3.14

WATER QUALITY, SEDIMENTS, AND OCEANOGRAPHY

3.14.1 Introduction

This section describes the affected environment and regulatory setting for water quality, sediments and oceanography, as well as the impacts on water quality, sediments, and oceanography that would result from the proposed Project and its alternatives, and the mitigation measures that would reduce these impacts.

3.14.2 Environmental Setting

The following discussion addresses the existing water quality, sediments, and oceanography within and near the proposed project area. The discussion relies on data that plausibly represent the environmental baseline date of 2006, with most of the described data having been collected between 2001 and 2007. The area has a Mediterranean climate with wet, cool winters, and warm, dry summers. Most rainfall (90%) occurs between the beginning of November and the end of April with an average annual rainfall of 12.1 inches (MEC Analytical Systems 2004:2-3). The 50-year, 24-hour estimated precipitation[1] is 4.4 to 4.6 inches (MEC Analytical Systems 2004:2-6).

3.14.2.1 Regional Setting

3.14.2.1.1 Surface Water

The proposed project area is in the Dominguez watershed, in and adjacent to the Los Angeles Harbor. The Dominguez watershed (SWRCB Hydrologic Unit 405.12) has

[1] The 50-year, 24-hour precipitation estimate refers to the approximate amount of rainfall that is expected to fall over a 24-hour period during a 50-year storm event or an event that has a 2% probability of occurring during a during a normal year.

an area of 133 square miles (approximately 345 square kilometers) and is roughly bordered by Inglewood (on the north), Compton (on the east), Torrance (on the west), and, on the south, the federal breakwaters of Los Angeles and Long Beach Harbors (LA/LB Harbors) (MEC Analytical Systems 2004:1-5). Most land in the watershed is developed (93%), and 62% of stormwater runoff from these lands drains to the Dominguez Channel, which drains to the Los Angeles Harbor. The remaining runoff drains to retention basins; into Wilmington Drain, which in turn drains to Machado Lake; or directly into the LA/LB Harbors (MEC Analytical Systems 2004:1-3).

The Dominguez watershed comprises five subwatersheds. Two of these (the Upper Channel and the Lower Channel) drain directly into the Dominguez Channel. The remaining subwatersheds are the retention basins, Machado Lake, and Harbors subwatershed (MEC Analytical Systems 2004:2-94. The proposed project area occurs within the Harbors subwatershed. The Harbors subwatershed, comprising portions of the cities of Los Angeles, Long Beach, Rancho Palos Verdes, and Rolling Hills, has an area of 36.7 square miles (95 square kilometers) and drains directly into the LA/LB Harbors (MEC Analytical Systems 2004:2-100).

Specific surface water features of the Los Angeles Harbor near the proposed project area include the Inner Cabrillo Beach, West Channel, the East Channel, Main Channel, the SP Slip, and Berths 93A–93E. In addition, the Salinas de San Pedro Salt Marsh is located between the Cabrillo Beach Youth Camp and Cabrillo Marine Aquarium in the proposed project area. The biological resources of these habitat areas are presented in Section 3.3, "Biological Resources."

The Los Angeles Harbor has been physically modified through past dredging and filling projects, as well as construction of breakwaters and other structures. Los Angeles Harbor is adjacent to Long Beach Harbor, and oceanographically they function as one unit. This is due to an inland connection via Cerritos Channel and because they share Outer Harbors behind the San Pedro, Middle, and Long Beach Breakwaters. In addition, there is an opening in the causeway leading to Pier 400 that was designed to enhance circulation.

The LA/LB Harbors are marine, primarily influenced by the southern California coastal marine environment known as the Southern California Bight (USACE and LAHD 1992:4B-1), and receive significant inputs of freshwater. More than half of the Dominguez watershed drains to Dominguez Channel, which drains approximately 80 square miles of urban and industrial areas and is the main freshwater influx into the LA/LB Harbors. The remaining portions of the watershed drain to retention basins for groundwater recharge, into Wilmington Drain, or to the LA/LB Harbors (MEC Analytical Systems 2004:1-100). There are also several major storm drains that discharge into the LA/LB Harbors. Another freshwater input to the Los Angeles Harbor is the discharge of treated wastewater from the Terminal Island Treatment Plant into the Outer Harbor near Pier 400. (USACE and LAHD 1992:3.9-1)

The traditional means of distinguishing Inner and Outer Harbor areas is by physical definition, with the Inner Harbor considered to end at the entrance to the Main Channel, and the Outer Harbor consisting of the area south of the Main Channel. However, another definition based on habitat value is used by regulatory agencies in

making biological mitigation decisions. In this section, reference to the Inner and Outer Harbor is used to differentiate between areas within the proposed project area. A more detailed discussion of how the Inner and Outer Harbor are defined can be found in Section 3.3.2.3 and Figure 3.3-3. Due to improvements in water quality, the value of aquatic habitat has improved. The improvements in water quality have been greatest in the Inner Harbor, which includes Cabrillo Marina, East Channel, and SP Slip (City of Los Angeles 2005: Exhibit C) where historically water quality has been very poor.

The proposed Project encompasses the land and water areas between the Port's Main Channel to the east and Harbor Boulevard to the west, from the Vincent Thomas Bridge to the north to Inner Cabrillo Beach to the south. The existing beneficial uses of coastal and tidal waters in the Inner Harbor areas of 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, water contact recreation, non-contact water recreation, commercial and sport fishing, preservation of rare and endangered species, marine habitat, and shellfish harvesting (LARWQCB 1994; LARWQCB 2007a:2.1-1; City of Los Angeles and County of Los Angeles 2007:1).

3.14.2.1.2 Water Quality

Water quality in the Los Angeles Harbor is influenced by a number of factors including climate, circulation, biological activity, surface runoff, effluent discharges, and accidental discharges of pollutants related to shipping activities. As of 2007, there were a total of nine active NPDES permitted discharges in the Dominguez Channel/Los Angeles–Long Beach Harbor Watershed Management Area including five industrial NPDES dischargers and four general NPDES dischargers. There are also an additional five general NPDES dischargers in Los Angeles Harbor and a tentative individual NPDES permit held by Terminal Island Treatment Plant. The nine general NPDES permits cover stormwater, hydrostatic test water, monitoring well, and drinking water treatment discharges. The five industrial NPDES permits cover a horse race track, stormwater from an inactive petroleum tank farm, a chemical bulk storage and transfer station, and a petroleum refinery (LARWQCB 2007b).

Waters in the proposed project area that are Section 303(d)-listed[2] for impairment and their specific water quality impairments are summarized in Table 3.14-1. To date, bacteria Total Maximum Daily Loads (TMDLs) have been completed for Inner Cabrillo Beach and Los Angeles Harbor Main Channel. A TMDL is the amount of a particular pollutant that a stream, lake, estuary, or other water body can assimilate without violating state water quality standards. Once a TMDL is established, responsibility for reducing pollution among both point sources (wastewater NPDES permit holders) and diffuse sources (such as run-off from urban and agricultural

[2] Section 303(d) of the 1972 Clean Water Act requires that states, territories and authorized tribes develop a list of water bodies which do not meet water quality standards, set priorities for these water bodies, and develop action plans (which are often in the form of a TMDL) for addressing the water quality issues.

sources, leaking underground storage tanks, and septic systems) is assigned so that water quality standards are no longer violated. In addition, a framework has been developed and analysis is underway to develop Toxic and Metal TMDLs for water bodies within the LA/LB Harbors Complex that were included on California's 2002 303(d) list of impaired waters (Anchor et al. 2005:123). These include Inner Cabrillo Beach, Dominguez Channel, Los Angeles Harbor, Los Angeles Fish Harbor, and other areas (USEPA Region 9 and Tetra Tech 2004).

Table 3.14-1. Section 303(d) Listed Waters in Los Angeles Harbor

Listed Waters/Reaches	*Impairments*
Los Angeles Harbor, Cabrillo Marina (77 acres; 31 ha)	DDT, PCBs
Los Angeles Harbor, Inner Cabrillo Beach Area (82 acres; 33 ha)	Cu, DDT*, PCBs*
Los Angeles/Long Beach Outer Harbor, inside breakwater (4042 acres; 1636 ha)	DDT, PCBs
Los Angeles Harbor, Fish Harbor (34 acres; 14 ha)	DDT, PAHs, PCBs, benzo[a]anthracene, chlordane, chrysene (C1-C4), Cu, dibenz[a,h]anthracene, Pb, Hg, phenanthrene, pyrene, sediment toxicity, Zn
Los Angeles/Long Beach Inner Harbor (3003 acres; 1215 ha)	Beach closures, benthic community effects, DDT, PCBs, sediment toxicity
Los Cerritos Channel (31 acres; 13 ha)	Ammonia, bis(2ethylhexyl)phthalate/DEHP, coliform bacteria, Cu, Pb, Zn, trash Sediment: chlordane
Los Angeles Harbor, Consolidated Slip (36 acres; 15 ha)	Benthic community effects, sediment toxicity, dieldrin Sediment: Cd, Cr, Cu, Pb, Hg, Zn Sediment & tissue: chlordane, DDT*, PCBs* Tissue: toxaphene
Domínguez Channel, from Vermont to Estuary (13.4 km; 8.3 miles)	Benthic community effects, Cr, Pb, Zn, pesticides, DDT, PAHs, ammonia, bacteria

Notes:
Cd=cadmium
Cr=chromium oxide
CU=copper
PCBs=polychlorinated biphenyls
DDT=dichloro-diphenyl-trichloroethane
DEHP=di(2-ethylhexyl)phthalate released from polyvinyl chloride (PVC)
Hg=mercury
PAH=polycyclic aromatic hydrocarbon
Pb=lead
Zn=zinc
*Fish consumption advisory
Source: SWRCB 2006.

Water quality outside the Los Angeles Harbor is influenced by water flushed from the harbor and vessel activity. Areas near the breakwater would have colder water temperatures than the Inner Harbor areas that are farther from the Pacific Ocean. Accordingly, it is expected that the salinity, pH, and turbidity would be lower and the levels of dissolved oxygen (DO) would be higher in areas closer to the Pacific Ocean. (LAHD 1997:3.4-1.)

The LAHD has been monitoring water quality on a monthly basis in the Los Angeles Harbor since 1967. In 2000, the Ports of Los Angeles and Long Beach completed water quality measurements for the LA/LB Harbors for the Year 2000 baseline study (MEC Analytical Systems 2002). There has been a general improvement of the water quality parameters over time (MEC Analytical Systems 2002:2-13). Seven monitoring stations were located in the immediate vicinity of the proposed Project, in the Main Channel, the West Channel, the Los Angeles Outer Harbor, and the Cabrillo Shallow Water Habitat (see Figure 3.14-1). Average values of selected surface water quality constituents at these locations are shown in Table 3.14-2. Data from this study have been supplemented with water quality studies completed for the Los Angeles Harbor Bacteria TMDL Main Ship Channel Summary Analysis (City of Los Angeles and County of Los Angeles 2007) and data from Port of Los Angeles Enhanced Water Quality Monitoring Program from 2005–2006 (Port of Los Angeles 2007). These data, having been collected during the 2006 environmental baseline for the proposed Project, are relevant to an assessment of baseline conditions. The information in Table 3.14-2 and supplemental data, provided in Appendix P.1, are discussed in more detail in the remainder of this section.

Table 3.14-2. Average Values of Water Quality Constituents in Surface Waters near the Proposed Project Area.

Habitat/Station		*LA11*	*LA4*	*LA12*	*LA2A*	*LA2B*	*LA3A*	*LA3B*
Depth (m)		16	16	11	4	4	4	4
Dissolved Oxygen (mg/L)	Surface	6.98	6.67	7.22	6.97	7.01	7.12	7.05
	Middle	6.68	6.43	6.62	6.98	6.90	6.65	6.58
	Bottom	6.20	6.20	4.98	6.59	6.61	6.09	6.31
pH	Surface	7.92	7.91	7.92	7.95	7.95	7.94	7.94
	Middle	7.92	7.9	7.94	7.95	7.94	7.91	7.91
	Bottom	7.88	7.89	7.81	7.93	7.93	7.88	7.90
Salinity (ppt)	Surface	33.24	33.15	33.11	33.29	33.28	33.28	33.29
	Middle	33.38	33.22	33.36	33.31	33.31	33.34	33.34
	Bottom	32.64	33.38	32.92	33.3	33.33	33.41	33.13
Temperature (°C)	Surface	16.85	16.95	17.24	16.58	16.60	16.55	16.57
	Middle	15.79	16.22	16.00	16.42	16.41	15.8	15.69
	Bottom	14.49	15.09	14.98	16.24	16.31	15.08	15.15

Habitat/Station		*LA11*	*LA4*	*LA12*	*LA2A*	*LA2B*	*LA3A*	*LA3B*
Transparency (%)	Surface	66.11	65.14	70.69	66.53	62.3	56.66	60.13
	Middle	63.45	63.09	63.66	64.56	63.74	61.83	59.64
	Bottom	44.90	49.91	44.56	42.12	50.94	48.51	54.93
Source: MEC Analytical Systems 2002.								

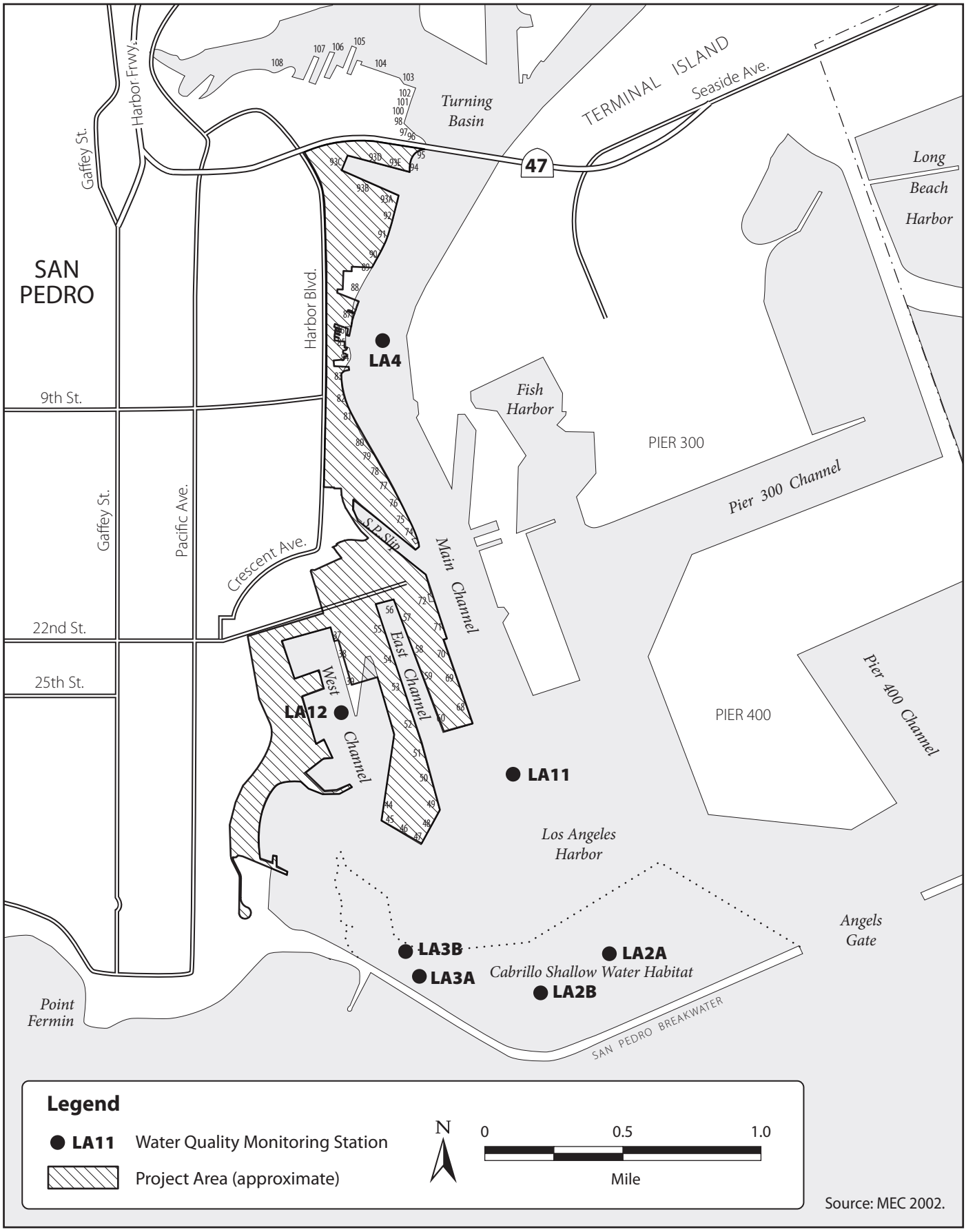
Dissolved Oxygen

Dissolved oxygen (DO) is a principal indicator of water quality. The EPA and the Los Angeles RWQCB (LARWQCB) have established a DO concentration of 5 milligrams per liter (mg/l) as the minimum allowable concentration for aquatic habitats (EPA 1986:211; LARWQCB 1994). The LARWQCB also requires that the mean annual DO concentration be 7 mg/l or greater, with no event less than 5 mg/l and a mean annual DO concentration in the Outer Harbor of 6 mg/L. DO concentrations may vary considerably based on the influence of a number of parameters:

- respiration of plants and other organisms,
- waste (nutrient, oxygen demanding substances) discharges,
- surface water mixing through wave action,
- diffusion rates at the water surface,
- water depth, and
- disturbance of bottom sediments that contain oxidizable material.

As recently as the late 1960s, DO levels in some portions of Los Angeles Harbor were so low that little or no marine life could survive. Since that time government regulations have reduced direct waste discharges into the harbor, resulting in improved DO levels throughout the harbor (LAHD 2002:3.9-3). Occasional planktonic blooms still occur under conditions of high solar radiation and high nutrient levels such as on sunny days following storm events. These blooms result in severely reduced DO levels, but the effects are usually localized and short-lived (LAHD 2002:3.9-3). The disturbance of anaerobic sediments by dredging also results in short-term, localized DO reductions (MEC Analytical Systems 2002:2-14).

Water quality monitoring in 2000 and 2007 found DO levels generally greater than 6 mg/l near the proposed project area (Table 3.14-2). There were no significant spatial patterns in the measured DO concentrations at the seven MEC sampling locations, representing sites in the Outer Harbor and the Main and West Channels. The lowest and highest DO concentrations at the seven sampling locations occurred during spring and winter, respectively (MEC Analytical Systems 2002: Table 2.4-2). Except at stations LA2A and LA2B, DO concentrations measured at the bottom at all of the sampling locations, including those in the West Channel, were < 5 mg/L at least once



01074.07 (1-31-08)

ICF Jones & Stokes
an ICF International Company

Figure 3.14-1
San Pedro Waterfront—
Water Quality Monitoring Stations in the Project Vicinity

throughout the year (MEC Analytical Systems 2002:Table 2.4-2). In 2007, minimum DO concentrations in open water of the Main Channel and in the West Channel did not drop below 5.9 mg/L between May 2006 and April 2007; however, DO concentrations <5.0 mg/L were measured at the northern tip of S.P. Slip during that same period (City of Los Angeles and County of Los Angeles 2007). Therefore, DO concentrations near the San Pedro Waterfront area are occasionally at levels below LARWQCB standards, particularly near the bottom where photosynthesis rates are relatively low and respiration rates relatively high (MEC Analytical Systems 2002:Table 2.4-2). According to the enhanced water quality monitoring conducted by the Port of Los Angeles 2005–2006 (Appendix P.1), DO is slightly lower in the Main Channel than in the Outer Harbor and West Channel (Port of Los Angeles 2007).

pH

Hydrogen ion concentration (pH) in marine waters is affected by plant and animal metabolism, mixing with water with different pH values from external sources, and (on a small scale) disturbances in the water column that cause redistribution of waters with varying pH levels or the re-suspension of bottom sediments. Frequently, pH levels vary along with DO concentrations. In the open ocean, pH levels typically range from 8.0–8.3 (LAHD 2002:3.9-3). The LARWQCB has established an acceptable range of 6.5–8.5 pH units with a change tolerance level of no more than 0.2 units due to discharges (LARWQCB 1994:3-15). At the seven sampling locations adjacent to the proposed project area, annual mean pH values for surface, mid-depth, and bottom waters ranged from 7.91 to 7.95, 7.90 to 7.95, and 7.81 to 7.93, respectively (Table 3.14-2). The more recent water quality sampling completed by the City and County of Los Angeles in 2007 indicated pH values consistent with the pH values reported in Table 3.14-2 with values ranging from 7.68 to 7.93 in the Main Channel (2007).

Turbidity and Transparency

Turbidity is the measure of suspended solids in the water column. Water clarity, or how well water transmits light, is known as transparency. Increased turbidity usually results in decreased transparency. Turbidity generally increases as a result of one or a combination of the following conditions: suspended sediment from terrestrial runoff; planktonic bloom resulting from favorable environmental conditions such as abundant light and high nutrient loads; vessel-related disturbances; and dredging (MEC Analytical Systems 2002:2-6). In general, the transparency of the Los Angeles Harbor has improved since 1967 though individual measurements vary substantially (LAHD 2002:3.9-4). Transparency values at seven monitoring locations adjacent to the proposed project area range from 42.12% to 70.69% (Table 3.14-2). Transparencies at the bottom depths of the seven sampling locations are substantially lower than the mid-depth and surface values (Table 3.14-2). This is likely a result of the proximity to the sediment bed and the potential sediment resuspension/disturbance from vessels or the tides. The enhanced water quality monitoring program measured transparency based on the distance from the surface.

Transparency ranged from 19.7 feet in the Outer Harbor to 7.4 feet in the Main Channel (Appendix P; Port of Los Angeles 2007.) These data, having been collected at times up to the environmental baseline date, provide information about baseline water quality conditions in the proposed project area and vicinity.

Contaminants

Potential water column contaminants include metals (particularly cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc), oil and grease, chlorinated hydrocarbons (DDT and DDE), and polychlorinated biphenyls (PCBs). Surface water bodies adjacent to the proposed project area contain some of the above-mentioned contaminants. The LA/LB Inner Harbor is on the 2006 303(d) list for beach closures, benthic community effects, DDT, PCBs and sediment toxicity. Both Inner Cabrillo Beach and Cabrillo Marina are on the 303(d) list for DDT and PCBs, and Cabrillo Marina is also listed for copper (SWRCB 2006).

As discussed at the beginning of this section, draft TMDLs have been or are currently being prepared in response to 303d listings within the proposed project area. Bacteria TMDLs have been completed for Inner Cabrillo Beach and Los Angeles Harbor Main Channel. A technical advisory committee is in the process of preparing additional TMDLs: Dominguez Channel and the LA/LB Harbors Toxic and Metal TMDLs (Anchor et al. 2005:123). LAHD is an active participant in both processes.

There are few data describing metal contamination in harbor waters (LAHD 2002:3.9-4). Sampling for the enhanced water quality monitoring program in September 2005 found concentrations of copper at 0.1 –0.8 micrograms per liter (µg/l), mercury at 0.1 to 2.8 µg/l, zinc at 1.3–3.8 µg/l, and a variety of other trace metals (Appendix P.2). Sources of contaminants include historical deposition, municipal and industrial wastewaters, marine vessel activities, and stormwater runoff (Anchor et al. 2005:110; LARWQCB 2007:2.1-5). Maintenance dredging and long-term effluent limitations imposed by LARWQCB appear to be helping to decrease chemical contamination in harbor waters and sediments (LAHD 2002:3.9-4; LARWQCB 2007:2.1-5).

Nutrients

The photosynthetic production of organic matter by phytoplankton may be limited by the availability of the inorganic nutrients, phosphate, and nitrate. The availability of phosphates and nitrates changes from day to day and is influenced by factors that include biological processes, wastewater discharge, and stormwater runoff. The Los Angeles Harbor, as an enclosed water body, has different seasonal and spatial variation in nutrient concentration than what is observed outside the breakwater (LAHD 2002: 3.9-4.)

Depending on location, depth, and season, nutrients in the harbor may vary in concentration by several orders of magnitude. The following ranges were measured in 1978 by Harbor Environmental Projects (HEP 1980 in LAHD 2002:3.9-4):

phosphate, 0.172–12.39 parts per million (ppm); ammonia, 0.12–119.28 ppm; nitrate, 0.00–82.97 ppm; and nitrite, 0.00–5.38 ppm. Nutrient concentrations were high during periods of high stormwater runoff. These data, having been collected during the baseline evaluation period, represent baseline conditions in the harbor. Localized high nutrient concentrations observed in the Outer Los Angeles Harbor are due to the City of Los Angeles' Terminal Island Treatment Plant discharge. (LAHD 2002:3.9-5.)

Temperature

The seasonal and spatial variation in water temperature in the Los Angeles Harbor reflects the influence of the ocean, local climate, the physical configuration of the harbor, and circulation patterns. Near the proposed project area, average annual water temperatures varied from 58 to 63° F (14.5 to 17.2^{o} C) at seven monitoring locations (Table 3.14-2). Bottom temperatures at these locations were generally cooler than surface temperatures in 2000–2001 (MEC Analytical Systems 2002:Table 2.4-5). However, the enhanced water quality monitoring completed in 2005 and 2006 found that 1) the thermal gradation between surface and bottom temperatures was much less distinct and 2) within the Main Channel, average bottom temperatures were slightly warmer than surface water temperatures. During the winter and spring, temperatures are more uniform and cooler than during the summer and fall when the harbor is more stratified and the surface waters can be substantially warmer than the deeper waters (MEC Analytical Systems 2002:Table 2.4-5). The stratified summer and fall conditions may be attributed to warmer ocean currents, local warming of surface waters by the sun, and reduced runoff into nearshore waters (LAHD 2002:3.9-5).

In 2000, MEC Analytical Systems (2002) observed that slightly warmer temperatures were measured in the Inner Harbor compared to the Outer Harbor. Given that the temperature differences were similar to those measured in shallow water basins, small slips, and the North Channel between Piers 300 and 400, the minor temperature differences were attributed to slightly reduced circulation and mixing as well as additional solar heating, in some cases, rather than the effects of thermal discharges from electrical generating plants, oil field brine discharges, and other wastewater discharges to Inner Harbor Waters (MEC Analytical Systems 2002:2-12).

Salinity

Variations in salinity occur due to the effects of stormwater runoff, waste discharges, rainfall, and evaporation (LAHD 2002:3.9-5). Salinity values at seven monitoring locations near the proposed project area (Table 3.14-2) range from 32.64 to 33.38 parts per thousand (ppt), very close to the typical seawater value of 33 ppt (LAHD 2002:3.9-5). Although harbor salinities usually range from 30.0–34.2 ppt, salinities ranging from less than 10.0 ppt to greater than 39.0 ppt have been reported in the past (USACE and LAHD 1984 in LAHD 2002:3.9-5).

3.14.2.1.3 Marine Sediments

Sediments within the proposed project area are primarily composed of nearshore marine or estuarine sediments that were either deposited in place along the margin of the early San Pedro embayment or subsequently dredged and placed at their current locations as fill material. Spills of petroleum products and hazardous substances, as well as deposition from industrial discharges and stormwater runoff, have resulted in contamination of some sediments. The SWRCB (2006) has listed various areas within the LA/LB Harbors, which includes the proposed project area, as water quality impaired due to sediment contamination (Table 3.14-1). Potential contaminants within sediments include metals (particularly cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc), oil and grease, chlorinated hydrocarbons (DDT and DDE), and PCBs. These contaminants were found in harbor sediments prior to the Los Angeles Harbor Deepening Project (USACE and LAHD 1984 in LAHD 2002:3.9-4) and are listed on the SWRCB's 2006 303(d) list for various Los Angeles Harbor water features (SWRCB 2006:Table 3.14-1). Although a large portion of contaminated sediments have been removed via channel deepening and maintenance dredging activities, contaminated sediments remain in localized areas (LAHD 2002:3.9-4; LARWQCB 2007:2.1-5) and the level of contamination varies substantially through the Los Angeles Inner Harbor (LARWQCB 2007:1-4).

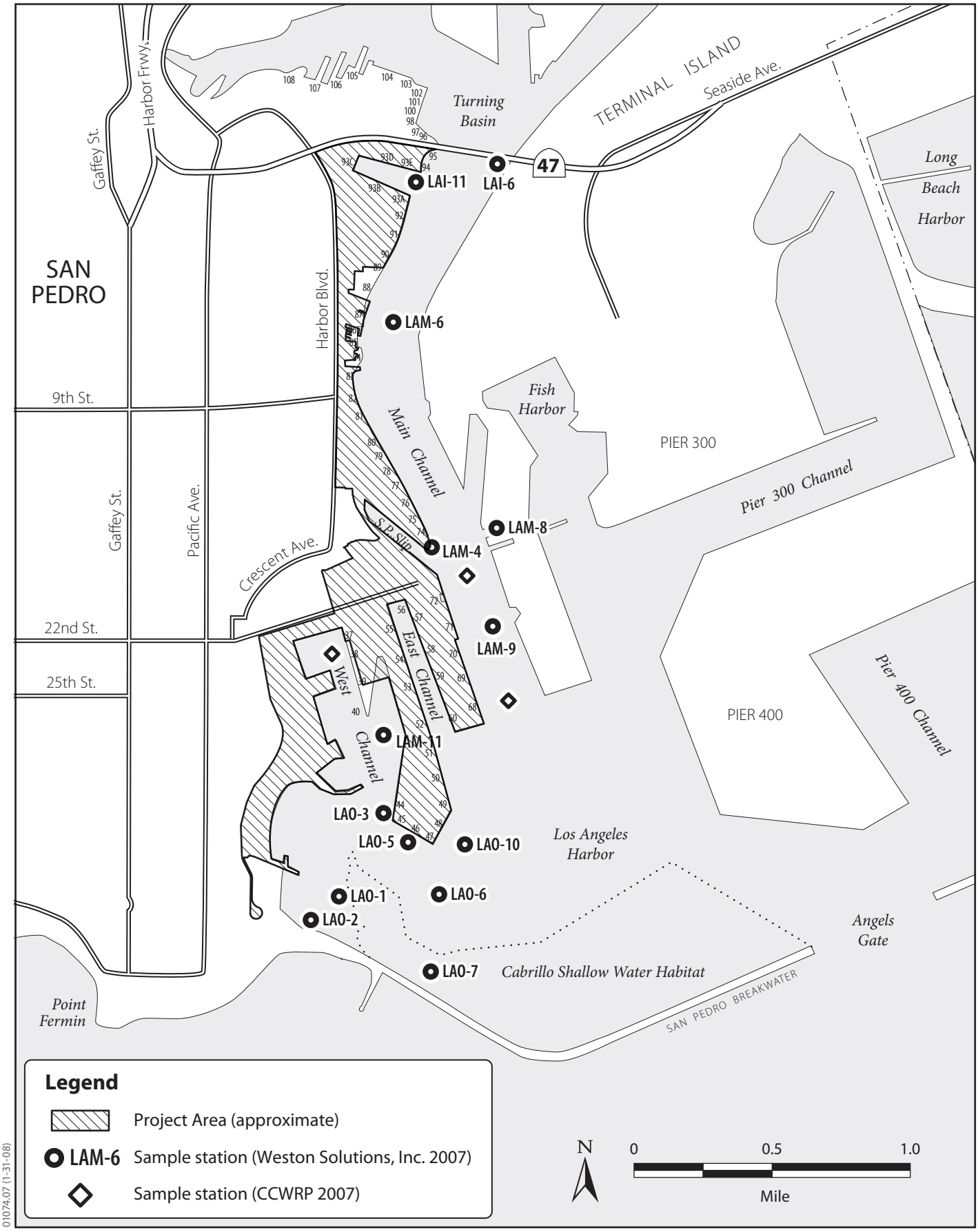
Sediments throughout the proposed project area and vicinity are relatively fine grained. In most areas silt and clay predominate (51–99%) and there is very little gravel (0–5.59%). Sediments in the Main Channel and near Inner Cabrillo Beach are relatively high in sand (22–48%). The finest sediments are present directly offshore of what is presently San Pedro Boatworks, where a cruise ship berth is proposed at Berths 45–47 under the proposed Project and Alternatives 1, 2, and 3 (95–99% silt and clay), and near Berths 93A and 93E (approximately 99%silt and clay, the remaining 0.8–1% sand). Fine-grained sediments (silt and clay) are resuspended within the water column more readily.

Physical and chemical analysis of sediments, pore water, and overlying water was conducted in support of development and implementation of a sediment TMDL for the LA/LB Harbors (Weston Solutions, Inc. 2007). The sampling and analysis included 13 sites within the proposed project area in the Inner, Middle, and Outer Harbors (Figure 3.14-2). The samples were analyzed for all priority pollutant metals, pesticides, PCBs (including Aroclors[3]), organotins, and polycyclic aromatic hydrocarbons (PAHs). Results of this testing are summarized in the remainder of this section. These data, having been collected during the baseline evaluation period, represent baseline conditions in the Los Angeles Harbor.

No numerical sediment quality objectives have been established to compare to the sediment testing results; however, sediment quality objectives are being developed by the SWRCB. Therefore, chemistry data from Weston Solutions, Inc. (2007) are compared to Effects Range-Low (ER-L) and Effects Range-Median (ER-M) values[4]

[3] Aroclors are a subgroup of PCBs. Sediment sampling distinguished between types of Acoclors in addition to PCBs.

[4] ER-L and ER-M are criteria developed to assess adverse biological effects from chemical contaminants in marine sediments. Concentrations below the ER-L value represent a minimal-effects range, a range intended to estimate conditions in which



01074.07 (1-31-08)

ICF Jones & Stokes
an ICF International Company

Figure 3.14-2
San Pedro Waterfront—
Sediment Sampling Stations

developed by Long et al. (1995) and regulatory levels or Total Threshold Limit Concentration (TTLC) values[5] to assess the potential significance of contaminant concentrations to biological activity. TTLC values tend to be several times greater than the ER-M value.

The forthcoming discussion summarizes the sediment quality of different areas within the proposed project area (Figure 3.14-2). The summary addresses results from Weston Solutions, Inc. (2007) for the nine TMDL constituents of concern (copper, lead, zinc, benzo[a]pyrene, chrysene, phenanthrene, pyrene, total detectable PCBs and total detectable DDT) followed by remaining chemical data.

Main Channel

Testing of the fine, slightly sandy sediments in the Main Channel was conducted at several stations by Weston Solutions, Inc. These data, having been collected during the baseline evaluation period, represent baseline conditions in the Los Angeles Harbor. The stations located within the Main Channel near the proposed project area were identified as LAI-6, LAI-11, LAM-4, LAM-6, and LAM-9. Testing found all nine TMDL constituents of concern at each of these five sample locations located within the Main Channel (Table 3.14-3) with the exception that total PCBs were not detected at LAI-6. TTLC values were not exceeded at any of the sample locations in the Main Channel. ER-L values were exceeded for at least two contaminants at all sample locations, and the ER-M value was exceeded for one constituent at one sample location. In summary:

- The ER-L values were exceeded for copper and total detectable DDT at all sample locations in the Main Channel.
- The ER-M value was exceeded for total detectable DDT at LAI-11.
- ER-L values for total detectable PCBs were exceeded at two stations (LAI-1 and LAM-4), but were below the ER-M value.
- The ER-L value for benzo[a]pyrene and chrysene was exceeded at LAI-11.
- Lead, zinc, phenanthrene, and pyrene were present in sediments at concentrations below the ER-L at all sample locations in the Main Channel.

effects would be rarely observed. Concentrations above the ER-L but below the ER-M represent a possible-effects range within which effects would occasionally occur. Concentrations above the ER-M represent a probable-effects range within which effects would frequently occur (California Department of Water Resources 1995).

[5] TTLCs are standards listed in the CCR, Title 22, Chapter 11, "Identification and Listing of Hazardous Waste." The standards are for use in classifying a waste as hazardous. The TTLCs are enforceable; any waste exceeding a TTLC is classified as a hazardous or extremely hazardous waste in the State of California (California Department of Water Resources 1995).

Table 3.14-3 Summary of Physical Measurements and TMDL Constituents of Concern for Sediment Samples Collected from the Port of Los Angeles

Analyte	*ER-L*	*ER-M*	*TTLC*	*LAI-6*	*LAI-11*	*LAM-4*	*LAM-6*	*LAM-9*	*LAM-11*	*LAO-1*	*LAO-2*	*LAO-3*	*LAO-5*	*LAO-6*	*LAO-7*	*LAO-10*
Physical Analyses																
Gravel (%)	-	-	-	1.7	0.7	0.37	0.00	5.59	0.01	0.28	0.50	0.00	0.00	0.00	0.00	0.00
Sand (%)	-	-	-	22.4	43.9	48.22	82.53	5.35	5.26	5.57	39.44	4.60	1.49	0.79	15.50	0.97
Silt (%)	-	-	-	56.2	31.4	34.94	10.28	38.97	44.55	68.72	45.68	59.02	49.53	57.35	61.86	52.87
Clay (%)	-	-	-	19.7	24.0	16.47	7.19	50.09	50.18	25.43	14.38	36.38	48.98	41.87	22.64	46.15
Solids, Total (%)	-	-	-	66.5	59.7	67.7	75.9	47.1	35.4	54.2	62.2	48.9	40.2	46.1	57.7	42.6
Specific Gravity	-	-	-	1.8	1.6	1.78	1.85	1.44	1.29	1.51	1.48	1.46	1.30	1.41	1.46	1.36
TMDL Constituents of Concern																
Copper (cu)	34.0	270.0	2500	35.65*	75.43*	40.32*	61.61*	71.32*	376.32†	134.0*	48.2*	54.8*	209.5*	75.5*	43.5*	103.7*
Lead (Pb)	46.7	218.0	1000	9.37	35.68	17.17	8.86	20.55	74.08*	21.8	9.0	16.7	28.2	16.8	7.2	19.9
Zinc (Zn)	150.0	410.0	5000	65.83	117.64	72.64	57.14	117.34	287.15*	166.6*	96.9	101.4	162.6*	121.9	82.8	136.4
Total PCB	22.7	180	50000	0.00	53.50*	26.80*	3.60	0.00	236.30†	46.8*	0.0	6.4	28.5*	9.0	0.0	11.2
Total Detectable DDTs	1.60	46.10	-	3.00*	48.70†	26.50*	7.00*	3.20*	187.60†	151.5†	22.9*	110.7†	94.6†	27.9*	10.5*	39.4*
Benzo[a]pyrene	430	1600	-	22.1	574.3*	73.6	25.3	8.4	10964.0†	274.3	28.8	29.4	404.5	56.9	18.8	67.1
Chrysene	384	2800	-	57.6	615.8*	158.6	50.2	16.6	9928.0†	163.2	48.0	43.7	417.1*	121.2	53.9	193.1
Phenanthrene	240	1500	-	30.5	102.2	51.4	14.6	12.6	968.3*	53.9	15.9	19.7	85.8	31.6	17.2	51.9
Pyrene	665	2600	-	29.7	217.3	141.8	28.6	16.1	2523.7*	118.9	46.1	49.5	243.6	93.6	43.4	131.8

* Value exceeds ER-L but does not exceed ER-M or TTLC.

† Value exceeds ER-M but does not exceed TTLC

Source: Weston Solutions, Inc. 2007

In addition to the TMDL constituents of concern, a number of other metals, semi-volatile organic compounds (SVOCs), Aroclors (class of polychlorinated biphenyl [PCB] compounds), and pesticides were detected in the sediments (Appendix P.2). Several other contaminants were present in sediments at concentrations above the ER-L, but below the ER-M. These included:

- Nickel was detected at all sample locations except LAI-6; mercury at LAI-11, LAM-4, and LAM-9.
- Arsenic was detected at LAI-6 and LAM-9.
- Total PAHs were detected at LAI-11.
- All SVOCs were detected in all samples, with several above the ER-L values at LAI-11.
- Of the Aroclors, only Aroclor 1254 was detected at two stations (LAI -11 and LAM-4).
- No other pesticides besides DDT and its derivatives were detected at any of the sample locations.
- Dibutyltin and tributyltin were detected at many sample sites (not detected at LAM-6 and LAM-9). Concentrations are generally low.
- Monobutyltin was not detected at any sample stations within the Main Channel.

An analysis of sediments near Berths 90–92 and 93A–93B conducted in 2003 showed elevated levels of many organic and inorganic constituents, but none were above the TTLC criteria. DDT, DDE, and several PAHs were above ER-M values and copper, mercury, total PCBs and total PAHs exceeded ER-L values. Butyltins were also detected (Port of Los Angeles 2003). Although these sediments have been removed, it is assumed that the remaining sediment contains similar levels of these contaminants, and therefore represents baseline conditions in the Los Angeles Harbor.

Los Angeles Harbor and West Channel

Testing of the fine sediments in the Los Angeles Harbor and West Channel was conducted at several stations by Weston Solutions, Inc. The stations located within the Los Angeles Harbor and West Channel near the proposed project area include LAM-11, LAO-1, LAO-2, LAO-3, LAO-5, LAO-6, LAO-7 and LAO-10. Testing showed that all nine TMDL constituents of concern occur at each of the eight sample locations except that total PCBs were not detected at LAO-2 and LAO-7 (Table 3.14.3). TTLC values were not exceeded at any of the sample locations in the Los Angeles Harbor and West Channel. ER-L values were exceeded for at least two contaminants at all sample locations and the ER-M value was exceeded for five constituents at the sample location in the West Channel. In summary:

- ER-L values were exceeded for copper and total detectable DDT at all sample locations. The ER-M was exceeded for copper at LAM-11 and the ER-M for total detectable DDT was exceeded at four sample locations.
- At LAM-11 (sample location in the West Channel), the ER-M value was exceeded for copper, total detectable DDT , benzo[a]pyrene, chrysene, and total detectable PCBs. The ER-L values were exceeded for lead, zinc, phenanthrene, and pyrene.
- ER-L values for zinc and total detectable PCBs were exceeded at two other sample locations (LAO-1 and LAO-5), but were below the ER-M value.

In addition to the TMDL constituents of concern, a number of other metals, semivolatile organic compounds (SVOCs), Aroclors, and pesticides were detected in the sediments (Appendix P.2). Several other contaminants were present in sediments at concentrations above the ER-L. These included:

- Nickel was detected at all sample locations except LAO-2.
- Mercury was detected at all sample locations except LAO-2 and LAO-7
- Arsenic was detected at all sample locations except LAO-2 and LAO-7.
- The ER-L was exceeded for total PAHs at LAO-5, and the ER-M was exceeded at LAM-11.
- All SVOCs were detected in all samples except those for LAO-2 and LAO-7, with several above the ER-L values at LAO-11 and LAO-5.
- Only Aroclor 1254 was detected at five stations (LAM-11, LAO-1, LAO-5, LAO-6 and LAO-10), and no other pesticides besides DDT and its derivatives were detected at any of the sample locations.
- Dibutyltin, monobutyltin, and tributyltin were detected at some sample sites. Monobutyltin was only detected at one location (LAM-11), and dibutyltin and tributyltin were detected at four (LAM-11, LAO-1, LAO-2 and LAO-5) and five (LAM-11, LAO-1, LAO-2, LAO-5 and LAO-10) locations, respectively.

3.14.2.2 Oceanography

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

3.14.2.2.1 Tides

Tides are the result of astronomical and meteorological conditions. Tidal variations along the coast of southern California are caused 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 (LAHD 2002:3.9-6). 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 Los Angeles Harbor, generating a diurnal inequality, or mixed semidiurnal tide. This causes a difference in height between successive high and low waters ("water" is commonly used in this context instead of "tide"). The higher high water and lower high water, and the higher low water and lower low water, are referred to respectively as HHW, LHW, HLW, and LLW.

The mean tidal range for the Outer Harbor, calculated by averaging the difference between all high and low waters, is 3.76 feet; and the mean diurnal range, calculated by averaging the difference between all the HHW and LLW, is approximately 5.6 feet (USACE and LAHD 1992:4B-6). The extreme tidal range (between maximum high and maximum low waters) is about 10.5 feet: the highest and lowest tides reported are 7.96 feet above MLLW and 2.56 feet below MLLW, respectively (USACE and LAHD 1992:4B-6). MLLW is the mean of all lower low waters, equal to 2.8 feet below mean sea level. It is the datum from which southern California tides are measured (i.e., 0 feet MLLW = -2.8 feet mean sea level). (LAHD 2002:3.9-6)

Available Los Angeles Harbor tide data indicate that the highest water elevations usually occur from November through March. These higher water elevations typically range from +7 to +7.5 feet MLLW. The more severe offshore storms usually occur along the California coast during this same period. (LAHD 2002:3.9-6).

3.14.2.2.2 Waves

Ocean waves impinging on the southern California coast can be divided into three primary categories according to origin: Southern Hemisphere swell, Northern Hemisphere swell, and seas generated by local winds. Los Angeles 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 extra-tropical storms (Hawaiian storms) enter from the south to southeast direction. The Channel Islands, particularly Santa Catalina Island, provide some sheltering from these larger waves, depending on the direction of approach. The other major exposure window opens to the south, allowing swells to enter from storms in the Southern Hemisphere, tropical storms (chubascos), and southerly waves from extra-tropical storms. Waves and seas entering Los Angeles Harbor are greatly diminished by the time they reach the Inner Harbor. Most swells from the Southern Hemisphere arrive at Los Angeles from May through October. Southern Hemisphere swells characteristically have low heights and long wave periods (wave period is a measurement of the time between

two consecutive peaks as they pass a stationary location). Typical swells rarely exceed 4 feet in height in deep water. However, with periods as long as 18–21 seconds, they can break at over twice their deepwater wave height. (LAHD 2002:3.9-6 to 3.9-7.)

Northern Hemisphere swells occur primarily from November through April. Deepwater significant wave heights have ranged up to 20 feet, but are typically less than 12 feet. Northern hemisphere wave periods generally range from 12–18 seconds. (LAHD 2002:3.9-7.)

Local wind-generated waves 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 waves are usually less than 6 feet in height, with wave periods of less than 10 seconds. (LAHD 2002:3.9-7.)

A series of three breakwaters, the San Pedro, Middle, and Long Beach, collectively called the Federal Breakwater, protect the LA/LB Harbors from incoming waves (MEC Analytical Systems 2002:2-7). The opening between the San Pedro and Middle Breakwaters is referred to as Angels Gate and the opening between the Middle and Long Beach Breakwaters is called Queen's Gate.

3.14.2.2.3 Circulation and Flushing

Circulation patterns in Los Angeles Harbor are established and maintained by tidal currents. Flood (rising) tides in Los Angeles Harbor flow into the harbor and up the channels, while ebb (falling) tides flow down the channels and out of the harbor. In addition to the protection the Federal Breakwater provides to the LA/LB Harbors, the Federal Breakwater also reduces water exchange between the Los Angeles Harbor and San Pedro Bay (MEC Analytical Systems 2002:2-7). In the Outer Harbor, near Angels and Queen's Gates, maximum surface tidal velocities reach approximately 0.8 feet per second (fps), while minimum tidal velocities of 0.088 fps occur in the Inner Harbor area (Wang et al. 1995 in LAHD 2002:3.9-7).

Circulation patterns in Los Angeles Harbor are determined by a combination of tide, wind, thermal structure, and local topography. A large clockwise gyre, large-scale, "circular", ocean flow pattern, is found in the surface waters of Outer LA/LB Harbors during both flood and ebb tides (LAHD 1993b in LAHD 2002:3.9-7). However, subsurface currents can reverse the direction of this gyre. Smaller gyres near Inner Cabrillo Beach are clockwise during ebb tides and counterclockwise during flood tides (HEP 1980 in LAHD 2002:3.9-7). The net tidal exchange is inward through Angels Gate, and outward through Queen's Gate, between the Middle and Long Beach Breakwater and the gap between the eastern end of Long Beach Breakwater and Alamitos Bay. Thus, there is a net eastward flow within the LA/LB Harbors (LAHD 1993b in LAHD 2002:3.9-7).

Mixing is less in the Inner Harbor than in the Outer Harbor. Tidal-induced water exchange in the Inner Los Angeles Harbor averages 22% of the total harbor water volume per day (USACE and LAHD 1980 in LAHD 2002:3.9-7). Neglecting

stormwater and industrial discharges, flushing efficiency of the harbor has been determined using the tidal prism method. Overall tidal exchange rates fluctuate between 8% and 25%, with the flushing rate estimated at 90 tidal cycles, or 47 days (Maloney and Chan 1974 in LAHD 2002:3.9-7).

3.14.2.2.4 Surge

Surge in a harbor generally refers to the significant oscillation of water within harbor basins induced by long waves. Amplification of longer-period wave heights resulting from basin resonance can occur at various specific wave periods, ranging from 35 seconds to several minutes. The level of surge can escalate to resonance (with significantly amplified wave heights and horizontal water oscillations within the harbor basins) if the periods of the incident long waves are at or near the natural wave periods within the harbor basins. Such conditions can cause damaging stresses to the mooring systems of the ships in the harbor, especially when the periods of the surging long waves coincide with, or approach, the natural oscillations of the ships. However, the oscillations are generally of little significance to small craft except when an entire floating berth with boats resonates with the harbor oscillations (LAHD 1980a in LAHD 2002:3.9-8).

Surge in Los Angeles Harbor is primarily caused by long waves propagating from offshore through Angels Gate. The long-wave climate off Angels Gate, as represented by the data collected between 1985 and 1988 at Platform Edith about 8 miles to the south, is characterized by a strong correlation of long-wave energy with offshore storm events and a relatively low-wave energy level during summer. The summer is the most active time of the year for recreational boating. The wave-period range containing the most energetic long waves is typically 75–175 seconds in summer, and can be as high as 350 seconds in winter. (LAHD 2002:3.9-8.)

Amplification factors at the Watchorn Basin (adjacent to the West Channel) were studied to determine if surge took place. Results indicated that excessive wave heights at the end of Watchorn Basin were not realized. This result was confirmed by a long-time (25 years) employee at the Cabrillo Boat Shop, who did not remember having any trouble with surging (LAHD and EDAW Inc. 1988 in LAHD 2002:3.9-8).

More recent modeling studies support the conclusion that surging will not be a problem in the future at the Watchorn Basin (USACE 1995 in LAHD 2002:3.9-8). With Pier 400 at full build-out (both Stage I and Stage II), there was no significant change of wave height amplification compared to existing harbor conditions (without Pier 400) for existing berth locations (MEC Analytical Systems 2002:2-9 to 2-10).

3.14.3 Applicable Regulations

A variety of federal, state, and local agencies have jurisdiction over the proposed project area. Important agencies and statutory authorities relevant to water quality, sediments, and oceanography as it relates to the proposed Project are outlined below.

3.14.3.1 Federal Regulations

3.14.3.1.1 Clean Water Act

The federal Water Pollution Control Act Amendments of 1972, better known as the Clean Water Act (CWA) (33 U.S. Government Code [USC] 1251–1376), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality. The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's water." Important applicable sections of the CWA are as follows:

- Section 303 requires states to develop water quality standards for all waters and submit to the EPA for approval all new or revised standards established for inland surface 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.
- Section 304 provides for water quality standards, criteria, and guidelines. The guidelines are enforced under the California Toxics Rule, described below in Section 3.14.3.2.3.
- Section 401 requires an applicant for any federal permit that proposes an activity that may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the CWA. Certification is provided by the RWQCB.
- Section 402 establishes the NPDES, a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the United States. This permit program is administered by the RWQCB, and is discussed further below.
- Section 404 provides for issuance of dredge/fill permits by the USACE. Permits typically include conditions to minimize impacts on water quality. Common conditions include 1) USACE review and approval of sediment quality analysis prior to dredging, 2) a detailed pre- and post-construction monitoring plan that includes disposal site monitoring, 3) timing and water quality restrictions on flow back of dredged water at the dredging site, and 4) requiring compensation for loss of waters of the United States, including wetlands.

3.14.3.1.2 Marine Protection, Research, and Sanctuaries Act

The MPRSA, Section 103 (33USC 1401 et seq.), allows for the siting of offshore ocean disposal sites and use permits by EPA. In 2005, the EPA redesignated two sites for limited disposal of suitable (non-toxic) dredge material off the Los Angeles/Orange County shore line, identified as LA-2 and LA-3, respectively. Prior to permit issuance, the applicant must demonstrate a need of ocean disposal and have evaluated alternative beneficial re-use options. Also, material must be deemed suitable in accordance with EPA ocean dumping criteria.

3.14.3.2 State Regulations

3.14.3.2.1 Porter-Cologne Water Quality Control Act

The State of California's Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.) is the principal law governing water quality regulation within California. The act established the SWRCB and nine RWQCBs, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The Porter-Cologne Act also implements many provisions of the federal CWA, such as the NPDES permitting program. CWA Section 401 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 must be included in the federal permit or license. The Porter-Cologne Act also requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of surface or groundwater of the state. Beneficial uses are discussed below.

3.14.3.2.2 Los Angeles Regional Water Quality Control Board

The SWRCB administers water rights, water pollution control, and water quality functions throughout the state, whereas the RWQCBs conduct planning, permitting, and enforcement activities. The proposed project area is in the jurisdiction of the LARWQCB.

Beneficial Uses and Water Quality Objectives

The process of designating beneficial uses involves defining the resources, services, and qualities of the aquatic system that are the ultimate goals of protecting and achieving high water quality. Existing beneficial uses of Inner Cabrillo Beach, the Outer Harbor, marinas, public beach areas, and all other inner areas of the LA/LB Harbors comprise navigation, non-contact water recreation, commercial and sport fishing, marine habitat, and, with the exception of all other inner areas that have the potential for this use, contact recreation. In addition, Inner Cabrillo Beach has existing beneficial uses of wildlife habitat, migration of aquatic organisms, shellfish harvesting, and spawning, reproduction, and/or early development habitat (for grunion spawning). The other public beach areas in the LA/LB Harbors also have a potential beneficial use of spawning, reproduction, and/or early development habitat, and existing beneficial uses of shellfish harvesting, wildlife habitat, and rare, threatened, or endangered species habitat. In addition to the above-mentioned uses, the marinas, Outer Harbor, and all other inner areas of the LA/LB Harbors have a potential beneficial use of shellfish harvesting and an existing use of rare, threatened, or endangered species habitat, and, with the exception of marinas, industrial service supply. The LARWQCB (LARWQCB 1994) has established water quality

objectives for all surface waters in the basin concerning ammonia, bacteria, biostimulatory substances, chemical constituents, color, DO, floating material, oil and grease, pH, pesticides, radioactivity, salinity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, and turbidity. Specific objectives for concentrations of chemical constituents are applied to bodies of water based on their designated beneficial uses. Pollutants known to occur in water quality limited areas are listed in the Dominguez Channel and Los Angeles/Long Beach Harbors Watershed Management Area Plan, as are past, current and future pollution cleanup plans (LARWQCB 2007:2.1-7 to 2.1-14).

Construction and Industrial Permitting

The LARWQCB administers the NPDES permitting program for construction and industrial activities. Two of these permits, issued by the SWRCB, are a statewide general construction activities storm water permit (GCASP) and a statewide general industrial activities storm water permit (GIASP). The GCASP requires all dischargers where construction activity disturbs 1 acre or more to:

- develop and implement a SWPPP, which specifies BMPs that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving offsite into receiving waters;
- eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the United States; and
- perform inspections of all BMPs.

Similar to the GCASP, the GIASP requires industrial stormwater dischargers to:

- develop and implement an SWPPP to reduce or prevent industrial pollutants in stormwater discharges;
- eliminate unauthorized non-storm discharges; and
- conduct visual and analytical stormwater discharge monitoring to indicate the effectiveness of the SWPPP in reducing or preventing pollutants in stormwater discharges.

Best management practices (BMPs) that could be implemented as part of the GIASP or GCASP requirements are described below.

Best Management Practices

The term BMPs refers to a variety of measures used to reduce pollutants in stormwater and other non-point source runoff. Measures range from source control, such as use of permeable pavement, to treatment of polluted runoff, such as use of detention or retention basins and constructed wetlands. Maintenance practices (e.g. street sweeping) and public outreach campaigns also fall under the category of BMPs. The effectiveness of a particular BMP is highly contingent upon the context in which it is applied and the method in which it is implemented. Expected

effectiveness of BMPs is summarized in Table 3.14-4. As illustrated below, BMPs are best used in combination to most effectively remove target pollutants.

Table 3.14-4. Best Management Practice Expected Pollutant Removal Efficiency

BMP Type	*Typical Pollutant Removal (%)*				
	Suspended Solids	*Nitrogen*	*Phosphorus*	*Pathogens*	*Metals*
Structural					
Dry detention basins	30–65	15–45	15–45	<30	15–45
Retention basins	50–80	30–65	30–65	<30	50–80
Constructed wetlands	50–80	<30	15–45	<30	50–80
Infiltration basins	50–80	50–80	50–80	65–100	50–80
Infiltration trenches/dry wells	50–80	50–80	15–45	65–100	50–80
Porous pavement	65–100	65–100	30–65	65–100	65–100
Grassed swales	30–65	15–45	15–45	<30	15–45
Vegetated filter strips	50–80	50–80	50–80	<30	50–80
Surface sand filters	50–80	<30	50–80	<30	50–80
Other media filters	65–100	15–45	<30	<30	50–80
Construction Site					
Silt fence	50– 0				
Sediment basin	55–100				
Sediment trap	60				
Sources: EPA 1993 and 1999					

Post-Construction Permitting

On January 26, 2000, the LARWQCB adopted and approved Board Resolution No. R-00-02, which requires new development and significant redevelopment projects in Los Angeles County to control the discharge of stormwater pollutants in post-construction stormwater. The Regional Board Executive Officer issued the approved Standard Urban Storm Water Mitigation Plans (SUSMPs) on March 8, 2000. The SWRCB in large part affirmed the LARWQCB action and SUSMPs in State Board Order No. WQ 2000-11 issued on October 5, 2000.

The City of Los Angeles, and therefore the LAHD, is covered under the Permit for Municipal Storm Water and Urban Runoff Discharges within Los Angeles County (LARWQCB Order No. 01-182) and is obligated to incorporate provisions of this document in City permitting actions. The municipal permit incorporates SUSMP

requirements and these include a treatment control BMP for projects falling within certain development and redevelopment categories. The treatment control BMP requirement applies throughout the proposed project area and requires infiltration, filtration, or treatment of the runoff from the first 0.75 inches of rainfall (or equivalent numerical design criteria) prior to its discharge to a stormwater conveyance system.

3.14.3.2.3 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 California Toxics Rule (CTR) also includes provisions for compliance schedules to be issued for new or revised NPDES permit limits when certain conditions are met. The numeric criteria are the same as those recommended by the EPA in its CWA Section 304(a) guidance.

3.14.3.3 Local Regulations

3.14.3.3.1 Port of Los Angeles Clean Marinas Program

The Clean Marinas Program for the Port of Los Angeles encourages boaters and marina operators to use BMPs to prevent the discharge of pollutants into Los Angeles Harbor from boating activities. As part of the program, a number of innovative clean water measures have been developed that are unique to the Port. These measures and BMPs are implemented via voluntary incentives, Port lease requirements, CEQA mitigation requirements, and/or federal, state, and local regulations. (Port of Los Angeles 2005.)

3.14.3.3.2 City of Los Angeles General Plan—Conservation Element

The Conservation Element of the City of Los Angeles' General Plan includes provisions for the protection and enhancement of the City's watersheds, beaches, and bays. The following policies are relevant to the proposed Project (City of Los Angeles 2001:II-22, II-55, and II-56).

Section 8 Erosion Objective

Protect the coastline and watershed from erosion and inappropriate sedimentation that may or has resulted from human actions.

Policy 2

Continue to prevent or reduce erosion that will damage the watershed or beaches or will result in harmful sedimentation that might damage beaches or natural areas.

Section 16 Ocean Objective

Protect and enhance the diversity and sustainability of the natural ecologies of the Santa Monica and San Pedro bays, including the bay fishery populations.

Policy 1

Continue to reduce pollutant discharge into the bays from both natural and human sources.

3.14.4 Impacts and Mitigation Measures

3.14.4.1 Methodology

3.14.4.1.1 Compliance of Methodology with NEPA and CEQA

This analysis has been prepared in conformance with the USACE NEPA Implementing Regulations; the CEQ Guidelines; CEQA (Public Resources Code, Section 21000 et seq.); the State CEQA Guidelines (14 CCR Section 15000 et seq.); and Port Guidelines for the Implementation of CEQA. It includes all of the sections required by NEPA and CEQA.

The criteria for determining the significance of environmental impacts in this analysis are described in section 3.14.4.2 below. The threshold of significance for a given environmental effect is the level at which LAHD or the USACE finds a potential effect of the proposed Project or alternative to be significant. Threshold of significance can be defined as a "quantitative or qualitative standard, or set of criteria, pursuant to which significance of a given environmental effect may be determined" (CEQA Guidelines, Section 15064.7 [a]). This analysis uses significance criteria set forth in the *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006). The USACE also has adopted the *L.A, CEQA Thresholds Guide* for analysis of water quality, sediment, and oceanographic impacts to achieve its NEPA responsibilities, except as noted below.

3.14.4.1.2 Analytical Framework

Potential impacts of the proposed Project and alternatives on water quality, sediments, and oceanography were assessed through a combination of literature review (including applicable water quality criteria), review of the results of past

dredge and fill projects in the Port, review of water quality data collected in surface waters near the proposed project area, results from previous testing of Los Angeles Harbor sediments, and scientific expertise of the preparers. Impacts are considered significant if any of the significance criteria described below would be met or exceeded as a result of the effects of construction or operation of the proposed Project or the alternatives.

3.14.4.2 Thresholds of Significance

The *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) sets forth specific thresholds to be utilized in determining the significance of impacts to water resources. The thresholds guide does not address some of the potential impacts of the proposed Project or alternatives related to modification of aquatic sediments, dredging, and creation or alteration of artificial waterways. The guide also does not provide screening criteria for some less likely but still potential impacts of the proposed Project related to hydromodifications, alterations of circulation, and flushing within Los Angeles Harbor. Potential impacts to aquatic sediments and the impacts of dredging are discussed here under thresholds WQ-2, WQ-3, and WQ-4 listed below. Potential impacts to artificial waterways and oceanography are discussed here under thresholds WQ-2 and WQ-3 listed below.

The thresholds listed below have been adapted to the proposed Project and alternatives and are provided under the impact discussions in the following section. If a threshold or portion of a threshold is not applicable to the proposed Project or one if the alternatives, it is so noted. Thresholds related to groundwater impacts are not discussed here; see Section 3.6, "Groundwater and Soils," for discussion of impacts on groundwater resources. The following factors are used to determine significance for water quality, sediments, and oceanography.

WQ-1: A project would have a significant impact if it would cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.

WQ-2: A project would have a significant impact if it would substantially reduce or increase the amount of surface water in a water body.

WQ-3: A project would have a significant impact if it would result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.

WQ-4: A project would have a significant impact if it would result in discharges that create pollution, contamination or nuisance as defined in Section 13050 of the California Water Code (CWC) (see definitions below) or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or Water Quality Control Plan for the receiving water body.

3.14.4.3 Impacts and Mitigation

The assessment of impacts is based on the assumption that the proposed Project would include the following:

- LAHD will secure an individual NPDES permit for construction stormwater discharges or will be covered under the General Construction Activity Storm Water Permit for the onshore portions of the proposed Project. In either case a SWPPP must be prepared. The associated SWPPP will contain the following measures:
  - Equipment will be inspected regularly (daily) during construction, and any leaks found, repaired immediately.
  - Refueling of vehicles and equipment will be 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 built and maintained to prevent offsite transport of pollutants from spills and construction debris.
- Monitoring will verify that the stormwater BMPs are implemented and kept in good working order.
- Other standard operating procedures and BMPs for Port construction projects will be followed, such as: basic site materials and methods (02050); earthworks (02300); excavating, stockpiling, and disposing of chemically impacted soils (02111); temporary sediment basin (ESC 56); material delivery and storage (CA010); material use (CA011); spill prevention and control (CA012); solid waste management (CA020); contaminated soil management (CA022); concrete waste management (CA023); sanitary-septic waste management (CA024); and employee-subcontractor training (CA040).
- Any onshore contaminated upland soils will be characterized and remediated in accordance with LAHD, RWQCB, DTSC, and Los Angeles County Fire Department protocol and clean-up standards.
- LAHD will obtain and implement the appropriate stormwater discharge permits for operations.
- LAHD will perform dredging, filling, and wharf construction activities in waters of Los Angeles Harbor in accordance with provisions of a Section 404 (of the CWA) and Section 10 (of the RHA) permit from the USACE.
- LAHD will secure a Section 401 (of the CWA) Water Quality Certification from the LARWQCB for construction, dredging, and filling activities, and will comply with conditions of that certification, including standard WDRs.

- Sediments from the proposed dredging units will be tested using standard EPA/USACE protocols prior to dredging to determine the suitability of the material for disposal as proposed.
- LAHD will secure approvals in accordance with the Marine Protection, Research and Sanctuaries Act, Section 103, for ocean disposal of suitable (non toxic) dredge material at an EPA-approved disposal site (LA-2 or LA-3).
- A Debris Management Plan and Spill Prevention, Control, and Countermeasure (SPCC) Plan will be prepared and implemented prior to the start of demolition, dredging, and construction activities associated with the proposed Project.
- The Water Quality Certification will define a "mixing zone" around the dredging and construction operations. The mixing zone will be equivalent to a zone of dilution and, per the Basin Plan (LARWQCB 1994) "allowable zones of dilution within which high concentrations may be tolerated may be defined for each discharge in specific Waste Discharge Requirements."
- During dredge and fill operations, an integrated multi-parameter monitoring program will be implemented by LAHD's Environmental Management Division in conjunction with both USACE and RWQCB permit requirements, wherein dredging performance is measured in situ. The objective of the monitoring program will be adaptive management of the dredging operation, whereby potential exceedances of water quality objectives can be measured or predicted, and dredging operations subsequently modified. If exceedances are observed, LAHD's Environmental Management Division will immediately meet with the construction manager to discuss modifications of dredging operations to reduce turbidity to acceptable levels. This would include alteration of dredging methods, and/or implementation of additional BMPs such as a silt curtain. The USACE has the authority to require that dredging be halted pending development of an appropriate response to minimize water quality impacts.
- Each tenant operating cruise ships in the proposed project area will conform to applicable requirements of the Non-Point Source (NPS) Pollution Control Program. The tenant will design all terminal facilities whose operations could result in the accidental release of toxic or hazardous substances (including sewage and liquid waste facilities, and solid and hazardous waste disposal facilities) in accordance with the state NPS Pollution Control Program administered by the SWRCB. As a performance standard, the measures will be selected and implemented using the best available technology that is economically achievable such that, at a minimum, relevant water quality criteria as outlined by the California Toxics Rule and Basin Plan are maintained, or in cases where ambient water quality exceeds these criteria, maintained at or below ambient levels. The applicable measures include the following:
  - **Solid Waste Control.** Properly dispose of solid wastes to limit entry of these wastes to surface waters.
  - **Liquid Material Control.** Provide and maintain the appropriate storage, transfer, containment, and disposal facilities for liquid materials.
  - **Petroleum Control.** Reduce the amount of fuel and oil that leaks from container and support vessels.

- Each tenant that engages in fueling of vessels will develop an approved source control program (SCP) with the intent of preventing and remediating accidental fuel releases. Prior to construction, the tenant will develop an approved SCP in accordance with LAHD guidelines established in the General Marine Oil Terminal Lease Renewal Program. The SCP will address immediate leak detection, tank inspection, and tank repair.
- As a condition of the lease, each tenant that engages in fueling of vessels will be required to submit to LAHD an annual compliance/performance audit in conformance with LAHD's standard compliance plan audit procedures. This audit will identify compliance with regulations and BMPs recommended and implemented to ensure minimizing spills that might affect water quality, or soil and groundwater.

3.14.4.3.1 Proposed Project

The following sections first describe the nature and extent of possible project-related impacts to water quality and hydrology, followed by the CEQA and NEPA impact determinations, mitigation measures, and residual impacts for each of the thresholds of significance listed in Section 3.14.4.2.

Impact WQ-1: The proposed Project would not cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.

Although most of the proposed project site is located within a 100-year flood zone, construction activities would not increase the potential for flooding on site because existing drainage would be maintained. Site elevations would remain generally the same as a result of proposed Project, but construction of the North, Downtown, and 7th Street Harbors would decrease the land surface area upon which precipitation would fall. There would be a slight decrease in impervious surface in the proposed project area due to creation of parks, primarily at the Outer Harbor Cruise Ship Terminal, San Pedro Park, and Fisherman's Park. Project site grading would direct runoff from the site to storm drains designed for a 10-year event, which is the standard design capacity for the storm drain systems in the vicinity of the harbor. Runoff associated with larger storm events (e.g., 50-year or 100-year events) could exceed the capacity of the storm drain system, resulting in temporary ponding of water on site. However, because the project site terrain is flat, and the runoff velocity would not be increased by construction activities, the proposed Project would not increase the risk of flooding or severity of flooding impacts relative to the baseline conditions.

Proposed project operations also would not increase the potential for flooding on site, due to the presence of existing and installed storm drains. Site elevations would remain generally the same subsequent to construction. In addition, proposed project operations would not increase the runoff velocity. Therefore, proposed project

operations would not increase the risk of flooding or the risks to people, property, or biological resources. In addition, the most likely affected biological resources are in the Outer Harbor waters, including the Cabrillo shallow water habitat and the salt marsh. Under existing conditions, these resources are subject to run-off from annual storm events.

CEQA Impact Determination

The proposed Project would not increase potential for flooding or increase risks to humans, property, or sensitive biological resources. Therefore, impacts from flooding would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Potential for flooding on existing upland portions of the proposed project area would be part of the NEPA baseline (described in Section 2.6.2), which would include construction and operation of all upland elements without any improvements within harbor waters. Thus, no impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact WQ-2: The proposed Project would not substantially reduce or increase the amount of surface water in a water body.

The proposed Project would result in an increase in the surface area and the volume of the Los Angeles Harbor. This increase would occur because the proposed Project would entail the excavation of three harbors—the North Harbor (5.0 acres), Downtown Harbor (1.5 acres), and the 7th Street Harbor (0.32 acre)—resulting in a net increase of 6.82 acres in the water surface area of the Los Angeles Harbor. The new harbors all adjoin the Main Channel, which runs along the proposed project area from the Catalina Express to the end of City Dock #1, a distance of 8,300 feet. Over this distance the Main Channel has an area of 268 acres, so the new harbors would only increase the size of the water body by 2%. The Main Channel is 75% deeper

than the proposed harbors (44 feet vs. 25 feet), so the increase in water volume is even smaller. The potential effects of this small increase include effects on flow, water quality, water quantity, and beneficial uses of the resource. Effects on flow and water quality are addressed below (Impacts WQ-3 and WQ-4). Effects on water quantity are largely immaterial because waters in the harbor are not subject to consumptive uses.

Certain beneficial uses of waters in the Inner Harbor, including navigation, non-contact water recreation, aquatic habitat, and industrial service supply, would benefit from the availability of new dock and moorage space provided by the proposed new harbors.

CEQA Impact Determination

The proposed Project would have a minimal impact on the amount of surface water in Los Angeles Harbor. The change would tend to increase the surface area of the harbor. This change would have a beneficial impact on the utilization of the surface water resource in the proposed project area because current utilization of this resource is nonconsumptive, oriented to shipping and vessel traffic. These uses would benefit from availability of the new harbors proposed under 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

Impacts would be less than significant, as discussed for the CEQA impact determination.

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 to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.

This impact threshold addresses changes (hydromodifications) to the water body that would change the velocity or direction of water flow. Impacts from loss of marine habitat are discussed in Section 3.3, "Biological Resources."

Dredging and filling activities for the proposed Project would alter the existing bathymetry and slightly increase the volume of Los Angeles Harbor in the proposed project area. Excavation within three new harbors—the North Harbor (5.0 acres), Downtown Harbor (1.5 acres), and the 7th Street Harbor (0.32 acres)—would result in a net increase of 6.82 acres in the water surface area of the Los Angeles Harbor. Blind slip areas, such as these harbors, tend to be areas of lower circulation due to their morphology. Thus water flow velocities would be lower than in the Main Channel. However, because these harbors are all directly adjacent to the Main Channel, the principal tidal channel for the Inner Harbor, tidal current velocities and tidal range in the Main Channel would be adequate to ensure that circulation through the proposed harbors would not result in stagnation or adversely affected water quality. The principal fill activity proposed would be placement of pilings for new dock and wharf facilities (summarized in Table 2-3). This would reduce water movement beneath the wharfs, but due to the distance between pilings and the continual tidal action in the Main Channel, this would not result in stagnation or cause adverse impacts to marine water quality.

Once construction of facilities for the proposed Project is completed, operations within the in-water portions of the site would not have the potential to materially affect water circulation within the Main Channel or the Outer Harbor.

CEQA Impact Determination

Construction of the proposed Project would not result in a permanent adverse change in surface water movement because the proposed Project would not create any barriers to water movement through the Main Channel and the constructed harbors would have adequate tidal circulation to prevent stagnation or other flow modifications that could result in adverse impacts to marine water quality. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Hydromodifications for the proposed Project would not result in a permanent adverse change to surface water movement because these activities would not impose barriers to water movement through the Main Channel or in the Outer Harbor. Consequently, impacts would be less than significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Table 3.14-5. In-Water Construction Activities Potentially Affecting Water Quality.

Activity	*Location*	*Extent of Activity*				
		Proposed	*Alt 1*	*Alt 2*	*Alt 3*	*Alt 4*
Excavation/ Dredging (cubic yards)	North Harbor	442,000	463,000	442,000	442,000	0
	Downtown Harbor	137,000	137,000	137,000	137,000	137,000
	7th Street Harbor	26,000	26,000	26,000	26,000	26,000
	Total	**605,000**	**626,000**	**605,000**	**605,000**	**163,000**
Excavated material disposal	Approved material at LA-2 or LA-3 (offshore disposal); upland or contaminated material at an approved upland site (these figures assume all material is found suitable for offshore disposal)	605,000	626,000	605,000	605,000	163,000
Bulkhead removal (linear feet)	North Harbor	700	700	700	700	0
	7th Street Harbor	140	140	140	140	140
	Promenade, Berth 78	150	150	150	150	150
	Total	**990**	**990**	**990**	**990**	**290**
Over-water structure removal (square feet)	North Harbor	34,800	34,800	34,800	34,800	0
	Downtown Harbor	1,600	1,600	1,600	1,600	1,600
	7th Street Harbor	2,400	2,400	2,400	2,400	2,400
	7th Street Pier	5,400	5,400	5,400	5,400	5,400
	Ports O' Call Promenade	89,900	89,900	89,900	89,900	89,900
	Cruise Ship Berths 45–47	1,900	1,900	1,900	1,900	0
	Total	**136,000**	**136,000**	**136,000**	**136,000**	**99,300**

Activity	*Location*	*Extent of Activity*				
		Proposed	*Alt 1*	*Alt 2*	*Alt 3*	*Alt 4*
Piling placement (no. of piles)	North Harbor	140	214	140	140	0
	Downtown Harbor	35	35	35	35	35
	7th Street Harbor	26	26	26	26	26
	Berth 240 Boat Fueling Facility	46	46	46	46	46
	7th Street Pier	52	52	52	52	52
	Ports O' Call Promenade	451	451	451	451	451
	City Dock #1 Promenade	224	224	224	224	224
	Cruise Ship Berths 45–47	288	288	288	288	0
	Cruise Ship Berths 49–50	220	0	220	0	0
	Catalina Express	46	46	46	46	46
	Boy Scout Camp Promenade	18	18	0	18	18
	Salt Marsh Promenade	92	92	86	92	92
	Total	**1,638**	**1,492**	**1,614**	**1,418**	**990**
Bulkhead installation (all sheet pile; linear feet)	North Harbor	1,600	1,600	1,600	1,600	0
	Downtown Harbor	770	770	770	770	770
	7th Street Harbor	430	430	430	430	430
	Ports O' Call Promenade	150	150	150	150	150
	Total	**2,950**	**2,950**	**2,950**	**2,950**	**1,350**

Activity	*Location*	*Extent of Activity*				
		Proposed	*Alt 1*	*Alt 2*	*Alt 3*	*Alt 4*
Over-water structure installation (square feet)	North Harbor (floating / pier)	25,200	53,700	25,200	25,200	0
	Downtown Harbor (floating / pier)	34,900	34,900	34,900	34,900	34,900
	7th Street Harbor (floating)	9,500	9,500	9,500	9,500	9,500
	Berth 240 Boat Fueling Facility (floating)	6,400	6,400	6,400	6,400	6,400
	7th Street Pier (pier)	5,800	5,800	5,800	5,800	5,800
	Ports O' Call Promenade (floating / pier)	83,700	83,700	83,700	83,700	83,700
	City Dock #1 Promenade (pier)	66,600	66,600	66,600	66,600	66,600
	Cruise Ship Berths 45–47 (floating / pier)	42,300	42,300	42,300	42,300	0
	Cruise Ship Berths 49–50 (pier)	51,900	0	51,900	0	0
	Catalina Express (floating)	8,800	8,800	8,800	8,800	8,800
	Boy Scout Camp Promenade (pier)	4,500	4,500	0	4,500	4,500
	Salt Marsh Promenade (pier)	27,000	27,000	25,200	27,000	27,000
	Total	**366,600**	**343,200**	**360,300**	**314,700**	**247,200**
Rock slope protection installation (below high tide line; square feet)	North Harbor	45,000	45,000	45,000	45,000	0
	Downtown Harbor	17,000	17,000	17,000	17,000	17,000
	7th Street Harbor	8,000	8,000	8,000	8,000	8,000
	Total	**70,000**	**70,000**	**70,000**	**70,000**	**70,000**

1

Impact WQ-4a: In-water construction[6] for the proposed Project would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Proposed in-water construction activities would include dredging, dredged material disposal, bulkhead and dock removal, pile and sheet pile installation, dock installation, and rock slope protection placement. The locations and quantities of these activities are shown in Table 3.14-5. Selection and handling of bulk materials would comply with procedures specified by LAHD's BMPs (e.g., basic site materials and methods [02050]; earthworks [02300]; excavating, stockpiling, and disposing of chemically impacted soils [02111]; material delivery and storage [CA010]; and material use [CA011]).

Although the term "dredging" normally implies underwater excavation, most dredging for the proposed Project would occur in upland areas or areas of ponded water isolated from surface water bodies by existing bulkheads. The proposed new harbors are in areas where the Main Channel is currently adjoined by bulkheads. Proposed harbor areas would be excavated while the bulkheads are still in place, in isolation from the Main Channel. Excavated materials would be "dry" above the water table and loaded into trucks or barges to upland fill or disposal sites. Below the water table, material would be excavated with a dragline to the design depth with excavated materials loaded into barges moored to the bulkheads in the Main Channel. After design depth is achieved, the bulkhead would be removed. Some further work in the water would be needed at the harbor entrance to finish new bulkhead installation, rock slope protection, and piling placements at the harbor entrance. These measures would minimize requirements for in-water dredging and subsequent increases in turbidity.

In all, the proposed Project would generate approximately 605,000 cubic yards of excavated material. Prior to excavation, sediment testing would be conducted and LAHD would work with the USACE and other regulatory agencies to identify an acceptable disposal location based on the sediment testing results. If results from testing indicate that excavated sediments are unsuitable for unconfined in-water disposal, likely disposal options would include placement in a permitted confined disposal facility (CDF) or upland disposal site such as the Anchorage Road Disposal Site. Materials determined to be suitable for unconfined in-water disposal would be placed at the LA-2 or LA-3 offshore disposal sites. These are sites designated by EPA for limited disposal of suitable (non-toxic) dredge material off the Los Angeles/Orange County shoreline. Should other approved in-harbor disposal sites become available for other beneficial uses, they would also be considered.

6 The term "in-water construction" refers to work performed within areas under USACE jurisdiction (i.e., at elevations below the high tide line). It does not necessarily refer to work that actually occurs in the water. Minimizing the need for work in the water is one of the most important ways of mitigating the impacts of in-water work.

The effects of material disposal at the LA-2 and LA-3 sites on oceanography and water quality have previously been assessed in environmental permitting documents approving the use of those sites (EPA and USACE 2004). For both sites, effects on oceanography and water quality were determined to be non-significant. Water currents would disperse the sediments, avoiding permanent impacts on oceanography, and water quality impacts would predominantly consist of turbidity effects lasting a few hours.

Dredging, bulkhead and dock removal, pile and sheet pile installation, dock installation, and rock slope protection placement would locally affect water quality in the Main Channel and Outer Harbor. The types of water quality impacts that could occur include short-term increases in suspended sediments and turbidity levels, which could secondarily cause decreases in DO concentrations, increases in nutrient concentrations, and increases in dissolved and particulate contaminant concentrations should contaminated sediments be disturbed by demolition and construction activities.

All activities named above have the potential to impact water quality by disturbing bottom sediments, potentially introducing sediment material into the water column. That sediment material may impact a variety of different water quality parameters, as described below. The size of the impact varies between the different activities.

The greatest potential disturbance of sediment would result from placement of piles. For the proposed Project, 1,638 piles would be placed (Table 3.14-5). Assuming that each pile would be 2 feet in diameter and that an annulus of sediment 1 foot wide would be disturbed during pile placement, this activity would disturb and potentially generate turbidity from 20,584 square feet of bottom sediments. Most of these pilings would be placed in open water (1,437 piles for the Promenade, Berths 45–47, Berths 49–50, and Catalina Express) and thus turbidity effects would directly affect waters of the harbor. The remaining piles would be placed in the North, Downtown, and 7th Street Harbors, in newly-excavated waters separated from the harbor by bulkheads. Temporary turbidity impacts would be of less concern in these waters, which would only exist because of the proposed Project and would not be expected to provide the beneficial uses afforded by waters of the existing harbor until near the completion of construction, when bulkheads separating the new harbors from the waters of the Los Angeles Harbor would be removed.

The second-greatest potential disturbance of sediment would result from bulkhead installation and removal, which affects 3,940 linear feet of water body (2,950 linear feet installation, 990 linear feet removal; Table 3.14-5). Assuming that the bulkhead was approximately 18 inches wide and that another 18 inches of sediment were temporarily disturbed on either side of the bulkhead during installation/removal activity, this activity would disturb and potentially generate turbidity from 17,730 square feet of bottom sediments. All but 150 feet of the bulkhead installation would occur in the North, Downtown, and 7th Street Harbors, in newly-excavated waters separated from the harbor by currently existing bulkheads. Temporary turbidity impacts would be of less concern in these waters, which only exist because of the proposed Project, and would not yet be expected to provide the beneficial uses afforded by waters of the existing harbor. The existing bulkheads would remain in

place until removal near the completion of construction, after the new bulkheads would be emplaced. Another 150 feet of bulkhead installation would occur along the Ports O' Call Promenade, and turbidity associated with this activity could directly affect water quality in the harbor.

Bulkhead removal would primarily occur along the outer margins of North, Downtown, and 7th Street Harbors, when the completed harbors were connected to the Main Harbor. Thus turbidity associated with this activity could directly affect water quality in the harbor.

The third activity, rock slope protection placement, would affect a larger area (70,000 square feet; Table 3.14-5), but much of the rock would be placed at low tide and the rock placement process is less invasive than pile placement or removal. Also, the great majority of this activity would be done within the confines of North, Downtown, and 7th Street Harbors prior to their connection to the Main Channel. Temporary turbidity impacts would be of less concern in these waters, which would only exist because of the proposed Project and would not be expected to provide the beneficial uses afforded by waters of the existing harbor. The existing bulkheads would remain in place until removal near the completion of construction, after the rock slope protection would be placed.

Sediments in the affected areas would be tested prior to construction activities. This analysis assumes that the testing determined that the affected sediments display a sufficiently low level of contamination that the limits for chemical contaminants identified in the Basin Plan (LARWQCB 1994) are not exceeded. If testing of the sediments indicates the potential to exceed water quality criteria due to resuspension of sediments, then appropriate minimization measures would be developed in collaboration with the regulatory agencies as permit conditions prior to issuance of permits for the work.

Sediments would be disturbed only incidentally, during placement of structural components. Each of the proposed activities would cause some degree of agitation at the water-bottom interface, causing some bottom sediment to be suspended in the water column. During removal of sheet pile bulkheads, this would occur in response to movement and vibration as the sheet pile is pulled up. During placement of sheet pile bulkheads, this would occur primarily in response to vibration as a vibratory pile driving rig would be used to drive the pile into the substrate. During placement of round piles, sediment disturbance would occur as vibratory and/or impact hammer pile driving equipment would be used to place the piles. During rock slope protection placement, sediment may be disturbed while placing individual pieces of large rock. Measures would be implemented to minimize turbidity and sediment resuspension during these activities. Examples of such measures include using silt curtains to confine turbidity within the work area and working at slack tide to minimize the potential for sediment transport away from the work area.

Settling rates of disturbed sediment in the water column are largely determined by the grain size of the suspended material but are also affected by the chemistry of the particle and the receiving water (USACE and LAHD 1992). Previous studies have shown that concentrations of suspended solids return to background levels within 1 to

24 hours after dredging (Parish and Wiener 1987). Water quality parameters in West Basin were monitored in the vicinity of clamshell and suction dredges during the Los Angeles Channel Deepening Project in June 2003. The suspended solids concentrations within the clamshell and suction dredge areas ranged from 11 to 46 mg/l and from 5 to 77 mg/l, respectively, but the corresponding reduction in light transmittance did not exceed the 40%reduction criterion listed in the monitoring work plan for uncontaminated sediments. These changes to water quality would be temporary and expected to be confined to the immediate vicinity (e.g., within 300 feet [92 meters]) of the demolition and construction activities (USACE and LAHD 1992) and within the mixing zone that would be defined by the water quality certification issued by the RWQCB and included by reference in the dredge permit that would be issued by the USACE.

The sediments suspended by pile removal, pile driving, and rock slope protection placement activities could contain organic material that would oxidize or support microbial activity, contributing to a localized short-term reduction in DO levels in harbor waters. A study in New York Harbor measured a small reduction in DO concentrations near a dredge, but no reductions in DO levels 200 to 300 feet (61 to 91 meters) away from the dredging operations (Lawler, Matusky, and Skelly 1983). These results are consistent with the findings and conclusions from studies of the potential environmental impacts of open water disposal of dredged material conducted as part of the USACE Dredged Material Research Program (Lee et al. 1978; Jones and Lee 1978). Therefore, reductions in DO levels associated with proposed project construction and dredging activities are not expected to persist or cause detrimental effects to biological resources, and are not expected to cause DO levels to fall below the water quality objective of 5 mg/L. DO levels near the bottom have occasionally been recorded as falling below the water quality objective, as discussed in Section 3.14.2.1.2. It is possible that DO levels below 5 mg/L could be recorded in the proposed project area during construction activities. However, such an event is not expected to occur as a response to construction activity.

Changes in pH may occur in the immediate vicinity of dredging operations due to reducing conditions in sediments resuspended into the water column. Seawater, however, is a buffer solution (Sverdrup et al. 1942) that acts to repress any change in pH. Therefore, any measurable change in pH would likely be highly localized and temporary, and would not result in persistent changes to ambient pH levels of more than 0.2 units. Thus, the water quality objective for pH would likely not be exceeded outside the mixing zone.

Test results for sediments in the Main Channel near the proposed harbors showed copper and total DDT concentrations exceeding the ER-L criterion, while test results for sediments near the Berths 45–50 showed copper, zinc, chrysene, and total PCBs exceeding the ER-L criterion, and total DDT exceeding the ER-M criterion. Such contaminants could be released into the water column during the pile removal/driving and rock slope protection placement operations. However, like pH and turbidity, any increase in contaminant levels in the water is expected to be localized within the mixing zone and of short duration. The magnitude of contaminant releases would be related to the bulk contaminant concentrations of the disturbed sediments, as well as the organic content and grain size which affect the binding capacity of sediments for

contaminants. Because the sediment characteristics vary across the proposed project site, the magnitude of contaminant releases, and water quality effects, would also vary. Assuming that sediment contaminants in the pile removal/driving and rock slope protection placement areas were similar in species and concentration to those identified in the Main Channel test results, contaminant releases from sediments disturbed by dredging and other demolition and construction activities would not likely substantially affect the concentrations or bioavailability of contaminants in waters in the proposed project area.

As discussed in Section 3.14.3.2.2, the Basin Plan (LARWQCB 1994) defines limits for chemical contaminants in terms of bioaccumulation, chemical constituents, pesticides, PCBs, and toxicity. Results from sediment testing to determine suitability for aquatic disposal (discussed in Section 3.14.2.1.3.) indicate that sediments within the proposed project area likely would not cause significant toxicity, contaminant bioaccumulation, or degrade water quality and affect beneficial uses. As noted above, further sediment testing would be performed at the locations where pile placement and removal and rock slope protection would occur, and this analysis assumes that such testing does not indicate levels of contamination that exceed LARWQCB standards. If testing indicates that those standards would be exceeded, then dredged material could only be disposed at an approved upland site, and additional minimization and mitigation measures would be required to avoid significant impacts to water quality due to turbidity generated during in-water work activities. Appropriate measures would be determined in collaboration with permitting agencies based on the types and concentrations of identified contaminants.

Sediments suspended by pile removal/driving and rock slope protection placement would settle back to the bottom within a period of several hours. Transport of suspended particles by tidal currents would result in some redistribution of sediment. The redistribution would be localized within the Main Channel or the Outer Harbor adjacent to the work area. Concentrations of any contaminants that may occur in sediments adjacent to the work area are not expected to be measurably altered by pile removal/driving and rock slope protection placement activities.

Nutrients could be released into the water column during pile removal/driving and rock slope protection placement. 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. However, it is not possible to state conclusively whether the plankton blooms observed were a natural occurrence or if they were exacerbated by dredging activities that could have mobilized nutrients from bottom sediments. However, as these occurrences occurred throughout many areas of the Southern California Bight, it is likely the blooms were unrelated to the dredging. In 2004 and 2005, year-long plankton blooms were found up and down the coast of California. The Basin Plan (LARWQCB 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 the West Basin are not anticipated to occur in response to the proposed Project.

Pile removal/driving and rock slope protection placement are not expected to affect the temperature or salinity of waters within the proposed project area because these activities would not involve any wastewater discharges or processes that would affect baseline conditions.

Dredging for the proposed Project would require a permit from the USACE and a Section 401 (of the CWA) Water Quality Certification from RWQCB. The water quality certification would specify receiving water monitoring requirements. Monitoring requirements typically include measurements of water quality parameters such as DO, turbidity, pH, and suspended solids at varying distances from the dredging operations. Analyses of contaminant concentrations (metals, DDT, PCBs, and PAHs) in waters near the dredging operations may also be required if the contaminant levels in the dredged sediments are found to be elevated and represent a potential risk to beneficial uses. Monitoring data are used by the Port's dredger to demonstrate that water quality limits specified in the permit are not exceeded. The dredging permit could identify corrective actions, such as use of silt curtains, which would be implemented if the monitoring data indicate that water quality conditions outside of the mixing zone exceed the permit-specified limits.

CEQA Impact Determination

Dredging, new wharf construction, and wharf reconstruction and upgrades during the construction phases of the proposed Project would not entail any direct or intentional discharges of wastes to waters of the harbor. In-water dredged material disposal at the LA-2 and/or LA-3 sites would result in minor, transitory changes in turbidity that have previously been determined to be less than significant (EPA and USACE 2004). However, activities related to the proposed Project would disturb and resuspend bottom sediments, which would result in temporary and localized changes to some water quality indicators within the mixing zone defined by the water quality certification. Sediment testing results presented in Section 3.14.2.1.3 indicate that such disturbance of sediments in the proposed project area would not cause significant toxicity, contaminant bioaccumulation, or releases of contaminants to surface waters. Thus, changes related to the proposed Project are not expected to create pollution, contamination, or a nuisance or cause exceedances of any water quality standards, and impacts to water quality from in-water construction activities would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Impacts would be less than significant, as discussed for the CEQA impact determination.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact WQ-4b: Stormwater discharged during upland construction of the proposed Project would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Ground disturbances and construction activities would occur due to construction of virtually all aspects of the proposed Project (as described in Section 2.4.2) occurring in upland locations. These activities could result in temporary impacts on surface water quality through runoff of soils, asphalt leachate, concrete washwater, and other construction materials. No upland fresh surface water bodies currently exist within the area of disturbance for the proposed Project; there is a freshwater marsh in the 22nd Street Park area, but it would not be disturbed by proposed project activities. Thus, impacts to surface water quality related to the proposed Project would be limited to storm water runoff and, eventually, waters of the harbor that receive runoff from the watershed. Runoff from onshore construction sites would enter the harbor primarily through storm drains. Most runoff would occur during storm events, although some runoff could occur from water use as part of construction activities, such as dust control. Runoff from the proposed project site would be regulated under a construction SWPPP prepared in accordance with the GCASP and implemented prior to start of any construction activities. This construction SWPPP would specify BMPs to control releases of soils and contaminants and adverse impacts to receiving water quality.

Erosion controls are used during construction to reduce the amount of soils disturbed and to prevent disturbed soils from entering runoff. Erosion controls can include both logistical practices, such as scheduling construction during seasons with the least potential for erosion (e.g., non-storm seasons), and sediment control practices. Typically, erosion control programs consist of a system of practices that are tailored to site-specific conditions. The combined effectiveness of the erosion and sediment control systems is not easily predicted or quantified (EPA 1993).

The WDRs for storm water runoff in the County of Los Angeles and incorporated cities covered under NPDES Permit No. CAS004001 (13 December 2001) require implementation of runoff control from all construction sites. Prior to the start of construction activities for the proposed Project, the contractor would prepare a SWPPP that specifies logistics and schedule for construction activities that would

minimize potentials for erosion and standard practices that include monitoring and maintenance of control measures named in the SWPPP. Control measures would be installed at the construction sites prior to ground disturbance. Implementation of all conditions of proposed project permits would minimize project-related runoff into the harbor and impacts to water quality.

Standard BMPs, such as soil barriers, sedimentation basins, and site contouring, would be used during construction activities to minimize runoff of soils and associated contaminants in compliance with the GCASP (Water Quality Order 99-08-DWQ) and a construction SWPPP. Sediment basins and sediment traps are engineered impoundments that allow soils to settle out of runoff prior to discharge to receiving waters. Filter fabric fences and straw bale barriers are used under different site conditions to filter soils from runoff. Inlet protection consists of a barrier placed around a storm drain drop inlet to trap soils before they enter a storm drain. One or more of these 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.

Most BMPs used to treat urban runoff are designed to remove or reduce trash, nutrients, or contaminants associated with suspended particles (Brown and Bay 2007:207-226). Studies by Caltrans (2004) determined that BMPs that used infiltration or sand filtration methods were most effective at reducing levels of suspended solids, nutrients, and metals in runoff. EPA (1993) reported that measures such as sedimentation basins, sediment traps, straw bale barriers, and filter fabric fences were about 60–70% effective at removing soils from runoff. In contrast, recent studies by Brown and Bay (2007) showed that effectiveness at removing suspended solids and reducing toxicity varied among BMPs tested, including hydrodynamic and biofiltration methods, and results for individual BMPs were inconsistent. In particular, BMPs designed to remove suspended particles are not effective at reducing toxicity associated with dissolved components in the runoff (Brown and Bay 2007). Although the specific BMPs that would be used, as well as the effectiveness of the BMPs under conditions at the proposed project site, are uncertain, the data cited above indicate that erosion and runoff control BMPs would likely be 60%or more effective at removing soils from runoff that occurred during construction. A limited area of soils would be subject to erosion because the large majority of the proposed project area is flat and runoff patterns can be easily controlled by grading and temporary berms. Moreover, rainfall events in southern California are of limited duration and intensity. These factors indicate that a minimal amount of soil would be delivered to the harbor by runoff.

Runoff from a construction site could contain a variety of contaminants, including metals and PAHs, associated with construction materials, stockpiled soils, and spills of oil or other petroleum products. Impacts to surface water quality from accidental spills are addressed below. Specific concentrations and mass loadings of contaminants in runoff will vary greatly depending on the amounts and composition of soils and debris carried by the runoff. As discussed in Section 3.6 [Groundwater and Soils], upland portions of the proposed project site have been affected

historically by releases of hazardous materials and petroleum products. In addition, structures built prior to 1980 may contain lead paint and asbestos containing materials (Ninyo & Moore 2008: 41-42). However, all existing Port tenants have contractually agreed to complete restoration of the premises, including clean-up of any hazardous materials contamination on or arising from the premises, before the expiration or earlier termination of each tenant agreement. Also, mitigation measure GW-1 (see Section 3.6, "Groundwater and Soils") specifies that LAHD would remediate all contaminated soils within the proposed project boundaries for the site, such that contamination levels are below action levels established by the lead regulatory agency, prior to or during demolition and grading activities. Therefore, historical soil contamination would not be expected to contribute to contaminant loading from runoff into the harbor.

Standard Port BMPs (e.g., excavating, stockpiling, and disposing of chemically impacted soils [02111]; solid waste management [CA020]; contaminated soil management [CA022]) specify procedures for handling, storage, and disposal of contaminated materials encountered during excavation. These procedures would be followed for upland construction activities associated with the proposed Project to ensure that any contaminants potentially present in soil or groundwater were not transported off-site by runoff.

Most runoff from the upland portions of the proposed project site would flow into the Main Channel. Runoff from the outer harbor cruise ship terminal, and in proposed project areas from Cabrillo Marina to Inner Cabrillo Beach, would flow into the Outer Harbor. As discussed above, the SWPPP and implementation and maintenance of construction BMPs would minimize the potential for offsite transport of soils and contaminants present in the soil from the proposed project site that could degrade water quality within the harbor. This runoff would deliver fresh water which, depending on the strength and duration of the storm event, could be more turbid and have lower salinity and DO levels compared to the receiving waters. These fresh water discharges could overlap with discharges from other drainage systems and storm drains discharging to the harbor. Nevertheless, subsequent mixing of runoff and receiving waters, and settling of particles carried by runoff into the harbor, would prevent persistent changes in the quality of receiving waters.

As mentioned, water quality within the harbor is affected episodically by stormwater runoff from the watershed. Because the (approximately) 400-acre proposed project area represents only 2% of the area of the Harbor subwatershed, runoff from the upland portion of the proposed project area would represent a small (about 2%) contribution to the total stormwater loading to the harbor. Furthermore, stormwater BMPs would minimize the potential for offsite transport of soils and contaminants that could degrade water quality within the Los Angeles Harbor. While runoff from the proposed project site would contribute to changes in receiving waters that could cause water quality standards to be exceeded, the proposed Project would not create conditions that increase the relative contribution or contaminant mass loadings relative to baseline conditions. Since the receiving waters for runoff from the proposed Project do not support submerged aquatic vegetation, coral reefs, or other sensitive species and the closest occurrence of such resources is an area of aquatic vegetation in the Outer Harbor, runoff from the proposed project site would receive

at least several orders of magnitude of dilution before reaching areas of aquatic vegetation (see Section 3.3). Therefore, construction runoff also would not affect beneficial uses related to aquatic vegetation.

CEQA Impact Determination

Construction activities associated with upland and road improvements for the proposed Project have the potential to adversely affect the quality of stormwater runoff. However, the proposed Project would implement a SWPPP incorporating BMPs, such as sediment basins or traps and fabric filter fences or straw bale barriers, to control runoff of eroded soils and pollutants. The SWPPP also would incorporate monitoring requirements intended to minimize potential impacts and verify BMP effectiveness. These measures, combined with the low potential for erosion and remediate of sites prior to construction, would limit the soil and contaminant loading to Los Angeles Harbor. Releases of stormwater runoff to the harbor would also comply with specific conditions contained in the construction SWPPP that would control releases of contaminants to receiving waters. Therefore, runoff from upland construction activities would not create pollution, contamination, a nuisance, or violate any water quality standards, and impacts to 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

Upland area impacts would be as described for the CEQA impact determination but impacts would be much less because most of the project upland area is part of the NEPA baseline or No-Federal-Action Alternative. The portions of the uplands not in the NEPA baseline include the 100-foot-wide swath along the shoreline, the Outer Cruise Ship Terminals and associated parking, and the upland portion of Berth 240. Consequently, impacts to water quality would be less than significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact WQ-4c: The proposed Project would not result in accidental discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Accidents resulting in spills of fuel, lubricants, or hydraulic fluid from equipment used during excavation, fill placement, demolition, and construction could occur during the proposed Project. Based on past 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 3.7, "Hazards and Hazardous Materials"). 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 within 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 listed in Section 3.14.3.2.2 (e.g., use of drip pans, contained refueling areas, regular inspections of equipment and vehicles, and immediate repairs of leaks) would reduce the potential for materials from onshore construction activities to be transported off site and enter storm drains or the harbor.

Accidents or spills from in-water construction equipment could result in direct releases of petroleum materials or other contaminants to harbor waters. The magnitude of impacts to water quality would depend on the spill volume, characteristics of the spilled materials, and effectiveness of containment and cleanup measures.

The Basin Plan (LARWQCB 1994) water quality objective for oil and grease states that "[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 SWPPP that would be implemented by the construction contractor. 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.

CEQA Impact Determination

Spills or leaks that occur on land are expected to be contained and cleaned up before any impacts to surface water quality can occur. Spills from dredges or barges could directly affect water quality within the harbor, resulting in a visible film on the surface of the water; however, the probability of an accidental spill from a vessel to the harbor that would cause a nuisance or adversely affect beneficial uses is low. Nevertheless, spill prevention and cleanup procedures for the proposed Project would be addressed in a SWPPP that would be implemented by the construction contractor.

The plan would define actions to minimize the potential for spills and provide efficient responses to spill events to minimize the magnitude of the spill and extent of impacts. Therefore, accidental spills of pollutants would cause less than significant impacts under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Except for the Outer Harbor Cruise Ship Terminals and associated parking, onshore construction operations on the existing uplands beyond approximately 100 feet of the shoreline would be part of the NEPA baseline and result in no impacts. The upland area within approximately 100 feet of the water would be temporarily impacted (staging, storage, access) to complete the in-water construction activities. These impacts and any impacts from in-water construction activities for the proposed Project would be similar to those under CEQA and would be less than significant for accidental spills of pollutants.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact WQ-4d: Operation of the proposed Project would result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Operation of the proposed project facilities would not involve any new direct point source discharges of wastes or wastewaters to the harbor. In addition, the proposed Project would result in an increase in pervious area with the addition of parks and green space, which would reduce stormwater runoff volumes. Stormwater runoff from the proposed project site would be collected onsite by the storm drain system and discharged to the harbor, similar to existing conditions. The increased surface area of parking facilities, located at many locations across the proposed project area, would generate particulates and other debris that would be conveyed by runoff from

the site. These materials could contribute incrementally to changes in receiving water quality. Additionally, operations of non-electric equipment and vehicles within 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 into harbor waters.

However, the facilities associated with the proposed Project would be operated in accordance with the industrial SWPPP that contains monitoring requirements to ensure that the quality of the stormwater runoff complies with the permit conditions. Also, stormwater runoff associated with facility operations would be governed by SUSMP requirements that would be incorporated into the project plan that must be approved prior to issuance of building and grading permits. The SUSMP for the Los Angeles County Urban Runoff and Stormwater NPDES Permit 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" (SWRCB 2000). Examples of BMPs used for minimizing the introduction of pollutants of concern from site runoff include oil/water separators, catch basin inserts, storm drain inserts, and media filtration. These BMPs must meet specified design standards to mitigate (infiltrate or treat) stormwater runoff and control peak flow discharges. Where structural or treatment control BMPs are provided, Port tenants are required to provide verification of maintenance provisions. Regulatory controls for runoff and storm drain discharges are designed to reduce impacts to 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 LAHD pollution control requirements.

Several additional stormwater BMPs are discussed by Brown and Bay (2007). Although some of the BMPs evaluated by Brown and Bay (2007) were found to be effective at reducing overall toxicity and contamination within stormwater, others were found to have no effect on toxicity. Brown and Bay (2007) found that created wetlands were the only BMPs evaluated that effectively reduced dissolved metals and organic toxins in runoff; other BMPs evaluated, including those involving settling, filtration, and ultraviolet sterilization, were not effective at removing dissolved toxins. However, it is not practicable to use a created wetland to treat stormwater generated in dockside areas. Therefore, BMPs implemented under the proposed Project are unlikely to substantially reduce or increase stormwater toxicity relative to baseline conditions.

Stormwater sampling in the Port of Long Beach in 2005 (MBC 2005) showed that pollutants such as metals and SVOCs were present in runoff from port facilities. Copper, lead, mercury, nickel, and zinc occurred in stormwater samples at concentrations that exceeded the standards for marine waters at a few locations. The study concluded that mixing with the harbor receiving waters would rapidly dilute the pollutants so that the receiving water standards would not be 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 exceedances of receiving water quality objectives.

The amount of vessel traffic in the Main Channel and the Outer Harbor would increase to approximately 275 annual cruise ship calls by 2015 and 287 cruise ship calls by 2037, relative to the CEQA and NEPA baseline of 258 ship calls in 2006. This increase of up to 11% in annual cruise ship calls would occur as a result of the proposed Project. Increases in vessel traffic related to the proposed Project could also result in higher mass loadings of contaminants such as copper that are leached from vessel hull anti-fouling paints. Portions of the Los Angeles Harbor are impaired with respect to copper; therefore, increased loadings associated with increases in vessel traffic relative to baseline conditions would likely exacerbate water and sediment quality conditions for copper.

Discharges of polluted water or refuse directly to the harbor are prohibited, so the increased vessel traffic and terminal operations associated with the proposed Project would not cause any increase in authorized waste discharges from vessels. Nonetheless, the risk of accidental or illegal discharges could reasonably be expected to increase in proportion to the increased ship traffic. Accidental or illegal spills on land that enter storm drains could also affect water quality in the harbor. Impacts to water and sediment quality would depend on the characteristics of the material spilled, such as volatility, solubility in water, and sedimentation rate, and 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 controls and are unlikely to occur during the life of the proposed Project.

As discussed in Section 3.6, "Groundwater and Soils," the Oil Pollution Prevention regulations at Title 40 of the Code of Federal Regulations, Part 112 (40 CFR 112) describe the requirements for certain facilities to prepare, amend, and implement SPCC Plans. These plans ensure that facilities include containment and other countermeasures that would prevent oil spills that could reach navigable waters. In addition, oil spill contingency plans (OSCPs) are required to address spill cleanup measures after a spill has occurred.

For the proposed Project, the operator would prepare a SPCC Plan and an OSCP, which would be reviewed and approved by the CDFG Office of Spill Prevention and Response, in consultation with other responsible agencies. The SPCC Plan would detail and implement spill prevention and control measures to prevent oil spills from reaching navigable waters. The OSCP would identify and plan as necessary for contingency measures that would minimize damage to water quality and provide for restoration to pre-spill conditions.

As discussed in Section 3.7, "Hazards and Hazardous Materials," few recent hazardous waste spills have occurred at the existing cruise ship terminals or the existing fueling depots, which are the sites of principal concern with regard to potential spills. The increased number of cruise ship calls associated with the proposed Project could contribute to a proportionally higher number of spills compared to baseline conditions. Accidental spills of petroleum hydrocarbons, hazardous materials, and other pollutants from proposed project operations are expected to be limited to small volume releases because of the controls in place to prevent and minimize accidental spills. Regardless, any spill event would be

addressed according to procedures described in the SPCC Plan. The number or severity of illegal discharges, and corresponding changes to water and sediment quality, from increased vessel traffic cannot be quantified because the rate of illegal discharges from cruise ships is unknown. It is reasonable to assume that increases in the frequency of illegal discharges would be proportional to the change in numbers of ship visits. In this case, loadings from illegal discharges from the proposed project operations would increase over baseline conditions. However, there is no evidence that illegal discharges from cruise ships are currently causing widespread problems in the harbor. Over several decades, there has been an improvement in 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 those for illegal discharges.

CEQA Impact Determination

Upland operations associated with the proposed Project would not result in direct discharges of wastes. Stormwater runoff from the proposed project site might reasonably be expected to contain suspended and dissolved pollutants originating within the proposed project area, but discharges of stormwater would comply with the NPDES discharge permit limits.

There is potential for an increase in accidental spills and illegal discharges due to increased vessel calls at the facility, but recent history seems to show improvements in water quality in spite of increased use of the harbor, due to improved regulation and enforcement. Leaching of contaminants such as copper from anti-fouling paint could also cause increased pollutant loading in the harbor, which is listed as impaired with respect to copper. Therefore, the impact to water quality from leaching is significant under CEQA.

Mitigation Measures

No mitigation is required to address the impact from upland spills, stormwater, and accidental spills from vessels, which would be less than significant. Beyond legal requirements, there are no available mitigations to eliminate the leaching of contaminants from anti-fouling paint on vessel hulls.

Residual Impacts

Residual impacts for upland spills, stormwater, accidental spills from vessels, and illegal discharges would be less than significant. There would be a significant residual impact from leaching of anti-fouling paints on vessel hulls.

NEPA Impact Determination

Except for the Outer Harbor Cruise Ship Terminals and associated parking, operation of proposed project facilities on existing uplands would be part of the NEPA baseline, and no impacts would occur in these areas under NEPA. There is potential for an increase in accidental spills and illegal discharges due to increased ship calls at the terminal facilities, but regulation and enforcement efforts in the past have resulted

in generally improved water quality during a period of increasing vessel use of the harbor. Therefore, regulation and enforcement efforts appear to be effective at rendering accidental spill impacts insignificant. However, the proposed Project would result in 287 annual vessel calls by 2037, an additional 12 annual cruise vessel calls compared to the NEPA baseline (NEPA baseline includes 275 annual vessel calls in 2015 and 2037). Thus, leaching of contaminants, such as copper from anti-fouling paint, could cause increased pollutant loading in the harbor, which is listed as impaired with respect to copper. Therefore, the impact to water quality from leaching is significant under NEPA.

Mitigation Measures

No mitigation is required to address the impact from upland spills, stormwater, and accidental spills from vessels, which would be less than significant. Beyond legal requirements, there are no available mitigations to eliminate the leaching of contaminants from anti-fouling paint on vessel hulls.

Residual Impacts

Residual impacts for upland spills, stormwater, accidental spills from vessels, and illegal discharges would be less than significant. There would be a significant residual impact from leaching of contaminants.

3.14.4.3.2 Alternative 1—Alternative Development Scenario 1

The principal distinctions between Alternative 1 and the proposed Project with respect to prospective impacts on water quality are:

- reduction in number of annual cruise vessel calls from 287 to 275 by 2037 (representing an increase of 17 over existing conditions) – annual cruise vessels by 2015 would be the same as the proposed Project; and
- one, rather than two cruise ship berths would be constructed in the Outer Harbor.

Impact WQ-1: Alternative 1 would not cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.

As described for the proposed Project, the potential impacts on flooding are related to pervious and impervious surface areas associated with upland development, which is substantially the same under Alternative 1 as under the proposed Project. Therefore, Impact WQ-1 is the same as under the proposed Project.

CEQA Impact Determination

As described in the analysis 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

Potential for flooding on existing upland portions of the proposed project area would be part of the NEPA baseline (described in Section 2.6.2), which would include construction and operation of all upland elements without any improvements within the harbor waters. Thus, no impacts would occur.

Mitigation Measures

No mitigation is required,

Residual Impacts

No impacts would occur.

Impact WQ-2: Alternative 1 would not substantially reduce or increase the amount of surface water in a water body.

As described for the proposed Project, the potential impacts on amount of surface water are related to the creation of new surface water area in the form of the North, Downtown, and 7th Street Harbors. Since these harbors would be the same under Alternative 1 as under the proposed Project, Impact WQ-2 is the same as under the proposed Project.

CEQA Impact Determination

As described in the analysis 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

As described in the analysis 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-3: Alternative 1 would not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.

As described for the proposed Project, the potential impacts on movement of surface water are related to the creation of new surface water area in the form of the North, Downtown, and 7th Street Harbors. Since these harbors would be the same under Alternative 1 as under the proposed Project, Impact WQ-3 is the same as under the proposed Project.

CEQA Impact Determination

As described in the analysis 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

As described in the analysis 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-4a: In-water construction for Alternative 1 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Impact WQ-4a is the same under Alternative 1 as under the proposed Project. The non-significant impacts identified under the proposed Project would be decreased because only one cruise ship berth would be built in the Outer Harbor.

CEQA Impact Determination

As described in the analysis 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

As described in the analysis 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-4b: Stormwater discharged during upland construction of Alternative 1 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Impact WQ-4b is the same as under the proposed Project. Although there are minor differences between the proposed Project and Alternative 1 with respect to construction in upland locations, these differences would not materially affect the locations, volumes, or quality of construction stormwater discharges.

CEQA Impact Determination

As described in the analysis 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

As described in the analysis 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-4c: Alternative 1 would not result in accidental discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Impact WQ-4c is the same as under the proposed Project. Although there are minor differences between the proposed Project and Alternative 1 with respect to proposed construction sites and methods, both alternatives pose a similar risk with respect to the potential for accidental discharges.

CEQA Impact Determination

As described in the analysis 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

As described in the analysis 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-4d: Operation of Alternative 1 would result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Impact WQ-4d would be slightly less for this alternative than the proposed Project. This alternative would eliminate one cruise berth and terminal in the Outer Harbor, but would be subject to the impacts described under Impact WQ-4d for the proposed Project.

CEQA Impact Determination

Leaching of contaminants such as copper from anti-fouling paint could cause increased pollutant loading in the harbor, which is listed as impaired with respect to copper. While this alternative would reduce the number of annual cruise vessel calls in 2037 by 12 compared to the proposed Project, the impact to water quality from leaching would still be significant under CEQA as this alternative represents an increase of 17 annual vessel calls over the CEQA baseline.

Mitigation Measures

No mitigation is required to address the impact from upland spills, stormwater, and accidental spills from vessels, which would be less than significant. Beyond existing legal requirements, there are no available mitigations to eliminate the leaching of contaminants from anti-fouling paint on vessel hulls.

Residual Impacts

Residual impacts for upland spills, stormwater, accidental spills from vessels, and illegal discharges would be less than significant. There would be a significant residual impact from leaching of contaminants.

NEPA Impact Determination

This alternative would not increase cruise vessel calls above the NEPA baseline. Therefore, impacts related to leaching of contaminants such as copper from anti-fouling paint that could cause increased pollutant loading in the harbor would not occur under this alternative. Therefore, no impact to water quality from leaching would occur under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Residual impacts for upland spills, stormwater, accidental spills from vessels, and illegal discharges would be less than significant. Residual impact from leaching of contaminants would not occur.

3.14.4.3.3 Alternative 2—Alternative Development Scenario 2

Alternative 2 and the proposed Project only differ from each other with respect to upland development proposals. The proposals are therefore virtually identical with respect to water quality impacts. Although upland development proposals would be slightly different under Alternative 2, the differences would not alter the locations, volumes, or water quality of either construction or operational stormwater discharges. Therefore all impacts to water quality are the same under Alternative 2 as under the proposed Project.

Impact WQ-1: Alternative 2 would not cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.

As described for the proposed Project, the potential impacts on flooding are related to pervious and impervious surface areas associated with upland development, which is substantially the same under Alternative 2 as under the proposed Project. Therefore Impact WQ-1 is the same as under the proposed Project.

CEQA Impact Determination

As described in the analysis 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

Potential for flooding on existing upland portions of the proposed project area would be part of the NEPA baseline (described in Section 2.6.2), which would include construction and operation of all upland elements without any improvements within the harbor waters. Thus, no impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact WQ-2: Alternative 2 would not substantially reduce or increase the amount of surface water in a water body.

As described for the proposed Project, the potential impacts on amount of surface water are related to the creation of new surface water area in the form of the North, Downtown, and 7th Street Harbors. Since these harbors would be substantially the same under Alternative 2 as under the proposed Project, Impact WQ-2 is the same as under the proposed Project.

CEQA Impact Determination

As described in the analysis 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

As described in the analysis 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-3: Alternative 2 would not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.

As described for the proposed Project, the potential impacts on movement of surface water are related to the creation of new surface water area in the form of the North, Downtown, and 7th Street Harbors. Since these harbors would be the same under Alternative 2 as under the proposed Project, Impact WQ-3 is the same as under the proposed Project.

CEQA Impact Determination

As described in the analysis 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

As described in the analysis 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-4a: In-water construction for Alternative 2 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Alternative 2 and the proposed Project only differ from each other with respect to upland development proposals. The proposals are therefore virtually identical with

respect to the potential for water quality impacts arising because of in-water construction.

CEQA Impact Determination

As described in the analysis of the proposed Project, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

As described in the analysis of the proposed Project, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts

Impacts would be less than significant.

Impact WQ-4b: Stormwater discharged during upland construction of Alternative 2 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Impact WQ-4b is the same as under the proposed Project. Although there are minor differences between the proposed Project and Alternative 2 with respect to construction in upland locations, these differences would not materially affect the locations, volumes, or quality of construction stormwater discharges.

CEQA Impact Determination

As described in the analysis 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

As described in the analysis 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-4c: Alternative 2 would not result in accidental discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Impact WQ-4c is the same as under the proposed Project. Although there are minor differences between the proposed Project and Alternative 2 with respect to proposed construction sites and methods, both the proposed Project and Alternative 2 pose a similar risk with respect to the potential for accidental discharges.

CEQA Impact Determination

As described in the analysis 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

As described in the analysis 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-4d: Operation of Alternative 2 would result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Impact WQ-4d is the same as under the proposed Project. Like the proposed Project, this alternative involves cruise ship berths in the same locations, and would be subject to the impacts described under Impact WQ-4d for the proposed Project.

CEQA Impact Determination

This alternative involves the same number of annual vessel calls in 2015 and 2037 as the proposed Project. Leaching of contaminants such as copper from anti-fouling paint could also cause increased pollutant loading in the harbor, which is listed as impaired with respect to copper. Therefore, the impact to water quality from leaching would be significant under CEQA.

Mitigation Measures

No mitigation is required to address the impact from upland spills, stormwater, and accidental spills from vessels, which would be less than significant. Beyond legal requirements, there are no available mitigations to eliminate the leaching of contaminants from anti-fouling paint on vessel hulls.

Residual Impacts

Residual impacts for upland spills, stormwater, accidental spills from vessels, and illegal discharges would be less than significant. There would be a significant residual impact from leaching of contaminants.

NEPA Impact Determination

This alternative involves the same number of annual vessel calls in 2015 and 2037 as the proposed Project. Leaching of contaminants such as copper from anti-fouling paint could also cause increased pollutant loading in the harbor, which is listed as impaired with respect to copper. Therefore, the impact to water quality from leaching would be significant under NEPA.

Mitigation Measures

No mitigation is required to address the impact from upland spills, stormwater, and accidental spills from vessels, which would be less than significant. Beyond legal requirements, there are no available mitigations to eliminate the leaching of contaminants from anti-fouling paint on vessel hulls.

Residual Impacts

Residual impacts for upland spills, stormwater, accidental spills from vessels, and illegal discharges would be less than significant. There would be a significant residual impact from leaching of contaminants.

3.14.4.3.4 Alternative 3—Alternative Development Scenario 3 (Reduced Project)

The principal distinction between Alternative 3 and the proposed Project with respect to prospective impacts on water quality is that one, rather than two cruise ship berths would be constructed in the Outer Harbor. Although upland development proposals would be slightly different under Alternative 3 than under the proposed Project, the differences would not alter the locations, volumes, or water quality of either construction or operational stormwater discharges.

Impact WQ-1: Alternative 3 would not cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.

As described for the proposed Project, the potential impacts on flooding are related to pervious and impervious surface areas associated with backland development, which is substantially the same under Alternative 3 as under the proposed Project. Therefore Impact WQ-1 is the same as under the proposed Project.

CEQA Impact Determination

As described in the analysis 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

Potential for flooding on existing upland portions of the proposed project area would be part of the NEPA baseline (described in Section 2.6.2), which would include construction and operation of all upland elements without any improvements within the harbor waters. Thus, no impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact WQ-2: Alternative 3 would not substantially reduce or increase the amount of surface water in a water body.

As described for the proposed Project, the potential impacts on amount of surface water are related to the creation of new surface water area in the form of the North, Downtown, and 7th Street Harbors. Since these harbors would be substantially the same under Alternative 3 as under the proposed Project, Impact WQ-2 is the same as under the proposed Project.

CEQA Impact Determination

As described in the analysis 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

As described in the analysis 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-3: Alternative 3 would not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.

As described for the proposed Project, the potential impacts on movement of surface water are related to the creation of new surface water area in the form of the North, Downtown, and 7th Street Harbors. Since these harbors would be substantially the same under Alternative 3 as under the proposed Project, Impact WQ-3 is the same as under the proposed Project.

CEQA Impact Determination

As described in the analysis 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

As described in the analysis 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-4a: In-water construction for Alternative 3 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Impact WQ-4a is the same as under the proposed Project, except that the non-significant impacts identified under the proposed Project would be smaller because only one cruise ship berth would be built in the Outer Harbor.

CEQA Impact Determination

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact WQ-4b: Stormwater discharged during upland construction of Alternative 3 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Impact WQ-4b is the same as under the proposed Project. Although there are minor differences between the proposed Project and Alternative 3 with respect to construction in upland locations, these differences would not materially affect the locations, volumes, or quality of construction stormwater discharges.

CEQA Impact Determination

As described in the analysis 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

As described in the analysis 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-4c: Alternative 3 would not result in accidental discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Impact WQ-4c is the same as under the proposed Project. Although there are minor differences between the proposed Project and Alternative 3 with respect to proposed construction sites and methods, both the proposed Project and Alternative 3 pose a similar risk with respect to the potential for accidental discharges.

CEQA Impact Determination

As described in the analysis 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

As described in the analysis 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-4d: Operation of Alternative 3 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

With regard to upland activities, including operation of terrestrial vehicles, the impact analysis is the same as for the proposed Project. However, there is a substantial difference between the proposed Project and Alternative 3 with respect to vessel operations because Alternative 3 would result in reduced vessel operations with respect to cruise ship activities compared to the proposed Project (there would be a small increase in traffic of recreational vessels using the Downtown and 7th Street Harbors, but this would fall within the existing range of variation for small vessel traffic in the area). Similar to the proposed project, this alternative could result in higher mass loadings of contaminants such as copper that are released by leaching from vessel hull anti-fouling paints.

CEQA Impact Determination

Upland operations associated with the proposed Project would not result in direct discharges of wastes. However, stormwater runoff from the proposed project site would contain suspended and dissolved pollutants originating within the proposed project area. Discharges of stormwater would comply with the NPDES discharge permit limits. While this alternative would reduce the number of annual cruise vessel calls in 2037 by 12 compared to the proposed Project, the impact to water quality from leaching would still be significant under CEQA as this alternative represents an increase of 17 annual vessel calls over the CEQA baseline.

Mitigation Measures

No mitigation is required to address the impact from upland spills, stormwater, and accidental spills from vessels, which would be less than significant. Beyond existing legal requirements, there are no available mitigations to eliminate the leaching of contaminants from anti-fouling paint on vessel hulls.

Residual Impacts

Residual impacts for upland spills, stormwater, accidental spills from vessels, and illegal discharges would be less than significant. There would be a significant residual impact from leaching of contaminants.

NEPA Impact Determination

Operation of proposed project facilities on existing uplands would be part of the NEPA baseline and no impacts would occur under NEPA. Operations on the portion of existing uplands within approximately 100 feet of the shoreline would be essentially the same as described above in the CEQA impact determination for

stormwater and accidental upland spill impacts, but of reduced magnitude in proportion to the smaller area affected. Impacts to water quality from vessel spills and discharges are not significant under NEPA as this alternative would not increase cruise vessel calls above the NEPA baseline.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

3.14.4.3.5 Alternative 4—Alternative Development Scenario 4

The principal distinctions between Alternative 4 and the proposed Project with respect to prospective impacts on water quality are:

- the North Harbor would not be constructed, and
- no cruise ship berths would be constructed in the Outer Harbor.

Impact WQ-1: Alternative 4 would not cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.

As described for the proposed Project, the potential impacts on flooding are related to pervious and impervious surface areas associated with backland development, which is substantially the same under Alternative 4 as under the proposed Project. Therefore Impact WQ-1 is the same as under the proposed Project.

CEQA Impact Determination

As described in the analysis 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

Potential for flooding on existing upland portions of the proposed project area would be part of the NEPA baseline (described in Section 2.6.2), which would include construction and operation of all upland elements without any improvements within the harbor waters. Thus, no impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact WQ-2: Alternative 4 would not substantially reduce or increase the amount of surface water in a water body.

Impact WQ-2 is the same as under the proposed Project, except that the non-significant impacts identified under the proposed Project would be smaller because the North Harbor would not be constructed.

CEQA Impact Determination

As described in the analysis 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

As described in the analysis 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-3: Alternative 4 would not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.

Impact WQ-3 is the same as under the proposed Project, except that the non-significant impacts identified under the proposed Project would be smaller because the North Harbor would not be constructed.

CEQA Impact Determination

As described in the analysis 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

As described in the analysis 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-4a: In-water construction for Alternative 4 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Impact WQ-4a is the same as under the proposed Project, except that the non-significant impacts identified under the proposed Project would be smaller because the North Harbor would not be constructed and no cruise ship berths would be built in the Outer Harbor.

CEQA Impact Determination

As described in the analysis 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

As described in the analysis 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-4b: Stormwater discharged during upland construction of Alternative 4 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Impact WQ-4b is the same as under the proposed Project. Although there are minor differences between the proposed Project and Alternative 4 with respect to construction in upland locations, these differences would not materially affect the locations, volumes, or quality of construction stormwater discharges.

CEQA Impact Determination

As described in the analysis 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

As described in the analysis 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-4c: Alternative 4 would not result in accidental discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Impact WQ-4c is the same as under the proposed Project. Although there are minor differences between the proposed Project and Alternative 4 with respect to proposed construction sites and methods, both the proposed Project and Alternative 4 pose a similar risk with respect to the potential for accidental discharges.

CEQA Impact Determination

As described in the analysis 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

As described in the analysis 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-4d: Operation of Alternative 4 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

With regard to upland activities including operation of terrestrial vehicles, the impact analysis is the same as for the proposed Project. However, there is a substantial difference between the proposed Project and Alternative 4 with respect to vessel operations because Alternative 4 would result in reduced vessel operations with respect to cruise ship activities compared to the proposed Project (there would be a small increase in traffic of recreational vessels using the Downtown and 7th Street Harbors, but this would fall within the existing range of variation for small vessel traffic in the area). Similar to the proposed Project, this alternative could result in higher mass loadings of contaminants such as copper that are released by leaching from vessel hull anti-fouling paints.

CEQA Impact Determination

Upland operations associated with the proposed Project would not result in direct discharges of wastes. However, stormwater runoff from the proposed project site would contain suspended and dissolved pollutants originating within the proposed project area. Discharges of stormwater would comply with the NPDES discharge permit limits. While this alternative would reduce the number of annual cruise vessel calls in 2037 by 12 compared to the proposed Project, the impact to water quality from leaching would still be significant under CEQA as this alternative represents an increase of 17 annual vessel calls over the CEQA baseline.

Mitigation Measures

No mitigation is required to address the impact from upland spills, stormwater, and accidental spills from vessels, which would be less than significant. Beyond existing legal requirements, there are no available mitigations to eliminate the leaching of contaminants from anti-fouling paint on vessel hulls.

Residual Impacts

Residual impacts for upland spills, stormwater, accidental spills from vessels, and illegal discharges would be less than significant. There would be a significant residual impact from leaching of contaminants.

NEPA Impact Determination

Operation of proposed project facilities on existing uplands would be part of the NEPA baseline and no impacts would occur under NEPA. Impacts to water quality from vessel spills, leaching, and discharges are not significant under NEPA as this alternative does not represent an increase in cruise vessel traffic above the NEPA baseline.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

3.14.4.3.6 Alternative 5—No-Federal-Action Alternative

The principal distinctions between Alternative 5 and the proposed Project with respect to prospective impacts on water quality are that under Alternative 5, no in-water work would occur. Water quality impacts would only be derived from upland sources, and would be outside of the USACE's geographic jurisdiction and regulatory control and responsibility.

Impact WQ-1: Alternative 5 would not cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.

As described for the proposed Project, the potential impacts on flooding are related to pervious and impervious surface areas associated with backland development, which is substantially the same under Alternative 5 as under the proposed Project. Therefore Impact WQ-1 is the same as under the proposed Project. No new harbors would be constructed, but this would not alter the non-significant impacts described for the proposed Project.

CEQA Impact Determination

As described in the analysis 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

Because the No-Federal-Action Alternative is identical to the NEPA baseline, this alternative would have no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact WQ-2: Alternative 5 would not substantially reduce or increase the amount of surface water in a water body.

Because Alternative 5 would not construct any improvements within the harbor waters, Impact WQ-2 would not occur.

CEQA Impact Determination

Because Alternative 5 would not construct any improvements within the harbor waters, no impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

NEPA Impact Determination

Because the No-Federal-Action Alternative is identical to the NEPA baseline, this alternative would have no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact WQ-3: Alternative 5 would not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.

Because Alternative 5 would not construct any improvements within the harbor waters, Impact WQ-3 would not occur.

CEQA Impact Determination

Because Alternative 5 would not construct any improvements within the harbor waters, no impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

NEPA Impact Determination

Because the No-Federal-Action Alternative is identical to the NEPA baseline, this alternative would have no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact WQ-4a: In-water construction for Alternative 5 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Because Alternative 5 would not entail any in-water work, Impact WQ-4a would not occur.

CEQA Impact Determination

Because Alternative 5 would not entail any in-water work, no impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

NEPA Impact Determination

Because the No-Federal-Action Alternative is identical to the NEPA baseline, this alternative would have no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact WQ-4b: Stormwater discharged during upland construction of Alternative 5 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Impact WQ-4b is the same as under the proposed Project. Alternative 5 would not entail any work within the waters of the harbor, but this difference would not

materially affect the locations, volumes, or quality of construction stormwater discharges.

CEQA Impact Determination

As described in the analysis 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

Because the No-Federal-Action Alternative is identical to the NEPA baseline, this alternative would have no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact WQ-4c: Alternative 5 would not result in accidental discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Impact WQ-4c is the same as under the proposed Project except that no spills could originate from in-water equipment. Thus the non-significant impacts described under the proposed Project would be further reduced.

CEQA Impact Determination

As described in the analysis 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

Because the No-Federal-Action Alternative is identical to the NEPA baseline, this alternative would have no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact WQ-4d: Operation of Alternative 5 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

With regard to upland activities including operation of terrestrial vehicles, Impact WQ-4d is the same as for the proposed Project. With regard to the potential for spills or accidental discharges, Impact WQ-4d would not occur. However, there is a substantial difference between the proposed Project and Alternative 5 with respect to vessel operations because Alternative 5 would result in reduced vessel operations with respect to cruise ship activities compared to the proposed Project. Similar to the proposed Project, this alternative could result in higher mass loadings of contaminants such as copper that are released by leaching from vessel hull anti-fouling paints.

CEQA Impact Determination

Upland operations associated with the proposed Project would not result in direct discharges of wastes. However, stormwater runoff from the proposed project site would contain suspended and dissolved pollutants originating within the proposed project area. Discharges of stormwater would comply with the NPDES discharge permit limits. While this alternative would reduce the number of annual cruise vessel calls in 2037 by 12 compared to the proposed Project, the impact to water quality

from leaching would still be significant under CEQA as this alternative represents an increase of 17 annual vessel calls over the CEQA baseline.

Mitigation Measures

No mitigation is required to address the impact from upland spills, stormwater, and accidental spills from vessels, which would be less than significant. Beyond existing legal requirements, there are no available mitigations to eliminate the leaching of contaminants from anti-fouling paint on vessel hulls.

Residual Impacts

Residual impacts for upland spills, stormwater, accidental spills from vessels, and illegal discharges would be less than significant. There would be a significant residual impact from leaching of contaminants.

NEPA Impact Determination

Because the No-Federal-Action Alternative is identical to the NEPA baseline, this alternative would have no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

3.14.4.3.7 Alternative 6—No-Project Alternative

Under Alternative 6, the proposed Project would not occur. No in-water construction elements would occur under this alternative. However, this alternative accounts for some increased growth in cruise vessel calls to the Inner Harbor that would occur regardless of the proposed Project. This alternative would include an increase of 17 annual vessel calls above the existing conditions (CEQA baseline) by 2015 and 2037, which is similar to Alternatives 1, 3, 4, and 5.

Impact WQ-1: Alternative 6 would not cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.

CEQA Impact Determination

Conditions in the proposed project area would remain as they exist under the baseline, and no impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

NEPA Impact Determination

This alternative is not applicable to NEPA.

Mitigation Measures

Not applicable.

Residual Impacts

Not applicable.

Impact WQ-2: Alternative 6 would not substantially reduce or increase the amount of surface water in a water body.

CEQA Impact Determination

Conditions in the proposed project area would remain as they exist under the baseline, and no impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

NEPA Impact Determination

This alternative is not applicable to NEPA.

Mitigation Measures

Not applicable.

Residual Impacts

Not applicable.

Impact WQ-3: Alternative 6 would not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.

CEQA Impact Determination

Conditions in the proposed project area would remain as they exist under the baseline, and no impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

NEPA Impact Determination

This alternative is not applicable to NEPA.

Mitigation Measures

Not applicable.

Residual Impacts

Not applicable.

Impact WQ-4a: In-water construction for Alternative 6 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

CEQA Impact Determination

Conditions in the proposed project area would remain as they exist under the baseline, and no impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

NEPA Impact Determination

This alternative is not applicable to NEPA.

Mitigation Measures

Not applicable.

Residual Impacts

Not applicable.

Impact WQ-4b: Stormwater discharged during upland construction of Alternative 6 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

CEQA Impact Determination

Conditions in the proposed project area would remain as they exist under the baseline, and no impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

NEPA Impact Determination

This alternative is not applicable to NEPA.

Mitigation Measures

Not applicable.

Residual Impacts

Not applicable.

Impact WQ-4c: Alternative 6 would not result in accidental discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

CEQA Impact Determination

Conditions in the proposed project area would remain as they exist under the baseline, and no impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

NEPA Impact Determination

This alternative is not applicable to NEPA.

Mitigation Measures

Not applicable.

Residual Impacts

Not applicable.

Impact WQ-4d: Operation of Alternative 6 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

CEQA Impact Determination

Conditions in the proposed project area would remain as they exist under the baseline, and no impacts would occur. However, the number of cruise ship calls under Alternative 6 would be greater than calls under the CEQA baseline condition, and would result in the same number of cruise calls as Alternatives 1, 3, 4, and 5. Similar to the proposed Project and Alternatives 1 through 5, this alternative could result in higher mass loadings of contaminants such as copper that are released by leaching from vessel hull anti-fouling paints. This alternative represents no action on behalf of the LAHD. Therefore, this alternative is not subject to significance determinations under CEQA as there are no discretionary approvals triggering CEQA compliance. Thus, no impacts would occur under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

NEPA Impact Determination

This alternative is not applicable to NEPA.

Mitigation Measures

Not applicable.

Residual Impacts

Not applicable.

3.14.4.3.8 Summary of Impact Determinations

Table 3.14-6 summarizes the CEQA and NEPA impact determinations of the proposed Project and its alternatives related to water quality, sediments, and oceanography, as described in the detailed discussion in Sections 3.14.4.3.1 through 3.14.4.3.7. This table is meant to allow easy comparison between the potential impacts of the proposed Project and its alternatives with respect to water quality, sediments, and oceanography. Identified potential impacts may be based on federal, state, and City of Los Angeles significance criteria, LAHD criteria, and the scientific judgment of the report preparers.

For each type of potential impact, the table describes the impact, notes the CEQA and NEPA impact determinations, describes any applicable mitigation measures, and notes the residual impacts (i.e., the impact remaining after mitigation). All impacts, whether significant or not, are included in this table.

Table 3.14-6. 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*
3.14 Water Quality, Sediments and Oceanography				
Proposed Project	**WQ-1:** The proposed Project would not cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: No impacts would occur.	No mitigation is required.	NEPA: No impacts would occur.
	WQ-2: The proposed Project would not substantially reduce or increase the amount of surface water in a water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant
	WQ-3: The proposed Project would not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
	WQ-4a: In-water construction[7] for the proposed Project would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant
	WQ-4b: Stormwater discharged during upland construction of the proposed Project would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: No mitigation is required.

7 The term "in-water construction" refers to work performed within areas under USACE jurisdiction. It does not necessarily refer to work that actually occurs in the water. Minimizing the need for work in the water is one of the most important ways of mitigating the impacts of in-water work.

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
	WQ-4c: The proposed Project would not result in accidental discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant
	WQ-4d: Operation of the proposed Project would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Significant	No mitigation is available.	CEQA: Significant and unavoidable
		NEPA: Significant	No mitigation is available.	NEPA: Significant and unavoidable
Alternative 1	**WQ-1:** Alternative 1 would not cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: No impacts would occur.	No mitigation is required.	NEPA: No impacts would occur.

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
	WQ-2: Alternative 1 would not substantially reduce or increase the amount of surface water in a water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant
	WQ-3: Alternative 1 would not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant
	WQ-4a: In-water construction[8] for Alternative 1 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant

8 The term "in-water construction" refers to work performed within areas under USACE jurisdiction. It does not necessarily refer to work that actually occurs in the water. Minimizing the need for work in the water is one of the most important ways of mitigating the impacts of in-water work.

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
	WQ-4b: Stormwater discharged during upland construction of Alternative 1 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant
	WQ-4c: Alternative 1 would not result in accidental discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
	WQ-4d: Operation of Alternative 1 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Significant	No mitigation is available.	CEQA: Significant and unavoidable
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant
Alternative 2	**WQ-1:** Alternative 2 would not cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: No impacts would occur.†	No mitigation is required.	NEPA: No impacts would occur.
	WQ-2: Alternative 2 would not substantially reduce or increase the amount of surface water in a water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant
	WQ-3: Alternative 2 would not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
	WQ-4a: In-water construction[9] for Alternative 2 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant
	WQ-4b: Stormwater discharged during upland construction of Alternative 2 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant

9 The term "in-water construction" refers to work performed within areas under USACE jurisdiction. It does not necessarily refer to work that actually occurs in the water. Minimizing the need for work in the water is one of the most important ways of mitigating the impacts of in-water work.

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
	WQ-4c: Alternative 2 would not result in accidental discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant
	WQ-4d: Operation of Alternative 2 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Significant	No mitigation is available.	CEQA: Significant and unavoidable
		NEPA: Significant	No mitigation is available.	NEPA: Significant and unavoidable
Alternative 3	**WQ-1:** Alternative 3 would not cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: No impacts would occur.	No mitigation is required.	NEPA: No impacts would occur.

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
	WQ-2: Alternative 3 would not substantially reduce or increase the amount of surface water in a water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant
	WQ-3: Alternative 3 would not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant
	WQ-4a: In-water construction[10] for Alternative 3 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant

10 The term "in-water construction" refers to work performed within areas under USACE jurisdiction. It does not necessarily refer to work that actually occurs in the water. Minimizing the need for work in the water is one of the most important ways of mitigating the impacts of in-water work.

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
	WQ-4b: Stormwater discharged during upland construction of Alternative 3 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant
	WQ-4c: Alternative 3 would not result in accidental discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
	WQ-4d: Operation of Alternative 3 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Significant	No mitigation is available.	CEQA: Significant and unavoidable
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant
Alternative 4	**WQ-1:** Alternative 4 would not cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: No impacts would occur.	No mitigation is required.	NEPA: No impacts would occur.
	WQ-2: Alternative 4 would not substantially reduce or increase the amount of surface water in a water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant
	WQ-3: Alternative 4 would not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
	WQ-4a: In-water construction[11] for Alternative 4 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant
	WQ-4b: Stormwater discharged during upland construction of Alternative 4 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: No mitigation is required.

11 The term "in-water construction" refers to work performed within areas under USACE jurisdiction. It does not necessarily refer to work that actually occurs in the water. Minimizing the need for work in the water is one of the most important ways of mitigating the impacts of in-water work.

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
	WQ-4c: Alternative 4 would not result in accidental discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant
	WQ-4d: Operation of Alternative 4 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Significant	No mitigation is available.	CEQA: Significant and unavoidable
		NEPA: Less than significant	No mitigation is required.	NEPA: Less than significant
Alternative 5	**WQ-1:** Alternative 5 would not cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.	CEQA: No impacts would occur.	No mitigation is required.	CEQA: No impacts would occur.
		NEPA: No impacts would occur.	No mitigation is required.	NEPA: No impacts would occur.

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
	WQ-2: Alternative 5 would not substantially reduce or increase the amount of surface water in a water body.	CEQA: No impacts would occur.	No mitigation is required.	CEQA: No impacts would occur.
		NEPA: No impacts would occur.	No mitigation is required.	NEPA: No impacts would occur.
	WQ-3: Alternative 5 would not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.	CEQA: No impacts would occur.	No mitigation is required.	CEQA: No impacts would occur.
		NEPA: No impacts would occur.	No mitigation is required.	NEPA: No impacts would occur.
	WQ-4a: In-water construction[12] for Alternative 5 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: No impacts would occur.	No mitigation is required.	CEQA: No impacts would occur.
		NEPA: No impacts would occur.	No mitigation is required.	NEPA: No impacts would occur.

12 The term "in-water construction" refers to work performed within areas under USACE jurisdiction. It does not necessarily refer to work that actually occurs in the water. Minimizing the need for work in the water is one of the most important ways of mitigating the impacts of in-water work.

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
	WQ-4b: Stormwater discharged during upland construction of Alternative 5 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: No impacts would occur.	No mitigation is required.	NEPA: No impacts would occur.
	WQ-4c: Alternative 5 would not result in accidental discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Less than significant	No mitigation is required.	CEQA: Less than significant
		NEPA: No impacts would occur.	No mitigation is required.	NEPA: No impacts would occur.

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
	WQ-4d: Operation of Alternative 5 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: Significant	No mitigation is available.	CEQA: Significant and unavoidable
		NEPA: No impacts would occur.	No mitigation is required.	NEPA: No impacts would occur.
Alternative 6	**WQ-1:** Alternative 6 would not cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.	CEQA: No impacts would occur.	No mitigation is required.	CEQA: No impacts would occur.
		NEPA: Not applicable†	Not applicable†	NEPA: Not applicable†
	WQ-2: Alternative 6 would not substantially reduce or increase the amount of surface water in a water body.	CEQA: No impacts would occur.	No mitigation is required.	CEQA: No impacts would occur.
		NEPA: Not applicable†	Not applicable†	NEPA: Not applicable†
	WQ-3: Alternative 6 would not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.	CEQA: No impacts would occur.	No mitigation is required.	CEQA: No impacts would occur.
		NEPA: Not applicable†	Not applicable†	NEPA: Not applicable†

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
	WQ-4a: In-water construction[13] for Alternative 6 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: No impacts would occur.	No mitigation is required.	CEQA: No impacts would occur.
		NEPA: Not applicable†	Not applicable†	NEPA: Not applicable†
	WQ-4b: Stormwater discharged during upland construction of Alternative 6 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: No impacts would occur.	No mitigation is required.	CEQA: No impacts would occur.
		NEPA: Not applicable†	Not applicable†	NEPA: Not applicable†

13 The term "in-water construction" refers to work performed within areas under USACE jurisdiction. It does not necessarily refer to work that actually occurs in the water. Minimizing the need for work in the water is one of the most important ways of mitigating the impacts of in-water work.

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
	WQ-4c: Alternative 6 would not result in accidental discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: No impacts would occur.	No mitigation is required.	CEQA: No impacts would occur.
		NEPA: Not applicable†	Not applicable†	NEPA: Not applicable†
	WQ-4d: Operation of Alternative 6 would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	CEQA: No impacts would occur.	No mitigation is required.	CEQA: No impacts would occur.
		NEPA: Not applicable†	Not applicable†	NEPA: Not applicable†

Notes:

* Impact descriptions for each of the alternatives are the same as for the proposed Project, unless otherwise noted.

† The term *not applicable* is used in cases where a particular impact is not identified as a CEQA- or NEPA-related issue in the threshold of significance criteria, or where there is no federal action requiring a NEPA determination of significance.

3.14.4.4 Mitigation Monitoring

No mitigation is required for the proposed Project or any of the alternatives.

3.14.5 Significant Unavoidable Impacts

The proposed Project and Alternatives 1 through 5 would result in a significant unavoidable impact from leaching of contaminants under CEQA, and the proposed Project and Alternative 2 would result in significant unavoidable impacts under NEPA. Because the proposed Project and Alternatives 1 through 5 would result in a substantial increase in the amount of vessel traffic in the Main Channel and the Outer Harbor, higher mass loadings of contaminants such as copper that are leached from vessel hull anti-fouling paints could occur. Portions of the Los Angeles Harbor are impaired with respect to copper; therefore, increased loadings associated with increases in vessel traffic relative to baseline conditions would likely exacerbate water and sediment quality conditions for copper. Beyond legal requirements, there are no available mitigations to eliminate the leaching of contaminants from anti-fouling paint on vessel hulls. Alternative 6 would not result in substantial increases in vessel calls to the Port.