remain consistent with current mapping after implementation of the proposed Project.

Most of the terminal is designated by FEMA as Flood Zone X (defined as areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood).

Construction activities would not increase the potential for flooding on site because site elevations would remain generally the same as the baseline conditions, even though grading and backland construction would occur. These minor grade changes would not significantly alter flood depths or flow paths. During construction, BMPs would be applied to control site runoff from the 50-year design storm as described by the current County of Los Angeles Hydrology Manual and treat runoff meeting the criteria defined in the current Los Angeles County Manual for the SUSMP.

Operation

Although most of the proposed project site is located in Flood Zone X, proposed project operations would not increase the potential for flooding. Runoff from the proposed project area is collected in catch basins located throughout the YTI Terminal, and is conveyed toward five separate discharge points along the wharf that discharge to the East Basin, East Basin Channel, and Cerritos Channel. All drains are equipped with smart drains to help filter runoff prior to discharge into the harbor waters. On-site storm drains and storm drainage conveyance and treatment are currently adequate to treat and convey runoff from the proposed project site, and total impervious area and existing overland drainage paths would not change.

Because the proposed project site is relatively flat, is located along the water's edge (which would allow excess runoff to flow off site), and has an existing adequate drainage system, flood water on the proposed project site from a large storm event is not expected to be deep enough to cause employees to be harmed or to cause substantial damage to property within stored containers on site. Additionally, as discussed in Section 3.3, Biological Resources, no sensitive biological resources are located on the proposed project site.

CEQA Impact Determination

Because proposed dredging would not alter the current flood mapping in the channel and because construction of the proposed Project would not increase the potential for flooding at the site, the proposed Project would not substantially increase the potential for people or property to be adversely affected by flooding. The proposed Project would not increase the amount of property, people, or sensitive biological resources exposed to potential flooding. Site topography and the stormwater management system at the terminal would control flood conditions to minimize harm to people and property, and no sensitive biological resources are located on the proposed project site. Therefore, construction and operation of the proposed Project would not result in significant impacts from flooding under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Because proposed dredging would not alter the current flood mapping in the channel and because construction of the proposed Project would not increase the potential for flooding at the site, the proposed Project would not substantially increase the potential for people or property to be adversely affected by flooding. The proposed project elements subject to NEPA would not be exposed to any new flooding impacts. Wharf heights would remain the same and dredging the berths would not affect water heights in backland area. Total impervious area and existing overland drainage paths are not expected to change.

Because the proposed project site is relatively flat, is located along the water's edge (which would allow excess runoff to flow off site), and contains existing adequate storm drainage facilities on site, flood water on the proposed project site from a large storm event is not expected to be deep enough to cause employees to be harmed, cause substantial damage to property within stored containers on site, or cause any adverse effects to sensitive biological resources. Therefore, construction and operation of the proposed Project would not result in significant impacts from flooding under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact WQ-3: The proposed Project would not result in a permanent adverse change in movement of surface water in the Harbor.

Construction

This impact threshold addresses changes to the water body that would inhibit circulation or water mass exchanges with adjacent water bodies, thereby promoting stagnation and adverse effects to water quality. The proposed Project does not include the discharge of fill, but includes the disposal of dredged material. Potential impacts due to construction and fill of the Berths 243–245 CDF and disposal at the LA-2 ODMDS (potential dredged material disposal locations) were previously evaluated. Dredging off Berths 214–216 will increase the depth from -45 feet to -53 feet MLLW; off Berths 217–220 the depth will increase from -45 feet to -47 feet MLLW. Approximately 2,600 linear feet of king piles and sheet piles will be installed along the wharf. None of these in-water construction elements would result in impediments to water movement.

Operation

The proposed Project would not result in any cut or fill along the water's edge that could contribute to changes in the movement of surface water during Terminal operations. Once construction is completed, proposed project operations would not cause a permanent adverse change to the movement of surface water because the proposed Project would not install barriers to prevent or impede water movement around the YTI Terminal.

CEQA Impact Determination

The proposed Project would not result in a permanent adverse change in surface water movement because the proposed Project would not install barriers to alter water movement into and out of the waters off the YTI Terminal. Even though the terminal would operate at a higher capacity (a 27% increase in ship calls), this would not result in a permanent adverse change to the movement of surface waters. Therefore, impacts on the surface water flow within the Harbor would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Although the proposed Project would include upland and in-water construction, the proposed Project would not result in a permanent adverse change in surface water movement because these activities would not install barriers to prevent or impede water movement around the YTI Terminal. The number of ship calls from 2015–2026 would be the same as those from the NEPA baseline (206 ship calls per year). Therefore, operation of the proposed Project would not result in a permanent adverse change to the movement of surface waters, and impacts on surface water flow within the Harbor would be less than significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact WQ-4: The proposed Project would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled on site.

Construction

The proposed project site is an operational container terminal that is paved. Proposed improvements to the site include: grading, re-paving, lighting, drainage, utility relocation/modifications, striping, relocation of an existing fence, and third party utility modifications, relocations, or removals, as needed. The potential for erosion of soils from the proposed project site is low due to the flat terrain, infrequent rainfall events, and moderate wind velocities. In addition, re-paving activities would result in temporary soil exposure for a short period of time so as to minimize impacts to terminal operations during construction activities. Therefore, the natural processes that could accelerate erosion during construction activities can be controlled effectively by the use of temporary berms, barriers, and grading.

As discussed above under Impact WQ-1, a SWPPP would be prepared that would specify (1) logistics and schedule for construction activities that would minimize the potential for erosion and (2) standard practices that include monitoring and maintenance of control measures. This would include measures to minimize wind or water erosion from the site during construction and minimize any potential for eroded sediment to be transported to the Harbor receiving waters. Standard practices would follow guidance developed by LAHD for soil management (e.g., temporary sediment basin [ESC 56], solid waste management [CA 020], and contaminated soil management [CA 022]) to minimize potentials for soil erosion and off-site transport. Additionally, runoff of soils from the proposed project site would be controlled by use of BMPs, as required by the construction SWPPP for the proposed Project. Thus, construction activities would not be expected to accelerate erosion or increase sediment loads to the Harbor in the form of soils carried by stormwater runoff.

Operation

Site activities associated with the improved YTI Terminal on the 185-acre proposed project site would not exceed the operational footprint that exists under the CEQA and NEPA baselines and would not result in an increased potential for sediment erosion or deposition. As described above under Impact WQ-1, BMPs would be implemented and site runoff would be managed in accordance with permits and ordinances, which would prevent or minimize the impacts from sediment in runoff to the East Basin Channel from the proposed project site.

CEQA Impact Determination

The proposed Project would not accelerate natural processes of wind and water erosion or soil deposition in the Harbor because all applicable BMPs, SUSMP/LID control measures, and other standard soil management procedures would be implemented to minimize erosion from the construction site and retain and remove pollutants and solids from site runoff during operations. The proposed Project would operate on the same footprint as the CEQA baseline, and all backlands are already paved. Therefore, there would be little potential for erosion, and impacts would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

The proposed Project would not accelerate natural processes of wind and water erosion and soil deposition in the Harbor because all applicable BMPs, SUSMP/LID control measures, and other standard soil management procedures would be implemented to minimize erosion from the construction site and retain and remove pollutants and solids from site runoff during operations. The proposed Project would operate on the same footprint as the NEPA baseline, and all backlands are already paved. Therefore, there would be little potential for erosion, and impacts would be less than significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Alternative 1 – No Project

Under Alternative 1, no further Port action or federal action would occur. LAHD would not implement any terminal improvements. No new cranes would be added and no dredging would occur, no backland improvements would occur, and no 100-foot gauge crane rail or repairs to the TICTF on-dock rail would occur.

Under the No Project Alternative, the existing YTI Terminal would continue to operate as an approximately 185-acre container terminal. Based on the throughput projections, terminal operations are expected to grow over time to the existing capacity of the terminal as throughput demands increase. Under Alternative 1, the number of ship calls would increase from 162 in 2012 to 206 by 2015. While this alternative would have the same number of vessel calls between 2015 and 2026 as the proposed Project, the size of the vessels would be smaller.

The No Project Alternative would not preclude future improvements to the proposed project site. However, any future changes in use or new improvements with the potential to significantly impact the environment would need to be analyzed in a separate environmental document.

Impact WQ-1: Alternative 1 would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Construction

Alternative 1 would not involve any construction activities. Therefore, there would be no pollution, contamination, nuisance, or violation of regulatory standards due to construction.

Operation

Impacts on water quality during operations could occur from runoff, atmospheric (aerial) deposition of contaminants, discharges of contaminants from vessels, and accidental spills.

Runoff

Operation of the YTI Terminal under Alternative 1 would not involve any direct point source discharges of wastes or wastewaters to the Harbor. The operation of marine terminals and backland container facilities on land adds particulates and other pollutants to the site. Operations of non-electric equipment and vehicles for Alternative 1 would generate air emissions containing particulate pollutants. A portion of these particulates would be deposited on the site and subject to subsequent transport by storm runoff. At the YTI Terminal, stormwater is collected in catch basins and conveyed to storm drains along the East Basin Channel. The storm drains are fitted with "Smart Drains," which reduce the amount of sediment (and bound contaminants) in the runoff. Transport of contaminants, such as metals, by runoff from the site of Alternative 1 would contribute incrementally to changes in receiving water quality.

Deposition of Contaminants

Direct atmospheric deposition refers to air pollutants that settle directly on water bodies, whereas indirect atmospheric deposition occurs on upland areas where the pollutants collect and are later conveyed to water bodies by runoff. Atmospheric deposition related to Port operations emissions may provide an increased impact on the local watersheds. These impacts are primarily related to resuspended dust from vehicular traffic and coarse-sized, mechanically derived particles, such as zinc from tire wear and copper from brake pad wear. Fine particulates from vehicle exhaust may also contribute to the local watersheds, but to a lesser degree.

Particulates from area-wide and regional transportation sources likely dominate the metal-containing particulate matter that enters the storm drain systems because traffic volumes from freeways, commercial roads, and surface streets far outweigh the transportation volumes from the Port operations alone. These particles accumulate during dry weather conditions and are later washed off during storm events. For suspended zinc and copper pollutants from the site of Alternative 1 (e.g., tire and brake wear from equipment and trucks), direct impacts would not be expected to significantly affect water quality due to the likely limited and dispersed nature of direct deposition on Harbor waters, and because direct aerial disposition would not allow for a significant buildup of these pollutants before entering Harbor waters.

Vessel Discharges and Contaminants

The amount of vessel traffic at the site of Alternative 1 would increase by up to 44 annual ship calls (by 2026) as compared to the CEQA baseline. There would be no increase in ship calls compared to the NEPA baseline. Discharges of polluted water (such as bilge water or gray water) or ballast water directly to the Harbor are prohibited under the Port tariff and other regulations; however, discharges to the Harbor of clean ballast waters are not.

Studies by the U.S. Navy have demonstrated that the leaching of metals from vessel hull coatings contributed to overall concentrations of water column metals in harbors such as Mayport, Florida; Pearl Harbor, Hawaii; and San Diego, California; however, estimated concentrations of metals resulting from hull vessel leachates were in most cases below federal and state water quality criteria (EPA 1999). One constituent of hull coating known to cause toxic effects is TBT, which has been banned from use. Other constituents, such as copper, still pose a threat. However, concentrations of metals, such as those used in antifouling applications (copper and zinc), have been measured near or below detection limits in waters off the proposed project site.

Spills

Other potential operational sources of pollutants that could affect water quality in the waters off the YTI Terminal include accidental spills on land that enter storm drains, as well as accidental spills from vessels. If spilled material in upland areas were not captured prior to reaching the storm drain system, such materials could reach the East Basin Channel off the YTI Terminal. Spills or illegal discharges from vessels could also occur in the same waters, or during their transit to and from the YTI Terminal from the Harbor entrance at Angels Gate. Impacts on water and sediment quality would depend on (1) the characteristics of the material spilled, such as volatility, solubility in water, and sedimentation rate, and (2) the speed and effectiveness of the spill response and cleanup efforts. Potential releases of pollutants from a large spill to Harbor waters and sediments would be minimized through existing regulatory and on-site controls and are unlikely to occur during the life of Alternative 1.

CEQA Impact Determination

Because there would be no new construction at the proposed site as part of Alternative 1, there would be no pollution, contamination, nuisance, or violation of regulatory standards due to proposed project construction. No impacts would occur.

Even though the footprint of the terminal would not increase, the amount of truck traffic and yard equipment operations at the site of Alternative 1 would increase to handle up to 1,692,000 TEUs annually (from 996,109 TEUs annually under the CEQA baseline). Rail traffic would also increase at the existing on-dock railyard. This would increase the amount of particulates and chemical pollutants from normal wear of tires/train wheels and other moving parts, as well as from leaks of lubricants and hydraulic fluids that can fall on backland surfaces and subsequently be transported by stormwater runoff into the Harbor.

As noted in Impact WQ-1 for the proposed Project, runoff would be managed (consistent with applicable permit and ordinance requirements) prior to discharge into Harbor waters. Site operations would be conducted in accordance with an industrial SWPPP to minimize the generation of particulate pollutants. In addition, monitoring would be conducted under the SWPPP to observe the quality of the stormwater runoff discharged to the Harbor. This would allow the tenant and LAHD to ensure that the quality of any runoff would comply with the permit conditions and verify that any BMPs are performing as anticipated.

The design and operation of Alternative 1 would comply with both the SUSMP requirements and the City of Los Angeles LID ordinance requirements. Applicable BMPs would be incorporated into the proposed project plan that must be approved by the Bureau of Sanitation WPD prior to issuance of building and grading permits. The SUSMP requires minimization of the pollutants of concern by incorporating "a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in that runoff to the maximum extent possible." The BMPs would include, as applicable, site design BMPs, source control BMPs, and treatment control BMPs. To the maximum extent feasible, treatment control BMPs would be selected from LID BMPs.

Given the limited footprint of Alternative 1, there may be very limited opportunity to incorporate significant site design BMPs, but these will be incorporated where possible. All applicable source control BMPs would be incorporated in the proposed project design. A list of structural control BMPs that are in use at the YTI Terminal are shown in Table 3.15-2. Feasible treatment control BMPs would be selected from for the list of treatment control categories in the guidance manual. For the backland portion of Alternative 1, BMPs would need to be designed to retain and/or treat the water quality design volume for the entire area subject to grading and resurfacing.

These BMPs must meet the specified design standards in the guidance manual to mitigate (infiltrate or treat) stormwater runoff. For the structural or treatment control BMPs included in the proposed project plan for Alternative 1, the tenant would be required to provide verification of maintenance provisions. The controls and BMPs for runoff and storm drain discharges described above are designed to reduce impacts on water quality and would be fully implemented for Alternative 1. Tenants would be required to obtain and meet all conditions of applicable stormwater discharge permits as well as meet all Port pollution control requirements.

An LA/LB Harbor-wide water quality study in 2005 found only five instances where metal concentrations exceeded CTR criteria for chronic exposure of marine life (POLA and POLB 2009). All five instances were for dissolved copper: two samples were in Cabrillo Marina, one in Fish Harbor, and two in Long Beach Inner Harbor. Concentrations of organic chemicals (such as pesticides, PCBs, and PAHs) were very low; the exception was TBT (discussed in Section 3.15.2.2). Ambient monitoring and stormwater monitoring in Long Beach Harbor in 2010–2011 showed that pollutants, such as metals and semivolatile organic compounds, were present in harbor waters during both dry-weather surveys and storm surveys (MBC 2011). However, in one sample during the 2010 dry-weather survey, zinc exceeded the standard for marine waters; all other metals were well below regulatory standards. Mixing with the harbor receiving waters dilutes the pollutants so that the receiving water standards are usually not exceeded. It is reasonable to expect that these findings would also apply to stormwater runoff from the site of Alternative 1, and concentrations of pollutants in runoff would not cause violations of receiving water quality objectives, given compliance with SWPPP and SUSMP/LID requirements. Concentrations of monitored constituents in stormwater runoff at the YTI Terminal have been below applicable benchmark values.

Upland operations associated with Alternative 1 would not result in direct discharges of wastes to Harbor waters. However, stormwater runoff from the proposed project site could contain particulate debris from operation of the facilities, including aerially deposited pollutants. Discharges of stormwater would comply with the NPDES discharge permit limits and SWPPP requirements, and they would be subject to treatment via SUSMP/LID measures prior to discharge to Harbor waters. Therefore, water quality impacts from site runoff would not be significant.

As discussed above, ambient monitoring and stormwater monitoring in Long Beach Harbor in 2010–2011 (MBC 2011) showed that pollutants, such as metals and semivolatile organic compounds, are detectable in runoff, but receiving water standards are usually not exceeded. It is reasonable to expect that these findings would also apply to stormwater runoff from the site of Alternative 1, and runoff would not cause violations of receiving water quality objectives, given compliance with SWPPP and SUSMP/LID requirements.

In 2012, the Ports of Los Angeles and Long Beach published "Vessel Discharge Rules and Regulations," which summarizes the rules and regulations of ballast water discharge and other discharges (POLB and POLA 2012). This document, which is updated as the applicable regulations change, has been distributed to all terminal operators/shipping lines to make them aware of the regulations. With international, federal, and state regulations in place, the increased vessel traffic and terminal operations associated with Alternative 1 are not anticipated to result in increased discharge impacts from vessels.

The number or severity of illegal discharges, and corresponding changes to water and sediment quality, from increased vessel traffic cannot be accurately quantified because the rate and chemical composition of illegal discharges from commercial vessels is unknown. However, there is no evidence that illegal discharges from ships presently utilizing Los Angeles Harbor are causing widespread problems in the Harbor. Over several decades, there has been a vast improvement in Harbor water quality despite an overall increase in ship traffic. In addition, the Port Police are authorized to cite any vessel that is in violation of Port tariffs, including illegal discharges. Illegal discharges resulting from operation of Alternative 1 are not likely to occur.

By the 1980s, numerous studies had documented toxic effects of TBT at extremely low concentrations (parts per trillion) to non-target species (Huggett et al. 1992). Because of these studies, regulatory actions were adopted in France (1982) and the United Kingdom (1985), and in 1988 the U.S. Congress passed the Organotin Antifouling Paint Control Act. On an international level, the IMO passed the International Convention on the Control of Harmful Antifouling Systems on Ships. This prohibits or restricts the use of antifouling systems on ships that are parties to the convention, those that are more than 400 gross tonnage that are engaged in international voyages, or those greater than 24 meters in length. This convention was ratified in 2007, and became binding on those governments who ratified it on September 17, 2008. This convention was signed by the U.S. on December 12, 2002 (NOAA 2011), and the lines calling at the YTI Terminal have indicated they are compliant. Therefore, TBT is not expected to leech from vessel hulls at the site of Alternative 1.

Even though Alternative 1 would result in increased vessel traffic, and potentially an incremental increase in hull leaching (of non-TBT substances), concentrations of metals in waters near the proposed project site have been well below regulatory criteria (POLA and POLB 2009; AMEC 2012). Therefore, water quality impacts related to leaching of contaminants from hull coatings would not be significant.

Based on the projected increase in TEUs occupying the terminal site, the frequency of potential Alternative 1-related spills would increase to 1.9 spills per year from 1.1 spills under the baseline, which equates to an increase in the number of annual spills by 0.8 under Alternative 1. This spill frequency would be classified as "periodic" (between once per year and once in ten years). Based on history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents; therefore the consequence of such accidents is classified as "slight," resulting in a Risk Code of 4, which is "acceptable." Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potential for adverse public health impacts. Therefore, under CEQA, Alternative 1 operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance. Impacts under CEQA would be less than significant.

Accidental spills of petroleum hydrocarbons, hazardous materials, and other pollutants from proposed project-related upland operations are expected to be limited to small volume releases because large quantities of those substances are unlikely to be used, transported, or stored on the site.

In summary, based on the analysis above, no impacts would occur for construction of Alternative 1, and operations at the terminal from Alternative 1, including increased container throughput and increased truck traffic, are not expected to create pollution, contamination, or a nuisance, or result in violations of water quality standards or permit conditions. Therefore, significant water quality impacts under CEQA are not expected to occur from construction, terminal operations, or accidental spills that could occur from implementation of Alternative 1. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Analysis of the No Project Alternative is required by CEQA. Therefore, the analysis of this alternative is not required under NEPA. NEPA requires the analysis of a No Federal Action Alternative (Alternative 2 in this document).

Mitigation Measures

Mitigation measures are not applicable.

Residual Impacts

An impact determination is not applicable.

Impact WQ-2: Alternative 1 would not result in increased flooding that would have the potential to harm people or damage property or sensitive biological resources.

Alternative 1 includes no dredging or construction or other alterations to the proposed project site. Runoff from the proposed project area is collected in catch basins located throughout the YTI Terminal, and is conveyed toward five separate discharge points along the wharf that discharge to the East Basin, East Basin Channel, and Cerritos Channel. All drains are equipped with smart drains to help filter runoff prior to discharge into the harbor waters. On-site storm drains and storm drainage conveyance and treatment are currently adequate to treat and convey runoff from the proposed project site, and total impervious area and existing overland drainage paths would not change.

Because the proposed project site is relatively flat, is located along the water's edge (which would allow excess runoff to flow off site), and has an existing adequate drainage system, flood water on the proposed project site from a large storm event is not expected to be deep enough to cause employees to be harmed or to cause substantial damage to property within stored containers on site. Additionally, as discussed in Section 3.3, Biological Resources, no sensitive biological resources are located on the proposed project site.

CEQA Impact Determination

Because there would be no construction at the proposed project site as part of Alternative 1, construction-related flooding impacts would not occur. Alternative 1 would not increase the amount of property, people, or sensitive biological resources exposed to potential flooding. Site topography and the stormwater management system at the terminal would control flood conditions to minimize harm to people and property, and no sensitive biological resources are located on the proposed project site. Therefore, Alternative 1 would result in a less than significant impact from flooding under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Analysis of the No Project Alternative is required by CEQA. Therefore, the analysis of this alternative is not required under NEPA. NEPA requires the analysis of a No Federal Action Alternative (Alternative 2 in this document).

Mitigation Measures

Mitigation measures are not applicable.

Residual Impacts

An impact determination is not applicable.

Impact WQ-3: Alternative 1 would not result in a permanent adverse change in movement of surface water in the Harbor.

Alternative 1 would not involve in-water construction at the proposed project site. Alternative 1 would not result in any cut or fill along the water's edge that could contribute to changes in the movement of surface water during terminal operations. Once construction is completed, operation of Alternative 1 would not cause a permanent adverse change to the movement of surface water because Alternative 1 would not install barriers to prevent or impede water movement around the YTI Terminal.

CEQA Impact Determination

Alternative 1 would not install barriers to prevent or impede water movement around the YTI Terminal. Even though the terminal would operate at a higher capacity (a 27% increase in ship calls), this would not result in a permanent adverse change to the movement of surface waters. Therefore, impacts on surface water flow would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Analysis of the No Project Alternative is required by CEQA. Therefore, the analysis of this alternative is not required under NEPA. NEPA requires the analysis of a No Federal Action Alternative (Alternative 2 in this document).

Mitigation Measures

Mitigation measures are not applicable.

Residual Impacts

An impact determination is not applicable.

Impact WQ-4: Alternative 1 would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled on site.

Alternative 1 would not involve any in-water or backland construction. Site activities associated with Alternative 1 on the 185-acre proposed project site would not exceed the operational footprint that exists under the CEQA and NEPA baselines and would not result in an increased potential for sediment erosion or deposition. As described above under Impact WQ-1, BMPs would be implemented and site runoff would be managed in accordance with permits and ordinances, which would prevent or minimize the impacts from sediment in runoff to the East Basin Channel from site of Alternative 1.

CEQA Impact Determination

Because there would be no construction or backland development at the proposed site as part of Alternative 1, there would be no construction-related acceleration of erosion or sedimentation. Operations associated with Alternative 1 would not accelerate erosion and soil deposition in the Harbor due in part to implementation of BMPs and SUSMP/LID control measures that retain and remove pollutants and solids from site runoff. Alternative 1 would operate on the same footprint as the CEQA baseline, and all backlands are already paved. Therefore, there would be little potential for erosion. Impacts on water quality would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Analysis of the No Project Alternative is required by CEQA. Therefore, the analysis of this alternative is not required under NEPA. NEPA requires the analysis of a No Federal Action Alternative (Alternative 2 in this document).

Mitigation Measures

Mitigation measures are not applicable.

Residual Impacts

An impact determination is not applicable.

Alternative 2 – No Federal Action

Alternative 2 is a NEPA-required no-action alternative for purposes of this Draft EIS/EIR. This alternative includes the activities that would occur absent a USACE permit and could include improvements that require a local permit. Absent a USACE permit, no dredging, dredged material disposal, in-water pile installation, or crane installation/extension would occur. Expansion of the TICTF and extension of the crane rail also would not occur. The No Federal Action alternative includes only backlands improvements consisting of slurry sealing; deep cold planing; asphalt concrete overlay; restriping; and removal, relocation, or modification of any underground conduits and pipes necessary to complete repairs. These activities would not change the capacity of the existing terminal.

The site would continue to operate as an approximately 185-acre container terminal where cargo containers are loaded to/from vessels, temporarily stored on backlands, and transferred to/from trucks or on-dock rail. Based on the throughput projections, the YTI Terminal is expected to reach its operating capacity of approximately 1,692,000 TEUs with 206 ship calls by 2026.

Impact WQ-1: Alternative 2 would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Construction

Alternative 2 would not involve dredging and pile installation, or disposal of dredged material; therefore, impacts associated with dredging, disposal, and pile installation as described under the proposed Project would not occur under this alternative.

Effects of Backlands Improvements

Ground disturbances and construction activities related to backlands improvements could result in temporary impacts on surface water quality if uncontrolled runoff of exposed soils, asphalt leachate, concrete washwater, and other construction materials enter Harbor waters. No upland surface bodies of water currently exist within the proposed project boundaries. Thus, construction-related impacts on surface water quality would be limited to potential non-stormwater discharges or discharges of stormwater runoff to Harbor waters that receive runoff from the site of Alternative 2. Runoff from the upland portions of the proposed project site would flow into the Harbor, along with runoff from other adjacent areas of the Harbor’s subwatershed. Runoff at the proposed project site is collected by the on-site storm drain system and is managed in compliance with applicable permits and ordinances (including SUSMP requirements) prior to discharge to the Harbor (to the East Basin Channel). In addition to soils, runoff from a construction site could contain a variety of contaminants, including metals and PAHs, associated with construction materials, and spills of oil or other petroleum products. Impacts on surface water quality from accidental spills are addressed below.

Accidental Spills

Accidents resulting in spills of fuel, lubricants, or hydraulic fluid from equipment used during backlands improvement could occur during construction of Alternative 2. Based on the history for this type of work in the Harbor, accidental leaks and spills of large volumes of hazardous materials or wastes containing contaminants during onshore construction activities have a very low probability of occurring because large volumes of these materials typically are not used or stored at construction sites (see Section 3.9, Hazards and Hazardous Materials).

Operation

Operation of Alternative 2 would be similar to existing conditions, with the exception of organic growth in container throughput and vessel calls at the terminal. The YTI Terminal would handle up to 1,692,000 TEUs with 206 vessel calls annually by 2026 (increase of 695,891 TEUs and 44 vessel calls over the existing conditions). There would be no increase in ship calls compared to the NEPA baseline. Like the proposed Project, this alternative would not involve any direct point source discharges of wastes or wastewaters to the Harbor. The increase in terminal operations from increased vessel, truck, rail, and backland equipment could incrementally increase polluted runoff in receiving waters.

Runoff

Operation of the YTI Terminal under Alternative 2 would not involve any direct point source discharges of wastes or wastewaters to the Harbor. The operation of marine terminals and backland container facilities on land adds particulates and other pollutants to the site. Operations of non-electric equipment and vehicles for Alternative 2 would generate air emissions containing particulate pollutants. A portion of these particulates would be deposited on the site and subject to subsequent transport by storm runoff. At the YTI Terminal, stormwater is collected in catch basins and conveyed to storm drains along the East Basin Channel. The storm drains are fitted with "Smart Drains," which reduce the amount of sediment (and bound contaminants) in the runoff. Transport of contaminants, such as metals, by runoff from the proposed project site would contribute incrementally to changes in receiving water quality.

Deposition of Contaminants

Direct atmospheric deposition refers to air pollutants that settle directly on water bodies, whereas indirect atmospheric deposition occurs on upland areas where the pollutants collect and are later conveyed to water bodies by runoff. Atmospheric deposition related to Port operations emissions may provide an increased impact on the local watersheds. These impacts are primarily related to resuspended dust from vehicular traffic and coarse-sized, mechanically derived particles, such as zinc from tire wear and copper from brake pad wear. Fine particulates from vehicle exhaust may also contribute to the local watersheds, but to a lesser degree.

Particulates from area-wide and regional transportation sources likely dominate the metal-containing particulate matter that enters the storm drain systems because traffic volumes from freeways, commercial roads, and surface streets far outweigh the transportation volumes from the Port operations alone. These particles accumulate during dry weather conditions and are later washed off during storm events. For suspended zinc and copper pollutants from the site of Alternative 2 (e.g., tire and brake wear from equipment and trucks), direct impacts would not be expected to significantly affect water quality due to the likely limited and dispersed nature of direct deposition on Harbor waters, and because direct aerial disposition would not allow for a significant buildup of these pollutants before entering Harbor waters.

Vessel Discharges and Contaminants

The amount of vessel traffic at the proposed project site would increase by up to 44 annual ship calls (by 2026) as compared to the CEQA baseline, as a result of Alternative 2. There would not be any increase in ship calls compared to the NEPA baseline.

Discharges of polluted water (such as bilge water or gray water) or ballast water directly to the Harbor are prohibited under the Port tariff and other regulations; however, discharges to the Harbor of clean ballast waters are not.

Studies by the U.S. Navy have demonstrated that the leaching of metals from vessel hull coatings contributed to overall concentrations of water column metals in harbors such as Mayport, Florida; Pearl Harbor, Hawaii; and San Diego, California; however, estimated concentrations of metals resulting from hull vessel leachates were in most cases below federal and state water quality criteria (EPA 1999). One constituent of hull coating known to cause toxic effects is TBT, which has been banned from use. Other constituents, such as copper, still pose a threat. However, concentrations of metals, such as those used in antifouling applications (copper and zinc), have been measured near or below detection limits in waters off the proposed project site.

Spills

Other potential operational sources of pollutants that could affect water quality in the waters off the YTI Terminal include accidental spills on land that enter storm drains, as well as accidental spills from vessels. If spilled material in upland areas were not captured prior to reaching the storm drain system, such materials could reach the East Basin Channel off the YTI Terminal. Spills or illegal discharges from vessels could also occur in the same waters, or during their transit to and from the YTI Terminal from the Harbor entrance at Angels Gate. Impacts on water and sediment quality would depend on (1) the characteristics of the material spilled, such as volatility, solubility in water, and sedimentation rate, and (2) the speed and effectiveness of the spill response and cleanup efforts. Potential releases of pollutants from a large spill to Harbor waters and sediments would be minimized through existing regulatory and on-site controls and are unlikely to occur during the life of Alternative 2.

CEQA Impact Determination

Runoff from the site of Alternative 2 would be controlled under a construction SWPPP prepared in accordance with GCASP requirements and implemented prior to start of any construction activities. This construction SWPPP would specify BMPs to prevent and/or control releases of soils and contaminants and avoid adverse impacts on receiving water quality. One or more types of runoff control structures would be placed and maintained around the construction area to minimize loss of site soils to the storm drain system. As another standard measure, concrete truck wash water and runoff of any water that has come in contact with wet cement would be contained on site so that it does not runoff into the Harbor. These measures, combined with the low potential for erosion (see Impact WQ-4, below), would minimize any soil and contaminant loading to the Harbor resulting from construction activities. The SWPPP would be prepared by LAHD (or consultant) with LAHD designated as the "Legally Responsible Person."

Spills associated with construction equipment, such as oil/fluid drips or gasoline/diesel spills during fueling, typically involve small volumes that can be effectively contained in the work area and cleaned up immediately (Port of Los Angeles Spill Prevention and Control Procedures [CA012]). Construction and industrial SWPPPs and standard Port BMPs (e.g., use of drip pans, contained refueling areas, regular inspections of equipment and vehicles, and immediate repairs of leaks) would reduce potentials for materials from onshore construction activities to be transported off site and enter storm drains.

The Basin Plan (Los Angeles RWQCB 1994) water quality objective for oil and grease states, "[w]aters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses." Spill prevention and cleanup procedures for Alternative 2 would be addressed in a plan that would be prepared in accordance with LAHD guidelines and implemented by the construction contractor prior to the notice to proceed with construction operations. The plan would define actions to minimize potentials for spills and provide efficient responses to spill events to minimize the magnitude of the spill and extent of impacts.

Even though the footprint of the terminal would not increase, the amount of truck traffic and yard equipment operations at the site of Alternative 2 would increase to handle up to 1,692,000 TEUs annually (from about 996,109 TEUs annually under the CEQA baseline). Rail traffic would also increase at the existing on-dock railyard. This would increase the amount of particulates and chemical pollutants from normal wear of tires/train wheels and other moving parts, as well as from leaks of lubricants and hydraulic fluids that can fall on backland surfaces and subsequently be transported by stormwater runoff into the Harbor.

As noted in Impact WQ-1, runoff would be managed (consistent with applicable permit and ordinance requirements) prior to discharge into Harbor waters. Site operations would be conducted in accordance with an industrial SWPPP to minimize the generation of particulate pollutants. In addition, monitoring would be conducted under the SWPPP to observe the quality of the stormwater runoff discharged to the Harbor. This would allow the tenant and LAHD to ensure that the quality of any runoff would comply with the permit conditions and verify that any BMPs are performing as anticipated.

The design and operation of Alternative 2 would comply with both the SUSMP requirements and the City of Los Angeles LID ordinance requirements. Applicable BMPs would be incorporated into the proposed project plan that must be approved by the Bureau of Sanitation WPD prior to issuance of building and grading permits. The SUSMP requires minimization of the pollutants of concern by incorporating "a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in that runoff to the maximum extent possible." The BMPs would include, as applicable, site design BMPs, source control BMPs, and treatment control BMPs. To the maximum extent feasible, treatment control BMPs would be selected from LID BMPs.

Given the limited footprint of Alternative 2, there may be very limited opportunity to incorporate significant site design BMPs, but these will be incorporated where possible. All applicable source control BMPs would be incorporated in the proposed project design. A list of structural control BMPs that are in use at the YTI Terminal are shown in Table 3.15-2. Feasible treatment control BMPs would be selected from for the list of treatment control categories in the guidance manual. For the backland portion of Alternative 2, BMPs would need to be designed to retain and/or treat the water quality design volume for the entire area subject to grading and resurfacing.

These BMPs must meet the specified design standards in the guidance manual to mitigate (infiltrate or treat) stormwater runoff. For the structural or treatment control BMPs included in the proposed project plan for Alternative 2, the tenant would be required to provide verification of maintenance provisions. The controls and BMPs for runoff and storm drain discharges described above are designed to reduce impacts on water quality and would be fully implemented for Alternative 2. Tenants would be required to obtain and meet all conditions of applicable stormwater discharge permits as well as meet all Port pollution control requirements.

An LA/LB Harbor-wide water quality study in 2005 found only five instances where metal concentrations exceeded CTR criteria for chronic exposure of marine life (POLA and POLB 2009). All five instances were for dissolved copper: two samples were in Cabrillo Marina, one in Fish Harbor, and two in Long Beach Inner Harbor. Concentrations of organic chemicals (such as pesticides, PCBs, and PAHs) were very low; the exception was TBT (discussed in Section 3.15.2.2). Ambient monitoring and stormwater monitoring in Long Beach Harbor in 2010-2011 showed that pollutants, such as metals and semivolatile organic compounds, were present in harbor waters during both dry-weather surveys and storm surveys (MBC 2011). However, in one sample during the 2010 dry-weather survey, zinc exceeded the standard for marine waters; all other metals were well below regulatory standards. Mixing with the harbor receiving waters dilutes the pollutants so that the receiving water standards are usually not exceeded. It is reasonable to expect that these findings would also apply to stormwater runoff from the site of Alternative 2, and concentrations of pollutants in runoff would not cause violations of receiving water quality objectives, given compliance with SWPPP and SUSMP/LID requirements. Concentrations of monitored constituents in stormwater runoff at the YTI Terminal have been below applicable benchmark values.

Upland operations associated with Alternative 2 would not result in direct discharges of wastes to Harbor waters. However, stormwater runoff from the proposed project site could contain particulate debris from operation of the facilities, including aerially deposited pollutants. Discharges of stormwater would comply with the NPDES discharge permit limits and SWPPP requirements, and they would be subject to treatment via SUSMP/LID measures prior to discharge to Harbor waters. Therefore, water quality impacts from site runoff would not be significant.

As discussed above, ambient monitoring and stormwater monitoring in Long Beach Harbor in 2010-2011 (MBC 2011) showed that pollutants, such as metals and semivolatile organic compounds, are detectable in runoff, but receiving water standards are usually not exceeded. It is reasonable to expect that these findings would also apply to stormwater runoff from the site of Alternative 2, and runoff would not cause violations of receiving water quality objectives, given compliance with SWPPP and SUSMP/LID requirements.

In 2012, the Ports of Los Angeles and Long Beach published “Vessel Discharge Rules and Regulations,” which summarizes the rules and regulations of ballast water discharge and other discharges (POLB and POLA 2012). This document, which is updated as the applicable regulations change, has been distributed to all terminal operators/shipping lines to make them aware of the regulations. With international, federal, and state regulations in place, the increased vessel traffic and terminal operations associated with Alternative 2 are not anticipated to result in increased discharge impacts from vessels.

The number or severity of illegal discharges, and corresponding changes to water and sediment quality, from increased vessel traffic cannot be accurately quantified because the rate and chemical composition of illegal discharges from commercial vessels is unknown. However, there is no evidence that illegal discharges from ships presently utilizing the Harbor are causing widespread problems in the Harbor. Over several decades, there has been a vast improvement in Harbor water quality despite an overall increase in ship traffic. In addition, the Port Police are authorized to cite any vessel that is in violation of Port tariffs, including illegal discharges. Illegal discharges resulting from operation of Alternative 2 are not likely to occur.

By the 1980s, numerous studies had documented toxic effects of TBT at extremely low concentrations (parts per trillion) to non-target species (Huggett et al. 1992). Because of these studies, regulatory actions were adopted in France (1982) and the United Kingdom (1985), and in 1988 the U.S. Congress passed the Organotin Antifouling Paint Control Act. On an international level, the IMO passed the International Convention on the Control of Harmful Antifouling Systems on Ships. This prohibits or restricts the use of antifouling systems on ships that are parties to the convention, those that are more than 400 gross tonnage that are engaged in international voyages, or those greater than 24 meters in length. This convention was ratified in 2007, and became binding on those governments who ratified it on September 17, 2008. This convention was signed by the U.S. on December 12, 2002 (NOAA 2011), and the lines calling at the YTI Terminal have indicated they are compliant. Therefore, TBT is not expected to leech from vessel hulls at the site of Alternative 2.

Even though Alternative 2 would result in increased vessel traffic, and potentially an incremental increase in hull leaching (of non-TBT substances), concentrations of metals in waters near the proposed project site have been well below regulatory criteria (POLA and POLB 2009; AMEC 2012). Therefore, water quality impacts related to leaching of contaminants from hull coatings would not be significant.

Based on the projected increase in TEUs occupying the terminal site, the frequency of potential Alternative 2-related spills would increase to 1.9 spills per year from 1.1 spills under the baseline, which equates to an increase in the number of annual spills by 0.8 under Alternative 2. This spill frequency would be classified as “periodic” (between one per year and once in ten years). Based on history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents; therefore, the consequence of such accidents is classified as “slight,” resulting in a Risk Code of 4, which is “acceptable.” Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potential for adverse public health impacts. Therefore, under CEQA, Alternative 2 operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance. Impacts under CEQA would be less than significant.

Accidental spills of petroleum hydrocarbons, hazardous materials, and other pollutants from Alternative 2-related upland operations are expected to be limited to small volume releases because large quantities of those substances are unlikely to be used, transported, or stored on the site.

In summary, construction and operations under Alternative 2, including increased container throughput and increased truck traffic, are not expected to create pollution, contamination, or a nuisance, or result in violations of water quality standards or permit conditions. Significant water quality impacts under CEQA are not expected to occur as a result of construction, terminal operations, or accidental spills that could occur from implementation of Alternative 2. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Alternative 2 would include only backlands improvements consisting of slurry sealing; deep cold planing; asphalt concrete overlay; restriping; and removal, relocation, or modification of any underground conduits and pipes necessary to complete repairs. No construction of in-water or over-water features would occur under Alternative 2. The No Federal Action Alternative would involve the same construction activities as would occur under the NEPA baseline. Therefore, there would be no incremental difference between Alternative 2 and the NEPA baseline. As a consequence, Alternative 2 would result in no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact WQ-2: Alternative 2 would not result in increased flooding, which would have the potential to harm people or damage property or sensitive biological resources.

Construction activities would not increase the potential for flooding on site because site elevations would remain generally the same as the baseline conditions, even though grading and backland construction would occur. These minor grade changes would not significantly alter flood depths or flow paths. During construction, BMPs would be applied to control site runoff from the 50-year design storm as described by the current County of Los Angeles Hydrology Manual and treat runoff meeting the criteria defined in the current Los Angeles County Manual for the SUSMP.

Although most of the Alternative 2 site is located in Flood Zone X, Alternative 2 operations would not increase the potential for flooding. Runoff from the site area is collected in catch basins located throughout the YTI Terminal, and is conveyed toward five separate discharge points along the wharf that discharge to the East Basin, East Basin Channel, and Cerritos Channel. All drains are equipped with smart drains to help filter runoff prior to discharge into the harbor waters. On-site storm drains and storm drainage conveyance and treatment are currently adequate to treat and convey runoff from the Alternative 2 site and impervious area, and overland drainage paths would not change.

Because the site is relatively flat, is located along the water’s edge (which would allow excess runoff to flow off site), and has an existing adequate drainage system, flood water on the site from a large storm event is not expected to be deep enough to cause employees to be harmed or to cause substantial damage to property within stored containers on site. Additionally, as discussed in Section 3.3, Biological Resources, no sensitive biological resources are located on the proposed project site.

CEQA Impact Determination

Because construction of Alternative 2 would not increase the potential for flooding at the site, construction of Alternative 2 would not substantially increase the potential for people or property to be adversely affected by flooding. Alternative 2 would not increase the amount of property, people, or sensitive biological resources exposed to flooding, as compared to the CEQA baseline. Site topography and the stormwater management system at the terminal would control flood conditions to minimize harm to people and property, and no sensitive biological resources are located on the proposed project site. Therefore, Alternative 2 would not result in significant impacts from flooding under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Alternative 2 would include only backlands improvements consisting of slurry sealing; deep cold planing; asphalt concrete overlay; restriping; and removal, relocation, or modification of any underground conduits and pipes necessary to complete repairs. No construction of in-water or over-water features would occur under Alternative 2. The No Federal Action Alternative would involve the same construction activities as would occur under the NEPA baseline. Therefore, there would be no incremental difference between Alternative 2 and the NEPA baseline. As a consequence, Alternative 2 would result in no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact WQ-3: Alternative 2 would not result in a permanent adverse change in movement of surface water in the Harbor.

Alternative 2 would not involve any in-water construction, dredge, or fill activities that could result in a permanent adverse change in movement of surface water in the Harbor. Alternative 2 would not result in any cut or fill along the water's edge that could contribute to changes in the movement of surface water during terminal operations. Once construction is completed, operation of Alternative 2 would not cause a permanent adverse change to the movement of surface water because Alternative 2 would not install barriers to prevent or impede water movement around the YTI Terminal.

CEQA Impact Determination

Because there would be no in-water construction at the proposed site as part of Alternative 2, there would be no change in movement of surface water in the Harbor. Alternative 2 would not install barriers to prevent or impede water movement around the

YTI Terminal. Even though the terminal would operate at a higher capacity (a 27% increase in ship calls), this would not result in a permanent adverse change to the movement of surface waters. Therefore, impacts on surface water flow would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Alternative 2 would include only backlands improvements consisting of slurry sealing; deep cold planing; asphalt concrete overlay; restriping; and removal, relocation, or modification of any underground conduits and pipes necessary to complete repairs. No construction of in-water or over-water features would occur under Alternative 2. The No Federal Action Alternative would involve the same construction activities as would occur under the NEPA baseline. Therefore, there would be no incremental difference between Alternative 2 and the NEPA baseline. As a consequence, Alternative 2 would result in no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact WQ-4: Alternative 2 would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled on site.

The site of Alternative 2 is an operational container terminal that is paved. Proposed improvements to the site include: grading, re-paving, lighting, drainage, utility relocation/modifications, striping, relocation of an existing fence, and third party utility modifications, relocations, or removals, as needed. The potential for erosion of soils from the site of Alternative 2 is low due to the flat terrain, infrequent rainfall events, and moderate wind velocities. In addition, re-paving activities would result in temporary soil exposure for a short period of time so as to minimize impacts to terminal operations during construction activities. Therefore, the natural processes that could accelerate erosion during construction activities can be controlled effectively by the use of temporary berms, barriers, and grading. As discussed above under Impact WQ-1, a SWPPP would be prepared that would specify (1) logistics and schedule for construction activities that would minimize the potential for erosion and (2) standard practices that include monitoring and maintenance of control measures. This would include measures to minimize wind or water erosion from the site during construction and minimize any potential for eroded sediment to be transported to the Harbor receiving waters. Standard practices would follow guidance developed by LAHD for soil management (e.g., temporary sediment basin [ESC 56], solid waste management [CA 020], and contaminated soil management [CA 022]) to minimize potentials for soil erosion and off-site transport that would be followed during construction operations for Alternative 2. Additionally, runoff of soils from the proposed project site would be controlled by use of BMPs, as required by the construction SWPPP for Alternative 2. Thus, construction activities would not be expected to accelerate erosion or increase sediment loads to the Harbor in the form of soils carried by stormwater runoff.

Site activities associated with Alternative 2 on the 185-acre proposed project site would not exceed the operational footprint that exists under the CEQA and NEPA baselines and would not result in an increased potential for sediment erosion or deposition. As described above under Impact WQ-1, BMPs would be implemented and site runoff would be managed in accordance with permits and ordinances, which would prevent or minimize the impacts from sediment in runoff to the East Basin Channel from the site of Alternative 2 during operations.

CEQA Impact Determination

Construction activities for Alternative 2 would not accelerate natural processes of wind and water erosion because all applicable BMPs and other standard soil management procedures would be implemented to minimize erosion from the construction site.

Operations associated with Alternative 2 would not accelerate erosion and soil deposition in the Harbor due in part to implementation of BMPs and SUSMP control measures that retain and remove pollutants and solids from site runoff. Alternative 2 would operate on the same footprint as the CEQA baseline, and all backlands are already paved. Therefore, there would be little potential for erosion. Impacts on water quality would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Alternative 2 would include only backlands improvements consisting of slurry sealing; deep cold planing; asphalt concrete overlay; restriping; and removal, relocation, or modification of any underground conduits and pipes necessary to complete repairs. No construction of in-water or over-water features would occur under Alternative 2. The No Federal Action Alternative would involve the same construction activities as would occur under the NEPA baseline. Therefore, there would be no incremental difference between Alternative 2 and the NEPA baseline. As a consequence, Alternative 2 would result in no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Alternative 3 – Reduced Project: Improve Berths 217–220 Only

This alternative differs from the proposed Project in that it does not involve dredging and pile driving at Berths 214–216. The following components of the proposed Project are unchanged under the Reduced Project Alternative:

- modifying up to six existing cranes;
- replacing up to four existing non-operating cranes;
- dredging 6,000 cubic yards of material from a depth of -45 to -47 feet MLLW (with an additional 2 feet of overdredge depth, for a total depth of -49 feet MLLW), and installing 1,200 linear feet of sheet piles and king piles to support and stabilize the existing wharf structure at Berths 217–220;
- disposing of dredged material at LA-2, the Berths 243–245 CDF, or an approved upland disposal site;
- extending the existing 100-foot gauge landside crane rail through Berths 217–220;
- performing ground repairs and maintenance activities in the backlands area; and
- expanding the TICTF on-dock rail by adding a single rail loading track.

Under this alternative, there would be three operating berths after construction, similar to the proposed Project, but Berths 214–216 would remain at their existing depth. This alternative would require less dredging (by approximately 21,000 cy) and pile driving and a shorter construction period than the proposed Project. Based on the throughput projections, this alternative is expected to operate at its capacity of approximately 1,913,000 TEUs by 2026, similar to the proposed Project. However, while the terminal could handle similar levels of cargo, the reduced project alternative would not achieve the same level of efficient operations as achieved by the proposed Project. This alternative would not accommodate the largest vessels (13,000 TEUs). The depth achieved at Berths 217–220 would only be capable of handling vessels up to 11,000 TEUs, requiring additional vessels to call on the terminal to meet future growth projections up to the capacity of the terminal. Therefore, under this alternative, 232 vessels would call on the terminal in 2020 and 2026, compared to 206 vessels for the proposed Project. Additionally, because of the higher number of annual vessel calls, this alternative would result in a maximum of five peak day ship calls (over a 24-hour period) compared to four for the proposed Project.

Impact WQ-1: Alternative 3 would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Construction

Impacts on water quality could occur from dredging, installation of sheet piles and king piles, backland improvements, and potential construction-related spills. Impacts to water quality could result from the suspension of sediments and/or the introduction of contaminants to the water column.

Dredging would disturb bottom sediments, and suspend sediments over a relatively small area. The extent of disturbance would depend on the method of dredging. Suspension of sediments during clamshell dredging occurs during bucket impact, penetration, and removal of the bucket from the sediment, as well as during bucket retrieval through the water column. During cutterhead dredging, suspended sediments are limited to the immediate vicinity of the dredge.

Sheet piles and king piles would be lowered through the water column, and then driven into the seafloor by both vibratory and impact driving methods. Some sediment would be suspended during this process, but over a much smaller area, and any turbidity would be limited to waters near the seafloor. Backlands improvement would not directly introduce sediments to the waters off the YTI Terminal; however, stormwater runoff could carry sediments to the Harbor waters without intervention. Accidental spills could also introduce contaminants to Harbor waters.

They types of water quality impacts from construction of Alternative 3 could include:

- Increased turbidity (reduced water clarity and light transmittance),
- Increased sediment suspension (or suspended solids),
- Increased dissolved or particulate contaminants (that were previously bound to dredged sediments or in pore water),
- Reduced dissolved oxygen (from suspension of sediments with low oxygen),
- Reduced pH, and
- Plankton blooms (from suspension of nutrient-laden sediments)

There are no projected effects to salinity or temperature from construction and operation of Alternative 3. The biological effects on marine biota from potential water quality impacts are discussed in Chapter 3.3.

Construction type and duration

As shown in Table 2-4 (see Chapter 2, Project Description), in water and over-water construction activities would extend over approximately 12–13 months. Construction would involve approximately four months for installation of sheet piles at Berths 217–220 and approximately one month for dredging and disposal.

Effects of Dredging and Pile Installation

Dredging would resuspend some bottom sediments and create localized and temporary turbidity plumes. For continuous dredging operations, elevated turbidity would occur in the immediate vicinity of the dredge for periods of days to several weeks. The majority of suspended sediments settle within one hour of dredging (Palermo et al. 2008). Transport of suspended particles by tidal currents would result in some redistribution of sediment contaminants. The amount of contaminants redistributed in this manner would be small, and the distribution would be localized in the channel adjacent to the work area. Monitoring efforts associated with previous dredging projects in Los Angeles Harbor have shown that resuspension followed by settling of sediments is low (generally 2% or less) (Anchor Environmental 2002).

Dredging sediments adjacent to the YTI Terminal would likely generate a relatively small turbidity plume because the material is mostly coarse-grained and would settle fairly rapidly. Receiving water monitoring studies in the Harbor and other water bodies have documented a relatively small, turbid dredge plume that dissipates rapidly with distance from dredging operations (MBC 2001a–b, 2002; USACE and LAHD 2008; POLA 2009a–i, 2010a–d; Parish and Wiener 1987; Jones & Stokes 2007a–b). Water quality was measured during dredging at Berths 212–215 in 2001 (MBC 2001a). During dredging, light transmittance was reduced by about 15% in the bottom half of the water column 300 feet downcurrent from the dredge (MBC 2001a).

Within areas of sediment resuspension, DO and pH could be slightly reduced. Reductions in DO concentrations, however, would be brief and are not expected to persist or cause detrimental effects to biological resources. During dredging at Berths 212–215 in 2001, there was little difference in DO and pH between Station C (300 feet downcurrent of dredging) and Station D (the control station, located at Berth 195 in East Basin) (MBC 2001a). Contaminants, including metals and organics, could be released into the water column during the dredging and pile installation. However, any increase in contaminant levels in the water is expected to be localized and of short duration. The magnitude of contaminant releases would be related to the sediment particle sizes, sediment organic content, and contaminant concentrations associated with the disturbed sediments. The sediment testing performed in the proposed dredge footprint detected some minor elevated metal, PCB, and DDT concentrations, but overall the sediments are recommended to be suitable for open water disposal. Therefore, contaminant concentrations associated with any potentially disturbed or resuspended sediments during dredging are not expected to result in any long-term effects in the waters near the YTI Terminal.

Nutrients could be released into the water column during the dredging and pile installation. Release of nutrients may promote nuisance growths of phytoplankton if operations occur during warm water conditions. Phytoplankton blooms have occurred during previous dredging projects, including the Deep Draft Navigation Improvement Project (USACE and LAHD 1992). However, there is no evidence that the plankton blooms observed were not a natural occurrence or that they were exacerbated by dredging activities. The Basin Plan (Los Angeles RWQCB 1994) limits on biostimulatory substances are defined as "concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses." Given the limited spatial and temporal extent of proposed construction activities with the potential for releasing nutrients from bottom sediments, effects on beneficial uses of Harbor waters are not anticipated to result from Alternative 3.

Effects of Backlands Improvements

Ground disturbances and construction activities related to backlands improvements could result in temporary impacts on surface water quality if uncontrolled runoff of exposed soils, asphalt leachate, concrete washwater, and other construction materials enter Harbor waters. No upland surface bodies of water currently exist within the boundaries of Alternative 3. Thus, construction-related impacts on surface water quality would be limited to potential non-stormwater discharges or discharges of stormwater runoff to Harbor waters that receive runoff from the proposed project site. Runoff from the upland portions of the YTI Terminal would flow into the Harbor, along with runoff from other adjacent areas of the Harbor's subwatershed. Runoff at the proposed project site is collected by the on-site storm drain system and is managed in compliance with applicable permits and ordinances (including SUSMP requirements) prior to discharge to the Harbor (to the East Basin Channel). In addition to soils, runoff from a construction site could contain a variety of contaminants, including metals and PAHs, associated with construction materials, and spills of oil or other petroleum products. Impacts on surface water quality from accidental spills are addressed below.

Accidental Spills

Accidents resulting in spills of fuel, lubricants, or hydraulic fluid from equipment used during dredging, pile installation, backlands improvement, and/or disposal of dredged material, could occur during construction of Alternative 3. Based on the history for this type of work in the Harbor, accidental leaks and spills of large volumes of hazardous materials or wastes containing contaminants during onshore construction activities have a very low probability of occurring because large volumes of these materials typically are not used or stored at construction sites (see Section 3.9, Hazards and Hazardous Materials).

Operation

Operation of Alternative 3 would result in similar water quality impacts as described under the proposed Project. Under this alternative, the capacity of YTI Terminal would increase to 1,913,000 TEUs annually by 2026 (compared to 996,109 TEUs under the CEQA baseline, and 1,692,000 [2026] under the NEPA baseline). However, this alternative would result in 232 vessel calls (an increase of 70 vessel calls above the CEQA baseline, and 26 ship calls above the NEPA baseline) and an increase in the peak day vessel calls at the terminal. This alternative would handle vessels up to 11,000 TEUs at Berths 217–220 but would not handle the largest (13,000 TEUs) vessels.

Impacts on water quality during operations could occur from runoff, atmospheric (aerial) deposition of contaminants, discharges of ballast water and other contaminants from vessels, and accidental spills.

Runoff

Operation of the facilities would not involve any direct point source discharges of wastes or wastewaters to the Harbor. The operation of marine terminals and backland container facilities on land, adds particulates and other pollutants to the site. Operations of non-electric equipment and vehicles for Alternative 3 would generate air emissions containing particulate pollutants. A portion of these particulates would be deposited on the site and subject to subsequent transport by storm runoff. At the YTI Terminal, stormwater is collected in catch basins and conveyed to storm drains along the East Basin Channel. The storm drains are fitted with “Smart Drains,” which reduce the amount of sediment (and bound contaminants) in the runoff. Transport of contaminants, such as metals, by runoff from the proposed project site would contribute incrementally to changes in receiving water quality.

Deposition of Contaminants

Direct atmospheric deposition refers to air pollutants that settle directly on water bodies, whereas indirect atmospheric deposition occurs on upland areas where the pollutants collect and are later conveyed to water bodies by runoff. Atmospheric deposition related to Port operations emissions may provide an increased impact on the local watersheds.

These impacts are primarily related to resuspended dust from vehicular traffic and coarse-sized, mechanically derived particles, such as zinc from tire wear and copper from brake pad wear. Fine particulates from vehicle exhaust may also contribute to the local watersheds, but to a lesser degree.

Particulates from area-wide and regional transportation sources likely dominate the metal-containing particulate matter that enters the storm drain systems because traffic volumes from freeways, commercial roads, and surface streets far outweigh the transportation volumes from the Port operations alone. These particles accumulate during dry weather conditions and are later washed off during storm events. For suspended zinc and copper pollutants from site of Alternative 3 (tire and brake wear from equipment and trucks), direct impacts would not be expected to significantly affect water quality due to the likely limited and dispersed nature of direct deposition on Harbor waters, and because direct aerial disposition would not allow for a significant buildup of these pollutants before entering Harbor waters.

Vessel Discharges and Contaminants

The amount of vessel traffic at the site of Alternative 3 would increase by up to 70 annual ship calls (by 2026) as compared to the CEQA baseline, and by up to 26 annual ship calls compared with the NEPA baseline. Discharges of polluted water (such as bilge water or gray water) or ballast water directly to the Harbor are prohibited under the Port tariff and other regulations; however, discharges to the Harbor of clean ballast waters are not.

Studies by the U.S. Navy have demonstrated that the leaching of metals from vessel hull coatings contributed to overall concentrations of water column metals in harbors such as Mayport, Florida; Pearl Harbor, Hawaii; and San Diego, California; however, estimated concentrations of metals resulting from hull vessel leachates were in most cases below federal and state water quality criteria (EPA 1999). One constituent of hull coating known to cause toxic effects is TBT, which has been banned from use. Other constituents, such as copper, still pose a threat. However, concentrations of metals, such as those used in antifouling applications (copper and zinc), have been measured near or below detection limits in waters off the site of Alternative 3.

Spills

Other potential operational sources of pollutants that could affect water quality in the waters off the YTI Terminal include accidental spills on land that enter storm drains, as well as accidental spills from vessels. If spilled material in upland areas were not captured prior to reaching the storm drain system, such materials could reach the East Basin Channel off the YTI Terminal. Spills or illegal discharges from vessels could also occur in the same waters, or during their transit to and from the YTI Terminal from the Harbor entrance at Angels Gate. Impacts on water and sediment quality would depend on (1) the characteristics of the material spilled, such as volatility, solubility in water, and sedimentation rate, and (2) the speed and effectiveness of the spill response and cleanup efforts. Potential releases of pollutants from a large spill to Harbor waters and sediments would be minimized through existing regulatory and on-site controls and are unlikely to occur during the life of Alternative 3.

CEQA Impact Determination

Dredging and pile installation during the construction phase of Alternative 3 would not entail any direct or intentional discharges of wastes to waters off the YTI Terminal.

However, in-water dredging and pile installation would disturb and resuspend bottom sediments, which would result in temporary and localized changes to some water quality indicators. Dredging off Berths 217–220 may reduce DO concentrations in the immediate vicinity of the dredge, but this decrease would generally not extend beyond the dredge area or persist following the completion of the dredging operation. Changes in pH, nutrients, and contaminant levels could also occur as a result of construction activities for Alternative 3. The extent of sediment dispersal would depend on the dredge method, the specific sediment characteristics, and the current speed and direction during dredging. Results from previous dredge receiving water monitoring studies in the Harbor indicate that turbidity and TSS concentrations would rapidly drop to levels approaching background concentrations within a few hundred meters of the dredge once dredging ceases.

Dredging for Alternative 3 would require a Section 10 permit from USACE and a CWA Section 401 Water Quality Certification from the Los Angeles RWQCB. The Water Quality Certification would be required to include monitoring requirements necessary to assure compliance with applicable effluent limitations, or any other CWA limitation, or with any State laws or regulations. Monitoring requirements typically include measurements of DO, light transmittance (turbidity), pH, and suspended solids at varying distances from the dredging operations. If turbidity levels exceed the threshold established in the WDRs issued by the Los Angeles RWQCB, water chemistry analysis would be conducted and the LAHD would immediately meet with the construction manager to discuss modifications of dredging operations to keep turbidity to acceptable levels. Analyses of contaminant concentrations (such as metals, DDT, PCBs, and PAHs) in waters during the dredging operations may also be required in the WDRs if turbidity levels are elevated above certain established thresholds. Monitoring data would be used by the Port dredger to demonstrate that water quality limits specified in the permit are not exceeded. This would include alteration of dredging methods, and/or implementation of additional BMPs to limit the size and extent of the dredge plume.

Sediments would be disposed of at the LA-2 ODMDS, placed at the Berths 243–245 CDF, or disposed of at another approved upland location. Sediments from the proposed dredging area were tested using standard EPA/USACE protocols (according to an approved SAP) prior to dredging to determine the suitability of the material for unconfined, aquatic disposal or other disposal alternatives. The sediments within the Berths 217–220 footprint complied with the chemistry, toxicity, and bioaccumulation suitability requirements for ocean disposal (Title 40 CFR Parts 220–228; Appendix F), and would be suitable for placement at the LA-2 ODMDS. Potential aquatic impacts from disposal of dredged sediments would depend on the disposal method and location, but they could include increased turbidity, reduced DO concentrations, and introduction of contaminants. Potential impacts from dredged material disposal on water/sediment quality at the Berths 243–245 CDF were evaluated as part of the Port's Channel Deepening Project and were determined not to be significant.

Runoff from the proposed project site would be controlled under a construction SWPPP prepared in accordance with GCASP requirements and implemented prior to the start of any construction activities. This construction SWPPP would specify BMPs to prevent and/or control releases of soils and contaminants and avoid adverse impacts on receiving water quality. One or more types of runoff control structures would be placed and maintained around the construction area to minimize loss of site soils to the storm drain system. As another standard measure, concrete truck wash water and runoff of any water that has come in contact with wet cement would be contained on site so that it does not runoff into the Harbor. These measures, combined with the low potential for erosion (see Impact WQ-4, below), would minimize any soil and contaminant loading to the Harbor resulting from construction activities. The SWPPP would be prepared by LAHD (or consultant) with LAHD designated as the "Legally Responsible Person."

Spills associated with construction equipment, such as oil/fluid drips or gasoline/diesel spills during fueling, typically involve small volumes that can be effectively contained in the work area and cleaned up immediately (Port of Los Angeles Spill Prevention and Control Procedures [CA012]). Construction and industrial SWPPPs and standard Port BMPs (e.g., use of drip pans, contained refueling areas, regular inspections of equipment and vehicles, and immediate repairs of leaks) would reduce potentials for materials from onshore construction activities to be transported off site and enter storm drains.

Accidental or incidental spills or leaks that occur on land are expected to be contained and cleaned up before any impacts on surface water quality can occur. Accidental spills from dredges or barges could directly affect water quality in the waters off the YTI Terminal; however, the probability of an accidental spill from a construction vessel to the Harbor is low. In addition, if an accidental spill does occur, the planning effort to contain and neutralize the spill and the spill response by the dredging contractors (deployment of floating booms to contain and absorb the spill and use pumps to assist the cleanup) would likely prevent the accidental spill from causing a nuisance or from adversely affecting beneficial uses of the Harbor.

The Basin Plan (Los Angeles RWQCB 1994) water quality objective for oil and grease states, "[w]aters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses." Spill prevention and cleanup procedures for Alternative 3 would be addressed in a plan that would be prepared in accordance with LAHD guidelines and implemented by the construction contractor prior to the notice to proceed with construction operations. The plan would define actions to minimize potentials for spills and provide efficient responses to spill events to minimize the magnitude of the spill and extent of impacts.

Even though the footprint of the terminal would not increase, the amount of truck traffic and yard equipment operations at the site of Alternative 3 would increase to handle up to 1,913,000 TEUs annually (from 996,109 TEUs annually under the CEQA baseline). Rail traffic would also increase at the existing on-dock railyard. This would increase the amount of particulates and chemical pollutants from normal wear of tires/train wheels and other moving parts, as well as from leaks of lubricants and hydraulic fluids that can fall on backland surfaces and subsequently be transported by stormwater runoff into the Harbor.

As noted in Impact WQ-1, runoff would be managed (consistent with applicable permit and ordinance requirements) prior to discharge into Harbor waters. Site operations would be conducted in accordance with an industrial SWPPP to minimize the generation of particulate pollutants. In addition, monitoring would be conducted under the SWPPP to observe the quality of the stormwater runoff discharged to the Harbor. This would allow the tenant and LAHD to ensure that the quality of any runoff would comply with the permit conditions and verify that any BMPs are performing as anticipated.

The design and operation of Alternative 3 would comply with both the SUSMP requirements and the City of Los Angeles LID ordinance requirements. Applicable BMPs would be incorporated into the proposed project plan that must be approved by the Bureau of Sanitation WPD, prior to issuance of building and grading permits. The SUSMP requires minimization of the pollutants of concern by incorporating "a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in that runoff to the maximum extent possible." The BMPs would include, as applicable, site design BMPs, source control BMPs, and treatment control BMPs. To the maximum extent feasible, treatment control BMPs would be selected from LID BMPs.

Given the limited footprint of Alternative 3, there may be very limited opportunity to incorporate significant site design BMPs, but these will be incorporated where possible. All applicable source control BMPs would be incorporated in the proposed project design. A list of structural control BMPs that are in use at the YTI Terminal are shown in Table 3.15-2. Feasible treatment control BMPs would be selected from for the list of treatment control categories in the guidance manual. For the backland portion of Alternative 3, BMPs would need to be designed to retain and/or treat the water quality design volume for the entire area subject to grading and resurfacing.

These BMPs must meet the specified design standards in the guidance manual to mitigate (infiltrate or treat) stormwater runoff. For the structural or treatment control BMPs included in the proposed project plan, the tenant would be required to provide verification of maintenance provisions. The controls and BMPs for runoff and storm drain discharges described above are designed to reduce impacts on water quality and would be fully implemented for Alternative 3. Tenants would be required to obtain and meet all conditions of applicable stormwater discharge permits as well as meet all Port pollution control requirement

An LA/LB Harbor-wide water quality study in 2005 found only five instances where metal concentrations exceeded CTR criteria for chronic exposure of marine life (POLA and POLB 2009). All five instances were for dissolved copper: two samples were in Cabrillo Marina, one in Fish Harbor, and two in Long Beach Inner Harbor. Concentrations of organic chemicals (such as pesticides, PCBs, and PAHs) were very low; the exception was TBT (discussed in Section 3.15.2.2). Ambient monitoring and stormwater monitoring in Long Beach Harbor in 2010–2011 showed that pollutants, such as metals and semivolatile organic compounds, were present in harbor waters during both dry-weather surveys and storm surveys (MBC 2011). However, in one sample during the 2010 dry-weather survey, zinc exceeded the standard for marine waters; all other metals were well below regulatory standards. Mixing with the harbor receiving waters dilutes the pollutants so that the receiving water standards are usually not exceeded. It is reasonable to expect that these findings would also apply to stormwater runoff from the site of Alternative 3, and concentrations of pollutants runoff would not cause violations of receiving water quality objectives, given compliance with SWPPP and SUSMP/LID requirements. Concentrations of monitored constituents in stormwater runoff at the YTI Terminal have been below applicable benchmark values.

Upland operations associated with Alternative 3 would not result in direct discharges of wastes to Harbor waters. However, stormwater runoff from the site of Alternative 3 could contain particulate debris from operation of the proposed project facilities, including aerially deposited pollutants. Discharges of stormwater would comply with the NPDES discharge permit limits and SWPPP requirements, and they would be subject to treatment via SUSMP/LID measures prior to discharge to Harbor waters. Therefore, water quality impacts from site runoff would not be significant.

As discussed above, ambient monitoring and stormwater monitoring in Long Beach Harbor in 2010–2011 (MBC 2011) showed that pollutants, such as metals and semivolatile organic compounds, are detectable in runoff, but receiving water standards are usually not exceeded. It is reasonable to expect that these findings would also apply to stormwater runoff from the site of Alternative 3, and runoff would not cause violations of receiving water quality objectives, given compliance with SWPPP and SUSMP/LID requirements.

In 2012, the Ports of Los Angeles and Long Beach published "Vessel Discharge Rules and Regulations," which summarizes the rules and regulations of ballast water discharge and other discharges (POLB and POLA 2012). This document, which is updated as the applicable regulations change, has been distributed to all terminal operators/shipping lines to make them aware of the regulations. With international, federal, and state regulations in place, the increased vessel traffic and terminal operations associated with Alternative 3 are not anticipated to result in increased discharge impacts from vessels.

The number or severity of illegal discharges, and corresponding changes to water and sediment quality, from increased vessel traffic cannot be accurately quantified because the rate and chemical composition of illegal discharges from commercial vessels is unknown. However, there is no evidence that illegal discharges from ships presently utilizing the Harbor are causing widespread problems in the Harbor. Over several decades, there has been a vast improvement in Harbor water quality despite an overall increase in ship traffic. In addition, the Port Police are authorized to cite any vessel that is in violation of Port tariffs, including illegal discharges. Illegal discharges resulting from operation of Alternative 3 are not likely to occur.

By the 1980s, numerous studies had documented toxic effects of TBT at extremely low concentrations (parts per trillion) to non-target species (Huggett et al. 1992). Because of these studies, regulatory actions were adopted in France (1982) and the United Kingdom (1985), and in 1988 the U.S. Congress passed the Organotin Antifouling Paint Control Act. On an international level, the IMO passed the International Convention on the Control of Harmful Antifouling Systems on Ships. This prohibits or restricts the use of antifouling systems on ships that are parties to the convention, those that are more than 400 gross tonnage that are engaged in international voyages, or those greater than 24 meters in length. This convention was ratified in 2007, and became binding on those governments who ratified it on September 17, 2008. This convention was signed by the U.S. on December 12, 2002 (NOAA 2011), and the lines calling at the YTI Terminal have indicated they are compliant. Therefore, TBT is not expected to leech from vessel hulls at the site of Alternative 3.

Even though Alternative 3 would result in increased vessel traffic, and an incremental increase in potential hull leaching (of non-TBT substances), concentrations of metals in waters near the site of Alternative 3 have been well below regulatory criteria (POLA and POLB 2009; AMEC 2012). Therefore, water quality impacts related to leaching of contaminants from hull coatings would not be significant.

Based on the projected increase in TEUs, the frequency of potential spills related to Alternative 3 would increase to 2.2 spills per year from 1.1 spills under the baseline, which equates to an increase in the number of annual spills by 1.1 under Alternative 3. This is the same as under the proposed Project because the maximum throughput at full build-out for the proposed Project and Alternative 3 would be the same, at 1,913,000 TEUs. This increase in spill frequency would be classified as "frequent" (greater than once per year). As stated earlier, under Alternative 3, 232 vessels would call on the terminal in 2020 and 2026, compared to 206 vessels for the proposed Project, for the YTI Terminal to reach its operating capacity of 1,913,000 TEUs.

Based on history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents; therefore, the consequence of such accidents is classified as "slight," resulting in a Risk Code of 4, which is "acceptable." Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potentials for adverse public health impacts. Therefore, under CEQA, Alternative 3 operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance. Impacts under CEQA would be less than significant.

Accidental spills of petroleum hydrocarbons, hazardous materials, and other pollutants from Alternative 3-related upland operations are expected to be limited to small volume releases because large quantities of those substances are unlikely to be used, transported, or stored on the site.

In summary, based on the analysis above, Alternative 3 construction activities, including dredging, pile installation, and backlands improvements, and operations at the improved terminal, including increased container throughput and increased truck traffic, are not expected to create pollution, contamination, or a nuisance, or result in violations of water quality standards or permit conditions. Therefore, significant water quality impacts under CEQA are not expected to occur from construction, terminal operations, or accidental spills that could occur from implementation of Alternative 3. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Dredging and pile installation during the construction of Alternative 3 would not entail any direct or intentional discharges of wastes to waters off the YTI Terminal. However, in-water dredging and pile installation would disturb and resuspend bottom sediments, which would result in temporary and localized changes to some water quality indicators. Dredging off Berths 217–220 may reduce DO concentrations in the immediate vicinity of the dredge, but this decrease would generally not extend beyond the dredge area or persist following the completion of the dredging operation. Changes in pH, nutrients, and contaminant levels could also occur as a result of construction activities for Alternative 3. The extent of sediment dispersal would depend on the dredge method, the specific sediment characteristics, and the current speed and direction during dredging. Results from previous dredge receiving water monitoring studies in the Harbor indicate that turbidity and TSS concentrations would rapidly drop to levels approaching background concentrations within a few hundred meters of the dredge once dredging ceases.

Dredging for Alternative 3 would require a Section 10 permit from USACE and a CWA Section 401 Water Quality Certification from the Los Angeles RWQCB. The Water Quality Certification would be required to include monitoring requirements necessary to assure compliance with applicable effluent limitations, or any other CWA limitation, or with any state laws or regulations. Monitoring requirements typically include measurements of DO, light transmittance (turbidity), pH, and suspended solids at varying distances from the dredging operations. If turbidity levels exceed the threshold established in the WDRs issued by the Los Angeles RWQCB, water chemistry analysis would be conducted and the LAHD would immediately meet with the construction manager to discuss modifications of dredging operations to keep turbidity to acceptable levels. Analyses of contaminant concentrations (such as metals, DDT, PCBs, and PAHs) in waters during the dredging operations may also be required in the WDRs if turbidity levels are elevated above certain established thresholds. Monitoring data would be used by the Port dredger to demonstrate that water quality limits specified in the permit are not exceeded. This would include alteration of dredging methods, and/or implementation of additional BMPs to limit the size and extent of the dredge plume.

Sediments would be disposed of at the LA-2 ODMDS, placed at the Berths 243–245 CDF, or disposed of at another approved upland location. Sediments from the proposed dredging area were tested using standard EPA/USACE protocols (according to an approved SAP) prior to dredging to determine the suitability of the material for unconfined, aquatic disposal or other disposal alternatives. The sediments within the Berths 217–220 footprint complied with the chemistry, toxicity, and bioaccumulation suitability requirements for ocean disposal (Title 40 CFR Parts 220–228; Appendix F), and would be suitable for placement at the LA-2 ODMDS. Potential aquatic impacts from disposal of dredged sediments would depend on the disposal method and location, but they could include increased turbidity, reduced DO concentrations, and introduction of contaminants. Potential impacts from dredged material disposal on water/sediment quality at the Berths 243–245 CDF were evaluated as part of the Port's Channel Deepening Project and were determined not to be significant.

Runoff from the proposed project site would be controlled under a construction SWPPP prepared in accordance with GCASP requirements and implemented prior to the start of any construction activities. This construction SWPPP would specify BMPs to prevent and/or control releases of soils and contaminants and avoid adverse impacts on receiving water quality. One or more types of runoff control structures would be placed and maintained around the construction area to minimize loss of site soils to the storm drain system. As another standard measure, concrete truck wash water and runoff of any water that has come in contact with wet cement would be contained on site so that it does not runoff into the Harbor. These measures, combined with the low potential for erosion (see Impact WQ-4, below), would minimize any soil and contaminant loading to the Harbor resulting from construction activities. The SWPPP would be prepared by LAHD (or consultant) with LAHD designated as the "Legally Responsible Person."

Spills associated with construction equipment, such as oil/fluid drips or gasoline/diesel spills during fueling, typically involve small volumes that can be effectively contained in the work area and cleaned up immediately (Port of Los Angeles Spill Prevention and

Control Procedures [CA012]). Construction and industrial SWPPPs and standard Port BMPs (e.g., use of drip pans, contained refueling areas, regular inspections of equipment and vehicles, and immediate repairs of leaks) would reduce potentials for materials from onshore construction activities to be transported off site and enter storm drains.

Accidental or incidental spills or leaks that occur on land are expected to be contained and cleaned up before any impacts on surface water quality can occur. Accidental spills from dredges or barges could directly affect water quality in the waters off the YTI Terminal; however, the probability of an accidental spill from a construction vessel to the Harbor is low. In addition, if an accidental spill does occur, the planning effort to contain and neutralize the spill and the spill response by the dredging contractors (deployment of floating booms to contain and absorb the spill and use pumps to assist the cleanup) would likely prevent the accidental spill from causing a nuisance or from adversely affecting beneficial uses of the Harbor.

The Basin Plan (Los Angeles RWQCB 1994) water quality objective for oil and grease states, "[w]aters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses." Spill prevention and cleanup procedures for Alternative 3 would be addressed in a plan that would be prepared in accordance with LAHD guidelines and implemented by the construction contractor prior to the notice to proceed with construction operations. The plan would define actions to minimize potentials for spills and provide efficient responses to spill events to minimize the magnitude of the spill and extent of impacts.

Even though the footprint of the terminal would not increase, the amount of truck traffic and yard equipment operations at the site of Alternative 3 would increase to handle up to 1,913,000 TEUs annually (from about 1,692,000 TEUs annually under the NEPA baseline [2026]). Rail traffic would also increase at the existing on-dock railyard. This would increase the amount of particulates and chemical pollutants from normal wear of tires/train wheels and other moving parts, as well as from leaks of lubricants and hydraulic fluids that can fall on backland surfaces and subsequently be transported by stormwater runoff into the Harbor.

As noted in Impact WQ-1, runoff would be managed (consistent with applicable permit and ordinance requirements) prior to discharge into Harbor waters. Site operations would be conducted in accordance with an industrial SWPPP to minimize the generation of particulate pollutants. In addition, monitoring would be conducted under the SWPPP to observe the quality of the stormwater runoff discharged to the Harbor. This would allow the tenant and LAHD to ensure that the quality of any runoff would comply with the permit conditions and verify that any BMPs are performing as anticipated.

The design and operation of Alternative 3 would comply with both the SUSMP requirements and the City of Los Angeles LID ordinance requirements. Applicable BMPs would be incorporated into the proposed project plan that must be approved by the Bureau of Sanitation WPD, prior to issuance of building and grading permits. The SUSMP requires minimization of the pollutants of concern by incorporating "a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in that runoff to the maximum extent possible." The BMPs would include, as applicable, site design BMPs, source control BMPs, and treatment control BMPs. To the maximum extent feasible, treatment control BMPs would be selected from LID BMPs.

Given the limited footprint of Alternative 3, there may be very limited opportunity to incorporate significant site design BMPs, but these will be incorporated where possible. All applicable source control BMPs would be incorporated in the proposed project design. A list of structural control BMPs that are in use at the YTI Terminal are shown in Table 3.15-2. Feasible treatment control BMPs would be selected from for the list of treatment control categories in the guidance manual. For the backland portion of Alternative 3, BMPs would need to be designed to retain and/or treat the water quality design volume for the entire area subject to grading and resurfacing.

These BMPs must meet the specified design standards in the guidance manual to mitigate (infiltrate or treat) stormwater runoff. For the structural or treatment control BMPs included in the proposed project plan, the tenant would be required to provide verification of maintenance provisions. The controls and BMPs for runoff and storm drain discharges described above are designed to reduce impacts on water quality and would be fully implemented for Alternative 3. Tenants would be required to obtain and meet all conditions of applicable stormwater discharge permits as well as meet all Port pollution control requirements.

An LA/LB Harbor-wide water quality study in 2005 found only five instances where metal concentrations exceeded CTR criteria for chronic exposure of marine life (POLA and POLB 2009). All five instances were for dissolved copper: two samples were in Cabrillo Marina, one in Fish Harbor, and two in Long Beach Inner Harbor. Concentrations of organic chemicals (such as pesticides, PCBs, and PAHs) were very low; the exception was TBT (discussed in Section 3.15.2.2). Ambient monitoring and stormwater monitoring in Long Beach Harbor in 2010–2011 showed that pollutants, such as metals and semivolatile organic compounds, were present in harbor waters during both dry-weather surveys and storm surveys (MBC 2011). However, in one sample during the 2010 dry-weather survey, zinc exceeded the standard for marine waters; all other metals were well below regulatory standards. Mixing with the harbor receiving waters dilutes the pollutants so that the receiving water standards are usually not exceeded. It is reasonable to expect that these findings would also apply to stormwater runoff from the site of Alternative 3, and concentrations of pollutants runoff would not cause violations of receiving water quality objectives, given compliance with SWPPP and SUSMP/LID requirements. Concentrations of monitored constituents in stormwater runoff at the YTI Terminal have been below applicable benchmark values.

Upland operations associated with Alternative 3 would not result in direct discharges of wastes to Harbor waters. However, stormwater runoff from the site of Alternative 3 could contain particulate debris from operation of the proposed project facilities, including aerially deposited pollutants. Discharges of stormwater would comply with the NPDES discharge permit limits and SWPPP requirements, and they would be subject to treatment via SUSMP/LID measures prior to discharge to Harbor waters. Therefore, water quality impacts from site runoff would not be significant.

As discussed above, ambient monitoring and stormwater monitoring in Long Beach Harbor in 2010–2011 (MBC 2011) showed that pollutants, such as metals and semivolatile organic compounds, are usually detectable, but receiving water standards are usually not exceeded. It is reasonable to expect that these findings would also apply to stormwater runoff from the site of Alternative 3, and runoff would not cause violations of receiving water quality objectives, given compliance with SWPPP and SUSMP/LID requirements.

In 2012, the Ports of Los Angeles and Long Beach published “Vessel Discharge Rules and Regulations,” which summarizes the rules and regulations of ballast water discharge and other discharges (POLB and POLA 2012). This document, which is updated as the applicable regulations change, has been distributed to all terminal operators/shipping lines to make them aware of the regulations. With international, federal, and state regulations in place, the increased vessel traffic and terminal operations associated with Alternative 3 is not anticipated to result in increased discharge impacts from vessels.

The number or severity of illegal discharges, and corresponding changes to water and sediment quality, from increased vessel traffic cannot be accurately quantified because the rate and chemical composition of illegal discharges from commercial vessels is unknown. However, there is no evidence that illegal discharges from ships presently utilizing the Harbor are causing widespread problems in the Harbor. Over several decades, there has been a vast improvement in Harbor water quality despite an overall increase in ship traffic. In addition, the Port Police are authorized to cite any vessel that is in violation of Port tariffs, including illegal discharges. Illegal discharges resulting from operation of Alternative 3 are not likely to occur.

By the 1980s, numerous studies had documented toxic effects of TBT at extremely low concentrations (parts per trillion) to non-target species (Huggett et al. 1992). Because of these studies, regulatory actions were adopted in France (1982) and the United Kingdom (1985), and in 1988 the U.S. Congress passed the Organotin Antifouling Paint Control Act. On an international level, the IMO passed the International Convention on the Control of Harmful Antifouling Systems on Ships. This prohibits or restricts the use of antifouling systems on ships that are parties to the convention, those that are more than 400 gross tonnage that are engaged in international voyages, or those greater than 24 meters in length. This convention was ratified in 2007, and became binding on those governments who ratified it on September 17, 2008. This convention was signed by the U.S. on December 12, 2002 (NOAA 2011), and the lines calling at the YTI Terminal have indicated they are compliant. Therefore, TBT is not expected to leech from vessel hulls at the site of Alternative 3.

Even though Alternative 3 would result in increased vessel traffic, and an incremental increase in potential hull leaching (of non-TBT substances), concentrations of metals in waters near the site of Alternative 3 have been well below regulatory criteria (POLA and POLB 2009; AMEC 2012). Therefore, water quality impacts related to leaching of contaminants from hull coatings would not be significant.

Based on the projected increase in TEUs, the frequency of potential spills related to Alternative 3 would increase to 2.2 spills per year from 1.9 spills under the NEPA baseline, which equates to an increase in the number of annual spills by 0.3 under Alternative 3. This increase in spill frequency would be classified as “periodic” (between one per year and once in ten years). Based on history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents; therefore, the potential consequence of such accidents is classified as “slight,” resulting in a Risk Code of 4, which is “acceptable.” Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potential for adverse public health impacts. Therefore, under NEPA, Alternative 3 operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance. Impacts would be less than significant under NEPA.

Accidental spills of petroleum hydrocarbons, hazardous materials, and other pollutants from proposed Project-related upland operations are expected to be limited to small volume releases because large quantities of those substances are unlikely to be used, transported, or stored on the site.

In summary, based on the analysis above, Alternative 3 construction activities, including dredging, pile installation, and backlands improvements, and operations at the improved terminal, including increased container throughput and increased truck traffic, are not expected to create pollution, contamination, or a nuisance, or result in violations of water quality standards or permit conditions. Therefore, significant water quality impacts under NEPA are not expected to occur from construction, terminal operations, or accidental spills that could occur from implementation of Alternative 3. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact WQ-2: Alternative 3 would not result in increased flooding that would have the potential to harm people or damage property or sensitive biological resources.

Construction

Dredging from Alternative 3 is not expected to increase the flood potential in the channel, and the Zone AE mapping would remain consistent with current mapping after implementation of Alternative 3.

Most of the terminal is designated by FEMA as Flood Zone X (defined as areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood).

Construction activities would not increase the potential for flooding on site because site elevations would remain generally the same as the baseline conditions, even though grading and backland construction would occur. These minor grade changes would not significantly alter flood depths or flow paths. During construction, BMPs would be applied to (1) control site runoff from the 50-year design storm as described by the current County of Los Angeles Hydrology Manual and (2) treat runoff meeting the criteria defined in the current Los Angeles County Manual for the SUSMP.

Operations

Although most of the proposed project site is located in Flood Zone X, Alternative 3 operations would not increase the potential for flooding. Runoff from the proposed project area is collected in catch basins located throughout the YTI Terminal, and is conveyed toward five separate discharge points along the wharf that discharge to the East Basin, East Basin Channel, and Cerritos Channel. All drains are equipped with smart drains to help filter runoff prior to discharge into the harbor waters. On-site storm drains and storm drainage conveyance and treatment are currently adequate to treat and convey runoff from the proposed project site. In addition, the total impervious area and existing overland drainage paths are not expected to change.

Because the proposed project site is relatively flat, is located along the water's edge (which would allow excess runoff to flow off site), and has an existing adequate drainage system, flood water on the proposed project site from a large storm event is not expected to be deep enough to cause employees to be harmed or to cause substantial damage to property within stored containers on site. Additionally, as discussed in Section 3.3, Biological Resources, no sensitive biological resources are located on the proposed project site.

CEQA Impact Determination

Because dredging for Alternative 3 would not alter the current flood mapping in the channel and because construction of Alternative 3 would not increase the potential for flooding at the site, Alternative 3 would not substantially increase the potential for people or property to be adversely affected by flooding. Alternative 3 would not increase the amount of property, people, or sensitive biological resources exposed to potential flooding. Site topography and the stormwater management system at the terminal would control flood conditions to minimize harm to people and property, and no sensitive biological resources are located on the proposed project site. Therefore, Alternative 3 would not result in significant impacts from flooding under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Because proposed dredging would not alter the current flood mapping in the channel and because construction of Alternative 3 would not increase the potential for flooding at the site, Alternative 3 would not substantially increase the potential for people or property to be adversely affected by flooding. Under Alternative 3, the proposed project elements subject to NEPA would not be exposed to any new flooding impacts. Wharf heights would remain the same and dredging the berths would not affect water heights in backland area. Total impervious area and existing overland drainage paths are not expected to change. However, operation of Alternative 3 would result in an increase in containers stored at the site compared to baseline conditions. This would subject more containers to potential interception of some sheet flow or ponding of water if a large enough storm occurred that generated more rainfall than could be temporarily accommodated by the capacity of the on-site drainage system. However, because the proposed project site is relatively flat, is located along the water's edge (which would allow excess runoff to flow off site), and contains existing adequate storm drainage facilities on site, flood water on the proposed project site from a large storm event is not expected to be deep enough to cause employees to be harmed or to cause substantial damage to property within stored containers on site. Therefore, Alternative 3 would not result in significant impacts from flooding under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact WQ-3: Alternative 3 would not result in a permanent adverse change in movement of surface water in the Harbor.

Alternative 3 would include dredging 6,000 cubic yards of sediment and installation of sheet piles and king piles to support and stabilize the existing wharf at Berths 217–220. This impact threshold addresses changes to the water body that would inhibit circulation or water mass exchanges with adjacent water bodies, thereby promoting stagnation and adverse effects to water quality. This alternative does not include the discharge of fill but includes the disposal of dredged material. Potential impacts due to construction and fill of the Berths 243–245 CDF and disposal at the LA-2 ODMDS (potential dredged material disposal locations) were previously evaluated. Dredging off Berths 217–220 will increase the depth from -45 feet to -47 feet MLLW, and approximately 1,200 linear feet of king piles and sheet piles will be installed along the wharf. None of these in-water construction elements would result in impediments to water movement.

Alternative 3 would not result in any cut or fill along the water's edge that could contribute to changes in the movement of surface water during terminal operations. Once construction is completed, operation of Alternative 3 would not cause a permanent adverse change to the movement of surface water because Alternative 3 would not install barriers to prevent or impede water movement around the YTI Terminal.

CEQA Impact Determination

Alternative 3 would not install barriers to prevent or impede water movement around the YTI Terminal. Even though the terminal would operate at a higher capacity (a 43% increase in ship calls), this would not result in a permanent adverse change to the movement of surface waters. Therefore, impacts on surface water flow would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Although Alternative 3 would include upland and in-water construction, Alternative 3 would not result in a permanent adverse change in surface water movement because these activities would not impose barriers to water movement into and out of the waters off the YTI Terminal. The number of ship calls from 2015–2026 would represent a 13%

increase from the NEPA baseline (206 ship calls per year). However, operation of Alternative 3 would not result in a permanent adverse change to the movement of surface waters, and impacts on surface water flow would be less than significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact WQ-4: Construction of Alternative 3 would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled on site.

Construction

Alternative 3 would result in similar construction activities on land as described for the proposed Project. The proposed project site is an operational container terminal that is paved. Proposed improvements to the site include: grading, re-paving, lighting, drainage, utility relocation/modifications, striping, relocation of an existing fence, and third party utility modifications, relocations, or removals, as needed. The potential for erosion of soils from the site of Alternative 3 is low due to the flat terrain, infrequent rainfall events, and moderate wind velocities. In addition, re-paving activities would result in temporary soil exposure for a short period of time so as to minimize impacts to terminal operations during construction activities. Therefore, the natural processes that could accelerate erosion during construction activities can be controlled effectively by the use of temporary berms, barriers, and grading.

As discussed above under Impact WQ-1, a SWPPP would be prepared that would specify (1) logistics and schedule for construction activities that would minimize the potential for erosion and (2) standard practices that include monitoring and maintenance of control measures. This would include measures to minimize wind or water erosion from the site during construction and minimize any potential for eroded sediment to be transported to the Harbor receiving waters. Standard practices would follow guidance developed by LAHD for soil management (e.g., temporary sediment basin [ESC 56], solid waste management [CA 020], and contaminated soil management [CA 022]) to minimize potentials for soil erosion and off-site transport that would be followed during construction operations for Alternative 3. Additionally, runoff of soils from the proposed project site would be controlled by use of BMPs, as required by the construction SWPPP for Alternative 3. Thus, construction activities would not be expected to accelerate erosion or increase sediment loads to the Harbor in the form of soils carried by stormwater runoff.

Operation

Site activities associated with Alternative 3 on the 185-acre site would not exceed the operational area that exists under the CEQA and NEPA baselines and would not result in an increased potential for sediment erosion or deposition. As described above under Impact WQ-1, BMPs would be implemented and site runoff would be managed in accordance with permits and ordinances, which would prevent or minimize the impacts from sediment in runoff to the East Basin Channel from site of Alternative 3.

CEQA Impact Determination

Construction activities for Alternative 3 would not accelerate natural processes of wind and water erosion because all applicable BMPs and other standard soil management procedures would be implemented to minimize erosion from the construction site. Operation of Alternative 3 would not accelerate erosion and soil deposition in the Harbor due in part to implementation of BMPs and SUSMP control measures that retain and remove pollutants and solids from site runoff. Alternative 3 would operate on the same footprint as the CEQA baseline, and all backlands are already paved. Therefore, there would be little potential for erosion, and impacts would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Construction activities for Alternative 3 would not accelerate natural processes of wind and water erosion because all applicable BMPs and other standard soil management procedures would be implemented to minimize erosion from the construction site. Operation of Alternative 3 would not accelerate erosion and soil deposition in the Harbor due in part to implementation of BMPs and SUSMP control measures that retain and remove pollutants and solids from site runoff. Alternative 3 would operate on the same footprint as the NEPA baseline, and all backlands are already paved. Therefore, impacts would be less than significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

3.15.4.4 Summary of Impact Determinations

Table 3.15-3 summarizes the CEQA and NEPA impact determinations for the proposed Project and its alternatives related to water quality, sediments, and circulation, as described in the detailed discussion above. This table is intended to allow easy comparison between the potential impacts of the proposed 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, LAHD criteria, and the scientific judgment of the report preparers. For each impact threshold, 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.

Table 3.15-3: Summary Matrix of Potential Impacts and Mitigation Measures for Water Quality, Sediments and Oceanography Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
Proposed Project	**WQ-1:** The proposed Project would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant NEPA: Less than significant	No mitigation is required.	CEQA: Less than significant NEPA: Less than significant
	WQ-2: The proposed Project would not result in increased flooding that would have the potential to harm people or damage property or sensitive biological resources.	CEQA: Less than significant NEPA: Less than significant	No mitigation is required.	CEQA: Less than significant NEPA: Less than significant
	WQ-3: The proposed Project would not result in a permanent adverse change in movement of surface water in the Harbor.	CEQA: Less than significant NEPA: Less than significant	No mitigation is required.	CEQA: Less than significant NEPA: Less than significant
	WQ-4: The proposed Project would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled on site.	CEQA: Less than significant NEPA: Less than significant	No mitigation is required.	CEQA: Less than significant NEPA: Less than significant
Alternative 1 – No Project	**WQ-1**: Alternative 1 would not create pollution, contamination, or a nuisance as in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant NEPA: Not applicable	No mitigation is required. Mitigation not applicable	CEQA: Less than significant NEPA: Not applicable
	WQ-2: Alternative 1 would not result in increased flooding that would have the potential to harm people or damage property or sensitive biological resources.	CEQA: Less than significant NEPA: Not applicable	No mitigation is required. Mitigation not applicable	CEQA: Less than significant NEPA: Not applicable
	WQ-3: Alternative 1 would not result in a permanent adverse change in movement of surface water in the Harbor.	CEQA: Less than significant NEPA: Not applicable	No mitigation is required. Mitigation not applicable	CEQA: Less than significant NEPA: Not applicable
	WQ-4: Alternative 1 would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled on site.	CEQA: Less than significant NEPA: Not applicable	No mitigation is required. Mitigation not applicable	CEQA: Less than significant NEPA: Not applicable

Table 3.15-3: Summary Matrix of Potential Impacts and Mitigation Measures for Water Quality, Sediments and Oceanography Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
Alternative 2 – No Federal Action	**WQ-1**: Alternative 2 would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant NEPA: No impact	No mitigation is required.	CEQA: Less than significant NEPA: No impact
	WQ-2: Alternative 2 would not result in increased flooding, which would have the potential to harm people or damage property or sensitive biological resources.	CEQA: Less than significant NEPA: No impact	No mitigation is required.	CEQA: Less than significant NEPA: No impact
	WQ-3: Alternative 2 would not result in a permanent adverse change in movement of surface water in the Harbor.	CEQA: Less than significant NEPA: No impact	No mitigation is required.	CEQA: Less than significant NEPA: No impact
	WQ-4: Alternative 2 would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled on site.	CEQA: Less than significant NEPA: No impact	No mitigation is required.	CEQA: Less than significant NEPA: No impact
Alternative 3 – Reduced Project – Improve Berths 217–220 Only	**WQ-1**: Alternative 3 would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant NEPA: Less than significant	No mitigation is required.	CEQA: Less than significant NEPA: Less than significant
	WQ-2: Alternative 3 would not result in increased flooding, which would have the potential to harm people or damage property or sensitive biological resources.	CEQA: Less than significant NEPA: Less than significant	No mitigation is required.	CEQA: Less than significant NEPA: Less than significant
	WQ-3: Alternative 3 would not result in a permanent adverse change in movement of surface water in the Harbor.	CEQA: Less than significant NEPA: Less than significant	No mitigation is required.	CEQA: Less than significant NEPA: Less than significant
	WQ-4: Alternative 3 would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled on site.	CEQA: Less than significant NEPA: Less than significant	No mitigation is required.	CEQA: Less than significant NEPA: Less than significant

3.15.4.5 Mitigation Monitoring

No mitigation measures are required due to the implementation of existing regulations or measures included as part of the proposed Project or any of the alternatives.

3.15.5 Significant Unavoidable Impacts

No significant unavoidable impacts on water quality, sediments, and oceanography would occur as a result of construction or operation of the proposed Project or any of the alternatives.